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Peace Justice Environment since 1983

July 14, 2025

Submitted via email to: PitPEIS@nnsa.doe.gov
To: Ms. Jade Fortiner, NEPA Document Manager
National Nuclear Security Administration, Office of Pit Production Modernization

Re: 2025-08140 (90 FR 19706) Tri-Valley CAREs' Comment on the Scope of the Programmatic Environmental Impact Statement for Plutonium Pit Production

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Tri-Valley Communities Against a Radioactive Environment (CAREs) is a non-profit organization founded in 1983 by Livermore, California area residents to research and conduct public education and advocacy regarding the potential environmental, health, and proliferation impacts of the Department of Energy's (DOE) Lawrence Livermore National Laboratory (LLNL or Livermore Lab). On behalf of our 6,000 members, Tri-Valley CAREs submits the following comments on the scope of the National Nuclear Security Administration's (NNSA) Programmatic Environmental Impact Statement (PEIS) for Plutonium Pit Production.

Pursuant to the National Environmental Policy Act, the purpose of scoping is: "early identification of concerns, potential impacts, relevant effects of past actions and possible alternative actions." Therefore, we ask that the analyses we are requesting be fully undertaken – and our questions fully answered – in the Draft PEIS.

1. **Public Health Harms Must be Analyzed in the PEIS Using the Best Available Science.** Plutonium can be deadly in microscopic amounts; it emits extremely high-energy rays (alpha particles) that tear through tissue and DNA as the plutonium radioactively disintegrates within the body. The harmful health outcomes, including death, of plutonium on Department of Energy workers and others has long been established.

   The PEIS should analyze the full range of the potential public health harms of transporting, working with, storing, handling, and disposing of increased levels of plutonium contaminated wastes involved - including in the short term, and over the relevant half-life of the plutonium isotopes in use. This includes the health hazards and risks of plutonium across all the geographical locations impacted by transporting and

handling plutonium, i.e., within and beyond LLNL, and spanning the complete lifecycle of the plutonium.

The NNSA should include a section in the PEIS explaining how it interprets the most recent science available on the health impacts of plutonium exposure and how the most up to date science is applied to the agency's occupational and public safety regulations as well as the PEIS analysis of health impacts.

For example, the PEIS should include the findings of a 2024 report from the United Nations Institute for Disarmament Research (UNIDIR) by Nichols and Olson, "Gender and Ionizing Radiation: Towards a New Research Agenda Addressing Disproportionate Harm" that found increased harm to women & girls: https://unidir.org/publication/gender-and-ionizing-radiation-towards-a-new-research-agenda-addressing-disproportionate-harm/

The report, "found disproportionate harm to females compared to males in a much wider sampling of radiation research literature than had previously been reviewed, which strengthens the finding that women and children are more radiosensitive." NNSA should indicate whether its analyses in the PEIS account for the fact that women and girls are more radiosensitive - more likely to face harm from radiation – than men are.

Here we note that the Agency's plutonium pit production plans will include potential exposures and environmental impacts of numerous additional radioactive and hazardous materials. Those, too, must be carefully detailed and analyzed in the PEIS.

2. **Historical Context Must be Provided in the PEIS in Order for the Public to Accurately Understand the Potential Impacts of the Proposed Action and Reasonable Alternatives.** Since the early days of the Manhattan Project, the production of plutonium pits has been a major part of nuclear weapons development. The PEIS should detail the history of the agency (and its predecessor agencies) plutonium pit production work, and the environmental, worker and community health impacts of that work as well as the environmental cleanup needed to deal with those legacy activities (extent, scope and costs).

   The scope of the historical context should include, but not be limited to, a detailed description of the history of the Rocky Flats Plant which built the vast majority of US plutonium pits until it was shut down by the FBI environmental crimes unit in 1989. That history should describe its contamination, worker and public health impacts, as well as any lessons learned. Additionally, a list of Rocky Flats radiation releases, spills and accidents with the date, cause and amount of radiation released should be included.

In addition, the historical plutonium production related activities at **all** of the sites that will be involved in the PEIS proposed action should be chronicled for the public so that the impacts of the proposal can be understood in context to the past plutonium production activities of the government.

This includes (among others) LANL's previous and recent work on plutonium pit production, where many hazardous activities, accidents, spills and releases have occurred. A list of LANL's radiation releases, spills and accidents with the date, cause and amount of radiation released should be included.

