

Tri-Valley CAREs

Communities Against a Radioactive Environment



4049 First St., Suite 243, Livermore, CA 94551 • (925) 443-7148 • www.trivalleycares.org

August 12, 2019

Ms. Jennifer Nelson
NEPA Document Manager
National Nuclear Security Administration (NNSA)
Savannah River Field Office
P.O. Box A, Aiken, SC 29802

Submitted by email to NNSA at: NEPA-SRS@srs.gov
Please acknowledge receipt to: marylia@trivalleycares.org and scott@trivalleycars.org

Re: Tri-Valley CAREs' comments on the National Nuclear Security Administration's Draft Supplement Analysis (SA) of the 2008 Complex Transformation Supplemental PEIS

Dear NEPA Document Manager,

Tri-Valley CAREs is a non-profit organization founded in 1983 by Livermore, California area residents to conduct research, public education and advocacy regarding the potential environmental, health and proliferation impacts of the U.S. nuclear weapons complex with a focus on the activities at Lawrence Livermore National Laboratory (LLNL).

1. Introduction

On June 28, 2019, NNSA published a formal Notice in the Federal Register announcing the availability of a Draft Supplement Analysis (SA) of the 2008 Complex Transformation Supplemental Programmatic Environmental Impact Statement pursuant to the agency's present day plan to expand plutonium pit (bomb core) production from the currently authorized limit of "up to" 20 pits per year to a new limit of 80 pits per year "or more" at two locations that are approximately 1,500 miles apart, the Los Alamos National Laboratory (LANL) in NM and the Savannah River Site (SRS) in SC.

The stated purpose of the NNSA's SA is to determine whether a full programmatic review of increasing plutonium pit production 4-fold or more is required by the National Environmental Policy Act (NEPA). The NNSA's Notice in the Federal Register states: "*The Draft SA concludes that further NEPA documentation at a programmatic level is not required.*" This preliminary determination is flawed and contrary to the letter and spirit of the law.

Tri-Valley CAREs respectfully submits these comments on NNSA's Draft SA and we highlight the agency's legal obligation to conduct a relevant, up to date Programmatic Environmental Impact Statement (PEIS) before taking any further action to increase plutonium pit production.

Due to the highly interconnected nature of the NNSA's currently proposed action as well as the fragmented NEPA process being undertaken, which we believe will serve to avoid the requisite "hard look" at the national program and understate its risks, we append our scoping comment on the SRS EIS (July 25, 2019) and two letters on the subject sent by Tri-Valley CAREs and colleagues (October 31, 2018 and May 17, 2019). These materials should be considered in their entirety as part of Tri-Valley CAREs' comments on the Draft SA.

Tri-Valley CAREs has a history of involvement in the issue of plutonium pit production, including submittal of extensive comments on the 2008 Complex Transformation Supplemental PEIS on which NNSA is now trying to rely. As we detail in the sections that follow, the NNSA's present plans differ significantly from that 2008 document and thus a new Programmatic Environmental Impact Statement and public hearings at potentially affected sites across the country are required.

In addition, Tri-Valley CAREs is a party along with the Natural Resources Defense Council and others to the 1998 Federal Court Order that requires the Department of Energy/NNSA to undertake a fresh supplemental Programmatic Environmental Impact Statement should the agency propose future plutonium pit production that would be in excess of 50 pits per year under routine conditions or 80 pits per year under special conditions of multiple shift operations. The NNSA currently proposes to manufacture 80 pits or more per year under *routine conditions* not only using LANL, which was named in the Order, but now using two sites and clearly exceeding the conditions of the Court Order.

Tri-Valley CAREs stands willing to take action as needed to protect and enforce the Court Order specifically as well as NEPA more broadly.

2. NNSA must prepare a PEIS on expanded plutonium pit production and the development of the W87-1 warhead in which the new pits are to be used

The present nationwide program proposed by NNSA to expand plutonium pit production 4-fold or more by 2030 is clearly "connected," "cumulative," and "similar" according the National Environmental Policy Act.

NEPA mandates that agencies conduct a PEIS when there are interconnected environmental impacts from multiple sites. In this instance, the production of 80 or more plutonium pits from the repurposed MOX Facility at Savannah River Site and Los Alamos National Laboratory are connected, and both must be analyzed in a single Programmatic Environmental Impact Statement. So, too, must NNSA include the other DOE sites that would be potentially impacted by the raw materials, wastes, and transportation risks that are inextricably linked to the two-site proposal.

