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Via email to spdsupplementaleis@saic.com

Dear Ms. Sachiko McAlhany:

Thank you for this opportunity to comment on the draft *Surplus Plutonium Disposition Supplemental Environmental Impact Statement* (SPD dSEIS) issued pursuant to the National Environmental Policy Act (NEPA) by the Department of Energy's semi-autonomous National Nuclear Security Administration.

Our mission statement is:

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.

In that vein, we want to make it clear from the start that we are strong advocates for the permanent disposition of plutonium that could be used again in nuclear weapons. However, we strongly oppose the federal government's chosen method of disposal, which is NNSA's Mixed Oxide program for use of plutonium in commercial nuclear power plants.

We believe the MOX program should be terminated because:

- It is a financial boondoggle, generating the usual exorbitant cost overruns that are the rule with NNSA and its contractors.
- There are no utilities signed up for MOX fuel.
- If ever used, MOX fuel will have to be another subsidy paid for by the American taxpayer for the failing nuclear power industry.
- MOX fuel inherently raises contamination risks should nuclear power plant accidents occur, as they inevitably will overtime.

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- MOX fuel fabrication will vastly increase the transportation of plutonium around the country and needlessly strain NNSA's existing nuclear facilities.
- Contrary to its stated rationale, the MOX program will arguably be a proliferating program instead of a nonproliferation program since it will introduce plutonium to the global market.
 - Further, MOX may well block other critically needed NNSA nonproliferation programs from receiving increased funding, and encourage Russia to use MOX fuel in a breeder reactor that could produce more plutonium than it consumes.
- Finally, the MOX Program prevents this country from pursuing other safer and less expensive disposition methods.

We take the right to submit these comments four calendar days late given that the National Nuclear Security Administration posted online the reference documents integral to this NEPA process only on the deadline day for public comment. This is unacceptable agency behavior, and parts of our comments substantially rely upon one of those reference documents. We have been through this before, having successfully pressured NNSA to post reference documents online for both the 2008 Los Alamos National Laboratory Site-Wide Environmental Impact Statement and the 2008 Complex Transformation Programmatic Environmental Impact Statement. NNSA knows better by now, and should have automatically posted the reference documents at the same time that it electronically posted the SPD dSEIS. Moreover, this should be true for all of NNSA's and DOE's future NEPA processes.

Introduction

The Department of Energy's semi-autonomous National Nuclear Security Administration (NNSA) released the SPD dSEIS on July 27, 2012. Since 1994, the Department of Energy (DOE) has spent millions of dollars and held dozens of public meetings and hearings on how to handle up to 34 metric tons of surplus plutonium so that it could no longer be used in nuclear weapons. Russia also agreed to address the amount of plutonium from its nuclear weapons program. But both "disposition" programs have failed to date, as plutonium has yet to be placed into a form to prevent its future use in nuclear weapons, nor is there any likelihood for such a result in the next few years. While not acknowledging its failure, NNSA now is proposing for the first time that up to an additional 13.1 metric tons of plutonium should be shipped to Los Alamos National Laboratory (LANL) and the Waste Isolation Pilot Plant (WIPP).

NNSA's preferred alternative is to have the Savannah River Site (SRS) process 6 metric tons of plutonium and ship it to WIPP for disposal with other contact-handled transuranic wastes. Some or all of 7.1 metric tons of plutonium in "pits" – the triggers for nuclear bombs – would be shipped from the Pantex Plant near Amarillo, Texas to LANL to be disassembled and converted. The resulting plutonium oxide powder would then be shipped to SRS to be fabricated into plutonium-uranium mixed oxide (MOX) fuel to be used in the Sequoyah (Tennessee) and/or Browns Ferry (Alabama) Nuclear Plants operated by the Tennessee Valley Authority (TVA). After responding to public comments, DOE intends to release the *Final SEIS* and Record of Decision (ROD) in early 2013. DOE then plans to begin implementing the chosen alternatives soon thereafter.

