nuclear watch new mexico

May 9, 2020

NNSA Los Alamos Field Office
Comments: LANL SWEIS SA
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Los Alamos, NM 87544

By email to: lanlsweissa@nnsa.doe.gov, Subject line: LANL SWEIS SA, and USPS

Dear LANL SWEIS SA Document Manager,

We respectfully submit these comments for the National Nuclear Security Administration's (NNSA's) *Draft Supplement Analysis of the 2008 Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory (LANL) for Plutonium Operations (DOE/EIS-0380-SA-06, March 2020* ("DSA"). [1] 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.

These comments also incorporate by reference the attached comments submitted by Nuclear Watch and others regarding both the Complex Transformation PEIS Supplement Analysis and the proposed environmental impact statement for the repurposing of the MOX Fuel Fabrication Facility at the Savannah River Site. We believe both are relevant and directly connected issues which NNSA seeks to segment contrary to statutory requirements under the National Environmental Policy Act.

NNSA's Unseemly Rush

In response to our request for an extension of the public comment period because of the COVID-19 pandemic NNSA granted a mere 15-day extension to May 9. This smacks of being a carefully calibrated decision to give the least amount possible while still being able to claim that the agency gave something. Following that, NNSA rejected a request by New Mexico Senators Tom Udall and Martin Heinrich to extend the public comment period to at least June 19. Beforehand Udall and Heinrich were among 24 Senators who asked the Office of Management and Budget to extend all federal public comment periods during the coronavirus national emergency.

NNSA's rejection of the two New Mexican Senators' request is a hypocritical double standard. Even in normal times NNSA and its parent Department of Energy routinely ask other government agencies for major time extensions when it comes to cleanup and independent

[1] Available at https://www.energy.gov/sites/prod/files/2020/03/f72/draft-supplement-analysis-eis-0380-sa-06-lanl-pit-production-2020-03.pdf

oversight. For example, DOE routinely asks for time extensions to respond to nuclear safety recommendations by the independent Defense Nuclear Facilities Safety Board.[2]

Concerning cleanup, the Los Alamos National Laboratory (LANL) asked the New Mexico Environment Department for more than 150 time extensions for legally required cleanup milestones, which NMED granted. The lack of comprehensive cleanup has caused extensive groundwater contamination, which the Lab use to claim was impossible but now threatens the regional aquifer.

In contrast to these extensions routinely granted to DOE and NNSA, the agency told Senators Udall and Heinrich that the expansion of plutonium pit production at LANL is so vital to national security that the agency cannot wait another 45 days for public comment, even while northern New Mexico is impacted by the pandemic. NNSA claimed that "a two month extension of the comment period would have a severe adverse impact on the detailed planning and coordination of this effort" to expand plutonium pit production at LANL.[3] That is laughable given NNSA's chronic track record of massive cost overruns and broken schedules.

For starters, the Department of Energy has been on the Government Accountability Office's "High Risk List" for project mismanagement for 27 consecutive years. Independent experts have found that most of NNSA's proposed major projects are canceled outright, but of the few who aren't "we could find no successful historical major project that both cost more than $700 million and achieved CD-4 [the Critical Decision to begin operations] in less than 16 years." [4] This is particularly relevant given that NNSA proposes to "repurpose" the MOX Fuel Fabrication Facility at the Savannah River Site (SRS) for pit production, after that canceled project wasted more than 7 billion taxpayer dollars. Similarly, a major new plutonium facility at LANL (the Chemistry and Metallurgy Research Replacement Project- Nuclear Facility) was cancelled in 2012 when its projected construction costs exploded ten-fold to $6.5 billion.

Formal public comment has proved time and again to be good for both DOE/NNSA and the public. Perhaps the most dramatic illustration is that the now-Executive Director of Nuclear Watch New Mexico commented on the lack of wildfire prevention in a draft 1999 LANL Site-Wide Environmental Impact Statement (SWEIS). In response, the final LANL SWEIS included a detailed hypothetical wildfire that became all too real a half year later during the Cerro Grande Fire. That hypothetical scenario aided Lab leadership in their decision to order evacuation of all but essential personnel. Mitigation provisions in the final LANL SWEIS included fire prevention measures that helped to keep the Cerro Grande Fire a half-mile away from above ground plutonium-contaminated transuranic wastes stored at the Lab's Area G, which could have been

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[2] For DOE's latest request, see Secretary Dan Brouillette to DNFSB Chairman Bruce Hamilton, April 27, 2020, https://nukewatch.org/doe-secretary-brouillette-request-for-extension-to-respond-to-recommendation-2020/
The Safety Board has long reported on chronic nuclear safety problems at the Los Alamos National Laboratory (LANL), but DOE sought to kill the messenger by restricting Safety Board access to NNSA nuclear weapons facilities.

[3] NNSA letter, April 6, 2020, https://nukewatch.org/nnsa-to-nukewatch-15-day-extension/

[4] *Independent Assessment of the Two-Site Pit Production Decision: Executive Summary*, Institute for Independent Analysis, May 2019, https://nukewatch.org/newsite/wp-content/uploads/2019/11/IDA-With-cover-page.pdf

catastrophic had their drums ruptured due to high heat. Even LANL recognized that public comment helped to avert potential catastrophe, writing:

> "It is a story of an EIS process, of helpful public comments, of a timely response ... then a great fire, called Cerro Grande, that proves the value of outsiders' ideas… When the Cerro Grande Fire swept down from the mountains this spring, these extra defensive steps, taken in response to the public comments, paid for themselves many times over. The savings were in the form of the harm to facilities that was reduced or avoided and reduced risk to the public that might have resulted." [5]

By rejecting the New Mexico Senators' request for a meaningful time extension, NNSA is essentially telling the public to get lost during this epidemic. However, expanded nuclear weapons production won't protect Americans from our #1 national security threat, the coronavirus epidemic. In its ill-advised rush to ram through plutonium pit production, NNSA is squandering the opportunity for beneficial public comment that could help it make better informed decisions. The agency will no doubt ignore voluminous public comment urging it to prepare both a nation-wide programmatic environmental impact statement and a new LANL Site-Wide Environmental Impact Statement. NNSA will instead go on to squander taxpayer money and leave critical nuclear safety and seismic issues less than fully resolved, only to blow budget and schedules as it almost always does.

Introduction

NNSA has summarized the need for the draft LANL Supplement Analysis as follows:

> "The Department of Energy (DOE) National Nuclear Security Administration (NNSA) has prepared a draft Supplement Analysis (SA; DOE/EIS-0380-SA-06) of the 2008 Site-wide Environmental Impact Statement (SWEIS) for Continued Operations of Los Alamos National Laboratory (LANL). NNSA is preparing the SA to determine whether, prior to proceeding with the action to produce plutonium pits at a rate of no fewer than 30 pits per year no later than during 2026, the existing 2008 SWEIS for Continued Operations of LANL should be supplemented, a new environmental impact statement prepared, or no further National Environmental Policy Act (NEPA) analysis is required. Resources needed for pit production at LANL include construction of additional infrastructure, expansion of the work force, waste management operations, and transportation. The draft SA is an important element of the overall NEPA strategy related to fulfilling national requirements for plutonium pit production. DOE announced this NEPA strategy on June 10, 2019 (84 FR 26849)."

This draft Supplement Analysis goes on to "preliminarily" conclude that NNSA will NOT prepare a new LANL site-wide environmental impact statement, which is the wrong decision. However, even before the question of a new site-wide environmental impact statement (EIS) for Los Alamos Lab, we believe that NNSA is legally required to first complete a new programmatic environmental impact statement (PEIS) on its nation-wide plans for expanded plutonium pit production. This is necessary to 1) raise the production cap of 20 pits per year explicitly set by

[5] https://hwbdocuments.env.nm.gov/Los%20Alamos%20National%20Labs/General/13435.pdf

the 1997 Stockpile Stewardship and Management PEIS; and 2) because NNSA now proposes a second site, the Savannah River Site (SRS) in South Carolina, for redundant pit production, which is inherently a "programmatic" decision.

NNSA argues that it can rely upon an outdated 2008 Complex Transformation PEIS which considered various levels of expanded plutonium pit production at five specific NNSA candidate sites. However, that outdated document did not consider simultaneous production at two sites. This changed circumstance is justifiable cause alone for a new programmatic environmental impact statement.

When determining whether or not to prepare a PEIS, guidance must be sought in both DOE NEPA regulations and directives such as from the Council on Environmental Quality. The CEQ memo entitled *Effective Use of Programmatic NEPA Reviews*, December 2014, lays out when a PEIS shall be prepared. It states that the PEIS must be undertaken from the start of a proposal and for the public to be allowed to provide comments on the programmatic proposal, which NNSA has denied to the public.

The CEQ memo states:

> Programmatic NEPA reviews address the general environmental issues relating to broad decisions, such as those establishing policies, plans, programs, or suite of projects, and can effectively frame the scope of subsequent site- and project-specific Federal actions. A well-crafted programmatic NEPA review provides the basis for decisions to approve such broad or high-level decisions such as identifying geographically bounded areas within which future proposed activities can be taken or identifying broad mitigation and conservation measures that can be applied to subsequent tiered reviews…. One advantage of preparing a programmatic NEPA review for repetitive agency activities is that the programmatic NEPA review can provide a starting point for analyzing direct, indirect, and cumulative impacts. Using programmatic NEPA reviews allows an agency to subsequently tier to this analysis, and analyze narrower, site- or proposal-specific issues… The planning process for the proposed action and the development of a programmatic NEPA review should start as early as practicable. By starting the planning process early, there should be sufficient time for establishing the reasonable scope of actions, alternatives, and impacts in the programmatic review, and identifying the decisions the programmatic review will support so that the level of analysis is clear from the start.[6]

We contend that it is exactly that process that NNSA should follow, specifically broad programmatic review followed by site specific analyses.

For the record, we enclose our previous remarks and outline of National Environmental Policy Act (NEPA) requirements from our May 17, 2019 letter addressed to the DOE Secretary and National Nuclear Security Administration (NNSA) Administrator, signed by Attorneys Nick Lawton of Meyer Glitzenstein & Eubanks LLP and Geoff Fettus of the Natural Resources

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6 https://www.energy.gov/sites/prod/files/2016/05/f31/effective_use_of_programmatic_nepa_reviews_18dec2014.pdf

Defense Council, representing the public interest groups NRDC, Nuclear Watch New Mexico, Tri-Valley CAREs and SRS Watch. See Attachment A.[7]

Nuclear Watch is pleased that NNSA correctly decided to prepare the relevant environmental impact statement for repurposing the MOX Fuel Fabrication Facility (MFFF) for plutonium pit production at the Savannah River Site (SRS). We are displeased with NNSA's "preliminary" conclusion to not do a new LANL Site-Wide Environmental Impact Statement. Judging from last year's similar "preliminary" conclusion for the Complex Transformation PEIS Supplement Analysis, we suspect that NNSA's "preliminary" decision to not do a new LANL SWEIS is a foregone conclusion.

However, in both cases for LANL and SRS we believe that NNSA's NEPA process is backwards, as the agency must first prepare a PEIS from which both a new LANL SWEIS and the SRS EIS are tiered. To further add to our argument, that PEIS is required under NEPA because:
1) It is needed to raise the plutonium pit production level from the 20 pits per year sanctioned by the1996 Stockpile Stewardship and Management PEIS to 80 or more; and
2) A second site (SRS) is now proposed for simultaneous production, which is inherently a "programmatic" decision.

Outside of the National Environmental Policy Act process, a PEIS is also required by a 1998 court order requiring a PEIS when DOE begins to plan for the production of more than 80 plutonium pits per year. [8] Because as discussed below, the NNSA's current approach is to produce "no fewer than 80 pits per year," the agency has clearly triggered the need for a new or supplemental PEIS under the terms of this court order. The Natural Resources Defense Council (NRDC) was lead counsel for the plaintiffs that secured that court order and will enforce it if necessary. Please see Attachment C for NRDC's comments.