The Agency's reliance on such a huge volume of other NEPA documents, many of which are more than a decade old, does not provide the public and other stakeholders with a reasonable way to analyze the environmental consequences of the proposed action.

Moreover, the decades-old analyses were directed toward buildings that were never built and projects that have long been abandoned, including for example the Consolidated Plutonium Center, the Consolidated Nuclear Production Center and the Chemistry and Metallurgy Research Replacement (CMRR)–Nuclear Facility. The NNSA's current proposal differs significantly from what was considered in 2008.

At LANL, the new CMRR- Nuclear Facility is not being built and the increased pit production would be shoehorned into an old building (PF4) and a radiological lab originally built for a more narrow range of operations than currently planned.

Notably, the Complex Transformation Supplemental PEIS never analyzed a two-site scenario as is now being planned. The new proposal clearly exceeds the risks and “risk boundaries” of the 2008 document. The public deserves – and NEPA demands – a thoroughgoing analysis of the two-site proposal including, at a minimum, increased transportation, materials handling at multiple locations, multiple sites with changed waste streams, additional waste management activities at multiple locations, waste disposal in NM at WIPP with some streams now coming across the country from SC, and more. Additionally, the increased risk of a terrorist attack on the shipments of materials and plutonium pits must be analyzed with a look to the entire shipping route. None of this was analyzed in the Complex Transformation Supplemental PEIS.

Further, the Draft SA deceptively suggests that in 2008 the agency analyzed a “pit production facility that would use the Mixed Oxide [MOX] Fuel Fabrication Facility (MFFF) and Pit Disassembly and Conversion Facility (PDCF) infrastructure.” Actually, the Complex Transformation Supplemental PEIS only summarily mentioned the prospect of using the MFFF infrastructure. And, the MOX facility today represents yet another profoundly changed circumstance from anything considered in 2008. In 2019, the MFFF is only partially constructed, is the subject of fraud investigation, and may harbor serious safety flaws in its walls and ductwork. A passing mention of MFFF infrastructure in 2008 cannot substitute for a rigorous analysis now.

In sum, while the Complex Transformation Supplemental PEIS – and its 1996 underlying review document - can provide the reader with an interesting walk down memory lane it clearly cannot and does not satisfy the NEPA requirement to analyze the present (i.e., actual) NNSA plan to increase plutonium pit production and its potential risks in sufficient detail to meet the “hard look” standard.

Additionally, if a primary purpose for these plutonium pits is, as noted by NNSA, a new nuclear weapons design, specifically the “W87-1 style warhead” that the Lawrence Livermore National Lab is tasked with developing (see more about this in the following comment), then this warhead, and all of the associated, connected actions (including plutonium pit production), should be analyzed in a fresh PEIS. This proposed weapon program, (the W87-1) has not undergone any specific NEPA review, nor was it ever part of the Complex Transformation Supplemental PEIS.

A PEIS of the proposed W87-1 warhead should analyze the development and testing of the warhead, the plutonium pit production required for the warhead, the manufacturing of the other nuclear and non-nuclear components of the warhead, the waste streams of those facilities and the warhead, transportation of hazardous materials, the impacts of a potential use of the warhead.

These matters must be considered in a fresh nationwide Programmatic Environmental Impact statement, as both the program and the impacts will be borne nationally and at multiple DOE and NNSA sites. We would note further that the PEIS must precede the draft SRS EIS. Anything else is “cart before the horse” and, contrary to NEPA, doing a site-specific review first is likely to prejudice what are properly programmatic decisions.

3. Improper Segmentation, Connected Actions, and Cumulative Impacts

NNSA's plan to produce 80 or more plutonium pits per year relies on two facilities to accomplish the task, SRS, and LANL. SRS is to produce 50 or more plutonium pits annually, and LANL is to produce 30 or more annually. However, NNSA is proposing to conduct at least three separate studies for its proposed pit production plan. NNSA plans to conduct a solely site-specific Environmental Impact Statement at SRS an unspecified level of review at LANL, and to finalize its Draft Supplement Analysis to the 2008 Complex Transformation Supplemental PEIS. This is an attempt to segment what should be included in one single study. In the case of *Save Barton Creek Ass'n v. Fed. Highway Admin.*, 950 F.2d 1129 (5th Cir. 1992) the court stated that "Segmentation analysis functions to weed out projects which are pretextually segmented, and for which there is no independent reason to exist. When the segmentation project has no independent jurisdiction, no life of its own, or is simply illogical when viewed in isolation, the segmentation will be held invalid."

