SRS WATCH

Savannah River Site Watch

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Mailed & emailed:

NNSA Los Alamos Field Office
Comments: LANL SWEIS SA
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Re: "LANL SWEIS SA"

Comments on DOE's National Nuclear Security Administration'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

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

Draft SA is posted here on NNSA's website (and was never "noticed" in the Federal Register): https://www.energy.gov/sites/prod/files/2020/03/f72/draft-supplement-analysis-eis-0380-sa-06-lanl-pit-production-2020-03.pdf

These comments and the formal request below 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 be responded to in the final Supplement Analysis, if such a document is issued.

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.

I note that in spite of a request by U.S. senators and a host of public-interest organizations, including SRS Watch, to extend the comment period on the draft SA for 45 days that NNSA only extended it for 15 days. This is in sharp contrast to a 60-day extension that was provided in response to request to the U.S. Nuclear Regulatory Commission concerning a draft EIS on a proposed commercial spent fuel storage facility in New Mexico (state in which the Los Alamos National Laboratory is located). In its May 4, 2020 letter on the matter, the NRC stated:

> The current 60-day comment period on the draft EIS was scheduled to close on May 22, 2020. Given recent events associated with the COVID-19 public health emergency, and the corresponding actions taken by Federal and State governments to mitigate its spread, the NRC staff has extended the public comment period for an additional 60 days. A notice of this extension was published in the *Federal Register* on April 27, 2020 (85 FR 23382).

That the NNSA applied a much different and weaker standard than the NRC to comment-period-extension requests and refused to properly take into account the national emergency issued by President Trump is stark testimony to how NNSA is conducting its business in the pit-production issue. In its inexplicable and risk-laden rush to pursue new pit production, NNSA has ignored and discarded the public-health-emergency-related concerns of the taxpaying public. The NNSA has thus placed itself in the precarious position of bungling the project from the start, which may well come back to haunt it.

The NNSA's website summarizes the draft Supplement Analysis as follows:

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

It is the opinion of SRS Watch that preparation of further NEPA documents on pit production at LANL are mandated, starting with a Programmatic EIS (PEIS) and followed by a site-specific EIS. That must be the conclusion of any final SA, if such a document is issued.

The draft SA fails to define “war reserve pits” and “surge capacity” or “short-term surge capacity” for pit production. These are terms with which the general public has no experience and may be used to obfuscate the proposal at hand. Please clarify what these terms mean.

1. Programmatic Environmental Impact Statement (PEIS) needed and legally mandated

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 comment period before any site-specific documents are prepared.

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. The draft SA states: “The scope of this SA is to identify (1) if there have been substantial changes related to pit production activities at LANL compared to those analyzed in the 2008 LANL SWEIS and (2) if there have been significant new circumstances or information relevant to environmental concerns bearing on the 2008 LANL SWEIS proposed action or its impacts (10 Code of Federal Regulations [CFR] 1021.314).” (page 2) Indeed, there have been many significant changes since 2008 relevant to current environmental concerns. Amongst others, the points below must be taken into account in a new PEIS and in the SA, 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. Questions linger if plutonium operations at LANL can be 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 in the draft SA and PEIS.

- 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.

- The expanding role of Pantex in pit storage, and possibly in reuse of pits and production of plutonium oxide for pits.

- Possible and previously unanticipated reuse of pits at any DOE site, especially Los Alamos and Sandia and Pantex. (To be covered in the requested supplement to the 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) and for the proposed Versatile Test Reactor (VTR). What would happen to plutonium taken to LANL for pit production if pit production were halted? (To be covered in the requested supplement to this SA or in the mandated PEIS.)

- The role of Lawrence Livermore 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 new warheads, including the W87-1-like and W93, not planned for a decade ago.

- 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 over 3500 new and refurbished 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 SA 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 2014 events and 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 pit production at LANL 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.)

- The draft EIS on the proposed SRS Plutonium Bomb Plant states "The wrought process is a potential manufacturing alternative to casting that could be used in the SRPPF." Is the wrought process being considered for LANL? If so, what are waste implications?

- Additional 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 Plant (KCP) in providing non-nuclear components for pit production? The KCP is one of the involved sites in pit production and 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 all the role of all these sites in pit production is needed, initially in the PEIS and then the revised SA.

- Impacts of the coronavirus (or other 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 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 draft SA states: "NNSA's proposed action is to implement elements of the Expanded Operations Alternative as needed to produce a minimum of 30 war reserve pits per year during 2026 for the national pit production mission and to develop the ability to implement a short-term surge capacity to meet mission needs, if necessary. For purposes of estimating impacts in a conservative and bounding manner, potential surge efforts were defined and calculated at 80 pits per year." (page 3)

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 proposing 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 mater - 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.

