

Public Comment Regarding Draft Programmatic Environmental Impact Statement for Plutonium Pit Production (DOE/EIS-0573)

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The Union of Concerned Scientists submits the following comment for the public record in response to the draft Programmatic Environmental Impact Statement (PEIS, DOE/EIS-0573) for plutonium pit production. This follows upon a scoping comment for the PEIS, provided by our organization in 2025.

We regretfully conclude that this draft PEIS is deficient in multiple regards, most notably by not considering the cumulative impacts of plutonium pit production across the entirety of the US nuclear complex. Furthermore, this analysis ignores potential alternatives to reduce the impact of the program and, instead, invokes legal mandates that were not in place when the program began as post-hoc justification for ignoring viable alternatives that would reduce risk. As such, it does not effectively meet the intent of the National Environmental Policy Act and fails to meaningfully address the cumulative impacts of the program.

In preparing the final draft of the PEIS, the Union of Concerned Scientists recommends reconsideration and inclusion of the following issues to bolster public trust and demonstrate that the NNSA is considering - in good faith - the true impacts of plutonium pit production across *all* sites where relevant activities would be conducted.

Compliance with the National Environmental Policy Act (NEPA)

CEQ regulations for such programmatic environmental impact statements state that “*agencies shall prepare statements on broad actions so that they are relevant to policy and are timed to coincide with meaningful points in agency planning and decision-making*” (Boots 2014). The draft PEIS reiterates this intent, stating that “*NEPA ensures that federal decision-makers consider the environmental impacts of major federal actions **before** decisions are made and actions taken*” [emphasis added] (NNSA 2026a). That is clearly not what has occurred.

Instead, this PEIS comes nearly eight years after significant decisions were taken regarding the current two-site production strategy for plutonium pits and after the publication of site-specific analyses for both Los Alamos and the Savannah River Site. This effectively inverts the ‘tiered’

decision making process that is outlined under the NEPA, for which programmatic analyses are meant to precede federal action and serve as a framework for subsequent, site-specific planning.

As a consequence of being published years into the program, this PEIS cannot effectively evaluate what may have initially been viable alternatives. Instead, this draft document claims to be bound by legal mandates that have been put in place without sound technical justification or planning in the interim. This underscores the importance of conducting sound, comprehensive NEPA analyses at the earliest stages of programmatic planning, which did not occur in this case. NNSA's failure to do this (and the fact that this PEIS had to be legally mandated) erodes the credibility of the process and undermines public trust in the NNSA's planning and consideration of regional impacts and community safety.

Finally, nearly coincident with the publication of the draft PEIS, the NNSA announced plans to further accelerate pit production while loosening administrative requirements for worker safety, hazardous material inventory, and pit certification (Beck 2026; Exchange Monitor 2026). These proposed changes potentially incur greater risk than is considered in the present analysis.

Given these recent announcements, the final PEIS should include revised estimates that include the most recent production quotas at LANL (including effects on projected surge capacity) and in the absence of any capability at Savannah River over at least the following decade and potentially indefinitely under the 'Single Site Alternative'.

Impacts must be considered for all sites conducting related activities

The intent of a programmatic environmental impact statement is to consider cumulative impacts when activities are related across multiple sites and when the relevant action results in increased activities at more than one location. The choice to include only the two production sites (Los Alamos and the Savannah River Site) ignores the fact that activities related to plutonium pit production will also take place at Pantex, the Waste Isolation Pilot Plant (WIPP), Lawrence Livermore National Lab (LLNL), the Kansas City National Security Campus (KCNSC), Oak Ridge, and the Nevada National Security Site (NNSS). Indeed, the lawsuit which motivated this PEIS required hearings in five locations across the country due to the dispersed nature of activities associated with the program.