The Need for a Programmatic Environmental Impact Statement Under NEPA

Again, a new PEIS is required because NNSA proposes simultaneous pit production at two sites, which the Complex Transformation PEIS never considered. NNSA's new plan involves the production of at least 30 pits per year at the Los Alamos Lab and at least fifty pits per year at the Savannah River Site (SRS), which would be a completely new mission there. As previously explained to NNSA, this is inherently a "programmatic" decision, sufficient justification by itself for a new PEIS. *See* Attachment A (describing how the decision to produce plutonium pits at these two locations requires a programmatic analysis).

NNSA plans to establish pit production at SRS by "repurposing" the failed MOX Fuel Fabrication Facility (MFFF). To use the Department of Energy's own NEPA regulatory language, a new PEIS is required because the expansion of pit production at LANL and the

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[7] *The need to prepare a Programmatic Environmental Impact Statement in connection with plans to expand plutonium pit production at the Los Alamos National Laboratory in New Mexico and the Savannah River Site in South Carolina*; Nickolas Lawton, MGE, LLP and Geoffrey Fettus, NRDC; May 17, 2019; https://nukewatch.org/newsite/wp-content/uploads/2019/05/Summary-Pit-Production.pdf

[8] *Natural Resources Defense Council v. Pena*, 20 F.Supp.2d 45, 50 (D.D.C. 1998), https://law.justia.com/cases/federal/district-courts/FSupp2/20/45/2423390/

repurposing of the MOX Facility at SRS are "systematic and connected agency decisions" that are clearly "connected," "cumulative," and "similar" actions, therefore "their environmental effects must be considered in a single impact statement." See Attachment A. Accordingly, DOE's own NEPA regulations require the preparation of a PEIS, as further explained below in an excerpt from Attachment A.

The draft SA misleadingly suggests that NNSA previously analyzed "a pit production facility that would use the Mixed-Oxide Fuel Fabrication Facility (MFFF) and Pit Disassembly and Conversion Facility (PDCF) infrastructure" in the Complex Transformation PEIS. This suggestion that no further programmatic analysis of producing plutonium pits at SRS using a repurposed MFFF is highly misleading and fundamentally misrepresents what the Complex Transformation PEIS actually considered.

In reality, the Complex Transformation PEIS only cursorily mentioned the prospect of using the MFFF infrastructure, and plainly did not consider any impacts associated with the profoundly changed circumstances surrounding the MFFF—namely, the fact that it was fraught with construction fraud and abandoned in a partially completed state. Moreover, this alternative considered only producing plutonium pits at *one* facility. The passing reference to the prospect of using some MFFF infrastructure in the Complex Transformation PEIS is in no way a substitute for the rigorous analysis that is now required for the fundamentally distinct proposal to produce plutonium pits at multiple locations and in facilities that have been fraught with safety problems or were never designed for these activities.

Excerpt from our May 17, 2019 Letter on the Need for a PEIS

As our May 17, 2019 letter explained, NEPA requires agencies to consider multiple actions together in a single Programmatic EIS when those "actions are 'connected,' 'cumulative,' or 'similar,' such that their environmental effects are best considered in a single impact statement." *American Bird Conservancy*, 516 F.3d at 1032 (quoting 40 C.F.R. § 1508.25(a)). Here, the expansion of plutonium pit production at LANL and the repurposing of the MOX Facility to produce plutonium pits at SRS plainly fall within the ambit of "connected," "cumulative," and "similar" actions within the meaning of NEPA, meaning that they must be considered together in a single programmatic EIS.

The expansion of plutonium pit production at LANL and the repurposing of the MOX Facility to produce plutonium pits at SRS are "connected" actions under NEPA. Connected actions "are closely related and therefore should be discussed in the same impact statement" because they "[a]re interdependent parts of a larger action and depend on the larger action for their justification." 40 C.F.R. § 1508.25(a)(1). Both the proposed expansion of plutonium pit production at LANL and the repurposing of the incomplete MOX Facility to produce plutonium pits at SRS are interdependent parts of DOE and NNSA's plan to fulfill the Trump Administration's stated goal in its 2018 Nuclear Posture Review of producing at least 80 plutonium pits per year by 2030. *See* Dep't of Defense, *Nuclear Posture Review*, at 64. Because the Administration cannot reach the Nuclear Posture Review goal without both proposed actions at LANL and SRS, and because both actions depend on the Nuclear Posture Review for their justification, these actions are "connected" under NEPA and must be considered together in a single EIS.

Likewise, both projects are "similar" because "when viewed with other reasonably foreseeable or proposed agency actions" both "have similarities that provide a basis for evaluating their environmental consequences together." 40 C.F.R. § 1508.25(a)(3). These similarities are clear. To begin with, both projects involve producing plutonium pits for nuclear weapons. Moreover, both projects are being proposed in locations where the safety of producing plutonium pits is highly questionable at best as LANL suffers from serious and ongoing deficiencies in the management of nuclear safety issues, while the MOX Facility was never designed for fabrication of plutonium pits, is still incomplete, and was the subject of fraudulent construction practices that leave the state and safety of the building highly uncertain. Finally, because both projects entail processing highly hazardous nuclear materials in facilities with serious safety concerns, both projects are likely to have serious and similar nuclear safety issues and environmental impacts. Accordingly, both actions are "similar" under NEPA.

Furthermore, both actions also satisfy the definition of "cumulative" actions, because they will "have cumulatively significant impacts." 40 C.F.R. § 1508.25(a)(2). A cumulative impact is "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions." *Id.* § 1508.7. Here, not only will the expansion of plutonium pit production at LANL and the repurposing of the incomplete MOX Facility to produce plutonium pits each have significant impacts in their own right, but each project will also likely have cumulative environmental impacts that should be taken into account in a single EIS. For example, because each site will be performing similar activities and working with similar materials, each site will likely generate wastes that DOE and NNSA will have to determine how to treat, store, or dispose of.

Accordingly, because the expansion of plutonium pit production at LANL and the repurposing of the MOX Facility at SRS are clearly "connected," "cumulative," and "similar" actions, "their environmental effects are best considered in a single impact statement," *American Bird Conservancy*, 516 F.3d at 1032, and a PEIS is the legally and practically appropriate way to accomplish this.

Not surprisingly, therefore, DOE's own regulations require the production of a PEIS under these circumstances. DOE's regulations mandate that "[w]hen required to support a DOE programmatic decision (40 CFR 1508.18(b)(3)), DOE shall prepare a programmatic EIS." 10 C.F.R § 1021.330(a). In turn, a "DOE programmatic decision" includes the "[a]doption 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." 40 C.F.R. § 1508.18(b)(3). Here, both proposed actions at LANL and SRS are "systematic and connected agency decisions" undertaken to implement the specific "executive directive" in the 2018 Nuclear Posture Review to produce at least 80 plutonium pits per year by 2030. Accordingly, DOE's regulations mandate the preparation of a PEIS. – End of Excerpt -

Important New Information and Changed Circumstances
Since the 2008 Complex Transformation Programmatic Environmental Impact Statement

While the following list is by no means all inclusive, Nuclear Watch asserts that the following issues must be considered in a new programmatic environmental impact statement on expanded plutonium pit production.

First, while the CT PEIS considered various levels of expanded plutonium pit production at five specific NNSA candidate sites, **it did not consider simultaneous production at two sites**. This changed circumstance alone requires a new programmatic environmental impact statement on expanded plutonium pit production because it radically changes the area and environmental impacts associated with plutonium pit production. For example, it logically increases the need for transportation of components or finished products and by creating two supply chains and waste streams instead of one.

The Institute for Defense Analysis Report: in May 2019 we obtained an unclassified executive summary of the Institute for Defense Analysis' critique on NNSA's plans for expanded plutonium pit production.[9] It concluded:

> **"Summary of Main Findings**
> 1. Eventually achieving a production rate of 80 ppy [pits per year] is possible for all options considered by the EA [expanded pit production Engineering Assessment] but will be extremely challenging.
> 2. *No available option can be expected to provide 80 ppy by 2030*. DoD should evaluate how to best respond to this requirement shortfall.
> 3. Trying to increase production at PF-4 [at LANL]by installing additional equipment and operating a second shift is *very high risk*.
> 4. *Effort to identify and address risks is underway but is far from complete*.
> 5. Strategies identified by NNSA to shorten schedules will increase the risks of schedule slip, cost growth, and cancellation." (Italicized emphasis added.)

In addition, the report stated:

> "IDA examined past NNSA programs and could find no historical precedent to support starting initial operations (Critical Decision-4, or CD-4) by 2030, much less full rate production. Many similar projects (e.g., the Modern Pit Facility, Chemistry Metallurgy Research Replacement-Nuclear Facility, and Pit Disassembly and Conversion Facility) were eventually cancelled. Of the few major projects that were successfully completed, all experienced substantial cost growth and schedule slippage; we could find no successful historical major project that both cost more than $700 million and achieved CD-4 in less than 16 years…" [10]

These damning conclusions by independent experts buttress the need for full programmatic review of NNSA's plans for expanded plutonium pit production. NNSA is planning to throw bad money after bad money, wasting taxpayers' funds trying to achieve pit production goals at which it will most likely fail, at the MOX Fuel Fabrication Facility (MFFF), a facility that has already failed in its previous mission while wasting billions of taxpayer dollars.

Indeed, several findings from the IDA report strongly indicate why additional NEPA review is necessary in a new or supplemental PEIS—and, relatedly, why the draft SA is entirely

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[9] Institute for Defense Analysis, March 2019, available at https://nukewatch.org/newsite/wp-content/uploads/2019/07/IDA-ExecSum-UNC-March2019.pdf

[10] Ibid., p. vi.

insufficient. For example, the IDA report reveals that efforts to identify and address risks associated with the proposal to produce plutonium pits at LANL and SRS are underway, but far from complete. These risks include risks to the environment, as risks associated with the failure of any aspect of this mission will entail environmental impacts, such as the production of hazardous waste. The assessment of risks to the environment, and the evaluation of alternatives that may mitigate such risks, is precisely the purpose of NEPA. Because NNSA is still evaluating such risks and determining how to address them, it is premature and reckless for the draft SA to conclude that no further NEPA review is necessary for the expansion of pit production at LANL.

In fact, the IDA report provides a clear example of why this is the case: the IDA report shows that the expansion of production at PF-4 is extremely high risk. The draft SA is not candid about this point, despite the fact that one of NEPA's aims includes providing information about environmental hazards to ensure that decision-makers are properly taking such risks into account and that the public can meaningfully contribute to agency decisions through informed comment. The draft SA fails at this goal, providing another indication that both a PEIS and new LANL SWEIS is necessary.

Given the strong unlikelihood of NNSA meeting its plutonium pit production goals by 2030, the agency should slow down and get the NEPA process right. Moreover, NEPA indisputably helps DOE make better decisions and conserve taxpayer dollars.[11] A PEIS should be used to fully identify and begin to successfully address all program risks, including budget and schedule. Further, both the PEIS and the SRS-specific environmental impact statement should address the unlikelihood of NNSA's meeting its declared plutonium pit production schedule. Likewise, because the IDA report clearly reveals that any NNSA effort to meet a 2030 deadline will necessarily be a rush job, the PEIS (as well as any other NEPA document such as a final SA or an EIS for the SRS site) must address all risks associated with the hasty nature of the agency's proposed action.

Finally, before committing irretrievable resources to expanded plutonium pit production, a new programmatic environmental impact statement should address how the Department of Energy's Defense Programs (including NNSA nuclear weapons programs since 2000) have been on the Government Accountability Office's High Risk List for project mismanagement since its inception in 1992.[12] While GAO acknowledges that NNSA has made some progress, the new PEIS should address how NNSA plans to completely get off that list through the hard work of

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[11] As one concrete example, the now-Executive Director of Nuclear Watch New Mexico commented on the lack of wildfire prevention in a draft 1999 LANL Site-Wide Environmental Impact Statement (SWEIS). In response, the final LANL SWEIS included a detailed hypothetical wildfire that became all too real a half year later during the Cerro Grande Fire. That hypothetical scenario aided Lab leadership in their decision to order evacuation of all but essential personnel. Mitigation provisions in the final LANL SWEIS included fire prevention measures that helped to keep the Cerro Grande Fire a half-mile away from above ground plutonium-contaminated transuranic wastes stored at the Lab's Area G, which could have been catastrophic had their drums ruptured due to high heat.