A New Programmatic EIS Is Needed

Unfortunately, NNSA is not in compliance with NEPA and should not proceed to a final supplemental environmental impact statement. This is because the SPD SEIS is “tiered” off the 1996 *Storage and Disposition of Weapons-Usable Fissile Materials Programmatic EIS* (underlined for emphasis), using that broader but now outdated document as its foundation. NNSA’s new proposals are now so fundamentally different from the program and alternatives discussed in the 1996 *Storage and Disposition Programmatic EIS* that a new or supplemental programmatic environmental impact statement is needed. It then follows that after sound programmatic decisions are made that there has be follow-on NEPA processes that analyze implementation and potential impacts at the site-specific level. This is especially true given the extreme range of variance in the potential plutonium throughput at the newly included LANL and SRS facilities, ranging from a low of two metric tons to a high of 35 metric tons or more.

This SPD dSEIS is the fifth in a series of draft and final environmental impact statements analyzing what to do with surplus plutonium. In none of the first four EISs was WIPP considered a suitable site for any of the plutonium. The 1996 *Programmatic EIS* and Record of Decision (ROD) stated that LANL’s surplus plutonium would be shipped to Pantex or SRS. The 1999 *SPD Final EIS* and 2000 ROD stated that LANL would fabricate MOX lead assemblies for tests, but that plan was dropped in 2003. Plans at SRS include a \$6 billion (and rising) cost for the MOX Fuel Fabrication Plant that is under construction, but is years behind schedule. A standalone companion Plutonium Disassembly and Conversion Facility was considered, but is now being abandoned because of exploding costs. The 1996 and 2000 RODs stated that some of the plutonium was to be immobilized and disposed in a high-level waste repository and the rest used for MOX. In 2002, the immobilization program was cancelled “due to budgetary constraints,” even though thousands of public comments had opposed MOX and supported immobilization of all the plutonium.

Now, as *prima facie* evidence of the need for fresh programmatic review, for the first time additional plutonium is to be shipped to LANL instead of shipped out for disposition. Also for the first time WIPP is proposed to dispose of 6 tons of plutonium. This all involves dramatically increased transportation and program operations between additional interlocking sites within DOE’s national nuclear complex. Therefore, NNSA must issue for public comment a new draft Storage and Disposition Programmatic EIS or a Supplemental PEIS describing and analyzing the currently proposed surplus plutonium disposition program. It must also include, as required by NEPA, all credible alternatives to that proposal before the Department can proceed with a lesser SPD Supplemental EIS(s). A program Record of Decision then needs to flow from that programmatic review, after which site-specific NEPA review will need to be conducted so that potential local impacts can be determined.

Under the SPD dSEIS’ “**Preferred Alternative**” NNSA states “DOE’s preferred option for pit disassembly and the conversion of surplus plutonium metal, regardless of its origins, to feed for MFFF [MOX Fuel Fabrication Facility] is to use some combination of facilities at Technical Area 55 at Los Alamos National Laboratory and K-Area, H-Canyon/HB-Line, and MFFF at SRS, rather than to construct a new stand-alone facility.” This is a result of the cancellation of the proposed Pit Disassembly and Conversion Facility, which like virtually all major NNSA projects ran into runaway cost estimates.

But given the likely permanent cancellation of the PDCF, this SPD dSEIS improperly limits itself to analysis of just the disposal of an additional 13 metric tons of plutonium above the 34 metric tons that both Russia and the U.S. have agreed to dispose of. It omits adequate discussion of how feedstock for the MFFF will be prepared for the original 34 metric tons now that the PDCF has been canceled, and the potential impacts thereof. There is no substantial discussion of the impact that this might have on the newly included SRS and LANL facilities, other than to say that plutonium input could vary between 2.5 metric tons to 35 metric tons over various periods of time, “depending on the pit disassembly and conversion option selected” (page B-7).

But here is exactly our point. The pit disassembly and conversion option should first be selected through rigorous programmatic review. The fact that the range of plutonium throughput is so broad and speculative is sufficient reason by itself to invalidate the SPD dSEIS. This cries for selecting the necessary pit disassembly and conversion options from discerning programmatic review, and then proceeding with follow on site-specific NEPA analyses to determine and possibly mitigate local impacts.