The Code of Federal Regulations state that "Proposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement."¹ The code further states that actions are connected if they "Cannot or will not proceed unless other actions are taken previously or simultaneously"² or "Are interdependent parts of a larger action and depend on the larger action for their justification."³ The proposed plan by NNSA relies on simultaneous pit production at both sites and would not be able to fulfill the singular goal of 80 pits per year without both facilities being operational. Each facility is an independent part of the larger goal to produce 80 pits a year.

Tri-Valley CAREs also reminds the NNSA of its obligations under NEPA concerning "Cumulative Impacts" of the proposed project. The Council on Environmental Quality provides that NEPA requires the scoping process to address "Cumulative Impacts" of a proposed action by:

- Identifying the significant cumulative effect issues associated with the proposed action and defining the assessment goals
- Establishing the geographic scope for the analysis
- Establishing the time frame for the analysis
- Identifying other actions affecting the resource, ecosystems, and human communities of concern.

How can the cumulative impacts of plutonium pit production be analyzed with the "Hard Look" that NEPA requires if that analysis is segmented into site-specific inquiries rather than as a connected action?

¹ 1502.4(a)

² 1508.25(a)(2)

³ 1508.25(a)(3)

4. Inadequate analysis of Purpose and Need is contrary to NEPA

DOE/NNSA has neither established a clear purpose and need for expanded pit production nor a purpose and need for new nuclear weapons that would require new pits, as mandated by NEPA.

It appears that NNSA is relying on the National Defense Authorization Act of Fiscal Year 2015 and the Nuclear Posture Review of 2018 and a DOE-Department of Defense "joint statement" of May 10, 2018, to make the proposal that production capability of 80 or more pits per year is established by 2030. But what are the 80+ pits per year for? The NEPA process to date has not reviewed or revealed which new or refurbished warheads might need new pits.

A June 4, 2019 article in the Exchange Monitor - *HASC Panel's Bill Could Slow-Roll NNSA's Planned S.C. Pit Plant* - about a House Armed Services Committee hearing - stated that all the new pits would be for a new warhead: "The House panel's pit proposal is part of a broader effort by House Democrats to slow deployment of next- generation, silo-based intercontinental ballistic missiles called Ground-Based Strategic Deterrent. The 80 pits a year NNSA plans to produce by 2030 and beyond are all for the W87-1-style warheads that will tip Ground- Based Strategic Deterrent missiles."

Desire by the weaponeers to produce a new warhead and new pits for it do not justify new pit fabrication facilities. New warheads have proliferation and disarmament implications that have not been analyzed. Nor has the "W87-1-style" warhead been approved by Congress.

Likewise, with up to 20,000 pits in storage at DOE's Pantex site in Texas, NNSA has not disputed that such stored pits can be reused.

In a 2006 "Pit Lifetime" report for DOE by the JASON group of experts, it was stated, "that most plutonium pit types have credible lifetimes of at least 100 years." NNSA has presented nothing to counter this finding in the draft SA, and the JASON study must be made part of the record.

Subsequent to the JASON 2006 "Pit Lifetime" report, Lawrence Livermore National Laboratory published its ongoing research results in an article in Science & Technology Review in December 2012 titled, "Plutonium at 150 Years: Going Strong and Aging Gracefully."

The report reads in part: "In 1997, the National Nuclear Security Administration (NNSA) launched a comprehensive study at Lawrence Livermore and Los Alamos national laboratories to examine in detail how plutonium pits age and provide a firmer scientific basis for estimating the service life of these components. The study's results, announced in late 2006, showed that the slow degradation of plutonium in U.S. nuclear weapons would not affect warhead reliability for decades. Independent research teams at the two laboratories performed extensive mechanical testing and laboratory-based experiments on aged samples of a plutonium-239 alloy - plutonium mixed with a small amount of gallium to stabilize the material in its delta phase at room temperature. Alloy samples were taken from 15- to 44-year-old plutonium pits and from plutonium that was artificially aged to 65 years. These tests showed no significant changes in important physical properties such as density and strength. In analyzing the test results, the research teams determined that the minimum lifetime for plutonium pits was at least 85 years - 25 to 40 years longer than previously estimated.

It continues: "Now, six years later, these same naturally aged samples are 50 years old, and the accelerated alloy samples have reached an equivalent age of 150 years. Both sample lots continue to

age gracefully, and extremely sensitive tests and high-resolution electron microscope images by Livermore chemists validate the confidence-building conclusions of the earlier study...“The 2006 report and recent work continue to show no alarming trends and serve to validate our theories about how plutonium ages’...”