[12] HIGH-RISK SERIES Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas, Government Accountability Office, March 2019, p. 33, https://www.gao.gov/assets/700/697245.pdf. Of particular relevance is "Capacity: not met. In August 2018, a statutorily required internal review of NNSA's capacity identified unmet critical staffing needs, especially staffing to manage and oversee work on the agency's uranium and plutonium missions, which are expected to grow." P. 217. This does not bode well given the MOX program debacle.

reforming its capital acquisition program and instituting rigorous contractor accountability. This is particularly true given that NNSA plans to repurpose the MOX Facility, which has already squandered billions of taxpayer dollars.

Other NNSA Sites Involved in Expanded Plutonium Pit Production

Yet another reason why nation-wide programmatic review needed is because not only are LANL and SRS involved in plutonium pit production, but so are NNSA's Kansas City National Security Complex,[13] Pantex Plant, Nevada National Security Site and the Sandia and Lawrence Livermore National Laboratories, as the 2019 Supplement Analysis to the 2008 Complex Transformation PEIS explicitly states. This restated in Footnote 3, page 3 of the draft LANL SA. More extensive review of all the role of all these sites in pit production is needed, initially in the PEIS and then the LANL SWEIS.

This map from the Final Complex Transformation Supplemental Programmatic Environmental Impact Statement (CT SPEIS) graphically demonstrates how pit production mission is spread from coast to coast, and how the agency was aware of its programmatic nature in 2008.

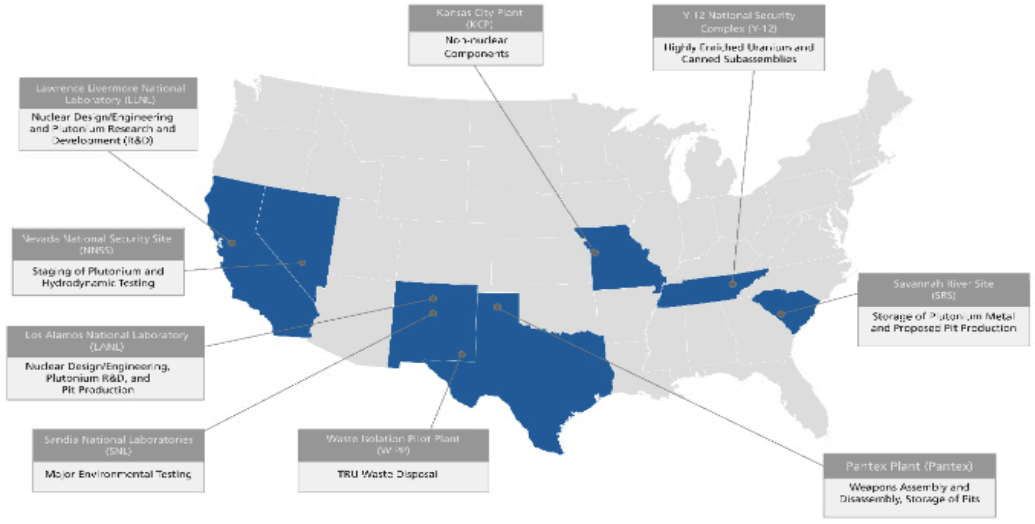

Figure 2-1. DOE/NNSA Sites Associated with Pit Production Mission

NNSA's Fiscal Year 2021 Congressional Budget Request with requested funding levels for specific sites underscores the programmatic nature of "Plutonium Modernization" across NNSA's nuclear weapons complex. A PEIS involving review of the roles of each of these entities must be prepared, which would yield new information about the role of each site. See the following list compiled from the FY 2021 budget request:

[13] As another measure of the inadequacy of relying upon the 2008 Complex Transformation PEIS to avoid preparation of a new PEIS, it should be noted that the Kansas City National Security Complex did not even exist at that time.

NNSA requested FY 2021 funding for expanded plutonium pit production by site	
Kansas City National Security Complex	$37,993,000
Los Alamos National Laboratory	884,599,000
Lawrence Livermore National Laboratory	62,361,000
NNSA Albuquerque Office	364,000
Nevada National Security Site	14,500,000
Pantex Plant	30,409,000
Sandia National Laboratories	66,700,000
Savannah River Site	441,896,000
DOE Wash Headquarters	42,962,000
Total	**$1,581,784,000**[14]

This DSA refers to the NNSA Nuclear Complex sites that support plutonium pit production: SRS, Pantex, Kansas City National Security Campus (KCNSC), Los Alamos National Laboratory (LANL), Nevada National Security Site (NNSS), Y- 12 Plant, Sandia National Laboratories, and Lawrence Livermore National Laboratory (LLNL). (DSA pg. 3)

As more evidence of the new interconnectedness of NNSA complex sites that work with plutonium, this DSA has a table that shows pit production shipments and new transportation risks. (DSA Pg. 18)

Table 2-1. Types of Shipments, their origination, and their Final Destination to Support Pit Production at LANL

Type of Shipments	Origination	Destination
Existing Pits	Pantex	LANL
New Pits	LANL	Pantex
Plutonium Metal	NNSS, SRS and Pantex	LANL
Enriched Uranium	Y-12	LANL
Nonnuclear Parts	KCNSC	LANL
TRU waste	LANL	WIPP
LLW[a]	LANL	NNSS plus other locations
MLLW	LANL	NNSS
Material Testing	LANL	LLNL
Material Testing	LLNL	LANL

[a] See (LANL 2019d, Tables 3-10, 3-13, and 3-16) for additional facilities LANL's Chemical and LLW.

[14] DOE FY 2021 "Laboratory Tables" at https://www.energy.gov/cfo/downloads/fy-2021-budget-justification. Please note that Plutonium Modernization is slated to jump to over $2 billion per year by FY 2023.

Even the Savannah River Site draft environmental impact statement (EIS) mentions "activities across the Nuclear Weapons Complex" thus demonstrating the need for a nation-wide programmatic environmental impact statement on expanded plutonium pit production.

The Proposed Action also includes activities across the Nuclear Weapons Complex associated with transportation, waste management, and ancillary support (e.g., staging and testing) for the pit production mission at SRS. (SRS EIS S-7)

In short, all of the above and more demonstrate that a new or supplemental programmatic environmental impact statement on expanded plutonium pit production is required by the National Environmental Policy Act,

The National Academy of Sciences Recommendation for a PEIS

As yet another metric of why a new programmatic environmental impact statement on expanded plutonium pit production is needed, the National Academy of Sciences Surplus Plutonium Panel recently released a final report on disposing of surplus plutonium at the Waste Isolation Pilot Plant in southern New Mexico. The Panel noted:

> "the involvement of several facilities at several sites …, a schedule of decades requiring sustained support, and the environmental and programmatic significance of the changes therein." The NAS report therefore concluded that "a PEIS… that considers all affected sites as a system is appropriate to address the intent and direction of the National Environmental Policy Act."

We assert that all of this is equally true for expanded plutonium pit production. Moreover, nation-wide programmatic analysis is badly needed because these two different plutonium efforts (pit production and excess plutonium disposal) will intersect in some of NNSA's crucial plutonium facilities and likely compete for processing space.

Purpose and Need?

A new programmatic environmental impact statement is needed to examine the need for expanded plutonium pit production to begin with. We are aware that Congress has legislatively required expanded pit production, but no technical justification has ever been given.

Why is expanded plutonium pit production necessary when independent experts have concluded that plutonium pits last at least a century and more than 15,000 existing pits are already stored at the Pantex Plant near Amarillo, TX? Why isn't the extensive reuse of existing pits analyzed as a credible alternative to new production of plutonium pits? Why is no future pit production scheduled to maintain the safety and reliability of the existing nuclear weapons stockpile? Why will future production instead be for heavily modified pits for speculative new design nuclear weapons that can't be full scale tested because of the global testing moratorium, hence possibly lowering confidence in stockpile reliability? Alternatively, could heavily modified pits prompt the U.S. to return to nuclear weapons testing? All these questions should be addressed in a new programmatic environmental impact statement.

A new PEIS should analyze the impacts of diverting taxpayer dollars to new nuclear weapons facilities instead of cleaning up the massive environmental damage caused by past research and production. What are the long-term public health and environmental effects of leaving radioactive and chemical contaminants that can pollute precious water resources, while new, unnecessary, and costly nuclear facilities that will produce more contaminants are being built? This is amplified by DOE's plans to radically cut cleanup across the nation, for example by nearly half at LANL. Moreover, a reordering of national security priorities is in order, given that $2 trillion in proposed nuclear weapons "modernization" will do nothing to protect us against our most imminent national security threat, the COVID-19 pandemic.

Plutonium Pit Reuse

The draft EIS on *Plutonium Pit Production at Savannah River Site; Aiken, South Carolina* specifically states that pit reuse is being considered, as follows:

> "Implementing a moderate pit manufacturing capability now is a prudent approach to mitigate against age-related risk. For the foreseeable future, NNSA will rely on a combination of newly manufactured pits and judicious reuse of existing pits to modernize the U.S. nuclear stockpile. This approach enables NNSA to implement a moderately sized pit manufacturing capability of not less than 80 pits per year beginning during 2030." (SRS DEIS page S-4)

In our view, it is inexplicable that the draft LANL SA does not affirm the pit reuse statement that appeared in the SRS draft EIS. Why is there no mention of pit reuse in the draft LANL SA? We note the existence of the Special Nuclear Material Component Requalification Facility[15] at the Pantex Plant, also the site for storage of at least 15,000 existing pits. The Plant itself has boasted how pit reuse is much less expensive and environmentally damaging than the production of new pits. We contend that pit reuse must be analyzed in detail as a more than credible alternative to new plutonium pit production in any final Supplement Analysis document and in what we believe is the required programmatic environmental impact statement.

NNSA must also clarify if the first new pits are intended for a W87-1-like warhead and/or the newly proposed W93 warhead. For what other new nuclear weapons are pits "needed?" How many pits are needed for "refurbished" weapons? NNSA has made no case that refurbished, existing pits can't be used. The option of "pit reuse" must be fully considered and analyzed.

The Draft Supplement Analysis of the Complex Transformation Supplemental PEIS Did Not Meet NEPA's Legal Standard

On June 28, 2019 NNSA published a Notice of Availability for a *Draft Supplement Analysis of the Complex Transformation Supplemental Programmatic Environmental Impact Statement* that the public can comment on. In that Draft Supplement Analysis NNSA stated:

> "The purpose of this analysis is to determine, at a programmatic level: (1) if the potential impacts of the proposed action exceed those in the Complex Transformation SPEIS; and (2) if so, if the impacts would be considered significant in the context of NEPA (40 CFR

[15] See, for example, https://pantex.energy.gov/news/blog/day-life-pi

1508.27), which would require preparation of a supplement to the Complex Transformation SPEIS." [16]

Nuclear Watch commends NNSA for having offered the Draft SA for public comment. However, we believe that the purpose of the Supplement Analysis as described above by NNSA (i.e., "proposed action exceed[ing] those in the Complex Transformation SPEIS") is improperly limited in scope. What the law instead requires is:

> "(a) DOE **shall** prepare a supplemental EIS if there are substantial changes to the proposal or significant new circumstances or information relevant to environmental concerns, as discussed in 40 CFR 1502.9(c)(1)." [17]

In turn 40 CFR 1502.9(c)(1) mandates that:

> "(c) Agencies:
> (1) **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." [18]

We believe that 10 CFR § 1021.314 and 40 CFR § 1502.9 apply to programmatic environmental impact statements as well, and that both conditions of "substantial changes in the proposed action" and "significant new circumstances or information relevant to environmental concerns" are more than sufficiently met. This is different from benchmarking the need to whether "the potential impacts of the proposed action exceed those in the Complex Transformation SPEIS."

