



Savannah River Site Watch

June 1, 2020

Mailed, with attachments & emailed:

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Re: Draft SRS Pit Production EIS – on Proposed SRS Plutonium Bomb Plant (PBP)

Comments on DOE’s National Nuclear Security Administration’s *Draft Environmental Impact Statement on Plutonium Pit Production at Savannah River Site; Aiken, South Carolina*

In Bizarre, Dangerous Twist, Facility at SRS Once Endlessly Touted as Pinnacle of Nuclear Non-Proliferation – MOX - Is Transformed into Factory for Proliferation & New Nuclear Arms Race

By Tom Clements, Director, Savannah River Site Watch, Columbia, SC, <https://srswatch.org/>

Draft EIS on Proposed SRS Plutonium Bomb Plant (SRS PBP) is posted here on NNSA’s website:
<https://www.energy.gov/nepa/downloads/doeeis-0541-draft-environmental-impact-statement>

Federal Register notice, April 3, 2020 *Notice of Availability of Draft Environmental Impact Statement for Plutonium Pit Production at the Savannah River Site in South Carolina and Announcement of Public Hearing*: <https://www.govinfo.gov/content/pkg/FR-2020-04-03/pdf/2020-06557.pdf>

DOE Ignores COVID-19 Threat, Diverts Resources to Planning for Nuclear War by Releasing Draft Environmental Study on SRS Plutonium Bomb Plant, April 3, 2020, news release by SRS Watch, Nuclear Watch New Mexico and Tri-Valley CARES, member groups of the Alliance for Nuclear Accountability:
<https://nukewatch.org/newsite/wp-content/uploads/2020/04/SRS-EIS-PR-4-3-20.pdf>

These comments on the proposed SRS Plutonium Bomb Plant (PBP) and attachments are being submitted by Tom Clements, director of Savannah River Site Watch (SRS Watch), a non-profit, public-interest organization located in Columbia, South Carolina. I request that every comment and observation contained herein and information in the attachments be responded to in any

final EIS, if such a document were to be issued. If any lawsuit under the National Environmental Policy Act (NEPA) were to develop on the pit issue, meticulous, detailed responses to these comments and attachments, especially regarding the legally required PEIS, are anticipated.

I formally repeat my request for this draft EIS record, as submitted in the *Draft Supplement Analysis of the 2008 Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory for Plutonium Operations*, DOE/EIS-0380-SA-06. A response is urgently needed:

NOTE: A FORMAL REQUEST is hereby being made for a supplement to the Supplement Analysis or a revised draft SA to be prepared on the issues of 1) reuse of plutonium pits in new and refurbished nuclear warheads and 2) production of purified plutonium for production of new pits. Both issues can be discussed in a single supplement document or a revised or edited supplement to the draft SA released for public comment. These matters are too important and the discussion about them is of such legal significance for them to simply be somehow included in any final SA without opportunity for public comment. See details in comments which follow. A discussion of these matters could also be contained in the required Programmatic Environmental Impact Statement (PEIS). A formal response from NNSA to this request is expected in the short term.

The above requested supplement must be prepared as the issues raised in my comments on the draft SA are inextricably intertwined with this draft EIS: plutonium pit “reuse” and production of purified plutonium for pits, plutonium disposal and a new sodium-cooled nuclear reactor that DOE has proposed. Inexplicably, my request has so far been ignored. Please respond at srswatch@gmail.com.

SRS Watch notes that the highly complex and costly SRS pit project is being rushed, which raises red flags about its fate. The project currently is at the Critical Decision-0 level and no massive financial resources have yet been prematurely committed. No Critical Decision-1 has yet been made about going forward with the Plutonium Bomb Plant or not but the NNSA administrator said before the COVID-19 situation that the CD-1 decision could be coming in September 2020.

The DOE’s Fermilab, Office of Support Services, has posted these things below as compromising a CD-1 decision - <https://opss.fnal.gov/critical-decision-overview/> - which are now lacking and thus the project can be halted before the CD-1 point is reached or halted before the waste of more taxpayer money to implement the CD-1 and subsequent decisions.

What is the function of CD-1?

CD-1 serves as a determination that the selected alternative and approach is optimized to meet the mission need defined at CD-0. Key elements of the

evaluation are the project's conceptual design, cost and schedule range, and general acquisition approach. The cost range allows for uncertainty in the estimates and scope options such as a range of capabilities.

What is a project expected to prepare for CD-1 approval?

- An analysis demonstrating that the proposed alternative is the correct one.
- A complete and independently reviewed conceptual design of a chosen alternative and associated cost and schedule range estimates. Typically the design is described in a Conceptual Design Report (CDR) and cost and schedule are supported by a resource loaded schedule and a collection of supporting information called "Basis of Estimate" (BOE) documents.
- A funding profile (time phased funding plan) that is compatible with the project's expected spending over time.
- Management plans including an Acquisition Strategy, Preliminary Project Execution Plan, Preliminary Hazard Analysis Report, Quality Assurance, Risk Management Plan, and a Risk Assessment.
- National Environmental Policy Act (NEPA) strategy and determination, i.e. whether a formal environmental assessment or impact statement is appropriate.

What impacts does CD-1 approval have on a project?

CD-1 allows for release of Project Engineering and Design (PED) funds, if available, for large projects and may allow for long lead procurements if specifically approved. Projects begin the next phases of design (preliminary design and perhaps final design for some elements) and development of a detailed resource loaded schedule. R&D and prototyping continue.

What is the relationship of the draft EIS to an anticipated CD-1 decision?

We shall see when and if a CD-1 decision is made but even if such a decision is made, we fully recognized that the project can be terminated at any time due to congressional action or a policy change regarding nuclear weapons and a new nuclear arms race.

1. No action is the best action

SRS Watch supports a "No-Action Alternative" that does not support locating a pit plant at SRS in the Mixed Oxide Fuel Facility (MFFF) and that alternative must not be linked to construction of a new pit facilities at the Los Alamos National Laboratory in New Mexico.

We believe that the stated No-Action Alternative is misstated in the draft EIS: "Under the No-Action Alternative, the existing MFFF would remain unused and NNSA would utilize the capabilities at LANL to meet the Nation's long-term needs for pit manufacturing. DOE has

evaluated the impacts of the pit production capacity at LANL in the 2019 SPEIS SA (NNSA 2019a) and the 2020 LANL SA (NNSA 2020).”

Thus, the correct No-Action Alternative in the draft EIS should be that the existing MFFF would remain unused and no pit plant would be located at SRS. That’s the No-Action Alternative supported by SRS Watch. The No-Action Alternative should not be linked to pit production at the Los Alamos National Lab.

As the stated schedule is to produce 50 or more pits per year in the Plutonium Bomb Plant (PBP) by 2030, please explain what happens when that schedule is not met, a most likely outcome given that SRS has no pit production experience and support for the PBP is weak.

Additionally, state clearly the expected life-time of the SRS pit facility, if its life could be extended beyond that time and at what point the facility will be decommissioned.

2. Programmatic Environmental Impact Statement (PEIS) is needed and legally mandated; see attached documents, already filed with DOE/NNSA, on the legal need to prepare a PEIS.

In 2008, the *Complex Transformation Supplemental Programmatic Environmental Impact Statement* (Complex Transformation SPEIS) was prepared. Since that time much has changed at Los Alamos and DOE complex-wide that mandates preparation of a new PEIS.

The proposal by NNSA to greatly expand plutonium pit production is a system-wide, programmatic proposal that can only be adequately analyzed in a PEIS. Significantly changed circumstances at LANL and across the DOE complex dictate preparation of a new PEIS and associated public meetings and a public comment period before any site-specific documents are prepared. The draft EIS in question is being prepared out of order and must not be finalized until the PEIS process has concluded. Likewise, issuance of a Record of Decision (ROD) based on any final EIS will be legally and procedurally out of order.

NNSA has made a preliminary decision to pursue pit production at two sites, a matter that has not been adequately analyzed from a complex-wide perspective. A host of things have significantly changed since the last PEIS and must be taken into account in the new PEIS. Indeed, there have been many significant changes at LANL and SRS and other DOE sites since 2008 relevant to current environmental concerns and policy decisions. Amongst others, the points below must be taken into account in a new PEIS and in the EIS, if such goes forward.

- Closure of the PF-4 plutonium operations at Los Alamos from 2013-2016, a shocking development which was not earlier foreseen. Significant questions linger if plutonium operations and existing pit production at LANL can ever be renewed and carried out safely.
- Failure of the so-called “Plutonium Center of Excellence” (Los Alamos) to produce up to 20 pits per year as required. The failure of LANL to meet claimed national

security needs can't be overlooked. Just how many pits are being produced per year at LANL and if production goals are being met or not must be clarified.

- Failure to explain how a jump from the unmet goal of production of 20 pits per year to 80-125 pits per year is possible or needed.
- New seismic information by the USGS pertinent to LANL and SRS must be taken into account, including in a new NNSA seismic analysis at LANL and SRS.
- The expanding role of Pantex in pit storage, and possibly in reuse of pits and production of plutonium oxide for pits. The PEIS must examine the role of the Special Nuclear Material Component Requalification Facility at Pantex.
- Possible and previously unrevealed plans for refurbishment of pits at any DOE site, especially Los Alamos and Sandia and Pantex, for reuse in warheads. (To be covered in the supplement requested by SRS Watch to the LANL draft SA or in the mandated PEIS.)
- Plans for production of purified plutonium at DOE sites for pits, including LANL, SRS, Pantex and perhaps other sites. Production of purified plutonium for pits overlaps with production of purified plutonium for plutonium disposal (via dilute & dispose) at SRS and for the proposed Versatile Test Reactor (VTR). What would happen to plutonium taken to LANL or SRS for pit production if pit production were halted? Would the plutonium be taken to other DOE sites?
- The role of Lawrence Livermore National Lab (LLNL) and LANL in design of new and refurbished nuclear warheads, for which NNSA claims there is a need, has changed.
- The role of the National Nuclear Security Site (NNSS) in Nevada in the pit production process, primarily via waste disposal, has emerged.
- In detail, what is the role of Y-12 at Oak Ridge, TN in pit production? See penultimate bullet below.
- Status and justification of pursuit of any new nuclear warheads, including the W87-1-like and W93, not planned for a decade ago.
- Apparent plans to “refurbish” all nuclear weapons in the stockpile with new pits, not anticipated when LANL was designated as the site to produce 20 pits per year.
- Failure to reveal plans to replace all the pits in all new and older warheads in the stockpile, a planning basis that has not heretofore been the planning basis. Does

NNSA aim to maintain ~4000 new and refurbished active and reserve weapons in spite of disarmament requirements of the New START treaty and the Nuclear Non-Proliferation Treaty (NPT)? Or not?