Therefore, the scientific discussion regarding the effective “lifetime” of plutonium pits in nuclear weapons ranges from around 100 years to 150 years. This is significant to the NEPA process because it presents a less risky, proven, already-used, less expensive, less polluting alternative to new pit production, namely the “graceful” aging of pits in the first place with “pit reuse” when needed.

How does DOE explain the “purpose and need” for expanded pit production of 80 or more pits per year when pit reuse can be used in many circumstances?

Pit reuse, as we noted, is a proven process undertaken at the Pantex Plant in Texas, where up to 20,000 plutonium pits declared “excess” to the needs of the stockpile are stored. What is NNSA’s explanation of the need for new pit production or why existing pits can’t be reused? We know of no answer to that question that doesn’t start and end with the “elective development of new warheads that contain novel design pits.”

Additionally, new pits in new warheads present formidable weapons certification prospects without new nuclear explosive testing at some yield. The PEIS must evaluate the fact that these new pits from SRS and LANL may serve as a rationale for renewed underground testing of nuclear weapons in the United States. Additionally, the analysis should evaluate the risk of nuclear testing proliferating to other nuclear states if such testing were to be renewed in the United States.

Does NNSA foresee a need to test new design pits in new design weapons via underground nuclear testing in order to certify them for the stockpile?

NNSA has said it needs the capacity to produce 80 "or more" pits per year or "no fewer" than 80 pits per year. This has also been called a "surge capacity." What does this mean? How many actual pits does NNSA intend to produce per year or what actual capacity does NNSA intend to establish? What types of pits would be made by the new pit-production capacity?

As the U.S. has around 1750 deployed weapons and another 2000 in active reserve, what is the need for new nuclear weapons that would use new pits? How will the deployment of new weapons with new pits in them meet the legal obligations of the nuclear Non-Proliferation Treaty for the disarmament of nuclear weapons?

5. Significant environmental and operational changes at LANL have occurred since the 2008 Complex Transformation PEIS

Our appended “scoping” comment on pit production at SRS contains additional questions and comments. Additionally, there have been significant changes at LANL since the 2008 document. In 2011, the major Los Conchas Wildfire came within 13 miles of the LANL facility in a mere 24 hours. As climate change and global warming continue to increase the rate of wildfires, the risk to the facility rises as well. Has the potential impact of a fire or other natural disaster impacting the facility been studied and considered?

The 2008 Supplemental PEIS did not – and could not - consider a more recent track record of nuclear safety infractions at the site, which led to nearly a four-year period in which major plutonium operations were halted. This is a new and changed circumstance. Yet, the Draft SA issued by NNSA outright dismisses the record of accidents. The decision to ignore the troubled history at LANL demonstrates a lack of foresight by NNSA. Why is the history of past incidents and problems being dismissed? These serious incidents contain important lessons for the future that should be captured in a new PEIS. For example, their examination in a PEIS now may point the way toward specific mitigation measures that have not yet been considered (because the analysis has not been done).

6. Challenges of plutonium handling and pit production at LANL are significant

Los Alamos National Laboratory will be tasked with producing 30 or more pits per year. However, this facility has never produced more than 11 pits a year, and, as mentioned above, has had numerous issues and safety concerns.

What is the risk to workers and the public from accidents involving plutonium? What are the potential risks to the environment from a plutonium accident?

How is each facility expected to meet these ambitious new production goals when LANL has never met the authorized limit of 20 pits per year and SRS has never done this task period? What are the risks of proceeding with a 400% or more increase in pit production in one fell swoop when a reasonable alternative might be to ensure that LANL could, if needed, safely produce the “up to” 20 pits per year that has been authorized at LANL since the 1996 Stockpile Stewardship and Management PEIS Record of Decision and was reaffirmed in the 2008 Complex Transformation Supplemental PEIS?

7. NEPA implications of the Institute for Defense Analyses’ report to the Defense Department on NNSA’s pit production plan.

This spring Tri-Valley CAREs and several colleague groups obtained the unclassified executive summary of a report prepared by the Institute for Defense Analyses (IDA) for the Defense Department on NNSA’s proposal to expand plutonium pit production. It is attached and should be considered in its entirety as part of Tri-Valley CAREs comment on the Draft SA. In its conclusion it stated (Note: bolding here is for emphasis):

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 [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.

The IDA report reveals that some level of “effort” to identify risks is underway but is “far from complete”. This cries out for a PEIS! Further, it suggests that any premature “hurry up” could have unintended consequences that are both hazardous and directly relevant to NEPA in that the law is intended to forestall such risks. It is also worth noting that a central conclusion of the IDA report is that “no available option can be expected to provide 80 ppy by 2030.”

