T r i – V a l l e y C A R E s

Communities **A**gainst a **R**adioactive **E**nvironment

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Peace Justice Environment

July 25, 2019

Ms. Jennifer Nelson
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Submitted by email to: NEPA-SRS@srs.gov
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Re: Tri-Valley CAREs' scoping comments for the National Nuclear Security Administration's (NNSA's) draft Environmental Impact Statement for plutonium "pit" production at the Savannah River Site

Dear SRS EIS NEPA Document Manager,

These comments are submitted on behalf of Tri-Valley CAREs (TVC), a non-profit organization founded in 1983 by Livermore, California area residents to research and conduct public education and advocacy regarding the potential environmental, health and proliferation impacts of the Department of Energy (DOE) nuclear weapons complex with a focus on the activities at Lawrence Livermore National Laboratory (LLNL).

TVC respectfully submits these comments as provided for by the National Environmental Policy Act (NEPA) on the scope of issues that the NNSA must address in its draft environmental impact statement for plutonium pit production in the proposed Plutonium Bomb Plant (PBP) at the Savannah River Site (SRS).

TVC requests that the public comment period for the draft SRS EIS be extended for 30 days past the current July 25, 2019 deadline.

1. **The draft SRS EIS Must Be Completely Free of Predetermination.**

This draft SRS EIS will be unusual given that the building planned to house the plutonium production, the MOX Fuel Fabrication Facility (MFFF), is already partially built. NNSA must concretely demonstrate that it can pursue an impartial process without predetermination that leads to an objective decision to repurpose the MFFF, which is faced with design problems and construction problems, for pit production or not. This means a full examination of alternatives, including the No Action Alternative.

2. **A Programmatic Environmental Impact Statement of Plutonium Pit Production and/or the W87-1 Warhead Must be Prepared**

On October 31, 2018, Savannah River Site Watch, Nuclear Watch New Mexico (Santa Fe, NM) and TVC wrote to the National Nuclear Security Administration outlining why a Programmatic Environmental Impact Statement (PEIS) was required prior to actions related to expanded plutonium pit production. The letter argued that following the preparation of the initial PEIS, site-specific EISs at SRS and Los Alamos National Lab could be prepared. No response to our letter was received by any of the three organizations.

On May 17, 2019, noted environmental attorneys representing the same three groups sent a separate letter to NNSA. Meyer Glitzenstein & Eubanks LLP and legal counsel of the Natural Resources Defense Council (NRDC) authored the letter. The letter laid out in great detail why a PEIS was required for pit production. There has been no substantive response from NNSA to that letter.

The Alliance for Nuclear Accountability (ANA), to which TVC is a member organization, also wrote a letter to NNSA, dated December 7, 2018, calling for the required PEIS. There has been no response to that letter received by any member organization.

On June 10, 2019, NNSA announced that it was conducting an EIS on the SRS Plutonium Bomb Plant. NNSA has put the EIS "cart" before the PEIS "horse." That DOE is proceeding in this rushed and incomplete manner does not relieve NNSA of the legal obligation to prepare a PEIS for the connected actions related to pit production.

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 Savanna River Site (SRS) and Los Alamos National Laboratory (LANL) are connected, and both must be included 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 that are inextricably linked to the project.

Additionally, in the alternative, if a primary purpose for these plutonium pits is 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 PEIS of the warhead. This proposed weapon program, (the W87-1) has not undergone any specific NEPA review.

A PEIS of the proposed warhead should analyze the development and testing of the warhead, the plutonium pit production 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, and the impacts of a potential use of the warhead.

These matters must be considered in a nation-wide programmatic environmental impact statement (PEIS) to be conducted by DOE, a document that must precede the draft SRS EIS. That PEIS is required to raise the current 20 pits per year production cap set by the 1996 Stockpile Stewardship and Management PEIS, which authorizes pit production only the Los Alamos Lab in New Mexico. A new PEIS is made further necessary now that NNSA plans to have production at a second site (at SRS).

3. Improper Segmentation of 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 wants to conduct site-specific environmental impact studies (EIS) at SRS, an unspecified level of review at LANL, and a supplemental analysis to the Final Complex Transformational Supplemental Programmatic EIS. 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 or more pits per year without both facilities being operational. Each facility is an independent part of the larger goal to produce 80 or more pits a year.

TVC also reminds the NNSA of its scoping duties 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?

4. <u>Inadequate Purpose and Need</u>

DOE/NNSA has not established a clear purpose and needs for expanded pit production nor need for new nuclear weapons that would contain new pits, as required by NEPA.

It appears that DOE is relying on the National Defense Authorization Act of Fiscal Years 2015 and 2019 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? DOE has not revealed what 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 were 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 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, DOE has not disputed that such stored pits can be reused.

[1] 1502.4(a)
[2] 1508.25(a)(2)
[3] 1508.25(a)(3)

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." DOE has presented nothing to counter this finding in the report, which must be made part of the EIS 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 above, 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 DOE/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 testing. The EIS 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 DOE foresee the need to test new pits via underground nuclear testing?