Therefore, we believe that the way that NNSA has framed the Supplement Analysis as a question of whether NNSA's new plutonium pit production proposal exceeds the risk boundaries of the Complex Transformation PEIS is not compliant with the law, i.e. the National Environmental Policy Act. This further makes NNSA's preliminary conclusion that a draft supplemental PEIS is not required grossly incorrect and legally deficient. In addition, as discussed below, the answer to whether the agency's new proposal exceeds the risk boundaries of the Complex Transformation PEIS is plainly "yes."

Nuclear Watch further asserts that because the Chemistry and Metallurgy Research Replacement Project (CMRR)-Nuclear Facility (NF) was not built, all analysis of pit production at LANL in the CT SPEIS is outdated and no longer has any current relevance. NNSA now proposes to cram all the operations previously planned for the CMRR-NF into the Lab's newly constructed

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[16] *Draft Supplement Analysis of the Complex Transformation Supplemental Programmatic Environmental Impact Statement*, DOE/EIS-0236-S4-SA-02June 2019, p. 26, https://www.energy.gov/sites/prod/files/2019/06/f64/draft-supplement-analysis-eis-0236-s4-sa-02-complex-transformation-06-2019.pdf.

[17] 10 CFR § 1021.314 - *Supplemental environmental impact statements*, DOE NEPA Implementing Regulations, https://www.law.cornell.edu/cfr/text/10/1021.314 (bolded emphasis added)

[18] 40 CFR § 1502.9 - *Draft, final, and supplemental statements*, Council on Environmental Quality, https://www.law.cornell.edu/cfr/text/40/1502.9 (bolded emphasis added)

Radiological Laboratory Utility and Office Building (AKA "Rad Lab") and nearly 50-years-old Plutonium Facility-4. Moreover, NNSA now proposes to use the MOX Fuel Fabrication Facility (MFFF), which was poorly built for a different mission and never completed.

"[T]o determine, at a programmatic level: (1) if the potential impacts of the proposed action exceed those in the Complex Transformation SPEIS" strongly implies that NNSA's Supplement Analysis is an exercise in determining whether potential public risks are "bounded by" the analyses in the Complex Transformation PEIS. But "bounded by" is not an actual NEPA term. As DOE's own literature states:

> "Neither the Council on Environmental Quality (CEQ) NEPA implementing regulations (40 CFR Parts 1500-1508) nor the DOE NEPA regulations specifically address bounding analyses in NEPA documents… **bounding analyses should not be used where more accurate and detailed assessment is possible and would better serve the purposes of NEPA**." [19]

Therefore, it is improper that NNSA should hinge the outcome of this Supplement Analysis on the bounding analysis of the 11-year-old Complex Transformation PEIS.

Further, the 2008 CT SPEIS only analyzed generic hypothetical facilities for future plutonium pit production, i.e. the Consolidated Plutonium Center (CPC) and the Consolidated Nuclear Production Center (CNPC). Neither of these were built, while in contrast NNSA now proposes upgrades to and/or repurposing of specific existing facilities (i.e., LANL's Rad Lab and PF-4 and SRS's MFFF). A new PEIS should analyze those upgrades and repurposing of real (not hypothetical) facilities as "interconnected" actions whose "environmental effects are best considered in a single impact statement" because "more accurate and detailed assessment is possible and would better serve the purposes of NEPA." We don't believe anything in NNSA's new proposal can be 'bounded' by the CT SPEIS.

Moreover, hinging the outcome of this SA on whether the boundaries of the CT SPEIS are exceeded or not hinders consideration of possible mitigation measures and leaves the relative differences in the impacts among the alternatives undiscernible. This too is contrary to stated DOE NEPA policy:

> "Using Bounding Analyses in DOE NEPA Document
> … DOE must ensure that the analysis is not so broad and all-encompassing as to mask the distinctions among alternatives, or to hinder consideration of mitigations… While the assumptions may be conservative and the impacts estimated may be substantially higher than those that would actually occur, the relative differences in the impacts among the alternatives should be discernible for the analysis to be useful in informing the choice among alternatives… **It is never appropriate to "bound" the environmental impacts of potential future actions (not yet proposed) and argue later that additional NEPA**

[19] *Mini-guidance Articles from Lessons Learned Quarterly Reports, December 1994 to September 2005*, p. 2-4, USDOE Office of NEPA Policy and Compliance, October 2005, https://www.energy.gov/sites/prod/files/miniguidance-20110511.pdf Bolded emphasis added.

analysis is unnecessary because the impacts have been bounded by the original analysis." [20]

In effect, this is what NNSA is doing, using analysis of hypothetical facilities in the 2008 Complex Transformation PEIS to claim in 2019 that no additional NEPA analysis is needed for expanded plutonium pit production at real specific facilities. This does not comport with DOE NEPA policy that "more accurate and detailed assessment is possible and would better serve the purposes of NEPA."

Additionally, even presuming that the agency's bounding approach to the draft SA had any logical merit or legal validity (which it does not), the fact remains that the agency's new proposal does plainly exceed the risks analyzed in the Complex Transformation PEIS. For example, the Complex Transformation PEIS projected that operations at LANL would take place in a new facility, whereas the agency now proposes essentially indefinite reliance on an antiquated facility that is approaching the end of its design life and that has a well-documented history of serious safety and reliability problems. Accordingly, the agency's new proposal is substantially riskier than anything considered in the Complex Transformation PEIS.

Likewise, the fact that the agency now proposes to produce plutonium pits at *two* locations simultaneously plainly has risks that exceed any analysis in the Complex Transformation PEIS, which only considered producing pits at *one* location. For example, there are risks associated with transportation of components, products and waste, and with having two waste streams instead of one, that were never analyzed in the Complex Transformation PEIS. Accordingly, even if there was any merit to the agency's reliance on a bounding approach to the Supplement Analysis (which there is not), the risks associated with the agency's new proposal plainly do exceed anything previously considered.

The Proposed Configuration of NNSA Facilities for Future Plutonium Pit Production Has Substantially Changed

The first substantial change in the configuration of facilities that NNSA proposes to use for expanded plutonium pit production is obvious - - the repurposing of the MOX Fuel Fabrication Facility (MFFF) for plutonium pit production. NNSA apparently thinks that it can adequately meet its NEPA obligation to analyze the repurposing of the MFFF for pit production through the SRS-specific environmental impact statement (EIS) that it has already initiated. We contend that is not enough, again reiterating that 10 CFR § 1021.314 and 40 CFR § 1502.9 apply to programmatic environmental impact statements as well. We further contend that the very fact that a second site (SRS) is now involved some 1,500 miles from the existing plutonium pit production site (i.e., the Los Alamos Lab) inherently requires programmatic review.

Indeed, the draft Complex Transformation PEIS Supplement Analysis itself confirmed that NNSA viewed this change as "significant" under NEPA. Again, NEPA's implementing regulations—which are binding on all federal agencies, 40 C.F.R. § 1500.3—clearly state that "[a]gencies . . . *shall* prepare supplements to either draft or final environmental impact statements if . . . [t]he agency makes substantial changes in the proposed action that are relevant to environmental concerns; or [t]here are significant new circumstances or information relevant

[20] Ibid., https://www.energy.gov/sites/prod/files/miniguidance-20110511.pdf. Bolded emphasis added.

to environmental concerns and bearing on the proposed action or its impacts." *Id.* § 1502.9(c). Here, NNSA's own Complex Transformation PEIS Supplement Analysis stated that the "cancellation of the construction of the MFFF at SRS" is a "*significant change* that has occurred regarding plutonium disposition" since the Complex Transformation PEIS. Draft SA at 43. NNSA's description of the MFFF cancellation as a "significant change" leaves no room to doubt that there has been a "substantial change" and a "significant new circumstance" within the meaning of NEPA's implementing regulations.

Indeed, confirming the significance of this changed circumstance, NNSA likewise states that in light of the cancellation of the MFFF, "DOE has made no official decisions regarding how the surplus plutonium will be dispositioned." *Id.* The fact that the cancellation of the MFFF has left NNSA and DOE with no coherent plan regarding this important issue is a clear indication of how significant the cancellation and proposed repurposing of this facility is within the meaning of the National Environmental Policy Act.

But the repurposing of the MFFF is not the only major facility change. The Chemistry and Metallurgy Research Replacement Project (CMRR)-Nuclear Facility at LANL was integral to all alternatives of plutonium pit production that the 2008 Complex Transformation SPEIS considered. However, the CMRR-NF was canceled in 2012 which resulted in an expanded mission and equipage of the Radiological Laboratory Utility and Office Building (AKA "Rad Lab") and expanded upgrades to PF-4. We assert that this troika of proposed facility changes (i.e. MFFF repurposing, CMRR-NF cancellation and Rad Lab/PF-4 upgrades) plainly constitutes a significant changed circumstance as well as new information that demands programmatic review in a programmatic environmental impact statement.

The Drivers and the Requirement for Expanded Plutonium Pit Production Have Substantially Changed

The Complex Transformation PEIS Supplement Analysis stated:

> "Since 2008, NNSA has emphasized the need to eventually produce 80 pits per year; the joint DoD-DOE white paper entitled, *National Security and Nuclear Weapons in the 21st Century,* cataloged the need and justification for pit production rates. In the decade plus since this paper was published, the drivers and the requirement for pit production have remained relatively unchanged through several administrations and changes in congressional leadership." D Supplement Analysis Ex. Summary.

Far from the drivers and the requirement for pit production remaining relatively unchanged as NNSA asserts, the main "drivers" have in fact radically changed in that they have been twice canceled. NNSA's claim is then followed with only a vague justification that the third and latest "driver" that reputedly requires expanded pit production. Specifically, the 2008 DoD-DOE white paper *National Security and Nuclear Weapons in the 21st Century* stated that:

> "[T]he Departments of Defense and Energy are pursuing an alternative to this strategy of indefinite life extension; namely, the gradual replacement of existing warheads with warheads of comparable capability that are less sensitive to manufacturing tolerances or

> to aging of materials. The generic concept is often referred to as the Reliable Replacement Warhead (RRW)." [21]

The white paper goes on to expressly link the need for expanded plutonium pit production to the Reliable Replacement Warhead (RRW). But in the same year Congress declined to fund RRW, thus cancelling the first rationale for expanded plutonium pit production.

Following that, NNSA claimed that the need for expanded pit production was justified by a future "Interoperable Warhead" which the agency described in congressionally-required annual Stockpile Stewardship and Management Plans as the centerpiece of its "3+2" plan to transform the nuclear weapons stockpile and its supporting research and production complex. But NNSA quietly canceled the Interoperable Warhead in an obscure December 2018 report, eliminating the second concrete justification for expanded pit production. In that same report NNSA offered a weak justification for future expanded pit production for the Interoperable Warhead's proposed successor (the W87-1) by stating:

> "This campaign to establish a national pit manufacturing capability at required capacity must happen even if the W87-1 program must, for some unplanned reason, deploy with a reused pit. If that were to be the case, then the pit manufacturing campaign would provide new pits for the LEP or replacement program that follows the W87-1." [22]

Our point is that NNSA does not specify what that next Life Extension Program or replacement program is, thus has yet to offer a concrete justification for expanded plutonium pit production that it estimates will cost $43 billion in taxpayer funds over 30 years.[23] Plainly, contrary to NNSA's cursory claim that the "drivers" for pit production remain unchanged, the agency's proposals for pit production and the justifications for pit production have shifted radically multiple times. In light of these profoundly changed circumstances, it is imperative that a supplemental PEIS clearly defines the specific need for expanded plutonium pit production.

