

April 25, 2018

NNSA Los Alamos Field Office
ATTN: CMRR Project Management Office
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Via email to RLUOBEA@hq.doe.gov

Re: Comments on the *Draft Environmental Assessment of Proposed Changes for Analytical Chemistry and Materials Characterization at the Radiological Laboratory/Utility/Office Building, Los Alamos National Laboratory, Los Alamos, New Mexico*¹
(hereinafter “Draft Rad Lab EA”)

Summary of Nuclear Watch New Mexico’s Comments

- 1) **This Draft Rad Lab EA is deficient.** There are major omissions, for example the lack of analyses of potential beryllium hazards and Intentional Destructive Acts. Moreover, safety, occupational and seismic risks are explained away in “preliminary analyses.” All this should be corrected in a more complete environmental impact statement, including final and transparent analyses of safety and seismic risks.
- 2) Re-categorizing the Rad Lab as a Hazard Category-3 nuclear facility is only one of four current subprojects relocating analytical chemistry and materials characterization operations involving plutonium at the Los Alamos National Laboratory (LANL). **Since the National Environmental Policy Act requires that connected actions be analyzed together, an environmental impact statement should avoid prohibited segmentation and consider the four current subprojects together,** which will cost taxpayers 2 billion dollars. That money could be better spent to create badly needed jobs, since the Proposed Action produces only 30 new jobs.
- 3) The National Nuclear Security Administration (NNSA) has previously declared that it will announce on May 11 where future plutonium pit production will take place, either at the Los Alamos National Laboratory (LANL) or the Savannah River Site (SRS), or both. **This draft Rad Lab EA is grossly premature before that decision.**

Nuclear Watch believes that the two newer subprojects, raising the Rad Lab plutonium limit (the subject of this Draft EA) and reconfiguring LANL’s main plutonium facility, are directly related to the expansion of plutonium pit production. NNSA has not justified how the first two subprojects do not adequately support relocation of LANL’s AC and MC capabilities, which the

¹ Available electronically at <https://energy.gov/node/2501991>
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agency professes to be the only point of this Draft Rad Lab.² It is absurd (intentional?) that NNSA does not list expanded plutonium pit production as a “reasonably foreseeable future action” at LANL since it is legislatively required by the FY 2015 Defense Authorization Act.

Conclusion: NNSA should proceed with a broader environmental impact statement after its May 11 decision on the future of expanded plutonium pit production. First, the Draft Rad Lab EA’s deficiencies noted in these comments must be corrected in a fuller EIS. Further, that EIS needs to include the current interconnected four subprojects all aimed at relocating AC and MC operations at LANL. If NNSA’s May 11 decision is to have expanded pit production at both LANL and SRS (which we consider likely), NNSA should then proceed with a new or supplemental programmatic environmental impact statement. After all, the 1996 Stockpile Stewardship and Management PEIS and 2008 LANL Site-Wide Environmental Impact Statement both limited plutonium pit production at the Lab to no more than 20 pits per year. Despite repeated attempts, NNSA has not yet formally raised that production limit in a NEPA document, which Nuclear Watch believes NNSA is legally required to do. Following that, site-specific NEPA documents implementing that expanded plutonium pit production decision will need to be completed for SRS³ and/or LANL, as the case may be.

Narrative Comments

The National Nuclear Security Administration (NNSA) states this environmental assessment:

[I]s intended to provide sufficient evidence and analysis to determine whether to prepare an environmental impact statement (EIS) or to issue a Finding of No Significant Impact (FONSI) for the Proposed Action... NNSA therefore prepared this EA to evaluate: (1) a Proposed Action Alternative reflecting re-categorization of RLUOB⁴ to a MAR⁵-limited

² This is especially true given that NNSA has already raised the Rad Lab’s administrative limit on plutonium-239 (or equivalent) from 8.4 grams to 38.6 grams. Combined with AC and MC capabilities at LANL’s adjacent main plutonium facility (PF-4) that can actually handle far larger amounts of special nuclear materials, why is that not sufficient to maintain LANL’s analytical chemistry and materials characterization capabilities? Nuclear Watch believes that the burden is on NNSA to demonstrate why re-categorizing the Rad Lab to a Hazard Category-3 nuclear facility and spending up to \$675 million taxpayer dollars in “reconfiguring” PF-4 is not directly linked to the expansion of plutonium pit production.

³ We note that site-specific NEPA documents for plutonium pit production at SRS will necessarily need to be lengthy and complex, with little reliance on previous NEPA documents, given that pit production will be an entirely new mission at that site. Although SRS handles and stores many tons of plutonium, there is no existing infrastructure for pit production, and therefore the site will be starting virtually from scratch. Of particular interest will be how the highly flawed MOX Fuel Fabrication Facility might be converted to pit production.

⁴ Radiological Laboratory Utility and Office Building, part of the Chemistry and Metallurgy Research Replacement Project at the Los Alamos National Laboratory (LANL). RLUOB is hereinafter referred to as the “Rad Lab” in these comments.

⁵ MAR is “material at risk.” The main point of this draft environmental assessment is to raise the amount of plutonium-239 from 38.6 to 400 grams (or its equivalent in other isotopes) allowed in the Rad Lab. That increase would greatly increase the Rad Lab’s analytical chemistry and materials characterization capabilities in direct support of expanded plutonium pit production.

Hazard Category 3 Nuclear Facility, with more AC and MC⁶ operations at RLUOB than those evaluated in the 2015 CMRR SA,⁷ and (2) a No Action Alternative that maintains RLUOB as a Radiological Facility, as evaluated in the 2015 CMRR SA.⁸

Specific Deficiencies In the Draft Rad Lab EA

The draft Rad Lab EA has inadequate analysis of seismic concerns. Please the extended section on this in comments below.