- Plans for new-design weapons and replacement of all pits in all weapons, reveals that the concept of “deterrence” has evidently been abandoned and the policy is based on fighting a nuclear war, which has not been analyzed from an overarching perspective. NEPA documents - both the draft EIS and PEIS - must discuss this.
- Accidents at the Waste Isolation Pilot Plant (WIPP) in 2014, which resulted in site closure, has impacted placement of TRU waste. Impacts to pit production of the 2014 events and possibly similarly debilitating accidents in the future at WIPP must be analyzed.
- TRU waste shipped from LANL to WIPP, which resulted in explosion of a waste cask resulting in WIPP contamination. There remain unresolved questions about instability of some TRU containers at LANL or stored at other sites. What happens if new pit production is halted and TRU has no place to go if WIPP is closed?
- Capacity of WIPP is under growing pressure, in part due to existing TRU waste awaiting disposal, TRU waste from pit production and disposal of surplus plutonium. Plans to dispose of 48 MT of surplus plutonium in WIPP must be reviewed as far as it impacts competition from TRU volume generated from pit production. The demands on WIPP have changed dramatically since 2008.
- Changes in population since 2008 near DOE sites that may have a role in pit production or support activities.
- Cost of pit production by dollar amounts sought by a host of DOE sites, as revealed in the DOE budget request for Fiscal Year 2021. The role of each site named as having a role in pit production must be analyzed in the PEIS. (See details below.)
- Any new lessons learned from the history of pit production at the contaminated Rocky Flats site in Colorado must be reviewed, including information from former employees who may currently be advising development of new pit production.
- What is the role of DOE’s Kansas City National Security Campus (KCNSC) in providing non-nuclear components for pit production? The Kansas City Plant is one of the involved sites in pit production and warhead production at the Y-12 plant. Footnote 3 on page 3 of the draft SA gives a nod to the KCP but there is no further information about it in the document. Note the footnote refers to the KCP and other DOE sites involved in pit production: “Refers to the NNSA Nuclear Complex 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).” More extensive review of the roles of all these sites in pit production is needed, initially in the PEIS and then the EIS on the proposed SRS Plutonium Bomb Plant, if the project somehow endures.

- Impacts of the coronavirus (or other future epidemic or pandemic), which was not anticipated until recently. DOE sites have been greatly impacted by COVID-19, with DOE workers becoming ill and some sites have gone to “mission critical operations.” The public must be allowed to comment in a PEIS and draft EIS on the assessed impact of the current pandemic or future epidemics or pandemics to proposed pit production.

The above are but examples of substantial changes from actions analyzed previously. These points document that there are significant new circumstances or information relevant to environmental concern and that a new PEIS is fully and legally warranted.

The expansion of plutonium pit production at LANL and the repurposing of an existing, partially constructed facility for pit production at SRS are clearly “connected,” “cumulative,” and “similar” actions. Therefore, “their environmental effects must be considered in a single impact statement,” and a new PEIS is the legally and practically appropriate way to accomplish this. Both the proposed actions at LANL and SRS are “systematic and connected agency decisions” undertaken to implement the specific “executive directive” in Trump’s 2018 *Nuclear Posture Review* to produce at least 80 plutonium pits per year by 2030. Accordingly, DOE’s own NEPA regulations mandate the preparation of a nation-wide programmatic environmental impact statement with which the department must fully comply.

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 will 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 is not the case now before us. Sticking with the assessment in a PEIS process of over a decade ago, before many changes now before us (and mentioned above), does not constitute proper application of NEPA. 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....The purpose and need for a PEA or a PEIS should be written to avoid eliminating reasonable

alternatives and focused enough for the agency to conduct a rational analysis of the impacts and allow for the public to provide meaningful comment on the programmatic proposal....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.

NNSA itself has revealed in the Fiscal Year 2021 budget request to Congress that a host of sites and offices are to be engaged in pit production. This is new and significant information. 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 FY21 budget request:

NNSA requested FY 2021 funding for expanded plutonium pit production by site

Kansas City Plant	\$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
Y-12 Plant	0 (\$370,860,000 for Secondary Capability Modernization)
Total	\$1,581,784,000

Source: DOE FY 2021 “Laboratory Tables” at <https://www.energy.gov/cfo/downloads/fy-2021-budget-justification>

Given that DOE is planning a fabrication capacity of 80 or more pits per year, a court order in *Natural Res. Def. Council v. Pena*, 20 F. Supp. 2d 45 (D.D.C. 1998) stated that if pit fabrication at LANL were planned to exceed 50 pits per year that preparation of a PEIS was required.

Obviously, DOE is on shaky legal ground by pushing ahead with plans for greatly expanded pit production without following the proper steps under NEPA, which means first preparing the PEIS. Preparation of the PEIS could be the result of a NNSA decision on the matter - a reversal of its current position but the most efficient way to move forward - result of a court ruling or by congressional directive. Likewise, the matter could be ruled moot if Congress changes the present approach to pit production, which could happen in the current session or in the future.

And, as things discussed in the draft EIS now before us and in the NNSA's *Draft Supplement Analysis of the 2008 Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory for Plutonium Operations*, DOE/EIS-0380-SA-06 have overlaps and commonalities, they must be discussed in the same NEPA document. As there are major discrepancies between the documents that must be reconciled - for example, failure to discuss in the draft SA the issue of pit reuse and issue of purified plutonium production. This exposes a major flaw resulting from the preparing two separate and inadequate NEPA site-specific documents for the two sites and not initially preparing the overarching PEIS.

The SRS pit documents must fully explain why the two key issues mentioned above - pit reuse and production of purified plutonium - were not discussed in the draft SA. SRS Watch has requested of NNSA an amended draft SA including the pit reuse and supply of purified plutonium issues and that it be open for public comment. We have not heard back from NNSA in response to our request. When will we receive a response?

In parallel, on April 30 the National Academies of Sciences, Engineering, and Medicine's Surplus Plutonium Panel on April 30, 2020 released its report entitled *Review of the Department of Energy's Plans for Disposal of Surplus Plutonium in the Waste Isolation Pilot Plant*. Amongst its recommendations, the report called for a PEIS on surplus plutonium disposition:

RECOMMENDATION 5-5: The Department of Energy should implement a new comprehensive programmatic environmental impact statement (PEIS) to consider fully the environmental impacts of the total diluted surplus plutonium transuranic (DSP-TRU) waste inventory (up to an additional 48.2 MT) targeted for dilution at the Savannah River Site and disposal at the Waste Isolation Pilot Plant (WIPP). Given the scale and character of the diluted surplus plutonium inventory, the effect it has on redefining the character of the WIPP, the involvement of several facilities at several sites to prepare the plutonium for dilution, a schedule of decades requiring sustained support, and the environmental and programmatic significance of the changes therein, a PEIS for the whole of surplus plutonium that considers all affected sites as a system is appropriate to address the intent and direction of the

National Environmental Policy Act and would better support the need for public acceptance and stakeholder engagement by affording all the opportunity to contemplate the full picture.

The full NAS report is posted here: <https://www.nap.edu/catalog/25593/review-of-the-department-of-energys-plans-for-disposal-of-surplus-plutonium-in-the-waste-isolation-pilot-plant>.

The report underscores the volume capacity problem at WIPP and that no single TRU waste stream destined for WIPP, such as from pits, can be viewed in isolation: “Emplacing the full amount of DSP-TRU waste in WIPP will test its physical and statutory capacity. WIPP is the nation’s only operational deep geologic repository for nuclear waste, and the report says capacity at WIPP should be treated as a valuable and limited resource by DOE. The NNSA administrator, in consultation with the DOE assistant secretary for environmental management, should reserve capacity in WIPP for the full amount of DSP-TRU waste.”

Please discuss the relationship between the required PEIS on pit production with any PEIS that might be prepared on surplus plutonium disposition and TRU waste to WIPP.

3. Please provide the legal basis for the pursuit of dual pit fabrication facilities, including fabrication of 50 pits or more per year at the Savannah River Site.

National Defense Authorization Acts (NDAAs) back to about 2014 contain language pertaining to expansion of pit production. Passed in 2014, the “CARL LEVIN AND HOWARD P. BUCK” MCKEON NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2015” contains a “Sense of Congress” on pit production (<https://www.congress.gov/113/plaws/publ291/PLAW-113publ291.pdf>) but two sites are not designated:

SEC. 3112. PLUTONIUM PIT PRODUCTION CAPACITY.

(a) SENSE OF CONGRESS.—It is the sense of Congress that—

- (1) the requirement to create a modern, responsive nuclear infrastructure that includes the capability and capacity to produce, at minimum, 50 to 80 pits per year, is a national security priority;
- (2) delaying creation of a modern, responsive nuclear infrastructure until the 2030s is an unacceptable risk to the nuclear deterrent and the national security of the United States; and
- (3) timelines for creating certain capacities for production of plutonium pits and other nuclear weapons components must be driven by the requirement to hedge against technical and geopolitical risk and not solely by the needs of life extension programs.

(b) PIT PRODUCTION.—

- (1) IN GENERAL.—Subtitle A of title XLII of the Atomic

Energy Defense Act (50 U.S.C. 2521 et seq.) is amended by adding at the end the following new section:

“SEC. 4219. PLUTONIUM PIT PRODUCTION CAPACITY.

In the NDAA for FY 2020 (<https://www.govinfo.gov/content/pkg/BILLS-116s1790enr/pdf/BILLS-116s1790enr.pdf>), two sites are also not mentioned:

SEC. 3116. MODIFICATION TO CERTAIN REQUIREMENTS RELATING TO PLUTONIUM PIT PRODUCTION CAPACITY.

(a) SENSE OF CONGRESS.—It is the sense of Congress that—

- (1) rebuilding a robust plutonium pit production infrastructure with a capacity of up to 80 pits per year is critical to maintaining the viability of the nuclear weapons stockpile;
- (2) that effort will require cooperation from experts across the nuclear security enterprise; and

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- (3) any further delay to achieving a plutonium sustainment capability to support the planned stockpile life extension programs will result in an unacceptable capability gap to our deterrent posture.

(b) MODIFICATION TO REQUIREMENTS.—Section 4219 of the Atomic Energy Defense Act (50 U.S.C. 2538a) is amended—

- (1) in subsection (a), by striking paragraph (5) and inserting the following:

“(5) during 2030, produces not less than 80 war reserve plutonium pits.”;

- (2) by striking subsection (b);

- (3) by redesignating subsections (c) and (d) as subsections (b) and (c), respectively;

- (4) in subsection (b), as redesignated by paragraph (2), by striking “2027 (or, if the authority under subsection (b) is exercised, 2029)” and inserting “2030”; and

- (5) in subsection (c), as redesignated by paragraph (2), by striking “subsection (c)” and inserting “subsection (b)”.

The summary of the draft EIS states on page S-1 that federal law is guiding pursuit of 80 pits per year: “Since 2014, Federal law has required the Secretary of Energy to produce no less than 30 war reserve plutonium pits beginning during 2026 and thereafter demonstrate the capability to produce war reserve plutonium pits at a rate sufficient to produce 80 pits per year (Volume 50 of the *United States Code*, Section 2538a [50 U.S.C. § 2538a], as amended by the National Defense Authorization Act for Fiscal Year 2020.” But two pit sites are not mentioned.

To state it clearly: a SRS pit plant is not mentioned in the cited NDAs.

Thus, where in law are two pit-production sites stipulated or required?

The report to the FY 2018 Senate Energy and Water Development Appropriations bill stated:

The Committee continues to support the Nuclear Weapons Council's program of record for plutonium pit production to meet the Fiscal Year 2015 National Defense Authorization Act requirement of 30 pits per year at Los Alamos National Laboratory by 2026. Within available funds, NNSA is directed to contract with a third-party federally-Funded Research and Development Corporation to conduct an independent assessment of the NNSA's decision to conduct pit production operations at two sites. NNSA shall identify and execute a contract with an independent FFRDC, not directly involved in plutonium pit production, not later than 60 days after enactment of this act. NNSA shall not proceed with conceptual design activities for the recently announced preferred alternative until an FFRDC is under contract. The assessment shall include an analysis of the four options evaluated in the recent Plutonium Pit Production Engineering Assessment, all identified risks, engineering requirements, workforce development requirements, and other factors considered. The FFRDC shall submit its report to the Committees on Appropriations of both the Houses of Congress not later than 210 days after enactment of this act.