In reality, KCNSC will produce non-nuclear components, tooling and other essential elements that are required for pit production and assembly. LLNL and NNSS are involved in certification and testing activities and will see an increase in Pu handling as a result of experimental activities at both sites. NNSS will receive low-level waste from LANL and conduct subcritical experiments for pit certification. Pantex is responsible for handling and shipping Pu feed material to both LANL and SRS and receiving finished pits for primary assembly. Y-12 (Oak Ridge) will provide HEU components. Meanwhile, WIPP will see an influx of new TRU waste from multiple sites. The assertion in the PEIS summary that *"these sites are not directly involved in pit production activities"* (pg. S-3) is simply false (NNSA 2026a).

This falsehood is substantiated by a definition of activities related to pit production that follows shortly after: *“Production of pits includes the activities needed to fabricate new pits, modify the internal features of existing pits, and certify new pits or requalify existing pits”* (pg. S-6) (NNSA 2026a). All of these activities cannot be conducted without the involvement of LLNL, NNSS, KCNSC, Pantex, Oak Ridge, and WIPP. If they can, the final PEIS should explain how the NNSA plans to achieve this and document that there will be no change in impacts, staffing or infrastructure at sites other than LANL and SRS, which is obviously not the case.

By including only two sites where production would occur, this draft contributes relatively little beyond what is achieved by the site-specific analyses for LANL and SRS and is a botched opportunity for comprehensive programmatic planning. In reality, activities across all sites will result in increased need for material transport, new experimental and certification activities, increased waste streams and new demands on infrastructure. Along with these activities come changes in water, electricity, and fuel use across the complex and in many cases, new construction, added staff and other administrative and engineering requirements. By focusing only on the main production sites, none of these cumulative effects are captured, which is the entire purpose of a programmatic analysis.

The final draft must include detailed descriptions of activities related to pit production at *all* the sites involved. This should include detailed descriptions of new infrastructure, descriptions of activities (whether administrative, experimental, or production related), and the anticipated environmental and community impacts, and estimates for associated waste streams. The NNSA frequently cites plutonium pit production as one of the largest, most complex, and expensive undertakings in the history of the complex but does not demonstrate a commensurate level of planning, budget forecasting, or risk analysis that would be expected for such a major undertaking.

The final draft must document the impacts relative to a true ‘No-Action Alternative’

UCS contends that new plutonium pits are not required to sustain existing weapons (Spaulding 2025). A true no-action alternative would describe a scenario in which no new pits are produced and in which LANL carries out activities commensurate with what was authorized prior to 2015 (maintaining basic capability in the absence of quantity production and similar to the ‘reduced pit production’ scenario of 10 pits/year in the draft PEIS).

Of the comments submitted during scoping that requested consideration of alternatives, the most frequently requested was consideration of a true “No-Action Alternative” (per Table B.1-3., Vol II) (NNSA 2026c). Those comments were clearly ignored in the draft.

The two-site approach that is being pursued in order to satisfy the congressional mandate to produce 80 pits/year as close to 2030 as possible is both dangerous and unnecessary. The assertion in the PEIS that *“many of the aging pits will have to be replaced with new ones in the coming years to maintain a safe and reliable nuclear stockpile and deterrence”* (pg. 1-3) (NNSA

2026b) has not been technically justified and does not reflect the fact that new pits will be used in new weapons, not to maintain the safety, security, and reliability of the existing US nuclear stockpile. The assertion that plutonium aging is *“is scientifically challenging and requires many years ... to fully understand”* ignores the fact that such studies have been underway for nearly three decades (and were, in fact, de-emphasized by Los Alamos in the years preceding the start of the current production program) whereas publications from Lawrence Livermore expressed confidence in the longevity of plutonium for periods beyond 150 years, in concurrence with earlier JASON assessments of Pu aging (Heller 2007, 2012; Hemley 2006) and a considerable volume of unclassified scientific literature on the subject (Spaulding 2025).

Worse, the 80 pit/year mandate (and now up to 180 pits/year by 2050, per the FY27 NDAA) are not directly tied to actual production schedules for the new weapons that these pits are intended to supply. This is resulting in a premature, rushed program that, despite being years into development already, still does not have a complete cost estimate or schedule.