Lack of Analysis of Beryllium risks: The FY 2019 NNSA budget request states:

Specific capabilities in RC3 scope include, but are not limited to the following:

- o AC Sample Preparation
- o Pu Assay
- o Interstitial Analysis
- o Beryllium Analysis⁹

“RC3” (Re-categorizing RLUOB to Hazard Category 3) is of course the subject of this Draft Rad Lab EA. Yet there are only two passing references to beryllium in the Draft EA. Beryllium is a widely known, potentially severe occupational hazard across the DOE’s nuclear weapons complex. A February 2018 DOE Inspector General report found long-standing deficiencies in

⁶ “**Analytical Chemistry and Materials Characterization.** AC involves the study, evaluation, and analysis of materials. In general terms, AC is a branch of chemistry that addresses the separation, identification, and determination of the components in a sample. Examples of sample analysis activities include assay and determination of isotopic ratios of plutonium, uranium, and other radioactive materials, as well as 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. MC relates to the measurement of basic material properties and the changes in those properties as a function of temperature, pressure, or other factors. AC and MC operations support actinide research and development capabilities and NNSA strategic objectives for stockpile stewardship and management at LANL and other sites across the DOE Complex.” Draft Rad Lab EA, p. 1.

In short, up to a hundred AC quality control samples can be taken of an individual plutonium pit while it is in production. On the other hand, materials characterization ensures that the plutonium is weapons-grade (90% Pu-239 or more) as a prerequisite for pit production. This illustrates how AC and MC are in very direct support of plutonium pit production.

⁷ NNSA prepared the 2015 CMRR Supplement Analysis pursuant to DOE National Environmental Policy Act (NEPA) regulations to determine whether or not its 2003 CMRR environmental impact statement should be supplemented and/or updated. NNSA decided not to, and this draft Rad Lab environmental assessment is the first NEPA process since the NNSA’s 2011 CMRR-Nuclear Facility supplemental environmental impact statement. NNSA canceled the Nuclear Facility in 2012 after its estimated costs soared to \$6.5 billion. Since then NNSA has struggled to find alternatives to relocate the old Chemistry and Metallurgy Research Building’s analytical chemistry and materials characterization capabilities, plus in Nuclear Watch’s view expand upon them in order to directly support expanded plutonium pit production. NNSA’s 2015 CMRR SA is available at <https://www.energy.gov/sites/prod/files/2015/02/f19/EIS-0350-SA-02-2015.pdf>

⁸ Draft Rad Lab EA, p. viii

⁹ NNSA FY 2019 Congressional Budget Request (CBR), p. 373,

<https://www.energy.gov/sites/prod/files/2018/03/f49/FY-2019-Volume-1.pdf>

LANL's record keeping for DOE's Chronic Beryllium Disease Prevention Program.¹⁰ The Lab failed to keep an accurate beryllium inventory and could not assure that known contaminated areas were safe before allowing work to continue. In that context, it is particularly notable that this Draft Rad Lab environmental assessment fails to analyze potential beryllium occupational exposures, which a full environmental impact statement should correct.

Intentional Destructive Acts: In violation of declared DOE NEPA policy, this draft Rad lab fails to have any analysis whatsoever of Intentional Destructive Acts (defined as acts of sabotage or terrorism, including deliberate airplane crashes). That policy explicitly states, "Each DOE EIS and EA should explicitly consider intentional destructive acts. This applies to all DOE proposed actions, including both nuclear and non-nuclear proposals."¹¹ This glaring deficiency should be corrected in a full environmental impact statement.

Reasonably Foreseeable Actions: The Draft Rad lab EA states:

5.1 Other Activities at Los Alamos National Laboratory

Reasonably foreseeable future actions at LANL are summarized in the following paragraphs. The actions listed may not include all actions at LANL. However, they should provide an adequate basis for determining the magnitude of the potential cumulative impacts.¹²

It then goes on to list the Land Conveyance and Transfer Program, the Radioactive Liquid Waste Treatment Facility, TRU Liquid Waste Water Subproject, and the Zero Liquid Discharge Project.

What is striking is the omission of expanded plutonium pit production, which is not only reasonably foreseeable, but is actually congressionally required and actively being planned for. It's difficult to believe this omission is just a simple oversight, when it is so glaringly obvious and studiously avoided throughout the entire draft environmental assessment. In fact, according to a word search, the word "production" is used only once in this draft EA, in a passing reference to PF-4 as "an active plutonium production facility that has operated since 1978," without even mentioning pits.

This again points to the inadequacy of this Draft EA, which should be rectified through a broader environmental impact statement capturing all four CMRR subprojects. Moreover, NNSA should conduct a broader supplemental programmatic environmental impact statement in the event that it decides on May 11 to conduct expanded plutonium pit production at both LANL and the Savannah River Site (extended comment on this below).

Reference documents should be hyperlinked to their original source in the online draft environmental assessment. This should be true of all DOE NEPA documents. Nuclear Watch urges the Department to get with modern times.

¹⁰ *LANL Chronic Beryllium Disease Prevention Program*, DOE Inspector General, February 28, 2019, <https://www.energy.gov/sites/prod/files/2018/02/f49/DOE-OIG-18-20.pdf>

¹¹ DOE memorandum, Office of NEPA Compliance, December 1, 2006,

https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-DOE-intentdestructacts.pdf

¹² Draft Rad Lab EA, p. 79.