2. **A key NEPA document on pit production in the "Modern Pit Facility" is not mentioned in the draft SA. Why not?**

EIS-0236-S2 on the *Supplemental Programmatic Environmental Impact Statement on Stockpile Stewardship and Management for a Modern Pit Facility* was begin 2003 but 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 this 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 testimony should be made a part of this record.)

3. **Nuclear Posture Review not US law**

On page iii of the draft SA, it is stated: "On January 27, 2017, the President directed the Department of Defense to conduct an updated *Nuclear Posture Review* (NPR) to ensure a safe, secure, and effective nuclear deterrent that protects the homeland, assures allies, and above all, deters adversaries. The 2018 NPR echoed the need for pit production."

The Nuclear Posture Review is just that - a "posture." It is not U.S. law but rather an indication of policy of the current administration and can be changed. This should be stated in the SA.

Likewise, how building new-design warheads such as the W87-1-like warhead and the W93 warhead and replacing all pits in all other weapons as part of a "refurbishment" project comply with national security and disarmament obligations must be fully explained. NNSA must comment in any final SA or PEIS about what a Department of Defense official has admitted:

> "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." (Aiken Standard, February 15, 2020)

Thus, how keeping 3500 new and refurbished weapons far into this century is sound policy or in compliance with the New START treaty or NPT must be explained.

4. Two-pronged approach for pit production is new, not justified and not legally required

On page iii, it is stated: "NNSA now must implement a strategy to provide the enduring capability and capacity to produce plutonium pits at a rate of not less than 80 pits per year during 2030. At a programmatic level, NNSA could adopt a Modified Distributed Centers of Excellence Alternative for plutonium operations from the Complex Transformation SPEIS. This would enable the production of a minimum of 50 pits per year at a repurposed Mixed-Oxide Fuel Fabrication Facility at SRS, and a production rate of a minimum of 30 pits per year at LANL, with additional surge capacity at each site, if needed."

U.S. policy has long been to utilize a single site for pit production, with production until 1989 at the contaminated Rocky Flats site and then production at Los Alamos at a target rate of 20 pit pits per year. Due in part to problems with handling plutonium in the PF-4 area, Los Alamos has never been able to reach the 20 ppy figure. Plutonium operations at PF-4 were shuttered for several years, from 2013-2016, which was a great setback to pit production and plutonium handling operations. Given those chronic problems and failure to accomplish LANL's pit-production goals, NNSA's pursuit of any pit production at LANL may be folly.

The draft SA states: "The original Distributed Centers of Excellence Alternative, in the Complex Transformation SPEIS, considers one large enduring consolidated pit production facility within the Complex, but current national security policy requires a more resilient enterprise." (page 3)

There is no explanation as to why NNSA thinks two pit sites would make the DOE complex more "resilient." In fact, two sites will only lead to more costs and more technical challenges and the likelihood that not even one site will be able to function. The report by the Institute for Defense Analysis (IDA) recognizes problems with the two-site approach and points out that achieving 80 ppy will be "extremely challenging." (The findings of that key document must be discussed by NNSA in the SA and PEIS.) NNSA's stated "resilience" may well depend on quality of operations and not how many production sites there are.

There is no explanation as to how ramped up production of pits at LANL, which has not even been able to produce 20 ppy, is possible. Nor is there discussion of how a site with no pit production experience and very little experience in recent years in handling plutonium - Savannah River Site - would be able to pull off a complicated and costly

mission like pit production. An assumption that SRS could do the job could be a strategic error with the project ending up at the same place as the MOX debacle (on which $8 billion was wasted and which needs to be investigated in order to hold contractors and DOE officials accountable for that massive, inexcusable failure which haunts NNSA).

Pursuing two pit sites, one with problems and one with zero pit experience, is exactly the type of activity that DOE pursues that can lead to failure and fraud, waste, abuse and mismanagement, as the Government Accountability Office (GAO) has repeatedly warned about.

Despite being incorrectly called a "Plutonium Center of Excellence" and being pitched as a "Center of Excellence" for pit production, Los Alamos has no demonstrated ability to produce pits at the authorized rate of 20 ppy. Thus, there is no "excellence" related to LANL and pit production. But no other site has any pit production experience at all. To leap from less than 20 ppy at Los Alamos to production of 80 or more pits per year at two sites challenges the imagination. NNSA has not explained in the draft SA or elsewhere what is being done to achieve the already established goal of 20 ppy. Likewise, there is no explanation of how failure to reach the current goal of 20 ppy can be overcome to reach a much higher production goal.