The 2008 white paper *National Security and Nuclear Weapons in the 21st Century* also noted:

> "Successive efforts at extending the service life of the current inventory of warheads will drive the warhead configurations further away from the original design baseline that was validated using underground nuclear test data. Repeated refurbishments will accrue technical changes that, over time, might inadvertently undermine reliability and performance." [24]

This is echoed in NNSA's FY 2020 Congressional Budget Request:

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[21] *National Security and Nuclear Weapons in the 21st Century*, p.18, https://dod.defense.gov/Portals/1/Documents/pubs/nuclearweaponspolicy.pdf

[22] W78 Replacement Program (W87-1): Cost Estimates and Use of Insensitive High Explosives Report to Congress, NNSA, December 2018, p. 6, https://nukewatch.org/newsite/wp-content/uploads/2019/03/W78-Replacement-Program-Cost-Estimates-IHE-1.pdf

[23] Plutonium Pit Production Engineering Assessment (EA) Results, NNSA, May 2018, slide 10 (add Alt 1 and 2c together), https://nukewatch.org/newsite/wp-content/uploads/2019/03/FINAL-Pu-Pit-Production-EA-Results-05.14.18_Unclassified.pdf

[24] *National Security and Nuclear Weapons in the 21st Century*, p. 17, https://dod.defense.gov/Portals/1/Documents/pubs/nuclearweaponspolicy.pdf

> "The stockpile is inherently moving away from the Underground Test (UGT) database through aggregate influences of aging, modern manufacturing techniques, modern materials, and evolving design philosophies." [25]

The Complex Transformation PEIS Supplement Analysis stated that NNSA "is responsible for meeting the national security requirements established by the President and the Congress to maintain and enhance the safety, reliability, and performance of the United States nuclear weapons stockpile." SA Ex. Summary. A supplemental PEIS should analyze a curatorship-like Stockpile Stewardship Program that rigorously hews to the tested pedigree of the nuclear weapons stockpile, avoiding changes at every possible turn that could introduce uncertainties. This is very salient given that according to NNSA's FY 2020 Congressional Budget Request future pits will not be exact replicas but instead will be "W87-like." A supplemental PEIS should explain what that term means and explore to what extent any heavily modified pit designs could undermine confidence in safety and reliability, thereby possibly degrading national security and prompting a return to full-scale testing, which would have severe international proliferation consequences.

The Complex Transformation PEIS Supplement Analysis concluded that no further programmatic review was needed for the Pantex Plant as a supporting site for expanded plutonium pit production. SA p. 21. This is incorrect as the Pantex Plant is the site for nonintrusive requalification leading to reuse of existing pits in NNSA's Life Extension Programs. We contend that a supplemental PEIS is required to consider the extensive reuse of plutonium pits as a serious alternative to virgin pit production, an alternative that would be less expensive and less internationally provocative and environmentally damaging.

To put this more strongly, the extensive reuse of existing plutonium pits should be the third alternative in a new programmatic environmental impact statement transcending the binary choice of expanded plutonium pit production and a No Action Alternative to not expand pit production (which the government is clearly biased against). It is a reasonable, credible alternative that would save taxpayers money and cause less environmental harm compared to expanded plutonium pit production.

Changes in Environmental Conditions, Operations, and NEPA Process

Under Changes in Environmental Conditions, Operations, and NEPA Process, the NNSA's Supplement Analysis for the 2008 Complex Transformation PEIS stated:

> "While there are differences in the natural environment at both sites [LANL and SRS] since the Complex Transformation SPEIS was prepared, the differences are not significant in terms of analyzing changes in environmental impacts at a programmatic level."

To begin with, the Supplement Analysis for the 2008 Complex Transformation PEIS failed to provide sufficient details regarding the nature of the changed circumstances and any coherent

[25] NNSA FY 20 Congressional Budget Request, p. 158, https://www.energy.gov/sites/prod/files/2019/04/f62/doe-fy2020-budget-volume-1.pdf

justification for the NNSA's claim that these differences are ostensibly "not significant." Instead, the SA provided only a "high-level summary" of environmental conditions and punted on any detailed analysis, stating that "[i]f NNSA decides to implement the proposed action, site-specific documents would be prepared and would provide a detailed analysis of any changes in the environmental conditions at LANL and SRS, as appropriate."

This statement is effectively a concession of the inadequacy of the Supplement Analysis for the 2008 Complex Transformation PEIS. NEPA requires agencies to fully analyze environmental circumstances and to assess the significance of any environmental conditions and impacts *before making a decision*. *See*, *e.g.*, 40 C.F.R. § 1501.2 ("Agencies shall integrate the NEPA process with other planning *at the earliest possible time* to ensure that planning and decisions reflect environmental values." (Emphasis added). In flagrant contravention of this fundamental NEPA principle, NNSA instead proposes to make its decision first and then consider environmental circumstances afterwards. Because NNSA simply concludes based solely on a "high-level summary" of environmental conditions, which it concedes must be supplemented, the SA is plainly inadequate.

Moreover, the Supplement Analysis for the 2008 Complex Transformation PEIS' suggestion that changed environmental conditions are ostensibly "not significant" is plainly incorrect. Since 2008 LANL experienced the grave threat of another major wildfire, the 2011 Los Conchas Fire. After ignition, that crown fire raced 13 miles due east to the Lab's western boundary in 24 hours. Given climate change, global warming and increased aridity in the Southwest, the incidences of wildfire at or near LANL will likely only increase.

Concerning operations at LANL, the Complex Transformation PEIS did not consider the track record of chronic nuclear safety infractions at PF-4, which ultimately led to the cessation of major plutonium operations for nearly four years. Indeed, the Supplement Analysis for the 2008 Complex Transformation PEIS' claimed that at both LANL and SRS "Potential impacts from some accidents, such as criticality accidents, would not change, as these accidents are not dependent on the number of pits produced." That categorical statement seems to defy simple logic.

As the Defense Nuclear Facilities Safety Board (DNFSB) noted in its required 2018 annual report to Congress:

> "Nuclear Criticality Safety at Los Alamos National Laboratory (LANL)—Based on an evaluation of the LANL nuclear criticality safety program, the Board in its November 28, 2018, letter to the Secretary of Energy, identified the following related to this vitally important safety program: (1) lack of concrete milestones in corrective action initiatives for weaknesses in the program; (2) inadequate staffing in the nuclear criticality safety division; (3) inadequate documentation for daily work activities with the potential to impact nuclear criticality safety; (4) instances of poor operational quality in implementing nuclear criticality safety requirements; and (5) repetitive, ineffective corrective actions for weaknesses in the program." [26]

[26] Defense Nuclear Facilities Safety Board 29th Annual Report to Congress, April 2019, p. ii, https://www.dnfsb.gov/sites/default/files/document/17791/2018%20Annual%20Report%20to%20Congress%20%5B2019-100-017%5D.pdf

We contend that a supplemental PEIS is needed to analyze the occupational and public risks of repeated, chronic nuclear criticality safety incidences at LANL and how to resolve them. By extension this applies to any future pit production at SRS as well. We argue that a genuine, comprehensive nuclear safety regime needs to be instituted at a programmatic level that must be considered in programmatic environmental impact statement.

The Supplement Analysis for the 2008 Complex Transformation PEIS considered the Waste Isolation Pilot Plant (WIPP) as a supporting site for expanded plutonium pit production since production would increase transuranic waste disposal at WIPP. The SA noted that available capacity has decreased since the time the Complex Transformation SPEIS was prepared but concludes that the impacts of increased pit production on TRU disposal at WIPP are not significant. However, this contention of insignificance is plainly premature and lacks any rational basis. Indeed, the SA also stated that in light of the "significant change" of cancelling construction of the MFFF at SRS, NNSA is evaluating the possibility of instead disposing of surplus plutonium at WIPP. Accordingly, the changes proposed at LANL and SRS plainly have an important impact on WIPP, and the fact that NNSA concedes that cancelling the MFFF is a "significant change" plainly reveals that the impact on the WIPP will be commensurately "significant."

We contend that programmatic review is required to consider and analyze all the possible future competing demands on WIPP. These include future expanded pit production, 34 tons or more of existing "excess" plutonium and potential attempts by DOE to "reinterpret" or downgrade some high-level radioactive wastes, likely another topic of legal dispute in another forum. It should also be noted that the Supplement Analysis for the 2008 Complex Transformation PEIS' claim of current remaining capacity of 108,048 cubic meters at WIPP could be reduced by 30% if the current challenge by citizen groups (including Nuclear Watch NM) to DOE's recalculation of disposed TRU waste is successful. Finally, a new PEIS must guarantee that all future transuranic waste packaging and shipping will be safe, given that LANL sent an improperly prepared waste drum to WIPP that ruptured, exploded, and closed that facility for nearly three years, costing the American taxpayer some $3 billion.

Under "Cumulative Impacts" the Supplement Analysis for the 2008 Complex Transformation PEIS concluded that "The potential cumulative transportation impacts [of the Yucca Mountain Repository] would be reduced from that presented in the Complex Transformation SPEIS." Omitted from any consideration in the SA was the current application submitted by the Holtec Corporation to the Nuclear Regulatory Commission for "Consolidated Interim Storage" in New Mexico of up to 170,000 metric tons of past and future spent nuclear fuel. The cumulative impacts of this proposal could substantially exceed that of Yucca Mountain since the requested total inventory is far greater than that proposed for Yucca Mountain. Moreover, the lethal spent nuclear fuel would have to be moved again once a permanent repository is ever completed. A supplemental PEIS should consider the cumulative impacts of proposed Consolidated Interim Storage of high level wastes.

Also, under "Cumulative Impacts" the Supplement Analysis for the 2008 Complex Transformation PEIS noted that there have been numerous changes to NNSA's Plutonium Disposition Plan, including the cancellation of the MOX program and the repurposing of the MOX Fuel Fabrication Facility for plutonium pit production. As a consequence, LANL would

likely be involved in oxidizing plutonium as part of the proposed "dilute and dispose" process to dispose of excess plutonium at WIPP. This however cries out for programmatic review at the highest level since that plutonium oxidizing can only take place at LANL's PF-4, the already overcrowded facility slated to produce at least 30 pits per year, with a long track record of nuclear safety infractions. It is not clear that there is even enough floor space in PF-4 for oxidation of up to 2.5 tons of plutonium annually if expanded pit production is implemented, and reportedly preparations for expanded oxidizing is on hold until pit production requirements are better known. But this is the very reason why a programmatic environmental impact statement is required, to help sort out possible competing priorities between different programs.

DOE Is Systematically Degrading Safety

The long track record of chronic nuclear criticality incidences at LANL has become publicly known primarily through the reporting of the Defense Nuclear Facilities Safety Board (DNFSB). This has obvious relevance to any future plutonium pit production at SRS. In what is arguably an attempt to kill the messenger DOE issued its Order 140.1 *Interface with the Defense Nuclear Facilities Safety Board* to replace its prior directive on interface with the Board, DOE Manual 140.1-1B.

As the Board itself observed:

> "…DOE Order 140.1*, Interface with the Defense Nuclear Facilities Safety Board*, issued in May 2018, threatens to undermine the Board's ability to execute its statutory mission under the Atomic Energy Act. DOE Order 140.1 improperly attempts to diminish the Board's statutory mandate in four principal ways, all of which are inconsistent with the text of the Atomic Energy Act:
> • The Order contains a narrow definition of "Public Health and Safety," which only includes individuals located outside of DOE site boundaries (i.e., excluding onsite individuals and workers);
> • The Order provides exemptions allowing DOE and contractors to not provide access to facilities that DOE determines do not have the potential to adversely affect public health and safety, which could limit Board oversight at many defense nuclear facilities;
> • The Order lacks a clear provision to provide the Board with ready access to such information, facilities, and personnel as the Board considers necessary to carry out its responsibilities; and
> • The Order provides an allowance for DOE to deny Board requests for relevant deliberative and pre-decisional information." [27]

The last point in particular strikes at the heart of potential risks that the public may be exposed to by expanded plutonium pit production at both LANL and SRS. The Safety Board is the only independent entity that can review and comment on NNSA facility planning before those plans are made final. The DOE attempt to bar the DNFSB from ostensibly "deliberative and pre-decisional information"—apparently designated as such unilaterally by DOE without any prospect for appeal or review—could directly lead to pit production facilities lacking the safety provisions and requirements that would make the public safer.

[27] Ibid., p. 2.