Please discuss the results of the stipulated report, especially regarding "the NNSA's decision to conduct pit production operations at two sites" and enter the report into the NEPA record.

Additionally, the *Draft Supplement Analysis of the 2008 Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory for Plutonium Operations*, DOE/EIS-0380-SA-06 states "At a programmatic level, NNSA could adopt a Modified Distributed Centers of Excellence Alternative for plutonium operations from the Complex Transformation SPEIS." (page iii) The word "could" says it all. There is no requirement for two sites despite claims that two pit-production sites are needed. Two sites are being pursued primarily to get taxpayer money to SRS contractors due to the termination of the bungled and mismanaged plutonium fuel (MOX) project, correct?

NNSA admits that shifting to a dual-pronged approach will be costly:

Using two pit production sites would improve the resiliency, flexibility, and redundancy of the Nuclear Security Enterprise by not relying on a single production site and is considered the best way to manage the cost, schedule, and risk of such a vital undertaking (DoD 2018b). According to NNSA testimony, "Even though this approach will require NNSA to fund activities at two sites, any interruption or delay to pit production in the future due to the lack of resiliency will have huge cost increases across the entire Nuclear Security Enterprise" (DOE 2019). A two-site pit

production strategy, in which each site would have the capability to produce up to 80 pits per year, would enable NNSA to meet national security requirements if one facility became unavailable.” (S.1.2.4 Dual Pit Production Sites)

The Exchange Monitor on March 11, 2020 stated: “As part of a requested, and controversial, \$20 billion 2021 budget request, the NNSA seeks more than \$835 million to upgrade PF-4, more than double-and-a-half the 2020 appropriations of just under \$310 million. For the Savannah River Plutonium Processing Facility, the NNSA seeks just over \$440 million for 2021, or about 8% more than the 2020 appropriation. The agency expects the entire split-state pit complex to cost around \$30 billion to build and operate over several decades.” Are these cost increases sustainable in future budgets, especially given the huge debt taken on due to the virus crisis?

NNSA itself has brought the cost issue into the NEPA process and states in the draft EIS on the SRS Plutonium Bomb Plant: “NNSA considered the alternative of building a new Greenfield pit production facility at SRS. The mean acquisition cost of such a new facility was determined to be approximately \$1.8 billion more than the cost of repurposing the MFFF (NNSA 2017, Figure 6-2).” (page S-17) In addition, life-cycle costs of the SRS pit project must be discussed.

So, where is a detailed, updated cost analysis of the SRS pit plant, with per year spending needs into the future? NNSA has said a new cost analysis would be out around the time of a CD-1 decision but that analysis is needed before any NEPA document on the SRS pit plant is finalized. Please provide the new cost reports(s). Per DOE practice, cost estimates will climb, correct?

The DOE budget request for Fiscal Year 2021 reveals that the pit facility at SRS could cost almost \$5 billion by 2030. But pursuit of a rushed, two-pronged approach, especially at a site that has failed in its pit-production mission - Los Alamos - and a site that has zero pit-production experience – SRS - could magnify risks of two production sites while downplaying pit renovation at Pantex and could hold more risk than having a single functioning site.

Please explain how maximizing costs on a fast-track schedule utilizing two sites, one a poorly functioning site and the other a site with no pit experience would “improve the resiliency, flexibility, and redundancy of the Nuclear Security Enterprise” and be the best way to manage costs and risks. The exaggerated claims have been made but have not been substantiated.

Isn't there a real risk of dual-point failure with two rushed facilities that may lack both financial and political support and that will stretch NNSA to the limits?

Thus, if cost is a factor NNSA will not choose the most costly option: two pit-production sites. But, sadly, as we have seen with other complicated and costly projects, isn't the goal here to maximize costs in order to transfer more tax payer money to contractors?

4. The Nuclear Posture Review of February 2018, used for a basis to expand pit production, is not law and does not designate two pit-production sites.

The NPR states that the US will:

Provide the enduring capability and capacity to produce plutonium pits at a rate of no fewer than 80 pits per year by 2030. A delay in this would result in the need for a higher rate of pit production at higher cost.

The introduction to the NPR, called the “Secretary’s Preface,” states that “This NPR reflects the current, pragmatic assessment of the threats we face and the uncertainties regarding the future security environment.”

The NPR, which is only a policy document, does not attempt to dictate two pit-production sites.

DOE and the Department of Defense DOD issued a news release on May 10, 2018 stating two pit-production sites would be pursued with “a minimum of 50 pits per year produced at SRS and a minimum of 30 pits per year produced at LANL.” This is not law.

Please clarify that the two-pronged pit production approach is policy or opinion and not law, that the NPR is not law and that the DOE-DOD statement mentioned above is not law.

5. In the summary of the draft EIS it is stated that “Today, the United States’ capability to produce plutonium pits is limited.” (page S-1) Why is this?

As a decision was made to produce 20 pits per year at Los Alamos National Laboratory to meet the need for pits, how is the production “limited” when this level was determined to be adequate after the contaminated Rocky Flats site was raided and ceased production in 1989?

Has the PF-4 facility LANL been able to meet its 20 ppy production goal? If not, why not?

Why was the PF-4 facility closed from 2013-2016 and is it now back at full operation or not?

Given inability to meet the 20 ppy goal, hasn’t this failure resulted in a “self-limited” situation? How has the failure to produce 20 pits per year put pressure on plans for new pit production?

Why isn’t the 20 ppy target for LANL not being proven before expansion of pit production at both LANL and SRS? Is expansion of pit production when even a “limited” production goal can’t be met a prudent approach? Is it a risky approach?

Why isn’t the 20 ppy goal being demonstrated before pit-production is being expanded, especially to a site with absolutely no pit production experience and little plutonium-handling experience in the past three decades? Shouldn’t the 20 ppy goal be demonstrated first?

6. Section S.1.2.1 discusses plutonium pit aging. Please explain the status of new aging reports by NNSA and the JASON group of experts and provide them for the record.

The draft EIS states on page S-3:

Considerable research has been dedicated to understanding how long plutonium pits will remain effective. Results thus far show that uncertainty in the performance of older plutonium increases over time resulting in decreasing confidence over time. At some age, the properties will change sufficiently to warrant replacement. NNSA continues to research the life expectancy of plutonium pits. This is scientifically challenging and will require many years to fully understand.

Please explain and provide documents about the “considerable research” that is mentioned.

In 2007, the JASON group of experts produced a report entitled *Pit Lifetime* that concluded: “Most primary types have credible minimum lifetimes in excess of 100 years as regards aging of plutonium; those with assessed minimum lifetimes of 100 years or less have clear mitigation paths that are proposed and/or being implemented.”

Based on the mentioned “considerable research,” does NNSA agree with that statement? If not, provide documentation.

The *Pit Lifetime* report went on to say that “JASON identified additional work that should be carried out over the next year or longer to gain a better understanding of relevant plutonium properties and aging phenomena that could affect weapons performance on timescales of a century and beyond.” Just what “additional work” on plutonium-aging is now being done, by JASON, NNSA or any other entity?

The report to the FY 2018 Senate Energy and Water Development Appropriations bill stated:

Science.—The Committee directs the Administrator to enter into a contract with the group known as JASON for a study to assess the efforts of the NNSA to understand plutonium aging and the lifetime of plutonium pits in nuclear weapons. The Administrator shall make available all information that is necessary to successfully complete a meaningful study on a timely basis. Not later than 18 months after the date of enactment of this act, the Administrator shall submit to Congress a report on the findings of the study. The report shall include recommendations of the study for improving the knowledge, understanding, and application of the fundamental and applied sciences related to the study of plutonium aging and pit lifetimes, an estimate of minimum and likely lifetimes for pits in current warheads, and the feasibility of reusing pits in modified nuclear weapons. The report shall be submitted in unclassified form but may include a classified annex.

Was the stipulated study conducted and delivered to Congress? If not, why not? What did it say about pit aging and the feasibility of reusing pits in modified nuclear weapons? Have the results of it been included in the draft EIS? If not, why not? Please provide the mentioned report to the public and for the NEPA record.

A November 23, 2019 “Letter Report” by JASON to the NNSA stated that “in general, studies on Pu aging and its impacts on the performance of nuclear-weapon primaries have not been sufficiently prioritized over the past decade. A focused program of experiments, theory, and simulations is required to determine the timescales over which Pu aging may lead to an unacceptable degradation of primary performance.”

The Letter Report implies less than full cooperation from NNSA: “The labs briefly presented their program to address Pu aging to JASON. The plan seemed sensible, but a detailed JASON assessment would require additional information about the program as well as technical details” And, it went on to say: “For future work, JASON recommends that LLNL and LANL continue to pursue a sustained program to improve their understanding of Pu aging on pits.”

The Letter Report also states that “A Defense Programs Advisory Committee (DPAC) report completed in 2018 also revisited Pu-aging issues.” Please discuss the findings of that report and provide it to the public and for the NEPA record.

In an April 6, 2020 letter from NNSA to Congress, NNSA confirmed it has not followed through with the report required in the Senate Energy and Water Development (SEWD) Committee report (S.R. 115-258) accompanying the *Energy and Water Development Appropriations Bill, 2019*: “The provision directed the Department of Energy’s National Nuclear Security Administration (DOE/NNSA) to enter into a contract with the JASON Defense Advisory Group to assess NNSA’s efforts to understand plutonium aging.” That report has not been forthcoming has it? Why not? When it becomes available please provide it to the public and for the NEPA record.

In the letter, NNSA agrees that a JASON review is needed to “Assess the need for the full study, and if deemed necessary and timely, perform a more detailed, multi-year JASON study.” And, NNSA concedes that “NNSA recognizes that there is continued uncertainty in assessing performance of older pits due to radioactive decay of the plutonium, and is committed to a variety of risk mitigation options, including placing higher priority on studies of plutonium aging and its effect on performance.”

Thus, a full discussion of the status of new pit aging studies and what is contained in them must be included in any NEPA documents.

Why there is a rush to expand pit production without data on pit aging and pit refurbishment must be explained.

The only prudent thing to do is to put new pit production on hold until essential new data on pit aging and pit reuse is forthcoming. If NNSA disagrees with that approach, please explain why not, both the public, for the NEPA record and to Congress.

7. Pit reuse and refurbishment must be analyzed in detail before new facilities sought

On page S-4 it is stated:

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. This capability allows for:

- Enhanced warhead safety and security to meet DoD and NNSA requirements;
- Deliberate, methodical replacement of older existing plutonium pits with newly manufactured pits as risk mitigation against plutonium aging; and
- Response to changes in deterrent requirements driven by renewed great power competition.

On page S-18, NNSA summarily eliminates pit reuse for all new and refurbished weapons: “NNSA currently stages plutonium pits at Pantex. Like the pits in the active stockpile, those pits are aging and would not mitigate plutonium aging risks or enable NNSA to implement enhanced safety features to pits to meet NNSA and DoD requirements. Consequently, only reusing pits was eliminated from detailed analysis.”

The matter of pit reuse and pit refurbishment is short changed in the draft EIS and warrants detail discussion. What does “judicious reuse of existing pits” mean?

NNSA must clarify for which weapons there is the plan for “judicious reuse of existing pits.”

Why was “only reusing pits” eliminated from analysis?

Can existing pits be upgraded and refurbished so as to allow reuse?

NNSA must explain exactly what “renewed great power competition” is and what “growing threats from peer competitors” is. Does countering so-called “peer competitors” with new weapons and dual-site pit production capability stimulate in advance a response from those so-called peers? Please explain why pursuit of arms reduction and arms control treaties with “peer competitors,” such as keeping the New START Treaty in place, is not a safer and cheaper way to address the global threat from nuclear weapons

NNSA must discuss the role of DOE’s Pantex site near Amarillo, Texas in pit reuse, refurbishment and requalification and why “all pit reuse” is not possible, as claimed but unsubstantiated. This matter is best first addressed in the required PEIS.