Seismic Concerns: Lack of Proper Analysis Necessitates a Full EIS

Like others sections of this Draft Rad Lab EA, much of the seismic analysis comes from preliminary studies and reports that are not peer reviewed, and therefore cannot be regarded as authoritative. On occasion, LANL abandons its own seismic standards and relies on individual assessments to demonstrate that seismic performance goals for the re-categorized Rad Lab can be met. A recent seismic review of the Rad Lab¹³ mentions a safety analysis that it claims indicates that the offsite consequences of a seismic initiated accident were low enough to support a Seismic Design Category 1 (SDC1) classification.¹⁴ So, despite the proposed raised limit of 400 grams of plutonium-239 (or the equivalent), DOE deliberately sets seismic safety standards for the re-categorized Rad Lab incredibly low. But that safety analysis that the recent Rad Lab seismic update relied upon is not cited or made available. Therefore, the updated Rad Lab seismic analysis is incomplete, if not downright faulty.

The Rad Lab, when originally constructed in 2010, was categorized as a Performance Category 2 (PC-2) as per DOE Standard 1020-1994. PC-2 is the second lowest category out of four and:

[S]hould result in limited structural damage from design basis natural phenomena events to ensure minimal interruption to facility operation and repair following the event. PC-2 performance is analogous to the design criteria for essential facility (e.g., hospitals, fire and police stations, centers for emergency operations) in the model building codes.”¹⁵

But the Rad Lab is now proposed to be re-categorized as a Hazard Category-3 nuclear facility, not a hospital or fire station. The recent seismic reanalysis referenced in the draft Rad Lab EA¹⁶ used a design basis earthquake equal to the ground motion projected to occur once every 2,500 year, also known as a PC-3 earthquake. PC-3 is a higher performance category, just below that for a nuclear reactor. As the independent Defense Nuclear Facilities Safety Board put it:

A PC-3 would prevent or mitigate criticality accidents, chemical explosions, and events with the potential to release hazardous materials outside the facility... PC-3 provisions are consistent with those used for reevaluation of commercial plutonium facilities with conservatism in between that of model building code requirements for essential facilities and civilian nuclear power plant requirements.¹⁷

So the Rad Lab with 400 grams of plutonium, if built today, should be built as a PC-3 facility, but instead was only built as a PC-2 facility back in 2010 to hold 8.4 grams of plutonium. The Yost report says of itself that it was initiated because of “programmatic needs” (i.e., raising the plutonium to 400 grams) and an increase in projected seismic hazards, which sounds like a

¹³ Yost, N. R., M. W. Salmon, E. R. MacFarlane, and L. K. Goen, 2016, *Results of RAD LAB Seismic Study – With Updated Conclusions*, LA-UR-16-28686, Los Alamos National Laboratory, Los Alamos, New Mexico, November.

¹⁴ This is the lowest category for structures that represent low hazard to human life.

¹⁵ *Guide For The Mitigation Of Natural Phenomena Hazards For Doe Nuclear Facilities and Nonnuclear Facilities*, DOE, March 2000, p. 13, <http://www.radfreenm.org/images/PDF/DOE-420>

¹⁶ Op. cit. *Results of RLUOB Seismic Study – With Updated Conclusions*, LA-UR-16-28686

¹⁷ *Guide for the Mitigation of Natural Phenomena Hazards for DOE Nuclear and Nonnuclear Facilities*, Defense Nuclear Facilities Safety Board (DNFSB), May 2005, https://www.dnfsb.gov/sites/default/files/document/1284/ltr_200554_7146.pdf

conclusion reached looking for data to support it. Los Alamos National Security, LLC (the LANL contractor) commissioned this seismic study of the Rad Lab to determine if the structure could meet the current seismic requirements for both a Seismic Design Category 1 and a Seismic Design Category 2 structure. There is a huge difference between PC-3 and Seismic Design Category 1 requirements. The Yost report attempts to make everything look good, but relies on individual assessments instead of DOE standards.

The Yost report admits that the assessments used are not standard when it states:

A modified seismic margins approach was used to determine the seismic capability of the structure. Using a seismic margins approach, the seismic performance of the structure may be determined. The seismic performance can then be compared to target performance goals in DOE-STD-1020. The use of alternate methods, such as the seismic margins approach is permitted in both DOE-STD-1020...¹⁸

However, there is no mention of “seismic margins approach” in DOE-STD-1020-2012. And who knows what a “modified seismic margins approach” may be? Alternate methods are NOT given for seismic margin approaches in DOE-STD-1020-2012. But the DOE standard does state:

It may be possible to conduct the aspects of the seismic evaluation in a more rigorous manner that removes conservatism such that the SSC may be shown to be adequate. Alternatively, a probabilistic assessment might be undertaken in order to demonstrate that the performance goals can be met.¹⁹

Many of the seismic performance goals required by DOE Standard 1020-2012 were not met for parts of the Rad Lab structure, and then, using “alternate methods” were re-analyzed by unnamed people using unknown methods.