It also includes past activities at LLNL's "Superblock," which designates a collection of core nuclear weapons facilities including the main plutonium facility (building 332) with plutonium globe box lines, furnaces and a huge plethora of experimental and fabrication areas, the main tritium facility (building 331) with tritium glove boxes, high pressure fill operations (and even actinide [plutonium] operations located in the tritium facility's segment 2), and the hardened engineering test facility (building 334) where plutonium bomb cores or parts are shocked, shaken, drop-tested and heated to demonstrate how the pits will perform from launch to detonation on a target.

Many hazardous activities, accidents, spills and releases have occurred in the Superblock and a list of those involving radiation with the date, cause and amount of radiation released should be included in the PEIS.

Moreover, additional buildings at LLNL, including B235, that handle plutonium and other materials that may be involved in pit support work must be included in the above-noted analysis.

3. **LLNL's Involvement in Pit Production Must be Detailed in the PEIS.** The proposed action, to produce new plutonium pits at a rate up to 80 per year, involves multiple sites across the nation and the PEIS must analyze the potential environmental and health impacts at all of those sites, as required by NEPA, including LLNL (where plutonium pit support work has thus far gone unanalyzed in violation of NEPA).

   LLNL has already been deeply involved in the agency's effort to produce new plutonium pits for 5+ years. The NNSA budget has provided for "Enterprise Plutonium Pit Production Support/Plutonium Modernization" work at LLNL since at least 2019, with LLNL receiving $367,788,000 for this budget line item between 2019-2025. That funding is now increasing rapidly, with $82.86 million budgeted in Fiscal Year (FY) 2025 and $98.96 million requested for FY 2026, a nearly 20% increase in one year.

Additionally, LLNL is the lead lab in charge of designing the W87-1 warhead for the new Sentinel Intercontinental Ballistic Missile (ICBM), and received $1.126 billion in funding for W87-1 development between 2020-2025. A portion of that funding went to the development of the warhead's new plutonium pit. As currently planned, LLNL opted to not reuse the existing W87-0 plutonium pits that sit on the Minuteman III ICBM's, instead altering the pit design to the extent that more than 450 new pits need to be manufactured in order to achieve the Agency goal of 450 certified war reserve pits (planned for production at Los Alamos). LLNL's new W87-1's plutonium pit is a major driver of the plutonium pit production plan being analyzed in the PEIS. Thus this relationship must be detailed in the PEIS, alongside a full analysis of reasonable alternatives including pit reuse.

Further, new plutonium glove boxes were recently funded at LLNL that are expressly to support "expanded plutonium pit production." Also, a Los Alamos National Lab (LANL) NEPA document stated that LANL will ship plutonium to Livermore for "materials testing" in support of "expanded plutonium pit production." The same LANL NEPA document states that the plutonium will then be shipped back from LLNL to LANL. All potential shipments between LANL and LLNL must be detailed in the PEIS, including but not limited to the frequency of the shipments, the method(s) of shipment, the amounts of material, the configuration of the material, and a description of the work/experiments to be undertaken by LLNL, the purpose of the work/experiment at LLNL, and the buildings involved.

In order for the public to adequately understand the environmental impacts of the agency's plutonium pit productions plans, the PEIS must detail the activities that LLNL has already undertaken with the above-stated "Enterprise Plutonium Pit Production Support/Plutonium Modernization" funding and the W87-1 warhead's new pit development at LLNL.

Additionally, the PEIS must clarify the extent to which LLNL ongoing operations with plutonium over the next 15 years will be for "Enterprise Plutonium Pit Production Support/Plutonium Modernization," the extent to which its specific warhead development work will include new plutonium pit designs, and the extent to which the recently announced "Enhanced Plutonium Utilization" is for plutonium pit production support.

4. **The NNSA's NEPA Process with Respect to Plutonium Pit Work at LLNL is Flawed.** Tri-Valley CAREs is specifically focused on LLNL and its specific potential impacts that are the related to or supporting plutonium pit production, which have thus far not been specifically analyzed in any NEPA document, including LLNL's Site-Wide

Environmental Impact Statement (SWEIS) or Livermore's recently scoped "Enhanced Plutonium Utilization" Environmental Impact Statement.

In early 2022, LLNL released its Draft Site-Wide Environmental Impact Statement (SWEIS) that purported to evaluate the impacts of the proposed continued operations of the site for the next 15 years. The SWEIS preferred action alternative (which was ultimately chosen by the NNSA in the January 2024 Record of Decision (ROD)) proposed new plutonium activities at Livermore Lab, specifically increasing the **administrative limit** for weapons-grade plutonium in Building 235 (B235) from its current allowable limit of 8.4 grams or less to a new limit of 38.2 grams (SWEIS page S-41). The administrative limit refers to how much weapons-grade plutonium can be in the building at one time. This is an **increase of nearly 5x.**

However the stated purpose and need given for those activities in the SWEIS was vague and opaque, leaving it unclear the extent to which it may be for new plutonium pits and/or other "enterprise plutonium pit support" work versus other plutonium experiments, such as more general plutonium pit aging studies.