The Special Nuclear Material Component Requalification Facility at Pantex is discussed in a 2015 posting by Pantex entitled *Day in the Life of a Pit* (<https://pantex.energy.gov/news/blog/day-life-pit>)

Requalification allows a pit to stay in the stockpile; surveillance involves obtaining information on a pit, then sharing it with the national laboratories to help certify to the President that the nuclear weapons stockpile is at an extremely high level of quality...Our most important work involves the surveillance and reprocessing of nuclear material for nuclear weapons,” David Cole, Weapons Operations director, said. “It has to be very high quality given the lack of underground testing. We can’t build new, so we’ve got to take components that were not designed to remain in the stockpile this long and make them last longer...A second requalification process, to be designed in house, is expected to be installed at the end of fiscal 2016.

What is the status of the Special Nuclear Material Component Requalification Facility and the pit requalification or reuse or refurbishment program at Pantex? In the past, has that facility refurbished and requalified pits for reuse? Is it being used for that role now? Will it be used in the future? If so, in what way? Can the pit-reuse role of Pantex or other sites be expanded?

A document cited in the draft EIS, *National Security and Nuclear Weapons in the 21st Century*, states on page 21 that “depending on warhead type, the best estimate of minimum pit life is 85-100 years,” It does not appear that this is based on information from the 2007 JASON report (as the time frame doesn’t match), or is it? It is unknown what data supports the 85-year figure statement. In any event, it means that even according to this *National Security and Nuclear Weapons in the 21st Century* assessment that pits manufactured at the contaminated Rocky Flats Plant in the 1980s still have decades of life left. Please discuss.

Please discuss new-design weapons such as the W87-1 and W93 and the “need” for new or reused pits for them.

Please discuss refurbishment of existing weapons and the “need” for new pits or if reused pits can be used. In the draft EIS, no case was made that pits can’t be reused in refurbished weapons or that pit reuse can be adopted for newly deployed warheads. Please make the case.

Please discuss if pit safety and reliability can be enhanced via refurbishment and requalification, or not. Please discuss if pit reuse and refurbishment research is taking place=.

Why isn’t there coordination between the draft EIS on the Plutonium Bomb Plant and the draft Supplemental Analysis on Los Alamos pit production concerning pit reuse issues? Pit reuse is not even mentioned in the draft SA, a serious and grave oversight that needs to be remediated via an amended NEPA document, along with an associated public hearing and public comment period, as requested by SRS Watch. (We have had no response from NNSA yet to our request, which I reiterate here.)

8. How many warheads will be kept? Does this comply with NPT?

Of highest importance, discuss what the plans are concerning replacing ALL pits in ALL new and active and reserve weapons. The NNSA plan appears to be to replace all pits in the stockpile - is this the case? From a security perspective, why is this necessary? What is the policy basis for this? Would replacement of all pits in all weapons thus mean that the stockpile of around 4000 weapons would be kept through this century? Isn't this actually a war-fighting force and not what's needed under any definition of "deterrence?"

An Aiken Standard article of February 15, 2020, assuming a 50 year lifetime of new pit facilities, confirms what the goal is - replacement of all pits:

Want to know where 80 pits per year came from? It's math. Alright? It's really simple math," Peter Fanta, the deputy assistant secretary of defense for nuclear matters, said in December. "Divide 80 per year by the number of active warheads we have, last time it was unclassified it was just under 4,000, and you get a timeframe.

Please comment on Mr. Fanta's statement as it pertains to total production of pits at the SRS pit plant over its lifetime. Is the goal to produce at least a round 2500 pits at the SRS Plutonium Bomb Plant?

How does keeping the number of weapons in the deployed and reserve stockpile comply with provisions of the Nuclear Non-Proliferation Treaty (NPT), which states: "Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control."

The NPT is clear - that the cessation to the nuclear arms race must be at an "early date" and that a disarmament treaty must be negotiated. Keeping 4000 nuclear weapons is in complete defiance of those legal requirements of the NPT and affirms that the alarming goal is a new nuclear arms race. Please respond.

On page S-17, the draft EIS confuses the policy of "deterrence" with the proposal before us - replacing pits in all new and refurbished nuclear weapons, for a stockpile of around 4000 active and deployed weapons: "Under the No-Action Alternative, NNSA would not proceed with the SRPPF, which might limit the ability to maintain, long-term, the nuclear deterrent that is a cornerstone of U.S. national security policy. Under the No-Action Alternative, the existing MFFF would remain unused and NNSA would utilize the capabilities at LANL to meet the Nation's long-term needs for pit manufacturing. DOE has evaluated the impacts of the pit production capacity at LANL in the 2019 SPEIS SA (NNSA 2019a) and the 2020 LANL SA (NNSA 2020)."

Please explain the definition of "nuclear deterrent" as used in the draft EIS and show where it came from. Please explain how replacing all pits in the existing stockpile constitutes

“deterrence.” Deterrence in the arms control community is generally defined as something like a few hundred weapons or less.

Will keeping a large nuclear weapons stockpile, say around 4000 weapons, and pit-production capacity for that stockpile encourage or discourage global proliferation of nuclear materials and nuclear weapons technology, and a response from other countries?

Likewise, please discuss the risks to nuclear non-proliferation if the US were to withdraw from the New Start Treaty. Would more pits be “needed” if the US withdraws from the treaty?

9. Plutonium from old pits not reusable without purification; draft EIS mentions SRS purification options but does not choose an option and doesn't thoroughly analyze impacts of purification. MOX non-proliferation project becomes Dr. Jekyll proliferation project.

The draft EIS clarifies that plutonium from old pits would have to be purified before fabrication into new pits:

In general, the pit-derived plutonium would not be suitable for new manufacturing—it would contain plutonium radioactive decay products (uranium, americium-241, and neptunium-237) and other undesirable characteristics. Therefore, the plutonium would be purified using pyrochemical (nonaqueous) recovery techniques, which would generate plutonium-bearing residues that must be recovered using aqueous techniques or disposed of as TRU waste. The proposed purification techniques are well known and have been successfully used at DOE sites for many years (NNSA 2019c). (pages 2-8, 2-9)

The document briefly states what type of plutonium purification could be deployed:

Nonaqueous plutonium metal purification operations could include three primary processes: (1) direct oxide reduction, which uses calcium metal to reduce plutonium oxide to plutonium metal; (2) molten salt extraction, which uses chloride salts to remove americium-241 from the plutonium; and (3) electrorefining, which uses sodium, potassium, and calcium chloride salts to remove other key impurities from the plutonium metal (NNSA 2019c). In aqueous recovery, plutonium-bearing residues would be recovered using techniques in which nitric acid and hydrochloric acid are used to chemically dissolve feed material. Use of the aqueous process to recover plutonium would reduce the overall quantities of TRU wastes needing disposal at WIPP (NNSA 2019c). Pit production could continue without aqueous recovery; however, TRU waste generation would increase. (page 2-9)

Please clarify what “could” means in the above paragraph.

Please clarify exactly what type of purification technology will be deployed at SRS - aqueous or nonaqueous? Or a combination of both? And, give details of the technology for both. Describe

the equipment to do both methods and potential worker doses and criticality risks. Where might this take place inside the pit plant, in relation to casting?

How is beryllium removed from stored pits and what happens to removed beryllium?

Will there be enough purified plutonium for pits, dilute & dispose (to WIPP) and the Versatile Test Reactor (VTR)? I've seen no explanation of where all that plutonium would come from for those real or speculative projects, which are intertwined concerning DOE's need for purified plutonium. Please explain.

To go into more detail, there are currently or might be intense demands for purified plutonium for various DOE projects involving plutonium and those demands are interrelated. The sources of the purified plutonium for these projects has not been fully explained or stipulated by DOE and must be explained. The largest known demands for purified plutonium, perhaps in the oxide form, are for these three NNSA/EM/NE projects:

- Pits - how purified plutonium will be obtained for all pit production must be specified;
- Plutonium disposition via "dilute & dispose" (or other method) in WIPP - 48 MT or more;
- Versatile Test Reactor (VTR) fuel - approx. 1500 kg/year of plutonium over many years for fuel for a single reactor.

While the ARIES technique at PF-4 at Los Alamos is being used at a very low level of plutonium oxide production, this material is slated to be dilute & dispose only. Currently, the production rate of oxide via ARIES is about 150 kg/year and 1 MT of oxide has been accumulated. DOE claims production will ramp up to 1500 kg/year, which will be a huge challenge based on past performance.

Might ARIES at LANL be used to provide any purified plutonium for pit production at LANL or SRS?

It is of great significance that a parallel and competing program for purified plutonium that the National Academies of Sciences' Committee on Disposal of Surplus Plutonium at the Waste Isolation Pilot Plant stated in its April 2020 report entitled *Review of the Department of Energy's Plans for Disposal of Surplus Plutonium in the Waste Isolation Pilot Plant* that a PEIS was needed concerning the matter of the downblending of surplus plutonium (via "dilute & dispose") for disposal in WIPP as waste. On page 9 it is stated:

RECOMMENDATION 5-5: The Department of Energy should implement a new comprehensive programmatic environmental impact statement (PEIS) to consider fully the environmental impacts of the total diluted surplus plutonium transuranic (DSP-TRU) waste inventory (up to an additional 48.2 MT) targeted for dilution at the

Savannah River Site and disposal at the Waste Isolation Pilot Plant (WIPP). Given the scale and character of the diluted surplus plutonium inventory, the effect it has on redefining the character of the WIPP, the involvement of several facilities at several sites to prepare the plutonium for dilution, a schedule of decades requiring sustained support, and the environmental and programmatic significance of the changes therein, a PEIS for the whole of surplus plutonium that considers all affected sites as a system is appropriate to address the intent and direction of the National Environmental Policy Act and would better support the need for public acceptance and stakeholder engagement by affording all the opportunity to contemplate the full picture.

This call by the NAS committee for a PEIS on plutonium downblending directly overlaps with the issue of the source purified plutonium for pits (and the VTR), for which there may well be competition with both technologies and such things as floor space in PF-4 or at SRS. The relationship of the plutonium-supply issue and any plutonium downblending PEIS and the draft EIS and a pit PEIS must be discussed.