DOE/NNSA's degradation of safety even as it plans to ramp up plutonium pit production appears to be systematic. As the Safety Board noted:

> "DOE has begun the process to revise 10 CFR Part 830, *Nuclear Safety Management*, which has served as the cornerstone of its regulatory framework to ensure adequate protection of public health and safety… Overall, the Board is concerned that the proposed revision to 10 CFR Part 830 will make it more difficult for the Department to exercise consistent oversight across the complex and loosens requirements upon which DOE and the public rely to ensure adequate protection of public health and safety. The Board identified concerns with DOE's proposal to remove the requirement for DOE to annually review and approve changes to documented safety analyses. The Board found that DOE's proposed change, if implemented, created a potential for the safety basis and facility operations to drift outside the envelope approved by DOE" [28]

This is again directly relevant to the risks posed to the public by plutonium pit production at both LANL and SRS. LANL's PF-4 has long had a bad track record of insufficient and /or outdated safety bases and the removal of the requirement to annually review and approve changes could directly threaten the public. In short, a new PEIS is needed to fully review the risks posed by plutonium pit production to the public by apparent systemic attempts by DOE to degrade institutional safety and independent review of safety.

The 1998 Court Order Requiring a Supplemental PEIS

In addition to the clear need for a PEIS under NEPA and its implementing regulations, DOE is currently subject to a court order that mandates the preparation of a PEIS under the current circumstances. That order establishes the following requirement:

> Prior to taking any action that would commit DOE resources to detailed engineering design, testing, procurement, or installment of pit production capability for a capacity in excess of the level that has been analyzed in the SSM PEIS (the capacity analyzed in the SSM PEIS is the fabrication at LANL of 50 pits per year under routine conditions, and 80 pits per year under multiple shift operations), DOE shall prepare and circulate a Supplemental PEIS, in accordance with DOE NEPA regulation 10 C.F.R. § 1021.314, analyzing the reasonably foreseeable environmental impacts of and alternatives to operating such an enhanced capacity, and issue a Record of Decision based thereon.[29]

Because DOE and NNSA are currently devoting resources to designing a pit production capability of *at least* 80 pits per year, including a plan to produce pits at SRS, this order clearly requires the agencies to undertake a Supplemental PEIS.

In contrast, NNSA's June 2019 *Draft Supplement Analysis of the Complex Transformation Supplemental Programmatic Environmental Impact Statement* concluded:

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[28] Ibid., p. 29.

[29] *Natural Resources Defense Council v. Pena*, 20 F.Supp.2d 45, 50 (D.D.C. 1998), https://law.justia.com/cases/federal/district-courts/FSupp2/20/45/2423390/

> "Therefore, as Head of Defense Programs and pursuant to NNSA's Administrative Procedure and DOE's National Environmental Policy Act Implementing Procedures (10 CFR 1021.314(c)), I have preliminarily determined that no further NEPA documentation is required at a programmatic level, and NNSA may amend the existing Complex Transformation SPEIS ROD." DSA p. 48.

We believe NNSA's final determination to not prepare a supplemental PEIS is legally insufficient under NEPA because of all the reasons stated above. Additionally, NNSA cannot evade the clear requirement of this court order. First, it is indisputable that NNSA is planning on producing more than 80 pits per year.[30] Second, we believe this requirement pre-empts NNSA apparent plan to avoid a supplemental PEIS by amending the Record of Decision (ROD) for the 2008 Complex Transformation PEIS. This is because the court order clearly refers to the 1996 Stockpile Stewardship and Management PEIS, whose Record of Decision relocated the plutonium pit production mission to LANL while explicitly limiting it to no more than 20 pits per year.[31]

NNSA Must Begin the PEIS Now

Until NNSA fully complies with NEPA through the preparation of a programmatic environmental impact statement on expanded plutonium pit production, Nuclear Watch believes that any irreversible or irretrievable commitment of resources to either the expansion of pit production at LANL or to the repurposing of the MOX Facility at SRS is unlawful. Accordingly, to properly address all of the issues mentioned above, Nuclear Watch New Mexico insists that NNSA 1) begin the required PEIS right away for the expansion of plutonium pit production at LANL and the repurposing of the MOX Facility for plutonium pit production at SRS, and 2) suspend the site-specific NEPA processes at both LANL and SRS until that PEIS is completed. Following that, full site-specific NEPA processes at both sites should be completed that are "tiered" off the PEIS.

LANL-Specific Issues

NNSA Must First Produce 20 Pits at LANL in a Year as a Trial Run

NNSA is embarking on a potentially dangerous rush to produce 30 to 80 pits per year, when LANL has never produced more than 11 pits during any one year. The knowledge and

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[30] See for example the May 10, 2018 *Joint Statement from Ellen M. Lord and Lisa E. Gordon-Hagerty on Recapitalization of Plutonium Pit Production* that first announced expansion of pit production, , to wit: "This two-prong approach – with **at least** 50 pits per year produced at Savannah River and **at least** 30 pits per year at Los Alamos – is the best way to manage the cost, schedule, and risk of such a vital undertaking." (Bolded emphasis added.) https://www.energy.gov/nnsa/articles/joint-statement-ellen-m-lord-and-lisa-e-gordon-hagerty-recapitalization-plutonium-pit

[31] Although the court order uses the phrase "at LANL," there can be no legitimate dispute that the NNSA's proposed action plainly exceeds the terms described in the court order. The plan to produce at least 80 pits at multiple sites is plainly different and has greater impacts than producing up to at most 80 pits solely at LANL.

experience that would come from producing 20 pits a year was never earned. NNSA and LANL are now speculating what they need to do to produce 30 ppy on an overly ambitious timetable.

Before greatly expanding pit production, Los Alamos must demonstrate that it has the ability to safely produce the currently sanctioned pit production level of 20 pits per year. If LANL can achieve that level, then other production options might be considered. Failure to first demonstrate the ability to produce 20 ppy could be a recipe for failure to leap to the 80 ppy level. And don't forget, it's been 8 years since LANL produced its last war reserve pit, which at 20 ppy would equal 160 total pits that could have entered the stockpile if new pits were really needed. But they weren't since future pit production is not to maintain the safety and reliability of the existing stockpile, but instead will be for modified pits for speculative new-design nuclear weapons.

Section 1.3 of this DSA states:

> "NNSA's proposed action is to implement elements of the Expanded Operations Alternative as needed to produce a minimum of 30 war reserve pits per year during 2026 for the national pit production mission and to develop the ability to implement a short-term surge capacity to meet mission needs, if necessary. For purposes of estimating impacts in a conservative and bounding manner, potential surge efforts were defined and calculated at 80 pits per year. This also allows direct comparison with analyses from the 2008 LANL SWEIS and the Complex Transformation SPEIS."

How can NNSA be sure that 80 ppy in 2030 will have the same estimated impacts that NNSA came up with in 2008 without re-analyzing the impacts of 80 ppy in 2020? By the time LANL produces 80 pits in 2030 (if that happens), the analysis will be based on the then 22-year old 2008 LANL SWEIS.

In addition, NNSA states that if the need arose LANL could "surge" from 30 to 80 pits per year. The agency claims that any surge has already been analyzed as a standing capacity of producing 80 pits per year. But a surge is different from a planned built-in capacity. A rapid surge from 30 to 80 pits could cause more safety accidents in the short-term than having a steady established standing capacity of 80 pits (which we don't think LANL is capable of to begin with).

Finally, we think it highly likely that NNSA's planned production of at least 50 pits per year at the Savannah River Site (SRS) will fail or at least be substantially delayed. NNSA would then be in a position of having to come up with a Plan B (that said, we don't think expanded plutonium pit production is necessary at all). It follows then that this DSA is deficient in that it does not analyze the possibility that the SRS pit production mission will fail or be greatly delayed, which is a solidly credible scenario (after all, just look at the ~$7 billion failure of the MOX Fuel Fabrication Facility at SRS, which is supposed to be "repurposed" for pit production). The final Supplement Analysis should have substantial analysis of the probable impacts on LANL if and when the SRS pit production mission fails or is seriously delayed.

This DSA is a Franken-document of Parts of Outdated Documents

After a nation-wide programmatic environmental impact statement on expanded plutonium pit production, NNSA must complete a new LANL site-wide EIS that does not solely focus on pit production. NNSA has created a Franken-document monster in that the LANL Supplement Analysis completely relies on various parts of existing outdated documents. Very few analyses are new, and most are over 10 years old. Expanded pit production at LANL is too important not to have a fresh look with a new truly site-wide environmental impact statement.

Most analyses and tables in this DSA reference several other older documents. This DSA is cobbled together and refers back to the 2008 SWEIS, often through other Supplement Analyses. The numbers from the 2008 SWEIS are estimates, and it doesn't matter if NNSA considers them to be very high. They are estimates; they may be low. LANL has not made 80 pits yet, so there is no way to verify NNSA's estimates. To say that NNSA's estimates from 2008 still bound this DSA is a meaningless statement because there is still not any proof that any of the 2008 estimates are accurate.

Here's an example of this DSA referencing other documents, which are mostly estimates:

> "The NNSA pit production mission at LANL is operating below the level of 20 pits per year that was identified in previous NNSA decisions. Actions to support the production of 20 pits per year would include the hiring of additional staff (approximately 1,600); 24-hour operations; the construction of office space, personnel training and parking facilities; waste management facilities, ancillary support (*e.g.*, staging, testing, and utilities); transportation; and equipment removal and installation at PF-4. These supporting pit production actions were not analyzed in this DSA because NNSA has already decided to operate at this level (64 FR 50797, 73 FR 55833), and those support actions were previously analyzed in the 2008 LANL SWEIS and other NEPA analyses (DOE 1999a, 2003a, 2008a, 2011, 2015a)." (DSA p. 12, parentheses in the original)

Because NNSA refers to several previous documents without a new SWEIS, the public is left wading through thousands of pages to try to get the full story.

NNSA Must Analyze Actual Construction Projects and Not Hide Under Generic Hypothetical Construction Projects

The construction plans are very vague and generalized. This DSA points back to the 2008 LANL SWEIS for analysis of construction projects, for example "Potential impacts from the Replacement Office Buildings Project are analyzed in the 2008 LANL SWEIS." (DSA Pg. 17)

But the 2008 LANL SWEIS states that construction projects are not "discussed" in detail, as follows:

> "General temporary construction-related impacts would be expected to occur for most of the projects summarized in this section during construction and DD&D activities. After project completion, these impacts would cease, and the area would return to normal. These impacts are not discussed in detail in the project summaries…" (2008 SWEIS Pg. 3-113)

What we do get in this DSA is a vague description of the "pre-conceptual design" that could occur at any number of tech areas. From the DSA section, "Upgrade Existing Facilities and Construct New Support Facilities:"

> "NNSA would upgrade existing support facilities and construct new support facilities for pit production. These facilities would provide office space, parking, training space, administrative space, locker rooms, storage, and cafeteria space for staff. The new support facilities are in pre-conceptual design and could be expected to occupy approximately 21 acres. This construction could occur at TAs -3, -48, and -54 (Figure 2-3). To support upgrade and construction efforts, NNSA would establish temporary construction areas within the Pajarito Corridor including warehouses, construction and management trailers, and laydown and staging areas for equipment and personnel." (DSA Pg. 15)

The 2008 SWEIS and the 2011 Chemistry and Metallurgy Research Replacement Project-Nuclear Facility Supplemental EIS touted the essential importance of and need for the CMRR-NF. But in the end, as this DSA says, "However, in the ensuing years, alternatives for AC/MC capabilities were identified which have separate and sufficient NEPA analysis, and the CMRR-NF was not required to support LANL pit production capabilities." (DSA Pg. 4) Are the construction impacts in this DSA now bounded by a facility that is never going to be built?