Before greatly expanding pit production, Los Alamos must demonstrate that it has the ability to produce the currently established pit-production level of 20 pits per year. If that level is achieved then other production options might be considered. Failure to first demonstrate the ability to produce 20 ppy may be a costly recipe for failure to leap to the 80 ppy level.

Likewise, pursuit of a second pit-production site, the Savannah River Site, which has zero pit production experience and little current experience handling plutonium, may prove to be a flawed and/or embarrassing approach. What proof exists that SRS can take on a pit mission to produce 50 pits per year or 80 pits per year or 125 pits per year? None.

The draft SA states "At a programmatic level, NNSA <u>could</u> 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.

In sum, DOE has not explained why a two-prong<u>ed</u> plan is rational or that it can be accomplished. For sure, contractors might celebrate this approach as it maximizes cost.

Unfortunately, it appears that a main driver for locating the proposed Plutonium Bomb Plant (PBP) at SRS is simply to fill the funding hole left with the termination of the poorly constructed Mixed Oxide Fuel Fabrication Facility (MFFF) in 2018. DOE has presented no evidence that the two-site approach including SRS is not being pursued primarily to funnel money to SRS and its contractors. Comments on the "virtual hearing" on April 30 clearly revealed that the main reason for support by many for the SRS Plutonium Bomb Plant was the financial aspect of the costly pit project at SRS. Basing the location of a pit plant at SRS primarily for parochial financial interests is a hint of problems to come.

5. Cost of two facilities will maximize cost and risk of single-point and dual-point failure

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."

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) Likewise, life-cycle costs of the LANL pit project must be discussed in the SA.

Thus, if cost is a factor NNSA will not choose the most costly option: two pit-production sites.

6. Pit reuse ignored and excluded from Draft SA, a huge fault

DOE has failed to analyze reuse of pits now in storage or in existing nuclear weapons. The JASON report entitled *Pit Lifetime*, in 2007, stated: "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." This key JASON document and the unmet congressional requirement for a new plutonium aging study must be discussed in the SA and PEIS.

The Energy and Water Appropriations Bill for report for 2019 states that a new plutonium aging report will be prepared (on page 104):

> *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.

The above-required report has not been prepared. To be clear, a "letter report" by the JASON group, dated November 23, 2019, and sent to DOE's defense programs is not the mandated

study. Where is the required JASON study? Please produce it for the SA record. What plutonium aging studies is NNSA conducting? Is NNSA studying various pit types that have been set aside for study? What new information is there since the 2007 JASON report about aging of various pit types? Please produce such information for the SA record.

There is no evidence in the draft SA or elsewhere that DOE has reviewed reuse of existing pits. The decision to make new pits has not been justified as pit reuse, even with refurbished pits, is possible. An overarching PEIS would review the issue of pit reuse, a failing of the draft SA.

The draft EIS on *Plutonium Pit Production at Savannah River Site; Aiken, South Carolina* specifically states that pit reuse is being considered: **"**Implementing a moderate pit manufacturing capability now is a prudent approach to mitigate against age-related risk. For the foreseeable future, NNSA will rely on a combination of newly manufactured pits and judicious reuse of existing pits to modernize the U.S. nuclear stockpile. This approach enables NNSA to implement a moderately sized pit manufacturing capability of not less than 80 pits per year beginning during 2030." (page S-4)

Due to an inexplicable oversight, the draft SA does not affirm the pit reuse statement that appeared in the SRS draft EIS. Why was there no mention of pit reuse in the draft SA? This matter must be discussed in detail in any final SA document and in the PEIS. Activities related to pit reuse would likely take place at Los Alamos or Pantex or perhaps another DOE site, such as Sandia. That will be reviewed in the required PEIS.

Specifically, the document must clarify if the first new pits are intended for a W87-1-like warhead or the W93 warhead. For what other new weapons are pits "needed?" How many pits are needed for "refurbished" weapons? NNSA has made no case that refurbished, existing pits can't be used.

Thus, why the option of "all pit reuse" can't be considered must be fully explained. Pits in storage at Pantex could be updated and modified as need be.

>>> FORMAL REQUEST: Given the significance of the pit reuse issue and that NNSA has confirmed that pit reuse is being considered, <u>SRS Watch requests that a supplement to the draft SA or a revised draft SA be prepared which discusses pit reuse plans and options in detail.</u> This supplement would discuss such things as DOE sites involved in pit reuse, type of pits to be reused, possible reuse of existing pits for new and refurbished weapons, how pits could be refurbished for reuse and environmental impacts and worker exposure potential. To be clear, this supplement must prepared and posted for comment before any final SA is posted. This matter is unto itself a major federal action impacting the environment that must also be discussed in the required PEIS.

7. Why more TRU created per pit at SRS vs LANL?

Based on analysis of the draft SA 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 SA must discuss the reasons for less TRU per pit produced at LANL.