NNSA Cannot Proceed to a Final SEIS Without TVA Buy In

As the NNSA acknowledges under “**Preferred Alternatives...** The TVA [Tennessee Valley Authority] does not have a preferred alternative at this time regarding whether to pursue irradiation of MOX fuel in TVA reactors and which reactors might be used for this purpose.” (SPD SEIS p. iv.) NNSA also says under “**Purpose and Need for Agency Action...** TVA is a cooperating agency on this SPD Supplemental EIS because it is considering the use of MOX fuel, produced as part of DOE’s Surplus Plutonium Disposition Program, in its nuclear power reactors.”

“Considering” by TVA is not enough, especially given that after further consideration other utilities (e.g., Duke Energy Corp.) pulled out of being candidates for the MOX Program. We don’t believe that NNSA can proceed with a final SPD SEIS until such time as TVA declares that its preferred alternative matches that of NNSA’s. Otherwise, this whole SPD SEIS process is an exercise in futility. Of what value is it, even to NNSA, to further this process paid for by the taxpayer when there are no reactors committed to using the agency’s MOX fuel? We think this clearly reinforces the need for programmatic review, with TVA as a fully “cooperating agency” sharing NNSA’s preferred alternative.

Separate from the NEPA process, politically NNSA needs to show that it actually has customers signed up for its MOX fuel. Without that congressional appropriators are likely to bring out their long knives while searching for any and all budget savings. We think that to save and go forward with the MOX program that NNSA will have to compel TVA to declare that its preferred alternative generally matches NNSA’s, or alternatively find another customer given that NNSA has no reactors of its own even remotely suitable for MOX fuel use. We strongly assert that a final SPD SEIS should not go forward until TVA (or another customer) has actually contracted to use NNSA’s MOX fuel.

The MOX Alternative Must Be Reconsidered

In addition to the substantial changes that NNSA proposes for its plutonium disposition program (which we contend create the need to go back to programmatic analysis to begin

with), broader historical changes since 1996 call into serious question the current direction of the plutonium disposition program. One tectonic change was the near economic meltdown this country experienced in 2008, and its long lingering aftereffects. In contrast to the once-loud (but now receding) fanfare for a “nuclear renaissance”, the nuclear power industry has never economically stood on its own legs without huge taxpayer props, such as congressionally directed indemnification above \$12.6 billion in damages in the event of a nuclear catastrophe. Even Wall Street won’t invest in new nuclear power plants on its own without federal loan guarantees. NNSA’s MOX program throws good money after bad, further subsidizing a failing industry,

The MOX program now eats up a full third of NNSA’s ~\$2.5 billion “Defense Nuclear Nonproliferation” account, and continues to grow while worthy nonproliferation programs such as the Global Threat Reduction Initiative are facing cuts. The nation can no longer afford dead end investments, especially when it may rob money from critically needed, genuine nonproliferation programs. The introduction of plutonium to global commerce through the MOX program runs counter to our long-term nonproliferation goals.

To add insult to injury, in the face of serious national fiscal constraints the MOX program also arguably robs from accelerated development of renewable energy technologies that could lead us toward energy independence while abating greenhouse gases. Nuclear power fails the economic smell test and the intractable problem of disposal of high-level radioactive wastes. Promotion of nuclear power with its claimed lack of greenhouse gas emissions fail to account for the full nuclear fuel cycle, beginning with the energy and environmental costs of uranium mining and enrichment. And to circle back to nonproliferation issues, continuing massive taxpayer subsidies to the nuclear power industry and huge investments in further processing of nuclear materials sets a poor geopolitical example as this country attempts to constrain the nuclear programs of other countries (i.e., Iran).

Arguably the U.S. MOX program will even directly work against our declared national security goal of diminishing Russian plutonium so that it can never be used again in nuclear weapons targeting America. First, there has always been a bit of a circular argument, as this writer has witnessed senior American government officials saying that we have to do MOX because the Russians are going to do MOX, and then while in Moscow hearing their Russian counterparts saying that they have to do MOX because the Americans are going to do MOX. The Russian-American plutonium disposition agreement first and foremost requires the disposition of 34 metric tons of plutonium each, with the choice of disposal method ultimately left up to each respective country. The future direction of disposal in the U.S. plutonium disposition program should be decoupled from the Russian method for all the reasons stated in these comments. What really matters is the overall objective of permanently and safely disposing of 34 metric tons at the lowest reasonable costs.