NNSA Must Not Cherry Pick When It Does New Analyses

NNSA's main argument for not completing a new LANL SWEIS is that the impacts producing up to 200 pits was analyzed in the 2008 LANL SWEIS. But the purpose of NEPA is to analyze the environmental impacts of a particular project, not to be inventing wildly large imaginary projects that will bound any future project. As stated in this DSA:

> "The 2008 LANL SWEIS evaluated cumulative impacts associated with constructing and operating a consolidated plutonium center of excellence which would entail storage and production of 125 pits with a potential surge capacity of 200 pits annually." (DSA Pg. 22)

The current low-level radioactive waste (LLW) and chemical wastes estimates exceed the 2008 LANL SWEIS projection for pit production. This is an example of where NNSA did actually re-analyze the 2008 LANL SWEIS to argue that the high LLW and chemical waste estimates were not a problem. This is from a 2019 document, which is not available to the public:

> "(Table 3-7 footnotes) The projected LLW for 80 pits exceeds the estimate in the 2008 LANL SWEIS for the Plutonium Facility Complex under the Expanded Operations Alternative... The chemical waste estimate for pit production (80 pits and 30 pits) is greater than the 2008 LANL SWEIS estimate for the Plutonium Facility Complex under the Expanded Operations Alternative. (DSA Pg. 54)

LANL also claimed that on a site-wide basis it had generated half the chemical waste analyzed in the 2008 SWEIS, but that is misleading. LANL changed M&O contractors, shut down plutonium operation for three years, and generally has been not very productive for the past few years. When operations pick back up, so will the LLW and chemical waste production.

The Cumulative Impacts of Expanded Pit Production on Cleanup and Waste Management at LANL Are Not Sufficiently Analyzed

NNSA did look at past, present, and reasonably foreseeable actions, but only looked at five areas, as follows:

> "Past, present and reasonably foreseeable actions that may affect, or be affected by, pit production considered for cumulative impacts consist of (1) Surplus Plutonium Disposition, (2) AC/MC at TA-55, (3) an Environmental Testing Facility at LANL, (4) commuter route road modifications, and (5) proposed housing developments." (DSA Pg. 60)

These were not anticipated to be greater than those analyzed in the 2008 LANL SWEIS and for other environmental impact areas. NNSA stated that it had a "qualitative justification for not providing further discussion." No mention of cumulative cleanup or Consent Order impacts were made.

There appears to be an error in Table 3-9 of this DSA. The number of shipments for TRU waste for proposed expanded pit production should be 937 to 3,580, not 246. The MLLW number appears to be inaccurate, also. NNSA must explain how it arrived at the numbers in Table 3-9. Table K-5 from the 2008 LANL SWEIS follows for reference's sake.

Table 3-9. Number of Shipments from 2008 SWEIS for Expanded Operations Alternative and Proposed Pit Production

Activities	Number of Shipments										
	Radioactive Materials									Miscellaneous	
	Low Specific Activity	Decontamination Decommissioning and Demolition	LLW	High Activity	LLW - Remote Handled	MLLW	TRU	SNM[a]	Plutonium Dioxide	Hazardous	Other
Expanded Operations	49,940	9,538	9,919	36,521	856	9,019	5,044	1,558	50	4,749	41,506
Proposed Pit Production	0	0	701	0	0	6	246	600	0	0	0

[a] Includes enriched uranium

Source – (DOE 2008a, Table K-5).

acceptance requirements at Oak Ridge National Laboratory. The revised requirement reduces the number of uranium-233 shipments to Oak Ridge, and therefore the current analysis encompasses the impacts of the proposal to transport a lesser quantity.

Table K–5 Estimates of the Number of Radioactive Shipments Under Each Alternative and Selected Activities

Alternative (Activities)	*Number of Shipments*										
	Radioactive Materials									*Miscellaneous*	
	LSA	*DD&D Bulk*	*LLW (B)* [a]	*High Activity* [b]	*LLW-RH* [c]	*Mixed LLW*	*TRU* [d]	*SNM*	*PuO_2*	*Hazardous*	*Others* [e]
No Action	624	812	9,217	312	0	196	1,460	958	20	946	10,778
Reduced Operations	624	812	7,883	312	0	196	1,460	958	20	932	10,778
Expanded Operations [f]	1,436-49,940	9,538	9,919	3,418-36,521	196-856	297-9,019	2,405-5,044	1,558	50	2,781-4,749	35,419-41,506
Expanded Operations (without MDA Remediation) [g]	681	9,538	9,919	3,418	196	240	2,397	1,558	50	1,000	31,856
(MDA Remediation) [h]	755-49,259	0	0	0-33,103	0-660	57-8,779	8-2,647	0	0	1,781-3,749	3,563-9,650
(Increase in Pit Production) [i]	0	0	701	0	0	6	246	600	0	0	0

LSA = low specific activity, DD&D = decontamination, decommissioning, and demolition, LLW = low-level radioactive waste, RH = remote handled, TRU = transuranic waste, SNM = special nuclear material, PuO_2 = plutonium dioxide.

[a] Low-level radioactive waste transported in drums or Type A, B-25 boxes. The values here also include shipments of evaporator bottoms from Radioactive Liquid Waste Treatment Facility to an offsite location and the returned dried wastes.

[b] High activity low-level radioactive waste containing more than 10 nanocuries per gram of transuranic waste transported in Type A, B-25 boxes. This waste is comparable to Class B or Class C of 10 CFR Part 61 waste classification. This waste is generated during MDA waste retrieval, and from decontamination and demolishing of some of the buildings. The shipments also include one shipment of strontium-90 radioisotope thermoelectric generators under all alternatives.

[c] Remote-handled low-level radioactive waste transported in 55-gallon (208-liter) drums.

[d] The sum of remote-handled and contact-handled transuranic waste shipments.

[e] Others include industrial, sanitary, and asbestos wastes.

[f] The range of values represent the estimated number of shipments for options of capping and remediation and removal and remediation of all MDAs.

[g] Expanded Operations Alternative with baseline MDA remediation (without capping or removal).

[h] The range values represent the estimated number of shipments for options of capping and removal of all MDAs.

[i] The waste shipment values presented are based on the differences between the No Action and the Expanded Operation Alternatives' projected waste volumes for routine operation.

This DSA Must Be Withdrawn and Re-released for Comment After All Reference Docs Are Made Publicly Available

Many reference documents are not publicly available. This is particularly egregious given that this DSA is based mostly on old documents. We have the older documents but are missing many newer documents that claim that nothing has changed but are available for critical examination. Notice that many of the unavailable documents are dated 2019, so there was plenty of time to put them online for public comment on this DSA.

Here's a partial list of the unavailable documents:

LANL 2018a. "TA-55 Documented Safety Analysis," Los Alamos National Laboratory, TA55- DSA-2018-R0, August 2018.

LANL 2019a. "RE: Fuel Rods," Email communication from Pit Production Mission Integration (LANL) to Environmental Stewardship (LANL), Los Alamos, New Mexico, November 22, 2019.

LANL 2019b. "New Request," Email communication from Human Resources Compensation (LANL) to Environmental (LANL), Los Alamos, New Mexico, July 16, 2019.

LANL 2019d. "RE: TED for Plutonium Facility," Email communication from Radiation Protection Programs (LANL) to Environmental Stewardship (LANL), August 6, 2019.

LANL 2019e. "RE: TA-55," Email communication from Operations Support and Improvement (LANL) to Environmental Stewardship (LANL), Los Alamos, New Mexico, December 17, 2019.

LANL 2019f. "Email reference for intentionally destructive acts," Email from LANL NEPA Team to LANL NEPA Program Manager, December 4, 2019.

LANL 2019g. "RE: Info Request," Email communication from Process Modeling and Analysis (LANL) to Environmental Stewardship (LANL), Los Alamos, New Mexico, August 15, 2019.

LANL 2019j. "Pu doses- added individual," Email communication from Environmental Compliance Programs (LANL) to Environmental Stewardship (LANL), Los Alamos, New Mexico, October 28, 2019.

LANL 2019l. "RE: Construction Worker Dose," Email communication from Environmental Stewardship (LANL) to Environmental Stewardship (LANL), Los Alamos, New Mexico, November 17, 2019.

LANL 2020. "Total LANL Chemical Waste," Email communication from Environmental Stewardship (LANL) to Environmental Stewardship (LANL), Los Alamos, New Mexico, January 7, 2020.

N3B 2019. "Socioeconomic info," Email communication from Newport News Nuclear BWXT Los Alamos (N3B) to Environmental Stewardship (LANL), Los Alamos, New Mexico, July 16, 2019.

We request that NNSA make them immediately available with suitable notice to the public.

DNFSB Concerns at PF-4 Must Be Addressed Before Pit Production

The independent Defense Nuclear Facilities Safety Board has long reported on LANL's track record of chronic nuclear safety incidences, which must be addressed in a new Site-Wide Environmental Impact Statement. In addition, a new SWEIS should make clear that Safety Board access to inspect nuclear facilities will not be restricted, as NNSA and LANL have repeatedly tried to do.

In its 30th annual report to Congress (March 2020), the DNFSB listed several safety concerns regarding pit production at LANL. NNSA must specifically address these bullet points:

> ***"Plutonium Facility Safety Basis***
> The Board's staff completed a review of the safety basis and supporting documents for the Plutonium Facility (PF-4) at LANL. In a November 15, 2019, letter, the Board

communicated to the Secretary of Energy its concerns with the PF-4 safety basis. These concerns relate to:

- Non-conservative assumptions made in the accident analysis that underestimate the dose consequences due to a post-seismic fire,
- Non-conservative inputs and assumptions used to calculate the leak path factor, which is used to quantify the building's ability to passively confine radioactive materials during an accident,
- Inappropriate dose conversion factors used to calculate the dose consequences from accidents involving heat source plutonium oxides,
- Non-conservative assumptions related to the time the building's confinement doors are open following an earthquake, and
- Deficient safety systems with compensatory measures that do not ensure the system will be able to perform its intended safety function.
- The Board noted that while DOE has made physical improvements to PF-4 over the past decade, significant portions of DOE's strategy to upgrade the safety controls have been delayed and the upgrades remain incomplete. The timely completion of safety control improvements is particularly important given that DOE is extending its reliance on PF-4 to execute key national security missions. The Board requested a briefing on (1) NNSA's strategy for ensuring the deficient safety systems at PF-4 will be upgraded on a schedule commensurate with future national security missions, and (2) the approach for addressing the weaknesses in the analyses that support the PF-4 safety basis, which occurred in February 2020.
- In support of this letter, on November 12, 2019, the Board issued Technical Report, DNFSB/TECH-44, *Los Alamos National Laboratory Plutonium Facility Leak Path Factor Methodology*, which presents the Board's staff's independent analysis and concerns with the statistical methodology used to calculate the PF-4 leak path factor." [32]

Wrought Plutonium Pit Manufacturing at LANL?

The draft EIS on the SRS Plutonium Bomb Plant states that a wrought process is being looked at for pit production in addition to casting with molten plutonium, as follows:

> "Wrought Production Process (Sensitivity Analysis #2). The wrought process is a potential manufacturing alternative to casting that could be used in the SRPPF. If implemented, some gloveboxes would be modified to support the wrought process to supplement, not replace, the casting process. In the wrought process, plutonium metal is annealed in a furnace and fed to a rolling mill to produce a flat sheet. Because the wrought process could be used in the SRPPF, this EIS includes a sensitivity analysis of that process. That sensitivity analysis, which is included in Chapter 4 of this EIS, identifies and characterizes any notable changes in the potential environmental impacts between the casting (see Chapter 2, Section 2.1.2.3 of the EIS) and wrought processes." (SRS DEIS page S-15)

[32] https://www.dnfsb.gov/sites/default/files/document/20266/2019%20Annual%20Report%20to%20Congress%20%5B2020-100-021%5D.pdf

Is the wrought process being considered for LANL or at any other non-SRS site? If it is not being considered for LANL than NNSA should so state. Alternatively, if any site is to use both processes, NNSA should so state. The agency justifies redundant two-site pit production so as to avoid a single point failure. Could reliance on one pit production process also lead to single-point failure? If a wrought manufacturing process is being considered for LANL than analysis of the resulting waste streams must be analyzed given that the wrought process is generally understood to produce greater amounts of radioactive and toxic wastes.

A New SWEIS and Cleanup

As its title indicates NNSA's draft 2020 Supplement Analysis is focused on plutonium operations. For other issues the new draft Supplement Analysis substantially relies upon an earlier 2018 Supplement Analysis to the 2008 LANL SWEIS. Concerning cleanup, that 2018 Supplement Analysis states that "Implementation of the Consent Order [governing cleanup negotiated with the New Mexico Environment Department] was a fundamental part of the 2008 SWEIS."