DOE 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" by DOE. What does this mean? How many actual pits does DOE intend to produce per year or what actual capacity does DOE intend to establish? What type 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? 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 since the 2008 Complex Transformational Programmatic Environmental Impact Statement at Los Alamos National Laboratory**

There have been significant changes in the environment since the 2008 PEIS. 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 PEIS also did not consider the track record of nuclear safety infractions at the site, which led to nearly a four-year period in which major plutonium operations were halted. The Draft Supplemental Analysis issued by NNSA outright dismissed 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?

6. **Waste with the former MOX Plant Project and new spending**

The Department of Energy has spent up to $7 billion dollars of tax-payer money on the failed MOX project. This enormous amount of money has only bought a partially finished building that, according to worker reports, has various construction-related problems. It is an immense failure and a waste of tax-payer dollars.

Given the history of waste at MOX, is the preliminary estimate of 40 billion dollars for pit production at two sites accurate?

How should we consider that many complicated NNSA projects go over-budget by factors of 2 to 10 and some, like MOX, and ignition at NIF at the Lawrence Livermore National Laboratory, never work as intended?

7. **Challenges of plutonium handling and pit production at Savannah River Site and Los Alamos National Laboratory**

The Savannah River Site will be tasked with the production of 50 or more pits a year. Savannah River Site has little experience in handling plutonium pits, which have never been produced for the stockpile at this site. The lack of institutional knowledge presents significant risks.

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 they LANL has never met the authorized limit of 20 pits per year and SRS has never done this task period?

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

The Draft EIS must analyze the impacts of diverting tax-payer dollars to new nuclear weapons facilities instead of keeping the focus on the cleaning up of the massive environmental damage caused by past nuclear materials production and other waste-producing activities at SRS and across the nuclear weapons complex. The public

health and environmental effects of new radioactive and chemical waste streams that can result in health impacts, pollute precious water resources and contaminate workers and the public must be fully reviewed.

• NNSA is likely to throw bad money after bad after up to 7 billion tax-payer dollars were wasted on the canceled MOX Facility. At the same time, independent studies have called NNSA's plan to repurpose the MFFF "extremely challenging" and impossible to achieve by 2030 as claimed. It appears that NNSA's rush to proceed with the Plutonium Bomb Plant will be rife with massive cost overruns and endless schedule delays, as we saw with the MOX boondoggle.

• 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 full-scale 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.

• 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 research pushes pit lifetimes out further – to around 150 years. Given a reduced cost option available to NNSA here, the draft SRS EIS needs to fully and concretely justify expanded plutonium pit production and discuss reuse of stored pits.

9. SRS must not be considered for pit production just because the MFFF already exists.

The issue of jobs or contracts must not drive the establishment of plutonium pit production at SRS, but that appears to be the main motivator for DOE and local politicians and contractors with a financial interest in the matter. Those issues should have no bearing on a national security program of this sort. Making this project into a parochial jobs project is also part of DOE's recipe for failure.

(The same can be said for the aforementioned W87-1 development program at LLNL. Parochial job considerations acting as the "tail that wags the dog" of national security decision-making is a multi-site issue and offers yet another reason why the discipline of undergoing a proper Programmatic EIS should be undertaken now – and conducted first.)

Before repurposing of the bungled MOX Plant is even considered, there should be investigations into fraud, waste, abuse, and mismanagement associated with the MOX program both before and during its termination.

What are the risks of establishing plutonium pit production at SRS, which will be a completely new mission there? Will staff be adequately trained? Will SRS avoid the chronic nuclear safety problems that have plagued the Los Alamos Lab, which has 70 years of experience in pit production yet can still not carry out that mission?

10. Transportation Risks

The risks of transport of plutonium back and forth to SRS from such sites as the Pantex Plant in Texas and the Los Alamos Lab must be analyzed in the draft EIS.

11. Waste Issues

The draft EIS needs to disclose all radioactive and toxic waste streams and how they will be disposed of. The State of South Carolina has been in a long legal struggle with the Department of Energy to not become the

nation's de facto dumping ground for excess plutonium. How will expanded pit production add to the unwanted inventory of 12 metric tons of plutonium that is already at SRS? If pit production were to get underway and then stop, what guarantee is there that more plutonium would not be stranded at SRS?

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."

Finally, all draft SRS EIS reference documents must be made accessible online.

12. 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 with the proper application of NEPA, DOE/NNSA will reach the conclusion that superior alternatives to its current plan exist and should be pursued. At SRS with respect to establishing pit production at a rate of 50 or more per year, that would be essentially the "no action alternative." Don't do it. 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 current Secretary of Energy, the NNSA Administrator, and other agency leadership to step up and make a clear decision to forgo expanded pit production as unnecessary, costly, proliferation-provocative and polluting.

Sincerely,

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