For example (Yost starting on p. 4):

- The attachment of the metal roof deck to the moment frame beams was shown to be inadequate at three locations in Area C and at one location on level 4.
 - A subsequent analysis was performed...*[how and by whom are not given]*
 - It was found...*[by whom is not given]*
 - It was also verified...*[how and by whom are not given]*
- The initial results showed several locations in the Area C and Level 4 roof decks that fell short of the SDC2B performance goal.
 - Additional study showed...*[by whom is not given]*
- Several frame beam-bracing details were suspected to be inadequate to allow the beams to develop their full plastic hinge capacity. After evaluating multiple bracing configurations, it was determined that several braces could not develop the loads stipulated by AISC 341-05.
 - To address this issue it was decided to determine...*[by whom is not given]*

¹⁸ Op. cit. *Results of RLUOB Seismic Study – With Updated Conclusions*, LA-UR-16-28686

¹⁹ DOE STANDARD *Natural Phenomena Hazards Analysis and Design Criteria for DOE Facilities*, DOE-STD-1020-2012, p. 70, <https://www.standards.doe.gov/standards-documents/1000/1020-AStd-2012/@@images/file>.

- The preliminary results showed one concrete pilaster failed SDC2B performance goals. The west wall contains the pilaster in a location where the wall retains two stories of earth. The preliminary model considered different reduction factors on wall and pilaster elements which created an artificial stiffness disparity between the elements which act as one.
 - To correct this inconsistency, the stiffness reduction factors used to simulate cracked concrete were adjusted...*[how and by whom are not given]*

Despite this lack of concrete citation, a conclusion is then reached:

The results demonstrate that the structure will meet the seismic performance goals in DOE-STD-1020- 2012 for SDC1 Limit State A without any modification to the structure. The results also show that a majority of elements meet the performance requirements for SDC 2 for limit state B. (Yost Pg. 5)

So, we have a proposed nuclear facility, the re-categorized Rad Lab, which meets the minimum seismic safety requirements for a non-nuclear facility for the whole building, but only meets the next level of safety requirements for a claimed “majority” of the rest of the building. Is there a DOE precedent for a Hazard Category-3 nuclear facility having two not necessarily compatible SDC ratings? If a chain is only as strong as its weakest link, one can only assume that in reality the Rad Lab only meets the lowest rating. And that’s not good enough for a nuclear weapons production support facility with 400 grams of plutonium.

Preliminary analysis that is not peer reviewed is not good enough. Individual assessments are not good enough. Unnamed people using unknown methods to state that the Rad Lab is seismically safe is not good enough. The complexity and number of seismic issues alone at the Rad Lab require a full environmental impact statement.

Some Legal Context Under the National Environmental Policy Act

NNSA is preparing this draft Rad Lab environmental assessment pursuant to the National Environmental Policy Act (NEPA). NEPA requires federal agencies to prepare an environmental impact statement (EIS) for “proposals for legislation and other major federal actions significantly affecting the quality of the human environment.”²⁰ NEPA regulations define a “major federal action” to include:

Adoption of programs, such as a group of concerted actions to implement a specific policy or plan; systematic and connected agency decisions allocating agency resources to implement a specific statutory program or executive directive.²¹

The U.S. Supreme Court has instructed that environmental impact statements, although not required when an agency requests appropriations, should be prepared for underlying legislation proposing programmatic actions for which appropriations are sought.²²

²⁰ See 42 U.S.C. § 4332(2)(C)

²¹ See 40 C.F.R. §1508.18(b)(4).

If a major federal action “significantly” affects the quality of the human environment, an EIS is required.²³ If there is a substantial question whether a proposed action may significantly impact the environment, the agency must prepare an EIS. NEPA regulations also require that the degree to which the environmental effects of the action are likely to be highly controversial should be taken into consideration while reaching a decision to prepare an environmental impact statement or not.²⁴

Nuclear Watch argues that all of the above applies to this Draft Rad Lab EA, whose stated purpose is to reach a decision to issue a Finding of No Significant Impact, or alternatively to prepare a more complete environmental impact statement. We further argue that the latter decision is the correct outcome that NNSA must follow, as re-categorizing the Rad Lab as a Hazard Category-3 nuclear facility is the beginning step of implementing expanded production of plutonium pits. That expansion is statutorily required (see more below), will cause broad programmatic actions for which NNSA is requesting appropriations, will significantly impact the environment, and is highly controversial.

Programmatic Concerns Require an EIS

NNSA cannot reach a Finding of No Significant Impact (FONSI) for this draft environmental assessment until after the public comment period is over on April 25. Following that NNSA should make the Finding available for 30-day public review and comment because “[t]he proposed action is, or is closely similar to, one which normally requires the preparation of an environmental impact statement . . . [and] is one without precedent.”²⁵ Therefore a FONSI should not be finalized until May 26 at the earliest possible date.

However, NNSA has previously declared that on May 11 it will announce a decision on where future expanded plutonium pit production will take place, either at the Los Alamos National Laboratory (LANL) or the Savannah River Site (SRS) in South Carolina, or both. It is silly that this draft environmental assessment is underway before that crucial decision, without which it can’t really be determined whether or not the Rad Lab truly needs to be re-categorized as a Hazard Category-3 Nuclear Facility. This Draft EA is clearly putting the cart before the horse. As such, NNSA should proceed to a fuller environmental impact statement after its May 11 decision on plutonium pit production.

Concerning whether the “[t]he proposed action is, or is closely similar to, one which normally requires the preparation of an environmental impact statement,” NEPA requires that interconnected actions be analyzed together, and forbids segmentation into different narrow projects. In a clear sign of interconnectivity, the Rad Lab re-categorization is one of four “subprojects” in the NNSA’s FY 2019 Congressional Budget Request under the budget line item “04-D-125 Chemistry and Metallurgy Research Replacement Project.” All four subprojects explicitly involve relocating analytical chemistry and materials characterization capabilities at LANL, and cost 2 billion in irretrievable taxpayer dollars. Conversely, for NNSA to analyze only

²² See *Andrus v. Sierra Club*, 442 U.S. 347 (1979) at 361-362

²³ 42 U.S.C. §4332(2)(C).