The original 2005 Consent Order was superseded by a 2016 Consent Order about which the 2018 Supplement Analysis says, "The 2016 Consent Order does not change the investigations, cleanup, and corrective measures to be conducted at LANL and therefore is bounded by the 2008 SWEIS."

That is patently false as the 2016 Consent Order eliminated the 2005 Consent Order's detailed and rigorous compliance schedule and subordinated cleanup to the DOE budget instead of having cleanup drive funding. One direct result has been DOE's plan to cut Lab cleanup funding by nearly half for FY 2021. A new LANL site-wide EIS is needed to fully analyze cleanup programs at LANL with the overall goal of protecting northern New Mexico's limited groundwater resources.

Seismic Concerns

We note how seismic concerns played a major role in causing massive cost overruns involving billions of taxpayer dollars and related complete redesigns of both the Chemistry and Metallurgy Research Replacement Project at the Los Alamos National Laboratory and the Uranium Processing Facility at the Y-12 Site. A new PEIS and LANL SWEIS should incorporate the freshest seismic data possible for expanded plutonium pit production at the Lab, especially given that it is not clear that PF-4 can ever be brought up to modern seismic codes.

This is underscored by the fact that one of the main reasons that the CMRR-Nuclear Facility was ultimately cancelled was because of its dramatically increasing costs. This was largely due to the need to pour a concrete "base mat" to replace the unconsolidated volcanic sediments that underlie all of LANL's Technical Area-55. Obviously, no such fix is possible for the aging PF-4. This reinforces the need for a new or supplemental PEIS and LANL SWEIS to consider, among other issues, the safety and environmental risks associated with continuing to use this aging, vulnerable facility well beyond its intended design life.

In short, a new PEIS and LANL SWEIS should fully analyze seismic concerns and possible mitigation strategies to lower public risks from future expanded plutonium pit production. The

DNFSB has postulated high doses to the public in the event that PF-4 at LANL was seriously damaged by a seismic event.

LANL Must Complete Seismic Upgrades on PF-4 Recommended by the DNFSB

The DNFSB has been on LANL's case to seismically upgrade PF-4 since 2013, when the proposed new facility, the CMRR-NF, was cancelled.[33] Seismic upgrades will not be complete before pit production is scheduled to start.

NNSA Must Not Rely on "Bounding"

NNSA considers beyond evaluation basis earthquake and fire as the bounding accident. But in a recent Uranium Processing Facility case, the Court declared the Amended ROD and SAs "in violation of NEPA," remanding to NNSA and directing it to conduct, at minimum, a supplement analysis using "an unbounded accident analysis of earthquake consequences at the Y-12 site…" Did NNSA use an unbounded accident analysis of earthquake consequences for this DSA?

New LANL Seismic Analyses Must Be Completed to Make This DSA Credible

NNSA stated last year:

> "LANL's ongoing Seismic Analysis of Facilities and Evaluation of Risk project is conducting a detailed, multi-year analysis of the seismic design loads on existing facilities within the Plutonium Complex. This comprehensive seismic hazard analysis will provide a better understanding of the stresses on PF-4 and how it might react during a seismic event." (CT SPEIS SA Pg. A-14)

Our point is that NNSA is proceeding with expanded plutonium pit production at LANL's Technical Area-55 with a deficient understanding of seismic risks. This is not a mere academic exercise in that the Defense Nuclear Facilities Safety Board has postulated offsite radioactive doses in the few hundred rems in the event of a seismically-induced fire.

To add to this, NNSA requires Probabilistic Seismic Hazard Analyses (PSHAs), yet LANL's most recent PSHA is from 2009. NNSA concedes that PSHAs are more detailed than USGS studies, yet uses USGS anyway, as in the following:

> "Although data from the USGS National Seismic Hazards Maps are used in the development of PSHAs, the USGS maps are not a substitute for a PSHA. Each site-specific PSHA study, as well as the USGS, follows a similar basic framework in producing seismic hazard analyses. However, LANL site-specific PSHA studies incorporate detailed, site-specific geologic, geophysical, and geotechnical information that are not readily available to researchers at the USGS to determine hazard curves. Figure 3-1 shows the difference in the site-specific hazard curves as derived from 2008 and 2014 USGS data and PSHA studies for TA-55 and LANL site- wide. Based on the

[33] See https://www.dnfsb.gov/sites/default/files/document/19376/PF-4%20Safety%20Basis%20%5B2020-100-001%5D.pdf

> hazard curves presented in Figure 3-1, site-specific seismic hazard predictions determined in PSHA studies are greater than those based on the USGS National Seismic Hazards Maps. By incorporating PSHA studies in critical facility design criteria, a more conservative approach to seismic hazard mitigation, is implemented into LANL high-risk structure design. To ensure that seismic risk is mitigated at PF-4, structural upgrades at PF-4 are ongoing to reduce risks posed by a seismic event and to meet DOE seismic code requirements." (DSA Pg. 48)

NNSA must have a new PSHA in hand before continuing with this LANL DSA. This DSA provides some USGS data on probable ground acceleration and spectral acceleration at 2% probability in 50 years. These are published generic criteria used for many purposes, but actual intensity measures must be related to risk tolerance of the specific target.

Again, the probable seismic performance of the aging PF-4 building is still not yet known:

> "The PF-4 Seismic Performance Reassessment Project is ongoing and aims to determine the seismic performance of the PF-4 building (LANL 2019c). LANL's Seismic Analysis of Facilities and Evaluation of Risk Project is a multi-year analysis of the seismic design loads on existing facilities in the Plutonium Facilities Complex. This comprehensive seismic hazard analysis of PF-4 provides a better understanding of the tensional stress the building could sustain during an earthquake, and how it might react during an earthquake event. Additionally, paleoseismic trenching investigations conducted in 2018 provide new seismic source characterization information on earthquake timing and recurrence to be incorporated into the upcoming update to the LANL PSHA." (DSA Pg. 39)

The squishy terms 'aims; 'could,' and 'might' are not good enough when it comes to a nuclear facility.

This DSA claims that reports apparently "found no evidence for active surface-displacing faults" at TA-55. (DSA Pg. 39) That is little comfort as there are many examples worldwide of damaging earthquakes when there was no prior evidence of active surface displacements.

New Impacts of Wildfires, Climate Change, and Drought Must Be Analyzed

This DSA mentioned wildfires only once stating only that it was one of the accident scenarios. Climate change and drought were not mentioned. NNSA must analyze these impending issues and their potential impacts on pit production.

Climate and tree ring data indicate that the Southwest may be moving into a megadrought. The risk of wildfires will clearly increase with climate change and global warming. We note the risks posed by relatively recent wildfires at the Idaho National Laboratory and the Hanford nuclear reservation in Washington State. In April-May 2000 and June 2011 very dangerous crown fires threatened the Los Alamos National Laboratory (indeed the Lab and townsite were fully evacuated except for essential personnel during the 2000 Cerro Grande Fire). In November 2018 the Woolsey Fire nearly completely burned the Santa Susanna Field Laboratory, causing deep public mistrust over resulting airborne contaminants. A new site-wide EIS is needed to analyze potentially adverse effects, including growing water scarcity and increasing wildfire risks.

Miscellaneous Comments

The Rad Lab

A new Site-Wide Environmental Impact Statement must include LANL's other facility involved in pit production, the Radiologic Laboratory Utility Office Building (AKA the "Rad Lab"). NNSA proposes to convert the Rad Lab into a hazard category 3 nuclear facility, for which it was not originally designed. A seismically induced fire would have major consequences for workers and the surrounding public. All Safety Board seismic concerns with the Rad Lab must be fully addressed.[34]

The Impacts of a Pandemic Are Not Analyzed

Is there a risk posed by having dramatically reduced work crews at Energy Department nuclear cleanup sites – especially if the reduced on-site staffing should last for many months rather than weeks? Waste would remain in the ground longer. Experienced workers may not be able to return to work. Money would be diverted to decontamination, which would delay projects.

NNSA Must Discuss the Irretrievable Resources that Already Have Been Expended on Expanded Pit Production

LANL has major remodeling projects underway at PF-4 and the RLUOB to expand pit production. NNSA must explain in detail how these projects do not prejudice this DSA.

NNSA Must State the Impacts to the Maximally Exposed Individual Completely

The term MEI refers to a dose and a location. Here's the definition from this DSA – "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 (i.e., inhalation, ingestion, direct exposure, resuspension)." NNSA fails to clearly state the location of any MEIs mentioned in this DSA. MEIs are different for different years. They have different locations every year. Every time NNSA mentions the dose to a MEI it must also mention the location. NNSA must state the location of a particular proposed MEI, such as the pit production MEI, and state if that MEI dose includes doses from other facilities such as the Los Alamos Neutron Science Center.

For example, let's look at this statement:

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[34] See Nuclear Watch's extensive April 2018 NEPA comments on the Rad Lab Environmental Assessment at https://nukewatch.org/importantdocs/resources/NWNM-Rad-Lab-comments-4-25-18.pdf and https://nukewatch.org/importantdocs/resources/NWNM-Addendum-Rad-Lab-comments-4-27-18.pdf which we incorporate herein. Our Rad Lab comments' principle point was "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." Our relevant point here is that NNSA has sought to avoid proper NEPA analysis of its nation-wide program for expanded plutonium pit production from the beginning.

> "In 2018, the maximum offsite dose to the MEI was 0.35 millirem (LANL 2019h). The Environmental Protection Agency radioactive air emissions limit for DOE facilities is 10 millirem per year. In 2017, the Plutonium Facility Complex accounted for 2.28 x 10-4 millirem or 0.05 percent of the total maximum offsite dose to the MEI (LANL 2018b). In 2017, the offsite dose to the population within 50-miles from LANL has been estimated to be 0.2 person- rem per year (LANL 2018b). The 2008 LANL SWEIS Expanded Operations Alternative (including production of 80 pits per year) projected a dose to the MEI of 8.2 millirem per year and an offsite dose of 36.2 person-rem. (DOE 2008a, Ch. 5 p. 96, Table 5-22)." (DSA Pg. 41, parentheses in the original)

The location of the 2018 MEI was not given. The location of the 2017 MEI was not given. The location of the 2008 MEI was not given. These are three different MEIs and it will be unclear how to compare them without knowing their locations.

Intentional Releases of Tritium

LANL recently proposed to vent 100,000 curies of excess tritium while claiming an unapproved dose reduction factor that kept the calculated public dose under the Clean Air Act standard of 10 millirem to the "Most Exposed Individual" (since postponed because of public outcry). Without that unapproved dose reduction factor LANL would be in legal violation of the Clean Air Act standard, as it was in the 1990's after another unilaterally-appropriated unapproved dose reduction factor was disallowed by the EPA. A new site-wide EIS is needed to disclose and analyze other large intentional radioactive releases, their potential health impacts and whether or not they comply with established environmental law.

- End of Comments -

These comments on NNSA's *Draft Supplement Analysis of the 2008 Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory (LANL) for Plutonium Operations* respectfully submitted,

Jay Coghlan
Executive Director

Scott Kovac
Research Director

Attachment A

The need to prepare a Programmatic Environmental Impact Statement in connection with plans to expand plutonium pit production at the Los Alamos National Laboratory and the Savannah River Site

Nickolas Lawton, MGE, LLP and Geoffrey Fettus, NRDC
to DOE Secretary and NNSA Administrator
May 17, 2019

https://nukewatch.org/newsite/wp-content/uploads/2019/05/Summary-Pit-Production.pdf

Attachment B

Comments on NNSA's Draft Supplement Analysis of the 2008 Complex Transformation PEIS

Jay Coghlan and Scott Kovac
Nuclear Watch New Mexico
August 12, 2019

https://nukewatch.org/newsite/wp-content/uploads/2019/08/Nuclear-Watch-NM-CT-PEIS-SA-Comments-8-12-19.pdf

Attachment C

Comments on NNSA's Draft Supplement Analysis of the 2008 Complex Transformation PEIS

Geoffrey Fettus, Senior Attorney, Natural Resources Defense Council
August 9, 2019

https://nukewatch.org/newsite/wp-content/uploads/2019/08/NRDC-CT-PEIS-Supp-Analysis-Comments.pdf