Yet, the NNSA’s Draft SA, prepared months after the agency had the IDA report in hand, proposes to move swiftly toward the option of increasing plutonium pit production by 400% or more by the Year 2030 using two locations, LANL and SRS. (Note that the IDA report included that two-site option and said it’s not feasible by 2030).

Why do the NNSA NEPA review documents including the Draft SA continue to say “by 2030”? What corners is NNSA willing to cut to try to make it happen? It’s frightening to consider the hazards to human health and the environment stemming from this scenario.

The IDA report underscores why a fresh PEIS that takes the required “hard look” at the entire program is so necessary at this time.

8. This proposed project is a huge waste of tax-payer funds

NNSA's Fiscal Year 2020 budget request and other documents make clear that future pit production will not be to maintain the safety and reliability of the existing nuclear weapons stockpile. Instead, future production will be for modified pit designs for new-design nuclear weapons, which will be financially costly and have negative nuclear non-proliferation implications, as we noted above. Given the current moratorium on explosive testing of nuclear weapons, those new-design pits cannot be fully explosively tested or alternatively, could prompt the U.S. to return to testing in order to certify them for the stockpile, which would have serious international proliferation consequences.

Again, up to 20,000 plutonium pits declared “excess” to stockpile needs already exist and are stored at DOE's Pantex site in Texas. As noted, independent experts (the JASON) have concluded that modern pits have reliable lifetimes of a century or more. LLNL's more recent research pushes pit lifetimes out further – to around 150 years. Given a reduced cost option available to NNSA here, a fresh PEIS needs to fully and concretely justify expanded plutonium pit production and discuss reuse of stored pits.

9. Waste issues and all exposure scenarios must be covered in a PEIS

The draft EIS needs to disclose all radioactive and toxic waste streams and how they will be disposed of. All analyses in the draft EIS must address the health risk of waste streams and plutonium management (including criticality risks) to the most vulnerable, that is to pregnant women, fetuses, children and the elderly, rather than the standard, less vulnerable "Reference Man."

10. Conclusion

NEPA is intended to serve decision-makers, be they in agencies or elected officials, and the public alike. It is not merely a means of sharing information – as important as that may be - it is intended to involve diverse communities in environmental decisions with the ideal that better decisions will then result.

Tri-Valley CAREs believes that the proper application of NEPA, DOE/NNSA will reach the conclusion that superior alternatives to its current plan exist and should be pursued. To be clear, the proper application of NEPA requires a fresh PEIS rather than a fragmented, piecemeal approach.

At SRS with respect to establishing pit production at a rate of 50 or more per year, that review could determine that pit production there is risky and unwarranted. At LANL, proper NEPA analysis may result in a decision to solve the existing problems first, foreswearing at least any expansion of capacity.

It is important for the public, Congress and DOE/NNSA to understand that there is a history of using NEPA as intended. The NEPA.gov website in its explanation of how decision-making is supposed to work under the law has chosen to highlight an example from DOE. We at Tri-Valley CAREs remember the specifics well.

Here is how NEPA.gov states it... “NEPA has been effective in providing public officials with the information they need to make better decisions. ‘Thank God for NEPA because there were so many pressures to make a selection for a technology that might have been forced upon us and that would have been wrong for the country...’ Then-Secretary of Energy James Watkins made this statement before the House Armed Services Committee in 1992 in regards to his decision to forgo proposed production technologies. The environmental review process informed him, and other decision makers, that this technology would not align with the Department of Energy's departure from an emphasis on weapons productions towards an emphasis on cleanup of production facilities.”

The path is clear. Today, the DOE should consider carefully that expanded pit production does not align with its ongoing emphasis on cleanup of contaminated facilities. Indeed, expanded pit production would contradict the NEPA considerations employed by Admiral Watkins during his tenure as Secretary of Energy.

Tri-Valley CAREs calls on the Secretary of Energy, the NNSA Administrator, and other agency leadership to step up and undertake a new PEIS with public hearings across the country at potentially affected sites. Its end result may be a decision to forgo expanded pit production as unnecessary, costly, proliferation-provocative and polluting. First, at a minimum, the review must be done!

Finally, all draft and/or final reference documents used so far and in the future conduct of a fresh PEIS must be made accessible online.

Sincerely,

Marylia Kelley
Executive Director
Tri-Valley CAREs

Scott Yundt
Staff Attorney
Tri-Valley CAREs