²⁴ 40 C.F.R. §1508.27(b)(4) and (b)(5).

²⁵ See 40 CFR 1501.4(e)(2)

the narrow question of raising the plutonium-239 (or equivalent) administrative limit in the Draft EA is the segmentation that NEPA forbids.

According to the NNSA's FY 2019 Congressional Budget Request, these interrelated subprojects, all under the Chemistry and Metallurgy Research Replacement Project budget line item, are:

REI Phase 2 (REI2) Subproject (04-D-125-04): Transfers part of AC and MC capabilities from CMR to RLUOB by designing, purchasing, and installing additional equipment in RLUOB. A CD-3A request for procurement of long lead equipment and site preparations, following a reconciled Independent Cost Estimate (ICE) conducted by DOEPM, was approved for REI2 on December 18, 2014. CD-3B for additional long lead procurements for REI2 was approved on December 22, 2015. REI2 CD-2/3 approval was received on October 31, 2016 with the Performance baseline established at \$633,250K. CD-4 completion is scheduled for January 5, 2022.

PF-4 Equipment Installation Phase 1 (PEI1) Subproject (04-D-125-05): Maximizes use of PF-4 by decommissioning and decontaminating (D&D) old gloveboxes and equipment, reconfiguring and reusing existing gloveboxes, consolidating and relocating existing capabilities, and installing new gloveboxes and equipment for AC/MC capabilities. PEI1 will establish AC and MC capabilities that utilize larger amounts of nuclear materials and therefore are required to be in PF-4 operational space. CD-3A for long lead procurements for PEI1 was approved on March 18, 2015. CD-3B for additional long lead procurements was approved on December 22, 2015. PEI1 CD-2/3 approval was received on October 31, 2016 with the Performance Baseline established at \$394,000K. CD-4 completion is scheduled for April 30, 2022.

PF-4 Equipment Installation Phase 2 (PEI2) Subproject (04-D-125-06)/(PF-4 Reconfiguration Project – 17-D-126):

Maximize use of PF-4 by consolidating and relocating existing capabilities, replacing existing equipment, installing gloveboxes and equipment and D&D of existing laboratory space for AC/MC capabilities. PEI2 will establish enduring AC and MC capabilities for supporting NNSA actinide-based missions. The preliminary cost range for the work in this subproject is \$523,000K - \$675,340K; the cost estimate will be updated prior to CD-2/3 approval for this subproject. An integrated master schedule will be developed at CD-2/3.

Re-categorizing RLUOB to Hazard Category 3 (RC3) Subproject (04-D-125-07)/(RLUOB Reconfiguration Project –17-D-125): Maximizes use of RLUOB by reconfiguring existing laboratory space and equipping the remaining empty laboratories with AC and MC capabilities, and enables the RLUOB to be re-categorized facility to a limited hazard category-3 nuclear facility. RC3 will establish enduring AC and MC capabilities for supporting NNSA actinide-based missions. The preliminary cost range for the work in this subproject is \$208,000K - \$339,335K; the cost estimate will be updated prior to CD-2/3 approval for this subproject. An integrated master schedule will be developed at CD-2/3.²⁶

- End of extended excerpt -

²⁶ NNSA FY 2019 Congressional Budget Request, pp. 365-366.

The interconnectedness of these subprojects is concretely demonstrated by NNSA's own statement in its FY 2019 budget request:

Execution of the CMRR Project under the cost and schedule parameters established at CD-1 is principally dependent on predictable, stable appropriations at the CMRR project (04-D-125) level. Without the ability to move funds between subprojects, the completion dates for the PEI2 and RC3 subprojects will challenge the programmatic need dates associated with the LANL mission. This risk can be reduced by allocating funds at the CMRR project level in FY 2019, allowing any efficiencies realized on the REI2 and PEI1 subprojects to be used to advance the PEI2 and RC3 subprojects.²⁷

In its budget request, NNSA continues:

To support **programmatic** milestones, baselining the RC3 subproject is prioritized ahead of PEI2. Fully outfitting the RLUOB provides Analytical Chemistry (AC) capabilities needed to support plutonium mission activities.²⁸

First, NNSA argues that this Rad Lab EA is solely about relocating operations from the old deteriorating CMR Building so that LANL will have enduring AC and MC capabilities for its ongoing plutonium mission. However, NNSA has not justified how LANL's present plutonium mission would not be served by the already raised limit of 38.6 grams Pu-239 equivalent for the Rad Lab (up from the original 8.4 grams). Instead, this proposal to now raise the Pu-239 equivalent to 400 grams for the Rad Lab is all about LANL's future plutonium mission, over which there is no mystery. That future mission involves expanding plutonium pit production from the currently sanctioned level of 20 pits per year to demonstrating the capability by 2027 to produce 80 pits per year, which is statutorily required by the FY 2015 National Defense Authorization Act.²⁹

This is perhaps made even clearer by NNSA's own "Highlights and Major Changes in the FY 2019 Budget." It states:

Increases for Plutonium Sustainment³⁰ support fabrication of four to five development (DEV) W87 pits, continue investments to replace end-of-life equipment for pit production, installation of critical equipment to increase production capacity, and Other Project Costs associated with pre-conceptual design efforts supporting the selection of a single preferred alternative for **plutonium pit production beyond 30 war reserve pits per year**.³¹

Finally, this is really driven home by this extended passage from NNSA's FY 2018 Stockpile Stewardship and Management Plan:

²⁷ Ibid.