We recommend that the final PEIS document the impacts for a true “no action” scenario in which 10 or fewer pits are produced annually at LANL to maintain basic capacity and that the impacts of all other scenarios be described relative to that baseline. This would better convey the true scope of the program.

The manner in which the three proposed scenarios (“No-Action”, “Multi-Site”, and “Single-Site Alternative”) in the PEIS are compared is also potentially misleading since the impacts of the preferred option (“Multi-Site Alternative”) are presented as being “in addition to” those from the “No-Action Alternative” such that the columns must be added to arrive at the actual figures. The “No-Action Alternative” already represents a significant change from baseline activities prior to the mandate for new pit production. A true comparison of relative impacts (e.g. tables 2.9-1, 2, 3) would use a common baseline for both sites prior to 2017, not 2017-2023 when some activities were already getting underway. They also should not be described relative to the current “No Action Alternative”, which already includes production of 30-80 pits/year at LANL and ongoing construction activities at SRS (peg 2-9) (NNSA 2026b).

Impacts of variable levels of pit reuse should be included

The PEIS also dismisses other potential scenarios that would meet mandated requirements with reduced pit production, such as plutonium pit reuse. Although it acknowledges that *“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”* (pg. 1-3), there is no discussion of the relative benefits of lower production quotas in the near term (NNSA 2026b). The PEIS dismisses a “reuse only” option but does not appear to include any real consideration of the stated intent of the NNSA, which is to reuse pits for some portion of both the W87-1 and the W93 warheads. Because these designs are driving the immediate demand for new pits, the extent to which reuse is pursued will obviously impact actual production needs and therefore, the required scope and pace of the program.

The reasons for the rejection of pit reuse in the PEIS are inconsistent and contradictory. On pg. 2-27, pit reuse is rejected because *“like the pits in the active stockpile, [legacy pits] are aging and this alternative would not mitigate plutonium aging risks or enable NNSA to implement enhanced safety features to pits to meet NNSA and DOW requirements.”* On the contrary, pg. 1-4 states that *“In some instances, these enhanced safety features **could** be incorporated into a pit through modifications associated with pit reuse”* [emphasis added] (NNSA 2026b). It is publicly known that pit reuse is a technically viable alternative that *is* being pursued, including reuse with enhanced safety features such as modern Insensitive High Explosive (IHE) formulations (Spaulding 2025; Hruby 2024). Rather than including a technically viable alternative that could alleviate immediate pressure on the program and reduce its related impacts, pit reuse is rejected on the basis of statutory mandates (50 U.S.C. § 2538a) for *“for ensuring a responsive, long-term pit production capability”* (B-5, Table B.2-1, NNSA 2026c). This supports the impression that the pit production program is being driven and constrained by unjustified legal requirements rather than technically-informed need.

A thorough analysis of the extent to which pit reuse could alleviate near-term production needs and the impacts to the preferred “multi-site alternative” must be included in the final draft of this PEIS.

Comprehensive community risk requires more extensive analyses

The PEIS considers human health and safety within a 50-mile radius. This has been the case for previous laboratory EIS analyses, however CEQ requires agencies to consider the “potentially affected environment” (40 CFR 1502.15) as appropriate to the action and does not explicitly limit those analyses to a 50-mile radius. Although CEQ regulations have been affected by recent executive orders, the potential consequences of accidents remain the same regardless of federal requirements to acknowledge them. **The PEIS must acknowledge the true potential consequences and extent of worst-case accidents, regardless of any exemptions that may be possible through recent executive orders.**

A worst-case accident scenario would involve a significant fire at either PF-4 or SRPPF, in which case a 50-mile radius may not adequately capture risk of radiological contamination over the entire affected geography. Unfavorable meteorological conditions could result in the spread of airborne contaminants over very long distances. This was demonstrated by historical fires at the Rocky Flats production facility and by intentional releases of radioactive material from the Hanford Site.