But through the MOX program the U.S. has essentially condoned Russian use of MOX fuel in a new breeder reactor. When Russia canceled efforts to use MOX in its light-water reactors, it became clear that it would concentrate on building a new BN-800 breeder reactor that can produce, or “breed,” weapons-grade plutonium. Although Russia has said it will initially operate the reactor in a non-breeding mode, it can later reconfigure operations such that the reactor can produce substantially more weapons-grade plutonium than it consumes.

Thus, the US program has given Russia cover to continue constructing this breeder reactor, which is a potential blow to US non-proliferation efforts, even though the State Department turns the matter on its head and seems to triumph a new Russian plutonium breeder reactor as indicating its progress toward plutonium disposition. However, this “triumph” could be all too short-lived, especially if bilateral relations, already under strain, were to further deteriorate. Russia’s recent announcement that its wants to reconsider the two decade old Cooperative Treat Reduction program (AKA the Nunn-Lugar Program) further erodes bilateral confidence.

The SEIS Must Consider the Costs Versus Benefits of the MOX Program.

NNSA and DOE have an increasingly bad reputation for project management and fiscal responsibility, with a number of billion-dollar-plus projects and programs tripling or more in actual or estimated costs. Notably the House Appropriations Committee observed in its FY 2012 report that “The threat posed by rising [MOX] construction costs to the progress of core nonproliferation activities remains a major Committee concern.” At the same time NNSA refuses to calculate estimated MOX life cycle costs, which some outside experts estimate will cost another \$17 billion or more. New and/or supplemental programmatic review must consider the costs versus benefits of the MOX program and cheaper alternatives that possibly could have greater benefits.

The cost of building the Mixed Oxide Fuel Fabrication Facility (MFFF) at SRS is now expected to rise by more than \$2 billion and the projected schedule for completing the project could slip significantly. Original NNSA estimates in 2007 projected that the facility would cost \$4.8 billion and be operating by 2016. Government agencies (and especially DOE) have always claimed that NEPA does not require them to analyze or disclose cost estimates. Yet while promulgating NEPA Congress directed that “all agencies of the federal government shall - - ... include in every recommendation... a detailed statement by the responsible official on -- ... any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.” 42.U.S.C. § 4331 Sec. 102 (C).

Given the serious financial problems and constraints that this country faces it is high time that federal agencies should conduct a cost benefit analysis concerning irreversible and irretrievable commitments of resources, including taxpayer dollars, for proposed major federal actions. NNSA should do so now for its entire plutonium disposition program.

NNSA should also completely review its plutonium disposition program in a new or supplemental programmatic environmental impact statement in the event that sequestration of the federal budget occurs under the Budget Control Act.

The SEIS Must Re-Evaluate the Disposal of Plutonium as Waste.

NNSA’s disposition program should programmatically re-evaluate the disposal of plutonium as waste, immobilized in glass and/or ceramic, rather than used as MOX fuel to subsidize a failing nuclear power industry that can’t pull its own weight. Immobilization has the promise of being quicker, cheaper, and safer than MOX, and would unambiguously be a genuine nonproliferation program in contrast to MOX. But, unfortunately, as the SPD dSEIS notes, “In 2002, however, DOE made the decision to cancel the surplus plutonium immobilization program due to budgetary constraints” (p. S-32).

Remarkably, a decade later, NNSA has partially reversed that decision so that it can immobilize up to six tons of plutonium judged to be too high in impurities for use in MOX fuel. That fortunately reestablishes immobilization in principle and puts it back on the table. But now that budget constraints are much more severe than in 2002, and given the MOX program's escalating costs, immobilization should be programmatically analyzed as a preferred alternative for all surplus plutonium, not just that deemed to have too high impurities.