A pertinent document to plutonium processing at LANL was originally not publicly accessible though it was listed in the reference section of the draft EIS on the SRS Plutonium Bomb Plant and was obtained by SRS Watch. It is unknown why the document was not made public at the time the draft EIS was published. 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 the 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? How is this done? Is this part of the ARIES process (which is for dilute & dispose) 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? (Please provide documentation of that.) If so, via what process and where would it be located? Why is no americium removal planned for SRS?

8. Purified plutonium source for pit production at LANL?

There are current intense demands for purified plutonium for various DOE projects involving plutonium. The source of the purified plutonium for these projects has not been fully 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) - approx. 1500 kg/year over many years for a single reactor.

While the ARIES technique at PF-4 is being used at a very low level of plutonium oxide production, this material is slated is for 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 challenge based on past performance.

With ARIES capacity and associated PF-4 floor capacity designated for dilute & dispose, what technique at LANL will be used to produce purified oxide for pits? What are the associated waste streams and risks of worker exposure and nuclear criticality during processing, handling and storage of purified plutonium?

At SRS, the draft EIS on the SRS Plutonium Bomb Plant says that plutonium purification will be via a pyrochemical process but it is also stated that aqueous and non-aqueous processes can be used. That needs clarification. Will a pyrochemical or other process be applied at LANL?

In sum, it is totally unknown how old pits or stored plutonium will be processed at LANL to produce purified plutonium or where this will take place. As purified plutonium is needed for new pits, lack of a discussion of this is a glaring oversight.

It is of great significance that concerning 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 this PEIS directly overlaps with the issue of the source purified plutonium for pits, for which there may well be competition with both technologies and such things as floor space in PF-4. The relationship of this issue and any plutonium

downblending PEIS and the draft SA must be discussed in a revised draft SA as well as the pit PEIS.

>>> FORMAL REQUEST: Plutonium purification is a significant issue concerning pit production at LANL and the chosen process could pose potentially significant environmental impacts, criticality concerns and worker exposure potential. Lack of discussion of this key matter merits its discussion in a supplement to the draft SA or a revised draft SA. Thus, SRS Watch hereby formally requests that a supplement to the SA or a revised draft SA be prepared addressing plutonium purification and that it be posted for comment. To be clear: this supplement must prepared and posted for comment before any final SA is posted. This matter is unto itself a major federal action impacting the environment that could also be discussed in the required PEIS.

9. Casting vs wrought process?

The draft EIS on the SRS Plutonium Bomb Plant states that a wrought process is being looked at for pit production (vs 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)

Is the wrought process being considered for LANL or at any other non-SRS site? If it is not being considered then this should be stated. If it is not being stated then the risks of using a single pit-production process at a site with known problems in handling plutonium must be discussed. Is using a single pit-production method a "versatile" approach? Could reliance on a single pit-production technique lead to single-point failure?

10. New seismic analysis needed for LANL

NNSA must complete a new comprehensive Probabilistic Seismic Hazard Analysis (PSHA) for the Los Alamos Lab. NNSA requires a new analysis every ten years, yet LANL's most recent PSHA was in 2009. The PF-4 Seismic Performance Reassessment Project is ongoing and aims to determine the seismic performance of the PF-4 building. LANL's Seismic Analysis of Facilities and Evaluation of Risk Project is a multi-year analysis of the seismic design loads on existing facilities in LANL's Plutonium Facilities Complex.

The probable seismic performance of the PF-4 building is still not yet known and thus locating new pit-production facilities at PF-4 must face further seismic analysis before moving forward.

The PEIS and subsequent LANL EIS (and for now the SA) must discuss this seismic matter.

11. Investigations into possible fraud, waste, abuse and mismanagement at MOX debacle needed before pit production pursued at SRS or LANL

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 at 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 boondoggle 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 failure are already flying.

To underscore that information about possible 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 will await a contact from NNSA: srswatch@gmail.com. As readers will realize, this offer is a test of NNSA's interest in investigating the MOX debacle.

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 IDA - and that eventual failure to meet stated project goals may be the outcome. Hiding the MOX ogre in the closet is only harming NNSA's ability to pursue pit production.

The SA 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 SA 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, and how they will be corrected.

Conclusion: NNSA must on its own or by court or congressional direction prepare the complex-wide Programmatic EIS for pit production, postpone finalization of the draft Supplement Analysis now before us and start the NEPA process anew.

A formal request has herein been made by SRS Watch for NNSA to prepare and publish for public comment a supplement to the draft SA (or in the PEIS) a discussions of 1) pit reuse and 2) plutonium purification. I expect a response in the short term to that urgent request.

Comments and requests formally submitted for the NEPA record by:

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