New analysis of the potential risk from fires at PF-4 and SRPPF demonstrate that the PEIS may severely underestimate the potential geographic area that could be exposed to radioactive contamination and, consequently, the latent cancer risk to local populations (Witherspoon et al. 2026; Guzman 2026). Remediation efforts in the wake of multi-kg releases of plutonium from either facility would seem nearly impossible over the affected areas.

The final PEIS must demonstrate that the boundaries considered for worst-case accidents, including facility fires, are supported by quantitative analyses and modelling. Apparent

discrepancies between NNSA's present analyses and those presented by Witherspoon et al must be addressed with methods and assumptions clearly outlined and justified.

A credible, long-term plan for waste management and remediation must be provided

WIPP remains the sole US repository for nuclear waste (DOE 2026). When it began receiving shipments in 1999, it was slated to house up to 175,000 cubic meters of waste from the nuclear weapons complex in an underground geologic setting that would be secure for 10,000 years (^{239}Pu has a half-life of 24,300 years). As "Pilot Plant" in its name suggests, WIPP was originally expected to close in or around 2024. The lack of any feasible alternative disposal site has led to the inevitable extension of its operation. In 2023, the New Mexico Environmental Department renewed the permit for 10 years, but the DOE contends that it may need to rely on the facility into the 2080's (Hedden 2023). WIPP's projected capacity remains contentious, as does the question of how to prioritize legacy waste vs. newly produced waste, illustrating the multifaceted uncertainties in the US strategy for managing nuclear waste from weapons activities over the long term.

The DOE claimed that WIPP was nearing 43 percent of its licensed capacity as of 2024 but that it nonetheless required additional physical space going forward, resulting in additional excavation (Forinash and Hobbes 2024). A 2020 National Academies of Science study concluded that the facility's capacity may be too little to absorb pit waste in addition to other transuranic waste and surplus plutonium from across the nuclear weapons complex under its originally specified quota (NASEM 2020).

One condition of the New Mexico Environmental Department's permit renewal is that it reserved the right to close the site should Congress approve increased capacity in the future, ostensibly prohibiting any future expansion. The recent defeat of a proposed separate interim storage facility for nuclear fuel, which would have been situated nearby, appears to demonstrate that long-time vocal opposition from New Mexico residents resonates with the state government and licensing agencies whose appetite for hosting nuclear waste may be diminishing (Senator Ben Ray Luján 2023).

This PEIS anticipates a factor of 3 increase in TRU waste production above the 2017-2023 baseline for production of 80 pits/year at LANL under the 'No-Action Alternative' (Table 4.1.12-3) (NNSA 2026b). Changing requirements in the FY27 NDAA now call for up to 180 pits/year by 2050 from both sites while the PEIS itself includes a scenario in which up to 205 pits/year are produced which would represent a *seven-fold* increase in TRU waste over the assumed baseline. This represents a significant fraction of WIPP's remaining capacity under the Land Withdrawal Act and neglects the potential volume of legacy waste that the state of New Mexico is demanding be prioritized as well as other legacy waste from remediation efforts outside of New Mexico.

Unremediated waste remains onsite at both LANL and SRS, where it will continue to pose environmental harm and act as a source of long-term contamination in the soil and, potentially, groundwater. Mobility of Cold War-era plutonium has been documented in several of the canyons, in the Rio Grande and as far as Cochiti Reservoir (Spaulding 2025). Unremediated waste that currently sits in unlined disposal sites may be similarly mobile on decadal timescales if not properly treated. Material Disposal Area-C, G and other remaining waste dumps should be fully excavated and properly remediated to the extent possible as outlined under the ‘removal option’ and in accordance with the 2024 Consent Order between DOE and the NM Environment Department. A “cap and cover” approach is not an acceptable long-term solution for waste that includes long-lived radionuclides, particularly above the sensitive Rio Grande Watershed.