Despite comments from Tri-Valley CAREs and others during the SWEIS process asking for the agency to make clear the extent to which LLNL's plutonium work would be to support new plutonium pit production, the agency refused to provide clarification in the final, stating it "did not need to provide the crosswalk." This PEIS must provide clarity to the public the extent to which the administrative limit increase for B235 analyzed in LLNL's SWEIS is for plutonium pit production support work.

On top of this, in January 2025, LLNL and NNSA released a Notice of Intent (NOI) announcing its Environmental Impact Statement (EIS) for proposed "Enhanced Plutonium Utilization" plans at LLNL. The proposed action would increase the security category at the site to allow for an increase to the administrative limit for the amount of plutonium allowed in rooms and work stations as well as achieving an overall increase of the throughput of plutonium at LLNL. The NOI failed to clarify to what extent the purpose and need for the proposed action was to accomplish tasks and experiments related to enterprise plutonium pit support" work. Again, interested parties including Tri-Valley CAREs requested clarification in comments as to the extent to which the proposed action was to support plutonium pit production. The Draft EIS has not been released to date.

Interested parties, concerned neighbors and Tri-Valley CAREs have been left out of the decision making process on the extent to which LLNL should be engaged in new plutonium pit design and production support work. Rather than providing the requested

analyses in the LLNL's SWEIS, the agency refused. The NOI for "Enhanced Plutonium Utilization" EIS continued the agency's failure to provide any specifics on the issue. Thus, the agency has not provided the "hard look" required by NEPA.

The PEIS must now take that "hard look" at the "enterprise plutonium pit support work/plutonium modernization" work that has occurred and is planned at LLNL under the proposed action. The PEIS must clearly detail LLNL's plutonium pit related activities so that the public can understand and analyze the potential environmental and health impacts and submit informed comments that take into account reasonable alternatives.

5. **A Full Range of Alternatives to the Proposed Action Must be Analyzed in the PEIS, Including a True No Action Alternative.** The PEIS NOI puts forth a false No Action Alternative, in which the Agency still produces 30 plutonium pits per year at LANL. While it is understood that Congress has directed the agency to produce 30 pits per year, this does not limit a NEPA analysis from analyzing a true no action alternative in which no new plutonium pits are built. (Moreover, it must be noted in the PEIS that Congress passes a new National Defense Authorization Act annually and, therefore, the mandate could change.)

   An alternative that contradicts a congressional directive to an agency can: 1) Provide meaningful baseline information for the public, members of Congress, and other stakeholders to evaluate the potential environmental impacts analyzed in a NEPA document; and, 2) Clarify the extent to which the agency has reasonably identified and defined its proposed actions and objectives, considering the needs and goals of the parties involved and the public interest. Courts have found that an alternative must be analyzed if it is based in concern within the substantive scope of NEPA and reasonable. Here, a true no action alternative that analyzes potential impacts of not producing any plutonium pits is both within the substantive scope of NEPA and reasonable.

   An alternative raised by a public comment is substantive if it is within the scope of the proposed action, specific to the proposed action, has a direct relationship to the proposed action, and includes supporting reasons for the responsible official to consider.[1] Reasonability in this context is evaluated using a two-part test, (1) determining whether the agency has reasonably identified and defined its objectives, considering the needs and goals of the parties involved and the public interest, and (2) assessing whether the alternative is reasonable in light of these objectives.[2]

[1] 36 C.F.R. § 219.62
[2] Stand Up for California! v. U.S. Department of the Interior, 204 F.Supp.3d 212, 306 (D.D.C. 2016)

- **Proposed No-Action Alternative 1: Maintaining Current Nuclear Stockpile.** The PEIS should analyze a true no action alternative where the agency does not develop any new plutonium pits, instead continuing to maintain the current stock of nuclear weapons and their existing plutonium pits while it facilitates international nuclear disarmament efforts to reduce nuclear stockpiles, delivery systems and production infrastructure in compliance with the NPT. This alternative which supports both the interest of the surrounding communities and the goals of the NPT would provide analysis of a reasonable path as it is contemplated by the ratified international treaty that is technically the law of the land. At the very least, this alternative functions as a baseline by which to measure the environmental impacts of the proposed action and other alternatives. At most, this alternative does not involve increased environmental impacts suffered by the surrounding communities and mitigates the proliferation risks discussed above. (It should be noted that in Tri-Valley CAREs perspective this alternative would include no enhanced plutonium utilization at LLNL.)