Another profound changed circumstance since the 1996 *Storage and Disposition of Weapons-Usable Fissile Materials Programmatic EIS* is the extraordinary nuclear disaster at Fukushima. First, Fukushima is another nail in the coffin of the international nuclear power industry, further strongly questioning the wisdom of further investments into an industry that would die without taxpayer subsidies. Worthy of note are the shrinking nuclear power industries in Japan and Germany and even the U.K. and France, indicative of the continuing global decline of the nuclear power industry. This again illustrates that massive taxpayer investments into the MOX program are imprudent.

More narrowly, review of NNSA's plutonium disposition program needs to include and consider detailed information about any effects and possibly increased contamination from the use of MOX fuel in Fukushima's badly damaged unit #3.

The SEIS Must Evaluate Dam Failures

Also related to the example set by the nuclear disaster at Fukushima, the SPD dSEIS does not evaluate a dam failure "river tsunami accident," since it was not determined to be a credible accident in Safety Analysis Reports by the Tennessee Valley Authority. NNSA hopes to first demonstrate MOX fuel use at TVA's Browns Ferry and Sequoyah nuclear power plants (as a footnote, Browns Ferry has a very checkered safety history to begin with).

However, in a letter submitted this last September to internal investigators at the Nuclear Regulatory Commission, a whistleblower engineer within the agency accused regulators of deliberately covering up information relating to the vulnerability of U.S. nuclear power plants located downstream from large dams and reservoirs. The letter also accuses the agency of failing to act to correct these vulnerabilities despite being aware of the risks for years. Rather than relying on just TVA's reports, further NEPA steps in review of NNSA's plutonium disposition program should investigate and analyze the risks of dam failure and resulting "river tsunami."

NNSA Must Reconsider its Preferred Alternative

As previously mentioned, TVA has yet to agree to use MOX, or for that matter even to test it. NNSA has failed to identify any utilities committed to using MOX, thus rendering its "preferred alternative" as near fatally flawed. It seems obvious that this "preferred alternative" must be reconsidered.

In addition, NNSA has failed to:

- Evaluate all the risks involved with MOX use in commercial reactors;

- Evaluate all the risks associated with processing plutonium for MOX. Under NNSA's new proposal a full analysis must be included of modifications to facilities at the Savannah River Site and Los Alamos Lab to process plutonium from nuclear weapons "triggers;"
- Outline the operational schedule of the MOX plant and exactly what type of MOX fuel would be fabricated;
- Evaluate options to dispose of plutonium as waste; and
- Prepare a "Plan B" for plutonium management and disposition when there is a good chance that the MOX program will fall of its own weight because of escalating costs and technical and scheduling problems.

Concerning a Plan B, as a recent and very relevant example, NNSA was strongly criticized after the proposed CMRR-Nuclear Facility was deferred at LANL for not having prepared in advance an alternative plan for nuclear weapons plutonium programs under its largest budget account "Total Weapons Activities." NNSA would be well advised to develop a Plan B that does not include MOX for its second largest budget account "Defense Nuclear Nonproliferation." This would help insulate NNSA from more congressional and public criticism should the MOX program fail, which seems increasingly likely.

An Additional 35 metric Tons of Plutonium at Los Alamos Must Be Better Justified.

Possible expanded plutonium MOX operations at LANL would occur at Plutonium Facility-4's (PF-4's) Advanced Recovery and Integrated Extraction System (ARIES). The SPD dSEIS states that plutonium throughput at PF-4 could vary between the 2 metric tons that the facility is already slated to process for MOX feedstock to a maximum throughput of 2.5 metric tons annually for a total of 35 metric tons, "depending on the pit disassembly and conversion option selected" (page B-7). This further buttresses the need for new and/or supplemental programmatic review, especially given that the originally proposed stand-alone Pit Disassembly and Conversion Facility at SRS is effectively canceled because of its exploding costs. For this SPD SEIS to purport that it has adequately analyzed the additional impacts to plutonium facilities at both LANL and SRS given the very broad range in potential material throughput defies belief and common sense.