Accountability and remediation of legacy waste must be integral to any proposed waste management strategy at LANL, especially in the event of increased or accelerated plutonium activities. **Comprehensive clean up should be part of the ‘no action alternative’, at a minimum, and not displaced by production activities,** as LANL is currently doing for Area-C at TA-55.

A credible final PEIS would outline a scenario in which WIPP is no longer available as a sole-repository over the projected future of the pit production program. It would calculate remaining volume at WIPP *after* taking into account conservative estimates for legacy waste volume, assuming comprehensive remediation of sites across the nuclear complex.

Somewhat cynically, the LANL SWEIS and this PEIS anticipate four new, above-ground waste staging areas for TRU waste at LANL (with a capacity of up to 6,700 drums) in the event that WIPP should suffer outages such as that caused by LANL’s inappropriate packaging of waste in 2014 or due to other accident scenarios¹. Above ground waste staging areas represent a significant risk where waste is relatively vulnerable to natural disasters including wildfire, accident scenarios related to handling and packaging etc.. They increase the potential for worker exposure in the event of accidents and create the possibility for waste to be ‘stranded’ onsite if WIPP cannot receive the waste. **The final PEIS must identify clear contingency plans in the event that waste cannot move from staging areas to WIPP** (and in the absence of the proposed ‘supercompactor’ which could reduce but also complicate TRU waste processing). **The final PEIS must also more clearly outline administrative and engineering controls that will be included to reduce risk at the proposed waste staging areas** (such as fire suppression, containment of airborne contamination, worker safety measures etc).

The PEIS indicates that Low Level Waste (LLW) from LANL will be disposed of at the Nevada National Security Site while LLW from Savannah River will be buried onsite. **Details of how and where onsite waste will be handled must be included in the final PEIS.** How will the burial sites be prepared? Are they lined, capped or otherwise contained? What is the risk of infiltration of

¹ At the time of writing this comment, WIPP is shut down and not receiving new waste due to issues with its redundant hoists (Barber 2026). Other accidents, including underground vehicle fires have led to previous shutdowns while the 2014 incident involving a ruptured waste drum contaminated a large portion of the underground complex (Klaus 2019).

the local water tables from buried waste and have surveys been completed to demonstrate associated risk?

Meanwhile, Mixed Low-Level Waste (MLLW) is to be treated by contractors in many cases and permanently disposed of by Waste Control and Storage Services in Andrews County, Texas and Energy Solutions in Clive, Utah. The final PEIS should clarify NNSA's responsibility for how or where these contractors disposition MLLW. **Conditions of these contracts as well as evidence that the NNSA has analyzed the impacts of these contracts should be included in the final PEIS.** Handing waste over to external contractors does not exempt the NNSA from responsibility over its long-term fate. Communities in Texas, Utah, and Nevada deserve to understand the burdens on their states, the quantities of waste that they are being asked to take on (whether directly from the NNSA, or from a contractor) as well as specifically where that waste will go.

Transparency must be provided around transportation of plutonium and TRU waste nationwide

While the NNSA chose to analyze only the two primary production sites in this PEIS, the abstract clearly states that *"the Proposed Action also includes activities across the [Nuclear Security Enterprise] related to transportation and waste management associated with the pit production mission"* (NNSA 2026b).

The origins and destinations of various components related to pit production are listed in Table 2.2-1 which reinforces the connected nature of activities across the nuclear weapons complex and the need for detailed inclusion of every site that carries out related activities. **In addition to listing origins and destinations of materials, including Pu and TRU waste, the final PEIS must include transparency about which routes are used and how safety is ensured while materials are in transit.** The geographically dispersed nature of the program means that significant quantities of plutonium and high-level waste will be on roads across the southern US (sometimes multiple times as Pu goes between the two production sites and Pantex weapons production facility). People living along these routes deserve to know how the NNSA guarantees safety while dangerous material transits their communities and how often different routes will be in use. The final PEIS must include a map of approved transit routes (from TRAGIS or other applicable planning tools).

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