The document is lacking a full explanation of the flow chart for amounts of plutonium coming in for pit production at SRS, and leaving as pits or waste. A full accounting of plutonium sources and amounts (and associated waste streams), such as this chart in the *Final Surplus Plutonium Disposition Supplemental Environmental Impact Statement (SPD Supplemental EIS)* (DOE/EIS-0283-S2), April 2015, page S-9 (https://www.srs.gov/general/pubs/envbul/documents/EIS-0283-S2_SPD_Summary.pdf) is needed:

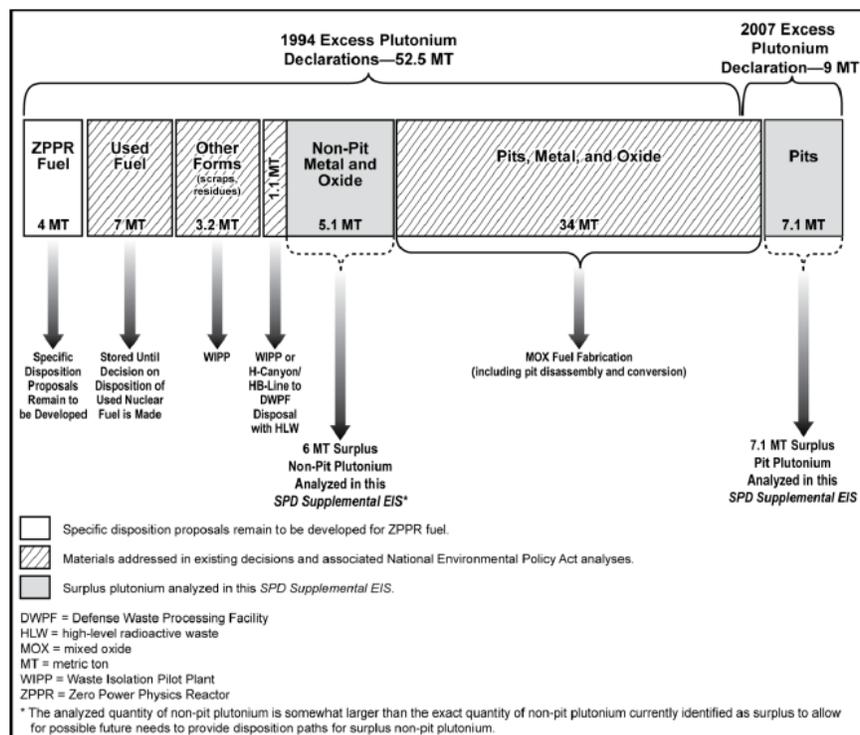


Figure S-7 Disposition Paths for Surplus Plutonium

SRS currently stores about 12 metric tons of plutonium in the old K-Reactor. Only about 6 MT of that have been designated for disposition, via dilute & dispose. It is unclear what will happen with the remaining material, which has been stranded at SRS due to the failure of the mismanaged MOX project. What will happen to plutonium not yet designated for disposition?

In a Federal Register notice of April 5, 2016, NNSA issued a Record of Decision (ROD) on “Surplus Plutonium Disposition” - <https://www.govinfo.gov/content/pkg/FR-2016-04-05/pdf/2016-07738.pdf> - on about 6 MT of plutonium stored at SRS: “DOE/NNSA is announcing a decision to implement its Preferred Alternative for the disposition of 6 MT of surplus non-pit plutonium, as described in DOE/NNSA's *Preferred Alternative for Certain Quantities of Plutonium Evaluated in the Final Surplus Plutonium Disposition Supplemental EIS*. Shipments of this surplus non-pit plutonium to WIPP, after it is operational, will be placed in the queue of waste to be shipped to WIPP. This plutonium will be prepared and packaged to meet the WIPP waste acceptance criteria for contact-handled TRU waste and other applicable regulatory requirements.” This ROD is inexplicably not listed as a reference in this draft EIS and I hereby enter it into the record.

The decision to dispose of 6 MT of surplus plutonium is intricately linked to what happens to the rest of the plutonium stored by DOE, including plutonium bound for pits. Will a ROD be issued on the additional plutonium at SRS and not covered by a ROD? Will that plutonium be used for pits or planned to be disposed of in WIPP? Will any ROD that might be issued detail when all plutonium now at SRS will be removed?

Ironically, SRS had earlier been designated a plutonium disposition site with a project - MOX - that was loudly and continuously claimed to permanently dispose of plutonium and strengthen nuclear non-proliferation. It was clear from the start that these were overblown claims and as the project fell apart the non-proliferation claims by boosters evaporated. Subsequently, NNSA claimed in the ROD mentioned above that the D&D method would “reduce the threat of nuclear weapons proliferation worldwide by conducting disposition of surplus plutonium in the United States in an environmentally safe and timely manner, ensuring that it can never again be readily used in nuclear weapons.”

Now, NNSA has taken the exact opposite track from claimed nuclear non-proliferation goals with the MFFF and aims to turn SRS into a nuclear bomb plant that would stimulate nuclear proliferation and help set off nuclear arms race. Thus, the “MOX non-proliferation plant” is now being transformed into the SRS Nuclear Proliferation Plant (SNUPP). As this dramatic shift in NNSA's intended role of SRS appears schizophrenic please explain the reasons for it. Please provide documentation from psychologists, psychiatrists or mental health professionals if it helps explain this bizarre behavior. Is the underlying reason for proposing the SNUPP to fill the funding hole created by MOX, making it simply a parochial fiduciary decision void of moral considerations and supported by such self-serving politicians as Senator Lindsey Graham and Representative Joe Wilson, who are out to gouge the U.S. taxpayer for this unjustified project?

Can NNSA assure the public in a NEPA document that not a single gram of additional plutonium will be brought to the site until all plutonium has been removed from the K-Reactor and taken out of South Carolina, for disposition or storage elsewhere?

How much plutonium would come to SRS for pit production over the life of the project? How much plutonium bound for purification would be at SRS at any one time? Will the State of South Carolina be informed about incoming plutonium shipments any outgoing plutonium and waste shipments and on-site pit waste disposal? How long would pit production take place?

It must be pointed out not only is there a lack of pit-production experience at SRS but also a woeful lack of plutonium handling experience. Production of plutonium in the on-site reactors was halted by the late 1980s. Thus, production of plutonium buttons shipped to Rocky Flats for pit production ended at that time. SRS is currently downblending (via dilute & dispose) a small amount of plutonium in a glovebox in the K-Area and this is with but a small team. Ramping that process up to larger output will be a challenge and require more congressional appropriations and still the team would not be large. A few 3013 plutonium storage cans undergo destructive examination every year, but that work may have been done by the D&D team. Plutonium oxide was produced in the HB-Line recent years with a very small crew but that project was halted after processing problems and mission reorientation. Likewise, some plutonium was dumped through the H-Canyon into the tank farm for eventual vitrification in the Defense Waste Processing Facility but that amount of material was on the order of 100 kg and that effort was halted in favor of sending surplus plutonium to WIPP. There may also be some research at Savannah River National Lab with a small amounts of plutonium or surrogate material. The largest interaction with plutonium by SRS staff is simply its storage in drums in K-Area. Only a sample of those drums and the inner 3013 can are opened for destructive examination. SRS does not even have the capability to properly repackage that plutonium in 3013 cans. Claims by boosters of pit production have been incorrect about the vast experience of SRS in handling plutonium. Such experience does not currently exist. Thus, the skills in handling, purifying and handling plutonium at SRS and casting it into pits are essentially a notch above point zero. And, if D&D continues and expands, those crew members can't be shifted to pits without harming D&D. So, SRS is left with a potential pit workforce with almost no plutonium-handling experience. Please explain how this daunting obstacle will be overcome.

10. Why more TRU created per pit at SRS vs LANL? Does WIPP capacity exist?

Based on analysis of the draft SA on Los Alamos pit production and the draft EIS on the SRS Plutonium Bomb Plant, it can be seen that NNSA asserts that there is significantly more TRU waste created per pit via production at SRS. The EIS must discuss the reasons for less TRU per pit produced at LANL vs SRS.

A pertinent document to plutonium processing at LANL was originally not publicly accessible, as it should have been. It was listed in the reference section of the draft EIS on the SRS Plutonium Bomb Plant and was requested and obtained by SRS Watch. It is unknown why the document was not made public at the time the draft EIS was published. It must be made public now. That

document, *Data Call Response Supporting the SRS Pit Production EIS* - dated February 2020 - states the reason for more TRU at SRS per pit produced can “primarily” be attributed to americium-241 removal from LANL plutonium. (See page 20 pdf in that document posted on the SRS Watch website on May 8, 2020 as a public service as we can’t determine if NNSA has posted it: <https://srswatch.org/wp-content/uploads/2020/05/SRNS-2020-Data-Call-Responses-002-rcvd-April-28-2020.pdf>.)

The presented amount of TRU waste generated from operations of the SRPPF is a bounding value that assumes that aqueous recovery is not operating to recover plutonium. SRNS estimates that the implementation of aqueous recovery would result in a reduction of approximately 25 percent of the projected TRU waste volume. The primary reason that TRU waste generation rates are higher at SRPPF (on a per pit basis) than at LANL is that SRPPF sends Americium 241 to waste while LANL recovers Am-241 as a byproduct.

Is it accurate to state that americium-241 is removed from pit plutonium at LANL and not at SRS? How is this done? Is this part of the ARIES process (which is so far only designated for dilute & dispose and not for pits) or not? How much americium is removed? What is done with the americium? Would americium removal be applied to any plutonium purification for pit fabrication at SRS? (Please provide documentation of that.) If so, via what process would be used and where would it be located? Why is no americium removal planned for SRS?

I note that a 2011 Idaho National Lab document entitled *High Purity Americium-241 for Fuel Cycle R&D Program* refers to an Americium-241 shortage and says: “DOE-NE currently has need for high purity Am-241 metal and oxide to fabricate fuel pellets for reactor testing in the Fuel Cycle R&D program. All the available high purity americium has been gathered from within the DOE system of laboratories. However, this is only a fraction of the projected needs of FCRD over the next 10 years. Therefore, FCR&D has proposed extraction and purification concepts to extract Am-241 from a mixed AmO₂-PuO₂ feedstock stored at the Savannah River Site.” Does this “shortage” still exist and will it impact Am-241 removal at SRS from pit plutonium?

Why would a site generating more TRU waste per pit, SRS, be chosen over one supposedly producing less (LANL)? Please explain.

The draft EIS states that a huge amount of TRU waste storage is planned, which could be vulnerable to drum degradation, accident and attack: “The storage facilities would be capable of staging approximately 5,000 to 6,000, 55-gallon drums of TRU waste within the PIDAS.” [Perimeter Intrusion Detection and Assessment System] Why is such a large amount of storage planned? Is this in the event that WIPP can’t receive it?

How would TRU wastes be packaged, stored and removed from the PBP site? How would storage be secured? Where would wastes be stored before shipment for disposal?

Would any pit waste be transferred to EM or be handled and/or disposed by EM, or by NNSA? How long would waste be stationed at other SRS non-pit facilities? Would NNSA pay for all

waste management operations and disposal or not? Would waste management costs, whether by NNSA or EM, be included in the yearly operational costs for the pit facility?

The draft EIS assumes WIPP capacity for pit TRU waste and states that “approximately 5,350 cubic meters of TRU waste could be generated over the life of the project (i.e., 50 years) at LANL, assuming a production rate of 30 pits per year. The available capacity of WIPP would accommodate the conservatively estimated TRU waste that could be generated over the next 50 years.” So, the SRS pit plant life is 50 years and WIPP would be expected to operate at least until 2080? (Pit start date in 2030 + 50 years.)

There are many distinct amounts of TRU waste from different DOE projects at different sites all competing for the capped volume at WIPP. Please explain how all these TRU waste streams were taken into account for calculating disposal of TRU waste from SRS and LANL pit production. By itself, there may be volume in WIPP for the pit TRU waste but only when this is viewed as but one “bucket” of TRU waste. When all TRU waste streams are looked at in totality they will stress the capacity of WIPP. Please explain how all the waste stream from all DOE and NNSA projects and sites will be simultaneously accommodated per the volume cap in the Land Withdrawal Act. Pit TRU waste going to WIPP can’t be analyzed alone. And, please discuss that production of fewer pits than the goal of 80 or more per year at LANL and/or SRS would result in less TRU waste and less demand on WIPP volume.

11. Casting vs wrought process?

The draft EIS on the SRS Plutonium Bomb Plant (PBP, also known as SNUPP) states that a wrought process is also being looked at for pit production (versus a cast process with plutonium liquid): “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.” (page S-15)

Why is the wrought process being reviewed at SRS in addition to a cast process? Does this imply weaknesses with the cast process or doubts about it? How will adding a second process impact project costs and staff training and operational staffing?