²⁸ Ibid. "programmatic" bolded for future reference in these comments.

²⁹ See FY 2015 NDAA, Section. 3112, <https://www.congress.gov/113/plaws/publ291/PLAW-113publ291.pdf>

³⁰ NNSA's budget category Plutonium Sustainment jumps from \$183.7 million in FY 2018 to \$362 million in FY 2019. It is separate from CMRR construction/upgrade costs, but constitutes the operational missions that would take place in the new/upgraded CMRR facilities.

³¹ NNSA FY 2019 Congressional Budget Request, p. 57, emphasis added.

2.4.1.2 Plutonium Challenges

- NNSA must ramp up pit production over the next decade to meet the required capacity by FY 2030. Meeting these deliverables remains a challenge as LANL continues to invest in manufacturing equipment and associated facilities to reach capability, capacity, and reliability.
- NNSA continues to execute the CMRR project to maintain continuity in analytical chemistry and materials characterization capabilities. NNSA is transitioning these activities out of the Cold War- era Chemistry and Metallurgy Research facility...

2.4.1.3. Plutonium Long-term Sustainment Strategy

NNSA invests in these areas of infrastructure, equipment, and critical skills to meet its plutonium mission requirements. These investments are detailed below.

Plutonium Sustainment Program

The Plutonium Sustainment program provides the production equipment and necessary skills to manufacture pits in support of stockpile requirements. These requirements are outlined in both internal programmatic documents (e.g., the *Requirements and Planning Document*) and external documents (e.g., the current and prior versions of the NDAA [National Defense Authorization Act]). The program supports the production plan to meet these requirements, as shown in **Table 2–3**.

Table 2–3. Production plan

Type	2018	2019	2020	2021	2022	2023		2024	2025	2026	2030
Pit Production Series	Development Builds		Process Prove-in Builds		Qualification Builds	Qualification Builds	W87-like War Reserve Build	W87-like War Reserve Builds			
Pits per year	4	5	5	5	5	5	1	10	20	30	50–80

Chemistry and Metallurgy Research Replacement Project (Line-Item Construction Project) The CMRR project optimizes the use of LANL’s existing facilities by reconstituting analytical chemistry and materials characterization capabilities previously performed in the Chemistry and Metallurgy Research facility into laboratory space in PF-4 and the RLUOB. The first two phases of equipment installation subprojects (RLUOB Equipment Installation Phase 2 and PF-4 Equipment Installation Phase 1) achieved CD-2/3 (Approve Performance Baseline/Approve Start of Construction) in October 2016.

Pit Production

Additional infrastructure is needed to support increased pit production and plutonium mission requirements. CD-0 (Approve Mission Need) for the Plutonium Modular Approach was approved in November 2015, and an AoA [analysis of alternatives] is underway to consider a range of infrastructure options across DOE and NNSA that can support capabilities for increased pit production capacity and enduring plutonium mission needs. The AoA is targeted for completion in early FY 2018.³²

- End of extended excerpt from NNSA’s FY 2018 SSMP -

³² NNSA FY 2018 Stockpile Stewardship and Management Plan, Page 2-30, https://www.energy.gov/sites/prod/files/2017/11/f46/fy18ssmp_final_november_2017%5B1%5D_0.pdf

Therefore, the NNSA's FY 2018 Stockpile Stewardship and Management Plan makes explicitly clear that LANL's plutonium mission is expanded plutonium pit production, and the Plan squarely places the CMRR subprojects, including enhancing AC and MC capabilities at the Rad Lab, within that context. Having said that, the FY 2018 SSMP is outdated, lacking the new PF-4 Equipment Installation Phase 2 (PEI2) and Re-categorizing RLUOB to Hazard Category 3 (RC3) Subprojects. We argue that the RC3 subproject, interconnected to the others, clearly takes the Rad Lab far beyond merely maintaining enduring AC and MC capabilities at LANL, and directly into supporting expanded plutonium pit production.

This is further reinforced by going back in time into the Chemistry and Metallurgy Research Replacement Project's troubled history, which deserves broader context. Briefly, NNSA has repeatedly sought through various NEPA processes to raise the limit on plutonium pit production from that originally set by the 1996 Stockpile Stewardship and Management Programmatic Environmental Impact Statement (PEIS), but repeatedly failed. The 1996 SSM PEIS, which relocated the plutonium pit production mission to LANL after a 1989 FBI investigating environmental crimes at the Rocky Flats Plant abruptly stopped production, specifically limited pit production to 20 pits per year because of the deteriorated conditions at the old CMR Building. Those conditions limited analytical chemistry and materials characterization operations, which in turn limited production to 20 pits per year.³³ NNSA has been trying to rectify that ever since.

In 2004 NNSA issued a draft environmental impact statement for a Modern Pit Facility designed to produce 450 pits per year. That never reached a final EIS, mostly due to congressional questioning of the need for that level of pit production. NNSA subsequently proposed a "Consolidated Plutonium Center" for 250 pits per year, later dropped to 125 pits per year after more congressional questioning. NNSA finally settled on 80 pits per year at existing Los Alamos Lab facilities, with a 2008 LANL Site-Wide Environmental Impact Statement (SWEIS) as the NEPA vehicle for approving it. However, Nuclear Watch and others argued that a decision to expand plutonium pit production to 80 pits per year should await completion of a nation-wide Complex Transformation PEIS that was underway, which NNSA ultimately agreed to. However, the 2008 Record of Decision for the Complex Transformation PEIS deferred any decision on expanded plutonium pit production, leaving the existing cap of 20 pits per year in place.