One of the reference documents for the SPD dSEIS, LANL's February 2012 *Final Report, Data Call to Support the SPD SEIS*, states the following:

No Action Alternative.

The existing ARIES program under the No Action Alternative has upgrades currently planned:

- _Modifications of pit disassembly lathe, already operating in PF-4, which will be used by LANL's existing ARIES program,
- _Installation of hydride/dehydride equipment,
- _Acquisition and installation of second Pu direct metal oxidation (DMO) furnace,
- _Installation of second mill/blend machine,
- _Installation of four new safes in the basement, and
- _Installation of new part storage boxes in two gloveboxes.

These modifications will not require any new construction project workers to implement, and will have no construction environmental impacts or waste.

Consequently, in the data call response that follows, the focus is on the Action

Alternative exclusively.

Action Alternative.

To achieve the Action production rate of 2.5 MT/y of metal or oxide, twenty gloveboxes must be decontaminated and decommissioned, eighteen gloveboxes modified, and eighteen new gloveboxes installed.

B. Construction Time Horizon

- *_Estimated length of construction period in months.*
- *_Estimated month and year that construction could start.*

If this is the selected alternative, construction work could start within six months after project approval is received, and would last approximately 96 months. The schedule used here arbitrarily assumes the project begins in FY2013. Large construction activities are the installation of the Modern Foundry and replacement of the Special Recovery Line (SRL). (Page 7, **bolding and italics in the original**, <http://twilight.saic.com/spdcrs/refs/389.pdf>)

First of all, the so-called No Action Alternative of having LANL's Advanced Recovery and Integrated Extraction System (ARIES) prepare two metric tons of plutonium oxide for feedstock for the MOX Fuel Fabrication Facility (MFFF) is a significant deviation from the 1996 *Storage and Disposition of Weapons-Usable Fissile Materials Programmatic EIS* to begin with. ARIES was originally to be just a technical demonstration of pit disassembly and conversion technology for follow on transfer to the now-canceled Pit Disassembly and Conversion Facility (PDCF) at the SRS. ARIES was never meant to be a permanent fixture at PF-4. We contend that that change alone requires programmatic review.

But far exceeding that now is the potential plutonium throughput for ARIES at PF-4 that could be a maximum of 2.5 metric tons annually for a total of 35 metric tons. The scale of necessary modifications to PF-4 to enable that expanded plutonium mission (i.e., decommissioning 20 old gloveboxes, modifying 18 and installing 18 new gloveboxes) and length of time of construction (96 months), all of which will generate an estimated ~2,000 ft³ of radioactive wastes, demand site-specific NEPA analysis only after programmatic review has arrived at a Record of Decision which needs to determine the plutonium throughput to begin with.

The Impact of Expanded Plutonium Operations Must Be Better Explained.

Moreover, PF-4 is an extremely sensitive facility given that it is the nation's sole facility for plutonium pit production. It is fortunate that NNSA has decided to defer the proposed Chemistry and Metallurgy Research Replacement Project (CMRR)-Nuclear Facility at LANL, which also became a victim of exploding costs and increasing budget constraints.

We have long argued that the analytical chemistry and materials characterization missions in the old and unsafe CMR Building that directly support plutonium pit production could be relocated to the combination of the newly built first phase of the CMRR Project (the "Rad Lab") and PF-4. NNSA has now agreed with us in part when it declared in its FY 2013 Congressional Budget Request that "NNSA has determined, in consultation with the

national laboratories, that the existing infrastructure in the nuclear complex has the inherent capacity to provide adequate support for these [plutonium] missions.”

But this inevitably puts more pressure on PF-4. For example, LANL’s SPD SEIS data call final report states:

A. General Plutonium Operations at PF-4

General facility capabilities related to plutonium preparation and handling are described here. The current ARIES program (No Action Alternative) uses about 4,500 square feet. The Action alternative adds another 3,000 s.f., for an approximate total of 7,500 s.f. (Page 13)

LANL’s SPD SEIS data call final report further states:

B. Plutonium Metal and Oxide Production Schedule

Expected output of metal and/or oxide (peak annual and total)

Projected start year and total number of operational years

Operations would begin immediately after NEPA and program approval, likely with a ramp-up to a peak output of 2.5 MT(Pu)/y as equipment is installed and certified for production use. Operational years are currently estimated to be eighteen years (beginning in FY2013 and ending in FY2030) for a ~25 MT(Pu) total mission. An additional 9 MT(Pu) is expected to be declared as excess to National Security, and its conversion would require operations to continue until FY2034 at 2.5 MT(Pu)/y. (Page 21).