As SRS has zero pit fabrication experience, please outline risks related to an inexperienced work force using the cast or wrought process. Will risks of accident and worker exposure increase given an inexperienced work force, especially under schedule and budget pressures?

12. Investigations into possible fraud, waste, abuse and mismanagement at MOX debacle needed before pit production pursued by NNSA

Besides skipping over the legally mandated step of preparing a PEIS on pit production before site-specific NEPA documents are prepared, NNSA is also skipping over investigating what happened with the plutonium fuel (MOX) boondoggle at the Savannah River Site.

Given the waste of \$8 billion in tax money on planning and construction of the failed MOX project, it will remain urgent and essential that investigations by NNSA, Congress and oversight agencies be conducted. Lacking accountability and “lessons learned” from the MOX debacle will all but guarantee that highly complex, costly projects such as plutonium pit production will also face management problems, cost overruns and significant schedule delays. Red flags for possible pit-production failure are already flying high.

To underscore that information about possible MOX fraud must be investigated, SRS Watch is aware of a former MOX project supervisor who has information about how suspect activities involving receipt and storage of MOX components and equipment. He has relayed information to the government but he has not been contacted to be interviewed. An investigator with the Government Accountability Office knows of this individual, who is willing to speak and give details, but GAO is inexplicably dragging its feet in speaking with him. SRS Watch will help facilitate his interaction with NNSA or the DOE’s Inspector General’s office or other investigative offices. [I am awaiting a contact from NNSA: srswatch@gmail.com](mailto:srswatch@gmail.com). As readers will realize, this offer is a test of NNSA’s interest in investigating the MOX debacle before jumping into yet another costly, complicated project that already faces the risk of going belly up.

Given that NNSA is rushing into the misguided two-pronged pit project without taking proper and deliberate steps already echoes the disaster that the MOX project became. It is fully predictable that cost overruns and schedule delays are in the offing - as warned by the Institute for Defense Analysis - and that eventual failure to meet stated project goals may be the outcome. Hiding the MOX ogre in a dark closet is only harming NNSA’s ability to pursue pit production.

The draft EIS must discuss the faults with NNSA’s MOX project and how they will be addressed in the similarly large, costly and complex pit project. The EIS and PEIS must include documentation concerning any lessons that have been learned from the failed MOX project and discuss what construction problems and inspection irregularities existed at time of project termination in 2018, including mistakes in through-wall penetrations, wall placement, piping, hangers, cable trays and HVAC, inadequate inspection by contractors and how they will be corrected. Are some problems not correctable?

Will NNSA pledge that investigations into the MOX debacle will begin and be made public?

13. Nuclear Regulatory Commission has no role in pit production, so why even mention NRC?

The draft EIS states on page S-7: “The MFFF was designed to safety and security standards (including seismic performance category 3+ to meet U.S. Nuclear Regulatory Commission [NRC] requirements), with walls of reinforced concrete (NNSA 2017, p. A-29). The facility is being verified to meet all relevant DOE requirements for the pit production mission.”

Why is the role of the NRC in the MOX debacle even mentioned? The NRC issued a permit for construction and no final inspections had taken place to assure the public that NRC construction requirements had been met. In fact, it appears that a final NRC inspection on all work and installations may not have been able to be passed given MOX construction problems. No license for MOX plant operation had been issued by the NRC.

Even without any knowledge if final NRC standards were met when the MOX construction was terminated, how is anything the NRC did now relevant to the pit plant? Does the NNSA intended to enlist the NRC to document the status of construction and if it complied with NRC regulations and NRC license conditions at the time the painful MOX travesty was terminated? Will the NRC be enlisted to describe all the construction problems that were faced and that remained at the time of MOX project termination?

A host of construction problems were left when the MOX plant construction was terminated. NNSA offers no assurances that those construction problems can be corrected in areas of the plant that would be used for pit production, plutonium storage and processing or other activities. Problems with HVAC installation, through-wall penetrations, pipe hangers, cable trays, faulty and old equipment (if reused from MOX debacle), wiring, walls in wrong place and faulty rebar were some of the problems reported by DOE and MOX workers. Some of these could impact the status of the “repurposing” of the MOX plant into a bomb plant. Please list construction problems that were left when MOX was terminated, how they will be validated, how they will be addressed and corrected and how the status of them will be certified to meet relevant DOE standards.

14. A key NEPA document on pit production in the “Modern Pit Facility” is not mentioned in the draft EIS. Why not?

EIS-0236-S2 on the *Supplemental Programmatic Environmental Impact Statement on Stockpile Stewardship and Management for a Modern Pit Facility* was begun in 2003 but quietly canceled in 2006. The document, on locating a single pit plant, was flawed in its assessment of the need and impacts of expanded pit production.

Why is the MPF NEPA document and its status, which affirms that a NEPA process to locate a pit plant can be terminated, not mentioned? What lessons does the failed pursuit of the MPF hold?

(I well remember a hearing around 2004 in N. Augusta, SC on the draft PEIS, in which I predicted in my testimony that the MPF would never be built as the document did not justify the pit mission or adequately examine its impacts. That prescient testimony should be made a part of this record.)

15. NNSA will look at 125 ppy for SRS pit plant, far beyond 50 pits per year – why?

The draft EIS states in section “S.2.1.4 Sensitivity Analyses”:

Because there could be variations in the Proposed Action, this EIS also includes three sensitivity analyses: (1) producing up to 125 pits per year; (2) producing pits using the wrought process; and (3) retaining the existing administration building. These are described below. Production of 125 Pits per Year (Sensitivity Analysis #1). If national security requirements ever demand, pit production capacity increases could be supported using multiple shifts and/or expansion into available space within the SRPPF. In order to produce up to 125 pits per year at SRS, this EIS analyzes expansion into available space with multiple-shift production. Although no additional facilities would be required to support production of up to 125 pits per year, additional equipment (e.g., pyrochemical furnaces, lathes, and heat treat equipment) would need to be installed in available space within the SRPPF. The higher value of 125 pits per year was chosen to be consistent with the value used in the previous analysis contained in the Complex Transformation SPEIS (available online: <https://www.energy.gov/nepa/downloads/eis-0236-s4-final-supplemental-programmatic-environmental-impact-statement>).

A footnote on page 2-10 states: "This EIS also includes a sensitivity analysis of producing up to 125 pits per year at SRS (see Section 2.1.5) to be consistent with the value used in the previous analysis in the Complex Transformation SPEIS (NNSA 2008a)."

So, why is this 125 ppy figure now chosen as it's clear that it's a relic of more than a decade ago? Why was this 125 ppy figure chosen if the currently claimed production goal is 50+ ppy at SRS and 80+ ppy overall (at SRS and LANL)? Why would a production rate of 125 ppy be needed? Does a 125 ppy rate imply more rapid rebuilding of the nuclear stockpile to pour more fuel on a new and dangerous nuclear arms race? Or the insanity of nuclear war?

On page 2-11, in “Table 2-2—Key Annual Operational Parameters and Wastes for the SRPPF Complex,” waste amounts from production at 50 ppy, 80 ppy and 125 ppy are included. Does this imply that the 50 ppy stated goal could be superseded by the new and much higher goals of 80 ppy or 125 ppy? So, NNSA is actually planning for a production rate of 125 ppy, over double the 50 ppy capacity? Please clarify what the actual pit production per year goal is and if that will be abided by. How are costs impacted by 50 vs 80 vs 125 (or more?) pits produced per year?

16. Impact of new pit production for new-design weapons or refurbished weapons on the U.S. moratorium on nuclear testing?

The United States has a formal, Executive Branch, policy against nuclear weapons testing going back more than 25 years. To quote another NGO:

“In 1991, Soviet leader Mikhail Gorbachev announced a unilateral nuclear test moratorium. Later that year, legislation was introduced in the U.S. Congress for a reciprocal test moratorium. The legislation, became law in 1992 and mandated a 9-month moratorium on nuclear weapon test explosions. After it expired, in July 1993, President Bill Clinton decided to extend the U.S. test moratorium, as has every president since. In the 2018 Nuclear Posture Review published by the U.S. Department of Defense, the Trump Administration stated:

The United States will not seek Senate ratification of the Comprehensive Nuclear Test Ban Treaty, but will continue to observe a nuclear test moratorium that began in 1992. This posture was adopted with the understanding that the United States must remain ready to resume nuclear testing if necessary to meet severe technological or geopolitical challenges.

The United States will not resume nuclear explosive testing unless necessary to ensure the safety and effectiveness of the U.S. nuclear arsenal, and calls on all states possessing nuclear weapons to declare or maintain a moratorium on nuclear testing. U.S. Department of Defense, “Nuclear Posture Review (2018)” at pp. 63 and xviii3 (Nuclear Posture Review).

“Related to this is the fact that the U.S. became the first nation to sign the Comprehensive Test Ban Treaty (CTBT) in 1996, which prohibits all nuclear test explosions and is intended to help curb the spread of nuclear weapons and impede nuclear arms competition. While the U.S. Senate rejected ratification in 1999 and the treaty has yet to enter into force, the U.S. sign-on formally states an official intention of the U.S.’ being bound by the CTBT. While an unratified treaty does not pose an obstacle to commencement of the plutonium pit project, the U.S. has contingently ratified the CTBT and the legal effect of the U.S. signature will change to make the treaty binding on the U.S. when a minimum 44 nations have become signatories to it.”

“Because the ratification picture could change importantly during the periods of construction and operation of the plutonium pit plant, and the Executive Branch has self-imposed a continued moratorium for a quarter-century, the implications of this policy history must be listed under 40 C.F.R. §1502.25(b) and analyzed within the NEPA documents. What is proposed is a technologically new generation of pit “triggers.” Questions of the necessity of producing them, what type of testing would be needed, and the legality both of testing nuclear weapons as (<https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>) well as of continuing to produce new weapons components, must be encompassed within NEPA analysis of this project.”

News articles in May 2020 raise concerns about any secret, provocative plans of NNSA and the Department of Defense to return to nuclear weapons testing, such as:

- *DoE Could be Ready to Go With Minimal Nuke Test in Nevada in 'Months, Pentagon Official Says*, Defense News, May 26, 2020, <https://www.defensedaily.com/doe-ready-go-minimal-nuke-test-nevada-months-pentagon-official-says/nuclear-modernization/>
- *US security officials 'considered return to nuclear testing' after 28-year hiatus*, The Guardian, May 23, 2020, <https://www.theguardian.com/world/2020/may/23/us-security-officials-considered-return-to-nuclear-testing-after-28-year-hiatus>
- *Trump administration discussed conducting first U.S. nuclear test in decades*, Washington Post, May 22, 2020, https://www.washingtonpost.com/national-security/trump-administration-discussed-conducting-first-us-nuclear-test-in-decades/2020/05/22/a805c904-9c5b-11ea-b60c-3be060a4f8e1_story.html

Given the proliferation risks it poses, a host of politicians and public interest group have rightly decried any return to nuclear weapons testing.

New-design pits for new-design weapons may be used as a basis by NNSA and DOD to test. Please clarify if there might be a claimed “need” to conduct underground nuclear testing of new pits or refurbished pits in new-design or old-design weapons. If so, please discuss the proliferation impacts and environmental impacts of a return to nuclear weapons testing (issues that must be discussed in the required PEIS).