- **No-Action Alternative 2: Reusing Current Plutonium Pit Stock.** The PEIS should analyze an additional alternative of maintaining the existing stockpile of nuclear weapons and analyzing the environmental impacts of developing a capacity to reuse of the U.S.'s current stockpile of excess plutonium pits to keep those existing weapons safe, reliable and secure in case the time needed for international disarmament pursuant to the NPT are prolonged .

These alternatives are reasonable because the congressional directive the NNSA relies on for their purpose and need does not define what need for new plutonium pits is exactly, rather it appears to have arbitrarily chosen the "capacity for up to 80 plutonium pits per year" without referencing any scientific or other rationale.

The congressional mandate also does not expressly consider other parties or the public interest. The other parties to this proposed action are the community members who will suffer from environmental impacts. The public interest involved is all U.S. citizens who support the U.S.'s participation in the Nuclear Non-Proliferation Treaty ("NPT"). By analyzing these alternatives, the agency will provide a substantive scope of baseline impacts that will inform all participants in the PEIS process.

6. **The PEIS Must Include Background and Analysis of the Environmental and Community Risks and Safety Protocols**. Rushing to meet arbitrary deadlines heightens the risks for the workforce recruited to carry out complex, hazardous plutonium processing. LLNL's Superblock has a troubling record of safety violations, worker exposure to plutonium and other radionuclides, and fires and floods. At times, the facility

appears to have prioritized expediency and cost-savings over safety. This endangers the workforce and the local community—as well as the program itself should a significant accident occur. The Department of Energy and the NNSA must place a higher priority on the safety and well-being of workers and frontline communities.

The PEIS should detail and list all of the accidents, non-compliant releases of radiation, worker exposures, spills and near misses that have occurred in the LLNL Superblock. The PEIS must also detail how it plans to safely ramp up activities in the Superblock to undertake the proposed action, including providing details about its safety and accident response protocols, including how the nearby public would be notified of an accident involving plutonium, how emergency responders, cleanup crews and regulators would be notified and involved, and how lessons learned would be evaluated and implemented.

7. **The PEIS Must Analyze the Impact on Ongoing Cleanup.** LLNL's main site in Livermore was added to the U.S. Environmental Protection Agency's National Priorities List, also known as the Superfund list, on July 22, 1987. The site accumulated a significant legacy of contamination in its soil, groundwater, and air from Cold War-era (and subsequent) weapons work. This includes tritium, heavy metals and other contaminants of concern. Cleanup efforts have been underway since then, yet many areas remain contaminated, the community has seen repeated delays in remediation goals, and completion of the cleanup is decades away.

   Now, with the proposed action's addition of enhanced plutonium operations and increased involvement in plutonium pit production, the cleanup at LLNL could become more complicated, delayed, or even include new contamination. The PEIS must examine how the enhanced plutonium operations and resulting new waste streams could affect ongoing cleanup, surrounding communities, particularly those historically impacted by offsite contamination. The PEIS must clearly explain how these new activities will be incorporated into cleanup planning.

   - Will added plutonium-related work and waste extend cleanup timelines if there is an accident, spill or release of radiation?

   - What is the cumulative impact of expanding hazardous operations while remediation remains incomplete?

8. **Worst-Case Accident Scenarios Need Updating in the PEIS**. At Lawrence Livermore National Laboratory, the historical "worst-case" scenario was based on the Hazardous Waste Management Facility. The PEIS proposed action is at least in part the driver for enhanced plutonium utilization at LLNL and the increase in the administrative limit to

allow for more plutonium at work stations in the Superblock. Because of the corresponding enhanced risk of a plutonium accident at one or more workstations in the Superblock, the PEIS should analyze a worst-case accident scenario at the Superblock as well as in the waste management facility.

This detailed worst-case accident scenario should include the implications for community safety, off-site contamination, and emergency preparedness. The PEIS must also update the worst-case accident scenario at LLNL to account for the ongoing population increase in Livermore and the neighboring Tri-Valley. Without transparency on risk and accident planning, communities are left in the dark about decisions that impact their health, homes, and environment for generations. This is especially true for the Spanish speaking population in the area, and the PEIS should include a plan for how public emergency planning at LLNL (and at all of the sites it analyzes) will be translated into Spanish and distributed.