Thus additional floor space will be dedicated to the MOX fuel mission at PF-4, with potentially large input (2.5 MT/yr) for the next 20+ years. We have appended Table 1 “Category 1 Laboratory Space Requirements” from LANL’s 1997 report *Alternatives for Increasing the Nuclear Materials Processing Space at Los Alamos for Future Missions* at the end of our comments. Our point is to demonstrate how tightly bound PF-4’s total processing space of 59,600 square feet is by program. The report states that at that time 1,000 square feet of processing floor space was dedicated to “Fissile Materials Disposition – MOX.” We know from the above not only that 4,500 square feet are now so dedicated, but also that an additional 3,000 square feet may be added under NNSA’s preferred alternative.

This cries out once again for review and analysis on a programmatic level that takes into account possible impacts on other national security plutonium programs not related to the MOX program but that could be impacted by it. More specifically, there needs to be programmatic examination of how any increased MOX fuel mission at PF-4 could impact the so-called alternative plutonium strategy that NNSA has embarked upon after the Administration’s decision to defer the CMRR-Nuclear Facility. We believe that Congress would take a dim view of any possible impacts by the MOX program on the alternative plutonium strategy, which is for nuclear weapons research and production and is not related to plutonium disposition.

In addition to the impacts at LANL of the ARIES program, any future NEPA reviews need to clearly present and analyze the possible impacts of increased MOX fuel polishing operations at PF-54. Those operations purify plutonium from ARIES for direct use in the fabrication of MOX fuel. NNSA needs to make clear what volumes of material are involved in MOX fuel polishing, what percentage is taking place at SRS and LANL respectively, and the composition and amounts of the resulting waste streams.

Possible Defense Nuclear Facilities Safety Board Concerns

The Defense Nuclear Facilities Safety Board has long been concerned with possible radioactive doses to the public should PF-4 experience a serious seismic event. Among other things, the Safety Board has long urged that LANL reduce the plutonium inventory in PF-4 so that there would be less "Material at Risk." Therefore NNSA needs to fully explain to the DNFSB and the public how up to an additional 2.5 metric tons of plutonium every year will not create unacceptable risks. NNSA also needs to explain how it will shoehorn in the extensive modifications that will take 96 months to complete, while at the same time PF-4 will also be undergoing major structural upgrades designed to increase seismic safety.

Transportation of ~2,000 shipments of nuclear materials needs analysis.

LANL's February 2012 *Final Report, Data Call to Support the SPD SEIS* states:

The production schedule [for MOX fuel feedstock from ARIES], coupled with the packaging assumptions, allows us to compute the trucking requirements for operational material. The total number of truck (SGT) shipments per year for pits (Pantex to LANL), oxide and metal (LANL to SRS), and HEU (LANL to Y-12) ranges from 60 to 210 at a peak production rate of 2.5 MT/y. The total over the whole 34 MT program is about 2,000 shipments. P. 35.

Any future NEPA reviews, which we argue should be site-specific following programmatic review, will have to rigorously analyze the transportation risks associated with this large number of potential shipments. That review should also place those shipments within the context of the total number of nuclear materials shipments to and from LANL.

The Impact of More Plutonium on Cleanup Must Be Analyzed.

LANL already has a mission to clean up transuranic wastes (bomb wastes contaminated with plutonium) and "low-level" wastes at Area G, which is behind schedule and will cost billions of dollars if comprehensively done. The SPD dSEIS did not analyze the potentially negative effects that significantly increased plutonium operations at LANL could have on the March 2005 Compliance Order on Consent between the New Mexico Environment Department (NMED) and LANL (AKA the "Consent Order") that governs cleanup.