Other points

Climate change impacts at pit plant considered but not analyzed

The draft EIS says little about climate change:

Emissions of greenhouse gases (carbon dioxide equivalents) in 2018 at SRS were estimated to be 0.559 million metric tons per year, which is less than 0.009 percent of the total U.S. emissions of 6.457 billion metric tons of carbon dioxide equivalent per year (EPA 2019, p. ES-4). Under the Proposed Action, the estimated total combined greenhouse gas emissions would be approximately 0.00044 percent of the total U.S. greenhouse gas emissions (6.457 billion metric tons of carbon dioxide equivalent in 2017). Therefore, the potential cumulative impacts to global climate change from the Proposed Action would be negligible.” (page S-24)

As part of this EIS, NNSA also considered the potential impacts to the SRPPF complex from the potential future climate change. Because of its location outside of existing floodplains and its construction to protect against external events

(including weather-related events) to maintain confinement, it is highly unlikely that future climate change would have a significant impact on the proposed SRPPF. (page 5-7)

The first text extract above addresses “global climate change” and not localized impacts of climate change to the pit site and SRS in general. Global climate change impacts are not the main thing that needs analyzing or the main issue at hand that must be reviewed.

The second extract confirms no climate-change analysis was done and waves away potential impacts without such analysis. Extreme events including tornadoes and hurricanes are possible at the pit plant site and SRS and these could have significant impacts. Impacts at the wider SRS, such as to power supply, transportation, communication and site security could also impact the pit site itself and these impacts must be analyzed. The pit plant will not be an island unto itself at SRS.

Environmental justice analysis inadequate

The draft document states this on page S-21 about the “Proposed Action: “Minimal “high and adverse” impacts from construction and operations are expected; to the extent that any impacts may be high and adverse, NNSA expects the impacts to affect all populations in the area equally.” And this on page S-24: “Based on the analysis of impacts for the resource areas in this EIS, few adverse impacts from construction and operational activities at SRS are expected under the Proposed Action. To the extent that any impacts may be adverse, NNSA expects the impacts to affect all populations in the area equally and cumulative environmental justice impacts are not expected.”

And this about the “No-Action Alternative:” “Current and planned activities at SRS would continue as required to support various missions. There would be no disproportionately high and adverse impacts on minority or low-income populations.”

The sections above and the “Environmental Justice” discussion, section 3.8.2, do not take into account down-wind communities or communities that live at the fence line. The communities that come to mind are in the Barnwell, South Carolina, downwind from prevailing winds, and the Shell Bluff community directly across the Savannah River in Georgia. Were these communities surveyed as to potential impacts in case of accident? The discussion in the draft EIS is superficial and generic in nature and did not review specific, nearby minority communities that could be impacted in case of a nuclear criticality, plutonium fire or other accident.

As we saw with the plutonium fires at Rocky Flats, communities that live downwind and closest to the facility are at greatest risk of exposure.

There needs to be a much better analysis of impacts to minority communities that may live close to SRS or downwind.

What has been the impact of COVID-19 on planning for the Plutonium Bomb Plant, including environmental-impact analysis and how would epidemic impact future operation?

SRS operations moved to “mission critical operations” due to the impact of the coronavirus. As there is nothing essential about planning for the repurposing of the MOX building into a bomb plant, I assume that planning activities were curtailed. Or not? How have reduced staffing on the bomb plant impacted the environmental-impact assessment of the facility? As the project was already under a tremendous rush, always a danger sign for such costly, complex projects, can assurances be offered that the SRS response to the coronavirus will not cause yet more pressure on the planning schedule for the proposed bomb plant and the preparation of mandated NEPA documents (i.e. PEIS followed by site-specific EIS)?

In a May 28, 2020 initial response to my Freedom of Information Act (FOIA) request of March 31, 2020, a SRS lawyer provided me “a list of most of the functions identified as mission essential by DOE-SR.” Note that planning for the pit plant is not on the list, implying growing schedule pressure on the already rushed pit project:

The Department of Energy has identified 14 complex wide mission essential functions that were to be during a continuity event. At Savannah River Site, the following essential supporting activities are the critical functions we are performing to support the continuation of the site based on the mission essential functions identified by Headquarters.

1. Continue Cyber Security program to ensure the integrity and availability of SRS information systems.
2. Ensure the availability of IT maintained applications and systems.
3. Support nuclear chemical separations to recover fissile material from site nuclear reactors and other domestic and foreign research reactors.
4. Support waste management and disposition of solid waste.
5. Maintain Nuclear Material Control & Accountability Program to deter, detect, and respond to theft, loss, or diversion of nuclear materials.
6. Maintain Emergency Services capabilities to monitor and respond to DOE operational emergencies.
7. Support Facility(s) Technical Safety Requirements and Structure, System and Component Design Features.
8. Provide base utilities and maintain SRS infrastructure.
9. Maintain Physical Security systems in nuclear facilities.
10. Maintain Atmospheric Technologies Center meteorological monitoring program.
11. Maintain limited lab functionality for SRNL Research & Development support of site environmental monitoring and regulatory compliance requirements.

12. Ensure the availability of Internal and External Dosimetry and Radiological Instruments.
13. Continue Environmental Monitoring for SRS facilities and operations.
14. Ensure adequate procurement, contracting, and delivery support is available for essential SRS activities.
15. Maintain command, control and direction during COOP emergencies.
16. Continue SRS Medical Operations (Medical and Pro Force Surveillances, HRP).
17. Maintain minimum facility required activities necessary for the safety of human life and the protection of property.
18. Provide essential financial management functions and services.
19. Maintain Personnel Security functions.
20. Operate and maintain biomass-fueled boiler facilities to generate electricity and steam.
21. Safely store and monitor waste storage tanks.
22. Safely temporarily store, process, and monitor highly radioactive waste.

The list implies that on-site weapons activities could be determined to be non-essential. This raises the spectre that under certain circumstances that pit operations could close for an unknown length of time, or permanently, leaving plutonium stranded at SRS. That is just what people in South Carolina fear - more plutonium and more nuclear waste at SRS with no planned exit route. With this pit plan we now see there will be more nuclear waste at SRS and as MOX has proven, a big federal project that goes bust can leave behind plutonium and other waste with no exit path. Can NNSA offer a binding guarantee that plutonium coming in and waste generated at the pit plant will not be stranded in South Carolina?

Cut & paste of data on various things and not based on new analysis, including on low-level radioactive waste and mixed low-level radioactive waste

Concerning the *Final Surplus Plutonium Disposition Supplemental Environmental Impact Statement (SPD Supplemental EIS)* (DOE/EIS-0283-S2), the draft EIS on pits says “In this SRS Pit Production EIS, NNSA includes data from the SPD SEIS (NNSA 2015) to address cumulative impacts. The SPD SEIS incorporates and updates data from the SPD SEIS on impacts at SRS and impacts of transportation of materials.”

It is not clear why old data from the 2015 SPD SEIS document not related to plutonium processing into pits, via liquid plutonium casting, is being used. Please explain why this document is cited, why it is relevant and why no new and pertinent data on the health impacts and waste generation of the pit plant is not included. Lacking new information directly relevant to pit-production impacts is a significant flaw with the draft EIS and this must be corrected.

Additionally, the draft EIS on page S-14 confirms that an estimate (or, actually, a guess – correct?) of “7,800–10,500” cubic yards of low-level nuclear waste per year could be created at the 50 pits-per-year level and that the disposal would be “Onsite disposal at SRS, or SRS ⇒ commercial facility, or SRS ⇒ NNS (classified LLW).” The documents states that existing waste

management facilities at SRS would be used to support SRPPF operations.” In section 3.9, various LLW management systems are mentioned in Table 3-18—Types of LLW Disposal Units Used at SRS’’: Engineered trench, Slit trench, Component-In-Grout trench, Low-activity waste vault and Intermediate level vault. There is no mention of which disposal methods will be utilized for LLW from pit fabrication. It is assumed that pit LLW will end up in unlined trenches or surface vaults which will degrade over time. Such LLW could contain the long-lived plutonium-239 isotope and could radiates more or less 200 millirem per hour at about two inches from container surface.

Please discuss how much LLW will end up in various of the SRS LLW disposal facilities, including the various unlined trenches. During active operation, are the tranches covered, such as with a movable tent or roof-like structure that prevents rainwater intrusion? Discuss perception in South Carolina of yet more nuclear waste being dumped into trenches or staying on the site forever. (We note that about a mile from the eastern boundary is located the Barnwell LLW dump, a facility utilizing unlined tranches that are not covered to stop rain intrusion that has caused environmental problems and public concerned as it is leaking.)

The draft EIS states that another NEPA document was relied on for WIPP disposal data.

The draft EIS states “For purposes of the cumulative impacts analysis in Chapter 5 of this SRS Pit Production EIS, NNSA assumes the WIPP Disposal Alternative data from the SPD SEIS represents impacts at least as great as those that could result from installing and operating the necessary equipment in the SRPPF. That equipment would include pit disassembly, furnaces for conversion of plutonium metal to oxide, gloveboxes for dilution operations, and associated systems and equipment.” (page 2-19)

Why is the assumption made that data from the *Surplus Plutonium Disposition Supplemental EIS* is relevant to draft EIS on pit production? Provide relevant data from operation of the pit plant to make the case that the SPD SEIS “represents impacts at least as great as those that could result from installing and operating the necessary equipment in the SRPPF.” Provide data from recent pit production at LANL, or better said, from attempts at pit production.

The Waste Solidification Building (WSB) was constructed as part of the failed MOX project; will it be involved in the pit project?

The Waste Solidification Building, an essential facility built to handle MOX waste, was mothballed in 2015 long before the MOX project was terminated. The WSB, whose design and construction costs and on-going maintenance costs are charted up to the MOX boondoggle, would be located outside the PIDAS. Will there be any use of this building in handling TRU or other nuclear or chemical wastes from the PBP? Is so, please explain.

And, in general, discuss how the various waste streams will be transferred over the PIDAS boundary from the pit plant onto SRS property outside the PIDAS.

Impacts to the pit site of accidents and release from the F-Canyon decontamination and demolition and 235-F are ignored in the draft EIS.

The shuttered F-Canyon and closed 235-F facility, like the partially constructed MOX plant, are located near to the pit plant in F-Area. In case of accidental or uncontrolled release of radioactive materials during decontamination and decommissioning at those facilities, activities at them could negatively impact Plutonium Bomb Plant staff and operations. Please discuss.

What is the document relied on for PBP employment calculations?

In *Table S-2—Key Construction Parameters and Wastes for the SRPPF Complex* (page S-12) a documents called “SRNS 2020” is cited for a “peak construction workforce” of 1800 in 2023 and 2024. What documents is “SRNS 2020” and how were worker number calculated? Please provide the document to the public and for the NEPA record.

It must be pointed out that a relatively small number of jobs are now involved in planning for the pit plant. If a larger number of jobs for construction and operation do not materialize there will be little impact to SRS employment as the pit jobs are speculative.

Where did determination and calculation of risks and fatalities come from?

On page S-22, we see certain risks listed: “extremely unlikely earthquake with subsequent fire, fire in a single fire zone, explosion in a furnace, nuclear criticality and radioactive material spill.” How was this list determined and where did documentation about the risks they pose come from? As no citation is given, please provide it.

Is the data displayed based on pit production, limited as it has been, at the nation’s only pit-production site - Los Alamos? Or, from operations at the only other large-scale pit production facility, Rocky Flats? Or, is it speculative?