9. **Proliferation Risks Must be Analyzed in the PEIS.** Plutonium pit production contributes to both vertical and horizontal proliferation of nuclear weapons. The US already possesses thousands of plutonium pits. Studies have shown that the reliability of these pits can last up to a century and more. The average age of the excess US pits is only around 40 years old, therefore new plutonium pits for existing nuclear weapons designs are not needed for decades. Other nuclear-armed states understand this, and new pit production and the signals it sends may provoke proliferation. (Further, the viability of existing US pits into the future without new production pits must also be considered in the PEIS with reference to alternatives as well.)

   All of the plutonium pit production that would occur pursuant to the proposed action for a decade and more will be for newly designed warheads. The PEIS's purpose and need section must reflect that reality and its proliferation promoting impacts as well.

   The US building new warhead designs is vertical proliferation of weapons—a violation of Article VI of the Nuclear Nonproliferation Treaty (NPT), which states that "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."

   Building new warheads does not contribute to the cessation of the nuclear arms race nor to nuclear disarmament. In fact, it does the opposite. Plutonium pit production might also cause horizontal proliferation, as it might cause the proliferation of new warhead designs and corresponding plutonium pit creation in other nuclear-armed states.

If the US is ramping up pit production, what is to stop other nuclear-armed states from doing the same, further exacerbating a nuclear arms race. This once again directly violates Article VI of the NPT.

This is especially dangerous now given the current international security climate. The New Strategic Arms Reduction Treaty (START), the last remaining bilateral arms control treaty between the US and Russia, is set to expire in February of 2026. Without New START, there will be no arms control agreements between the US and Russia to limit each other's nuclear weapons.

Because of these concerns, the PEIS must include a proliferation study that takes a hard look at both the vertical and horizontal proliferation risks of plutonium pit production. There is precedence for the agency undertaking a proliferation study before it moves forward with a potentially proliferation provoking project. In 1995 when the agency was planning to move forward with plans to build the National Ignition Facility (NIF) at LLNL, a Congressman requested a proliferation report be completed by the DOE to resolve the question of whether NIF would aid or hinder U.S. nonproliferation efforts before proceeding with substantial budgetary commitments to construct the facility. Both technical and policy aspects were addressed, and public participation was part of the decision process. That report is available online and is titled, "The National Ignition Facility and the issue of nonproliferation. Final study." (1995)
https://www.osti.gov/biblio/187216

Here the PEIS should similarly address the following questions:

- Could plutonium pit production contribute to vertical and/or horizontal proliferation?

- Could new plutonium pit production for new warhead designs violate Article VI of the NPT?

10. **Transportation Risks must be Analyzed in the PEIS.** Plutonium pit production involves multiple sites across the nation and includes the increased transportation of plutonium and other radioactive and hazardous materials and wastes back and forth between them.

    The PEIS must disclose the anticipated number and frequency of plutonium (and other hazardous materials) shipments in and out of all of the sites across the country, including

LLNL. Additionally, it should include analysis of various populations that could be impacted by the transportation of these nuclear materials.

For California, when looking at the Waste Isolation Pilot Plant (WIPP) route map by the Office of Secure Transportation, the route for special nuclear material and wastes look like it includes Highway 80 through the Donner Pass, Truckee, the historic town of Auburn, populated Sacramento suburbs, then moves to Highway 5 near downtown Sacramento and travels through Stockton and Tracy where the route changes to Highway 205. NNSA has not engaged with these communities about this route nor the risks this route will have on these communities.

The WIPP route also includes the infamously dangerous I-580 Altamont Pass. A frequent site of high-speed accidents due to the road having steep grades and high winds, and major congestion with over 160,000 trips per day, many involving large semi-trucks.

Specifically, the PEIS must include analysis of ways to mitigate the dangers of transporting special nuclear material in and out of LLNL. The PEIS should specify how cities and local governments will receive notice of the increase in special nuclear material passing through on the Highway to LLNL and from LLNL pursuant to its role in pit production support.

- The PEIS must study ways to minimize the number of shipments going in and out of LLNL.

- According to the WIPP route map, the only open route into California is through Highway 80. Yet, an older map shows plutonium shipments from LANL would travel near LA on the way to LLNL. Can the agency clarify the national transportation map that programmatic plutonium material will travel on as well as the radioactive waste shipments? The PEIS must clarify the route along with providing a map.

Tri-Valley CAREs appreciates the opportunity to comment on this scoping process and hopes that the Draft PEIS reflects these comments and responds to the questions asked therein.

Submitted on behalf of Tri-Valley CAREs staff and membership,

Scott Yundt
Executive Director
Tri-Valley CAREs