To complete this snapshot of NEPA processes revolving around expanded plutonium pit production, it should also be noted that NNSA completed a CMRR-Nuclear Facility Supplemental Environmental Impact Statement in 2011, only to cancel the Nuclear Facility in 2012 after its estimated costs soared to \$6.5 billion. NNSA's current attempt to raise the plutonium-239E limit in the Rad Lab, along with the other contemporaneous CMRR subprojects, are a direct consequence of canceling the CMRR-Nuclear Facility, with the agency seeking alternative ways to replace that canceled project's AC and MC capabilities.

One of the Complex Transformation PEIS' crucial supporting documents is relevant here. It demonstrated that the CMRR Nuclear Facility was being specifically sized to support pit production capability of 50-80 pits per year. An internal NNSA study of planned alternatives

³³ The 20 pits per year production cap was also explicitly reaffirmed in the September 2008 Record of Decision (ROD) for the LANL Site-Wide Environmental Impact Statement (SWEIS) and implied in the December 2008 ROD for the Complex Transformation Programmatic Environmental Impact Statement, which considered but deferred a decision to expand production beyond 20 pits per year.

advocated for a “baseline version (22,500 ft² of Pu lab space) of the CMRR-NF... resulting in a production capacity of 50-80 ppy” [pits per year].³⁴

This Draft Rad Lab EA states: “Completed in 2011, RLUOB provides about 19,500 square feet of laboratory space...” (p. 12) The Draft Rad Lab EA further states, “The proposed additional changes for RLUOB include outfitting and refurbishing approximately 3,000 square feet of unequipped laboratory space with enclosures and AC and MC equipment...” (Pages 15-16). Thus we arrive at the 22,500 square feet of AC and MC processing space needed to support expanded production of 80 pits per year in the Rad Lab alone. This will be further augmented by additional AC and MC processing space in PF-4, which after all can handle larger volumes than the Rad Lab.

NNSA’s FY 2018 Stockpile Stewardship and Management Plan also makes clear in the following extended passage that future expanded plutonium pit production is for W87-like pits for the Interoperable Warhead:

IW1 [Interoperable Warhead-1] Accomplishments

- IW1 activities are scheduled to restart in FY 2020 to achieve a first production unit in FY 2030.
- PF-4 at LANL resumed operations and fabricated a W87 pit as part of the planned development series.
- NNSA and the Nuclear Weapons Council approved the selection of the W87 pit for the IW1.³⁵

The Interoperable Warhead is supposed to be interoperable between the Air Force’s land-based ICBMs and the Navy’s sub-launched ballistic missiles. Ironically the Navy does not want the Interoperable Warhead.³⁶ In fact, because of that lack of Navy support, the Obama Administration delayed the Interoperable Warhead for five years.

However, NNSA and the Labs are now bringing it back in the FY 2019 budget request, arguably as make-work. But the ultimate point here for these comments is that the Interoperable Warhead is far from being a done deal, and therefore there may be no need for expanded plutonium pit production to begin with. It is notable that no pit production is scheduled for maintenance of the safety and reliability of the existing nuclear weapons stockpile. Instead, future expanded plutonium pit production is all about speculative future new-design nuclear weapons.

³⁴ *Independent Business Case Analysis of Consolidation Options for the Defense Programs SNM and Weapons Programs*, TechSource, Inc, December 2007, p. 5-3, parentheses in the original. This “Business Case” was one of NNSA’s hundreds of reference documents for its 2008 Complex Transformation Supplemental PEIS. It is available at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.417.7612&rep=rep1&type=pdf>.

³⁵ NNSA FY 2018 Stockpile Stewardship and Management Plan, p. 2-28,

https://www.energy.gov/sites/prod/files/2017/11/f46/fy18ssmp_final_november_2017%5B1%5D_0.pdf

³⁶ See 2012 Navy memo demonstrating its lack of support for the Interoperable Warhead at <https://www.nukewatch.org/importantdocs/resources/Navy-Memo-W87W88>.

The Draft Rad Lab EA and Expanded Plutonium Pit Production

On April 19, 2018, the NNSA Los Alamos Field Office (LAFO) announced that it had performed a Supplement Analysis examining whether or not the 2008 LANL Site-Wide Environmental Impact Statement (SWEIS) should be updated. LAFO decided not to update the LANL SWEIS, but at the same time stated:

This announcement is not related to NNSA's ongoing review of the plutonium pit mission. Should NNSA determine that LANL is the preferred alternative for that work, a separate determination regarding a NEPA analysis for the necessary facilities would be needed.³⁷

NNSA has previously declared that it will announce on May 11 where future pit production will take place, either at LANL or the Savannah River Site (SRS), or both. But the point here in these comments is that at least NNSA recognizes that it must consider completing more NEPA analyses for expanded plutonium pit production. By extension, this would carry over to the Savannah River Site, if NNSA decides to produce pits there. Nuclear Watch predicts that NNSA will produce pits at both LANL (up to 30 pits per year) and SRS (the remainder up to 125 pits per year). This cries out for a nation-wide programmatic environmental impact statement. For one thing, in order to expand plutonium pit production, NNSA has to raise the current cap of 20 pits per year in another Record of Decision following completion of NEPA review.

Should NNSA decide on May 11 to perform future plutonium pit production at SRS, or perhaps also at LANL, then clearly a programmatic environmental impact statement (PEIS) is needed, or alternatively a PEIS "supplemental" to the 2008 Complex Transformation PEIS. We also note that any decision to expand plutonium pit production above the 20 pits per year sanctioned in the 1996 Stockpile Stewardship and Management PEIS would require a new or supplemental PEIS, regardless of future location(s).