SRS Watch embraces the comments entered into this record submitted by Dr. Frank N. von Hippel, Senior Research Physicist and, Professor of Public and International Affairs emeritus, Program on Science and Global Security at Princeton University and former Assistant Director for National Security in the White House Office of Science and Technology Policy. Dr. von Hippel supported the No-Action Alternative and deeper examination of pit reuse. In his comments, Dr. von Hippel advocated a decade’s delay in making a decision about a second pit site and summarized the key points of his comments:

1. Make it possible to see whether the production line at LANL – presumably the model for the production line at SRS – works or needs to be redesigned.
2. Provide an opportunity for pit experts at LANL and Livermore National Laboratory (LLNL), peer-reviewed by the JASON group, to determine a new lower bound on the functional life of the remarkably durable pits in the current stockpile.

3. Make it possible to settle the national policy debate over scrapping US intercontinental ballistic missiles (ICBMs), which would make it unnecessary to replace the W78 ICBM warhead
4. Provide time for a decision on whether to replace the W76 and W88 submarine-launched ballistic missile (SLBM) warheads and, if so, determine whether the new warheads could be made with refurbished stored pits or require the manufacture of new pits.
5. Allow a broader-scope and deeper review in a Programmatic Environmental Impact Statement of the tradeoffs associated with pit production and reuse before finalizing the site-specific NEPA documents.

Dr. von Hippel has submitted an article on pit production to the Bulletin of Atomic Scientists, tentatively titled *Why a decision on a second US plutonium-pit-production factory should be delayed*. When it comes out that article should be included in the EIS record.

Conclusion: The focus at SRS must remain on cleaning up Cold War nuclear and chemical waste - the king of jobs and the budget at SRS - and not on a questionable, ill-conceived pit mission that could stimulate a new nuclear arms race while yielding yet more waste, complicate and delay clean-up and potentially siphon money from clean-up activities by the Office of Environmental Management at SRS and other DOE sites. Due to cost pressure, technical complexities, a rushed schedule and lack of SRS experience with pits, the proposed Plutonium Bomb Plant could end up with the same fate as the MOX disaster.

NNSA must on its own or by court order or congressional directive prepare the complex-wide Programmatic EIS (PEIS) for pit production and postpone finalization of the draft EIS now before us and start the NEPA process anew. Selecting SRS as a pit-production site must be placed on hold and Congress must further assess the wisdom of such a project and new, required plutonium aging data must be gathered and analyzed before things move further with the SRS Plutonium Bomb Plant.

To reiterate, SRS Watch supports the No-Action Alternative of not locating a pit plant at SRS and not locating those activities at Los Alamos.

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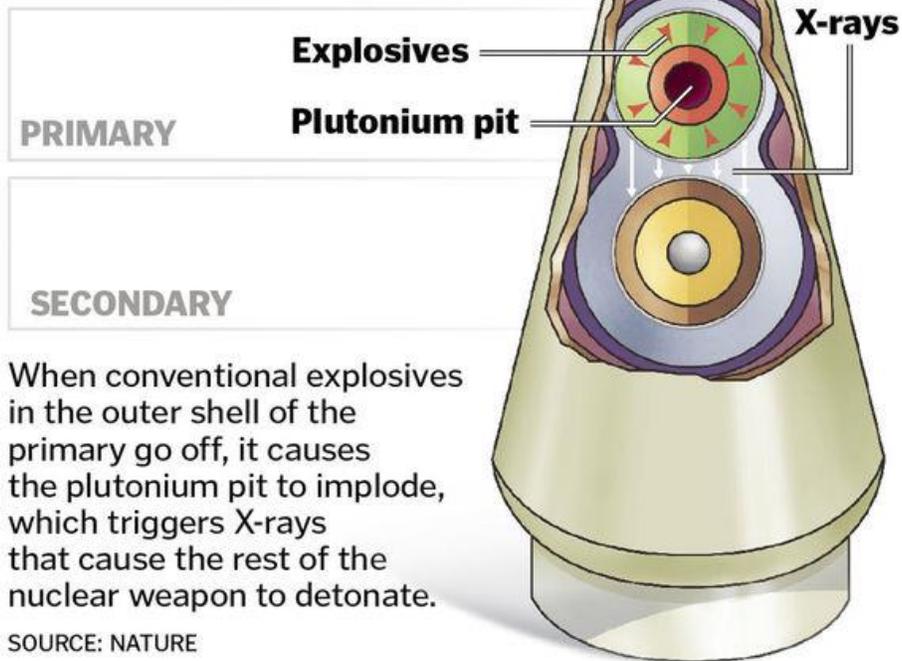
Comments and attachments formally submitted for the NEPA record – please confirm receipt of mailed comments and attachments:

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Note: The attachments to these comments - list of them on the following 3 pages - will be mailed, post-marked June 1, 2020, along with original of the comments. The comments themselves will be emailed on June 1, without the attachments. Please confirm receipt of mailed comments and attachments.

Plutonium pits: Nuclear weapon triggers

A modern thermonuclear weapon consists of “primary” and “secondary” components.



**MOX photo submitted for the record. Scene of the crime: Terminated Mixed Oxide Fuel Fabrication Facility (MFFF) at the Savannah River Site, near Aiken, South Carolina, September 16, 2019, (c) High Flyer, 2019, used with permission to SRS Watch. Investigations are needed into fraud, waste, abuse and mismanagement by NNSA and contractors at the MOX debacle. More aerial photos legally taken of the MOX disaster, along with copyright terms, are posted here, by High Flyer:
https://drive.google.com/drive/folders/1Fv2S_NWEbu3q568SIFs2RJyubQqCcO9P**



**Attachments to Comments on DOE’s National Nuclear Security Administration’s
Draft Environmental Impact Statement on Plutonium Pit Production at
Savannah River Site; Aiken, South Carolina**

By Tom Clements, Director, Savannah River Site Watch, Columbia, SC, <https://srswatch.org/>

The following documents are submitted for the formal NEPA record. I expect them to be taken into account in any final EIS that might be issued, as well as in the required Programmatic EIS. These are attached to the printed comments of SRS Watch, mailed in and emailed in on June 1.

Documents from Nongovernmental Organizations and lawyers

1. SRS Watch news release, May 10, 2018, *Initial DOE Decision Expected on New Nuclear Bomb Plant; “Pit” Production Plant at Savannah River Site would Lead to More Plutonium and Nuclear, Toxic Waste at SRS & Magnify Risks of Arms Race.*
2. Nuclear Watch New Mexico, November 16, 2018, factsheet on “Expanded Plutonium Pit Production for U.S. Nuclear Weapons” and problems with that proposal.
3. Nuclear Watch New Mexico, Project on Government Oversight (POGO), SRS Watch, May 21, 2018, Letter to Congress questioning the need for 80 pits per year.
4. Nuclear Watch New Mexico, Tri-Valley CAREs, SRS Watch, October 31, 2018, Letter to NNSA on “Requirement for preparation of a Programmatic Environmental Impact Statement for expanded plutonium pit production.”
5. Alliance for Nuclear Accountability, December 7, 2018, Letter to NNSA expressing support for preparation of a PEIS on expanded pit production.
6. Meyer Glitzenstein & Eubanks LLP, lawyers for Nuclear Watch New Mexico, SRS Watch, Natural Resources Defense Council and Tri-Valley CAREs, May 17, 2019, “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.”
7. Nuclear Watch New Mexico, SRS Watch, Tri-Valley CAREs news release, June 4, 2019, *Noted Environmental Lawyers Warn Government Not to Expand Production of Plutonium Bomb Cores in Violation of National Environmental Policy Act and Public Review.*

8. Nuclear Watch New Mexico, SRS Watch, Tri-Valley CAREs news release, June 10, 2019, *Federal Government Meets Watchdogs' Demand for Environmental Review of Expanded Plutonium Pit Production.*
9. Eubanks & Associates, LLC, lawyers for Natural Resources Defense Council, Nuclear Watch New Mexico, SRS Watch and Tri-Valley CAREs, September 17, 2019, letter to DOE and NNSA entitled "The abiding need to prepare a new or supplemental Programmatic Environmental Impact Statement for expanded plutonium pit production at the Los Alamos National Laboratory in New Mexico and the Savannah River Site in South Carolina."
10. Nuclear Watch New Mexico, SRS Watch, Tri-Valley CAREs news release, September 17, 2019, *Watchdogs Issue Second Demand for Nation-Wide Review of Expanded Plutonium Pit Production.*
11. SRS Watch, January 2020, factsheet on *Obstacles and Concerns Related to Department of Energy's "Repurposing" of the Abandoned Mixed Oxide Fuel Fabrication Facility (MOX) at the Savannah River Site (SRS) into a Plutonium Bomb Plant to Fabricate Plutonium "Pits" (Triggers) for Nuclear Weapons.*
12. Natural Resources Defense Council, Nuclear Watch New Mexico, SRS Watch, Tri-Valley CAREs news release, January 9, 2020, *Watchdog Groups Claim Nuclear Agency is Moving Forward to Manufacture New Plutonium Bomb Cores in Violation of National Environmental Law and an Existing Court Order.*
13. Natural Resources Defense Council, August 9, 2019, *Comment on NNSA's Draft Supplement Analysis of the 2008 Complex Transformation PEIS.*
14. SRS Watch, August 12, 2019, *Comments on NNSA's Draft Supplement Analysis of the 2008 complex Transformation PEIS that seeks to raise plutonium pit production from 20 pits per year to more than 80, via use of Plutonium Bomb Plant (PBP) at SRS.*
15. SRS Watch, March 27, 2020, news release *While Nation Rallies to Confront Virus, Savannah River Site Takes Eyes off the Threat and Focuses on planning for New Nuclear Arms Race – Draft EIS on Plutonium Bomb Plant (PBP) at SRS Coming April 3.*
16. SRS Watch, May 8, 2020, for the record of the *Draft Supplement Analysis of the 2008 Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory for Plutonium Operations*, DOE/EIS-0380-SA-06, first page with request for urgently needed supplement on pit reuse and production of purified plutonium, key issues ignored in the draft SA. >> Respond to this request.

Documents related to JASON report on plutonium pit aging

17. JASON group of experts, November 23, 2019, "Letter Report" to NNSA on status of pit aging investigations and failure of NNSA to provide data.
18. NNSA Administrator Lis Gordon-Hagerty, letter to Congress, April 6, 2020, concerning failure to produce required JASON report on plutonium pit aging.

Congressional documents

19. National Defense Authorization Act for Fiscal Year 2015, language on pit production.
20. National Defense authorization Act for Fiscal Year 2016, language on pit production.
21. Appropriations Committee, Energy and Water Development Subcommittee report, April 24, 2015, language on pit reuse.
22. Appropriations Committee, Energy and Water Development Subcommittee report, May 24, 2018, language on requirement by NNSA for new plutonium pit aging report by the JASON.

Articles

23. *The Pit Requalification and Surveillance Programs at the U.S. DOE Pantex Plant*, February 2011, Health Physics Society.
24. *Day in the Life of a Pit*, July 16, 2015, Pantex Plant website post.
25. *Sens. Warren, Sanders, Markey call on defense leaders to chill pit production push*, September 21, 2019, Aiken (South Carolina) Standard.
26. *Pit TRU Waste Would take Up Half of Available WIPP Space over 50 Years*, NNSA Says, January 10, 2020, Exchange Monitor. >> Respond to this news report.
27. *Pit production at Los Alamos offers influential 'template' for Savannah River Site*, February 15, 2020, Aiken (South Carolina) Standard - DOE officials admits production goal of 80 pits per year for 50 years.
28. *SRS to get 'significantly' more waste from DOE plutonium plant*, April 3, 2020, Energy Daily.
29. *Guest Editorial: New Plutonium Warhead Mission at SRS is the Pits*, by Tom Clements, SRS Watch, June 24, 2019, Aiken (South Carolina) Standard.