The purposes of the Consent Order are to: (1) characterize the extent of contaminants at LANL; (2) evaluate clean up remedies and mitigation strategies to prevent the migration of contaminants; and (3) to implement those cleanup measures and mitigation strategies, dependent on the first two steps. LANL has asked for, and NMED has granted, more than 30 two-year extensions on Consent Order milestones for the first two characterization and evaluation steps, thus throwing into grave doubt the third step of actual cleanup. The cumulative effect on Consent Order compliance of dramatically expanding the plutonium mission at LANL that would generate yet more waste while diverting focus and resources away from cleanup needs to be addressed.

Programmatic Review Must Analyze the Impacts of More Plutonium Wastes at WIPP.

Federal laws limit WIPP's mission to 175,564 cubic meters of transuranic waste, including 7,079 cubic meters of more radioactive remote-handled (RH) wastes. Because of how waste has been shipped to WIPP and placed underground, a significant amount of space has not been used or has been filled with empty containers. Thus, at least 40 percent of the

RH waste cannot be disposed as planned. The ten planned panels also may not have sufficient space for the contact handled wastes.

The SPD dSEIS states that the additional 6 metric tons of plutonium proposed for disposal at WIPP could be up to 17,000 cubic meters of waste. That amount would approximately double the amount of wastes from SRS to be emplaced at WIPP. While the SPD dSEIS states that amount could fit at WIPP, it might require adding additional panels or displacing contact handled waste from LANL or other sites that are in the existing WIPP Inventory. Additionally, plutonium oxide in pipe overpack containers has never before come to WIPP and may contain materials, such as “stardust,” that are not permitted at WIPP. Finally, in a separate NEPA process WIPP is also proposed to dispose of up to 6,000 cubic yards of “Greater than Class C” (GTCC) wastes, a catch all term for sealed sources, activated metals (such as from decommissioned reactors), and other wastes that are the most radioactive so-called Low-Level Wastes.

It is unlikely that WIPP can accommodate NNSA’s proposal for additional disposal of 6 metric tons of surplus plutonium, much less the GTCC wastes. There are also increasing suggestions that WIPP (or its environs) also dispose of the nation’s high-level radioactive wastes, now that the Yucca Mtn. repository has been canceled. All of this once again argues for rigorous programmatic review of not only what WIPP can realistically handle, but also the interrelated impacts that NNSA’s current proposal for plutonium disposition can have on the interlocking sites within DOE’s nuclear complex.

Conclusion: For all the reasons stated in these comments and more, NNSA should not issue a Final Supplemental EIS. Instead, it must prepare a new programmatic environmental impact statement on plutonium storage and disposition that includes analysis of all credible alternatives that could better achieve the nuclear nonproliferation goals of our country and help save taxpayers’ money at the same time.

A Beginning Recommendation: Again, Nuclear Watch New Mexico is a strong advocate for the permanent disposition of plutonium that could be used in nuclear weapons. We recommend that the MOX Program be canceled and a Pit Conversion Facility be built at the Pantex Plant near Amarillo, TX, because that’s where some 15,000 surplus plutonium pits are. “Conversion” should be a comparatively simple process that crushes the pits and packages them for eventual geologic disposal, and not necessarily in a vitreous or ceramic matrix. All the while procedures to avoid nuclear criticalities need to be stringently observed. Geologic disposal could include co-location with existing high level wastes so that a radiation barrier is created that would strongly discourage future extraction of plutonium. We recognize that the most difficult problem is locating the permanent geologic repository, which needs a scientific solution leading to a popular political solution that is beyond our expertise. But overall our recommendation would greatly reduce transportation risks and realize substantial savings for the taxpayer while NOT introducing plutonium into the global market. We would redirect savings into genuine nonproliferation programs that would help lead us into a future world free of nuclear weapons.

These comments respectfully submitted,
Jay Coghlan
Executive Director

Scott Kovac
Program Director

Attachment A

Alternatives for Increasing the Nuclear Materials Processing Space at Los Alamos for Future Missions, LA-UR-97-1000, LANL, April 1997

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