That new or supplemental programmatic environmental impact statement will also have to critically examine the mission need for expanded plutonium pit production. It is no secret that it is to produce "W87-like"³⁸ plutonium pits for the speculative Interoperable Warhead,³⁹ which the Navy doesn't want.⁴⁰ In short, there is arguably no need for expanded plutonium pit production, and therefore no need to re-categorize the Rad Lab as a Hazard Category-3 nuclear facility.

³⁷ *Los Alamos Field Office Completes Analysis of Sitewide Environmental Impact Statement*, NNSA Los Alamos Field Office email, April 19, 2018.

³⁸ There are four references to "W87-like" pits in the FY 2019 NNSA Congressional Budget Request, beginning at page 70. The fact that these won't be exact replicas could be of supreme importance. Should these "W87-like" pits be significantly different from the tested, true pedigree, there could be a loss of confidence in their reliability because they cannot be full-scale tested. Or alternatively, they could prompt the U.S. to return to full-scale testing with potentially grave international proliferation consequences.

³⁹ Supposedly interoperable between the Air Force's Minuteman III ICBM and the Navy's sub-launched Trident missiles. At best these warheads could have a common nuclear explosives package, while little else would be truly interoperable.

⁴⁰ See 2012 Navy memo at <https://www.nukewatch.org/importantdocs/resources/Navy-Memo-W87W88.pdf> Moreover, of the Navy's two sub-launched warheads, a Life Extension Program for its W76 will be completed in a few years, and a major "alteration" is about to begin that will give the W88 warhead a new

Jobs, Jobs, Jobs (not many)

Often the argument “jobs, jobs, jobs” is used to partially justify expanded nuclear weapons programs in New Mexico. The Draft EA states:

Under the Proposed Action Alternative, AC and MC operations would involve an estimated 135 radiation workers at RLUOB and 48 radiation workers at PF-4. Most workers would come from existing jobs at the CMR Building, RLUOB, and PF-4. **Approximately 30 full-time equivalent (FTE) staff would be new employees.**⁴¹

It takes all four CMRR subprojects, that is to say \$2 billion, to create those 30 new jobs, which is a lousy return on taxpayers’ investment. Thus the jobs argument can’t be used by NNSA or the New Mexico congressional delegation to justify raising the plutonium limit in the Rad Lab. Genuine, comprehensive cleanup at LANL would be a real win-win for New Mexicans, creating hundreds of high-paying jobs while permanently protecting the environment and our precious water resources.⁴²

Conclusion

NNSA should proceed with a broader environmental impact statement after NNSA’s May 11 decision on the future of expanded plutonium pit production. First, the draft Rad Lab EA’s deficiencies concerning lack of proper analyses of seismic risks, potential beryllium exposures and Intentional Destructive Acts must be corrected in a fuller EIS.

Further, that EIS needs to include the current interconnected four subprojects related to relocating analytical chemistry and materials characterization operations involving plutonium at LANL, which altogether will cost 2 billion irretrievable taxpayer dollars. NNSA does not make the case why the first two subprojects are NOT sufficient to maintain AC and MC capabilities at LANL, especially since the plutonium-239 (or equivalent) limit in the Rad Lab has already been raised from 8.4 grams to 38.6 grams. And perhaps in a demonstration of its bias, NNSA fails to include in this draft Rad Lab EA expanded plutonium pit production as a “reasonably foreseeable action” affecting other actions at LANL. That is preposterous given that expanded plutonium pit production is already statutorily required and LANL is actively planning for it.

arming, fuzing and firing set and “refresh) its conventional high explosives. This will make the Navy even less receptive toward the Interoperable Warhead.

⁴¹ Draft Rad LAB EA, p. 18, emphasis added.

⁴² We find the low number of jobs produced by exorbitant investments into new nuclear weapons programs and facilities to be all too typical. A directly related case-in-point is the canceled CMRR-Nuclear Facility, the precursor to NNSA’s current Proposed Action. The draft CMRR Supplemental EIS itself stated that the CMRR-NF would not create additional jobs because it would simply relocate existing employees from an old facility to a new facility. To quote from the Supplemental EIS Summary, “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.” (Draft CMRR Supplemental EIS, p. S-39, parentheses in the original)

If NNSA's May 11 decision is to have expanded pit production at both LANL and SRS (which we consider likely), the agency should then proceed with a new or supplemental programmatic environmental impact statement. After all, the 1996 Stockpile Stewardship and Management PEIS and 2008 LANL Site-Wide Environmental Impact Statement limited plutonium pit production at the Lab to no more than 20 pits per year. Despite repeated attempts, NNSA has not formally raised that production limit in a NEPA document, which Nuclear Watch asserts NNSA is legally required to do.

Following a programmatic environmental impact statement on expanded plutonium pit production, site-specific NEPA documents implementing that decision will need to be completed for SRS⁴³ and/or LANL, as the case may be. The contents of this draft Rad Lab EA should be subsumed in all that.

- End of Comments -

These comments respectfully submitted,

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⁴³ We note that site-specific NEPA documents for plutonium pit production at SRS will necessarily need to be lengthy and complex, with little reliance on previous NEPA documents, given that pit production will be an entirely new mission at SRS. Although SRS handles and stores many tons of plutonium, there is no existing infrastructure for pit production and therefore the site will be starting virtually from scratch. Of particular interest will be how the highly flawed MOX Fuel Fabrication Facility might be converted to pit production.