



## Comment on the Lawrence Livermore National Laboratory Draft Site-Wide Environmental Impact Statement

Via email to: [LLNLSWEIS@nnsa.doe.gov](mailto:LLNLSWEIS@nnsa.doe.gov)

Ms. Fana Gebeyehu-Houston,  
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1000 Independence Ave., SW, Washington, DC 20585

Dear Ms. Fana Gebeyehu-Houston:

Thank you for the opportunity to comment on the National Nuclear Security Administration's (NNSA) Draft Site-Wide Environmental Impact Statement (SWEIS) for the continued operation of the Lawrence Livermore National Laboratory Main Site in Livermore, CA and Site 300 high explosives testing range near Tracy, CA.

Nuclear Watch New Mexico takes particular interest in the Livermore Lab as the sister lab of the Los Alamos National Laboratory (LANL). We have long been involved in the issue of plutonium pit production at LANL. We see the two labs as inextricably linked given that LANL will be producing plutonium pits for the new W87-1 warhead, for which LLNL is the lead design agency.

*Our mission statement: Nuclear Watch New Mexico seeks to promote safety and environmental protection at nuclear facilities; mission diversification away from nuclear weapons programs; greater accountability and cleanup in the nation-wide nuclear weapons complex; and consistent U.S. leadership toward a world free of nuclear weapons.*

**Plutonium Increase Opposed.** According to the draft SWEIS, the NNSA is proposing to increase the administrative limits for plutonium mixtures at Livermore Lab's Building 235 from 8.4 grams plutonium-239 under the No-Action Alternative to 38.2 grams under the Proposed Action. (SWEIS 3-54) The administrative limit refers to how much weapons-grade plutonium can be in the building at one time. This is an increase of nearly 5 times. Plutonium can be deadly in microscopic amounts; it emits alpha particles that can irreparably damage tissue as the plutonium radioactively decays within the body. This is an unacceptably dangerous increase in plutonium and its associated risk at a site that has failed security drills and is located in close proximity to residential neighborhoods and within a 50-mile radius of nearly 8 million people. The SWEIS should analyze an alternative that removes plutonium from the Lab, rather than increasing it.

We note that this increase mirrors a similar increase to the Radiological Laboratory Utility and Office Building at LANL's TA-55. It was elevated to a Hazard Category-3 facility from a "radiological lab," for which the building was not originally designed. The

final LLNL SWEIS should examine if safety at Building 235 will be compromised with the added plutonium inventory, especially given Livermore's greater vulnerability to seismic events.

**Transparency Needed on Livermore Role in Plutonium Pit Plans.** While the SWEIS discloses an increase in plutonium levels for Livermore Lab, as noted above, it inappropriately avoids analysis of the programmatic reason for the increase. Livermore has a "hands on" role in pit production that has environmental risks even though full-scale production of 80 or more pits/year will be done at two other locations. The Government Accountability Office (GAO) states that the NNSA pit production plans "rely" on Livermore Lab and other non-production sites.

Here is how GAO describes a key aspect of Livermore's role: "As the design agency for the W87-1 warhead—the first warhead designed for newly produced pits since the Cold War— Livermore is responsible for qualifying the pit production process and certifying that the pits produced meet the intent of its design. Qualification and certification requires a variety of tests, such as production evaluations, engineering certification testing, physics certification testing, and the replacement of some equipment." (GAO-23-104661, January 2023) The SWEIS should make clear all of the ways in which plutonium operations proposed for Livermore Lab are related to NNSA's expanded plutonium pit production plan.

Moreover, NNSA is in violation of the spirit, if not the letter, of the National Environmental Policy Act by refusing to complete a new programmatic environmental impact statement (PEIS) on expanded plutonium pit production. Relying upon the 2008 Complex Transformation PEIS is wrong. The needed remedy is a new PEIS, which NNSA should undertake immediately, from which the new LLNL SWEIS should subsequently be tiered.

**Tritium Emissions Increase Opposed.** The site-wide air emission of tritium (a radioactive isotope of hydrogen) will increase from 129.2 Curies of tritium in the 2019 baseline, to 300 Curies of tritium in the No Action Alternative, all the way to 3,610 Curies of tritium for the Proposed Alternative. This is almost a 28-fold increase in the amount of tritium emitted from the Lab.

The SWEIS states this will result in a corresponding increase of 27 times the annual dose to the offsite population from the 2019 baseline to the Proposed Action Alternative. Additionally, this will result in an increase of 12 times the numbers of cancers from the 2019 baseline to the Proposed Action Alternative. This is an unacceptable increase in risk. One curie is a large amount of radiation, equal to 37 billion radioactive disintegrations per second. If this plan is not stopped, it will put radioactive tritium directly into ambient air, which will largely condense into tritiated water vapor and enter the local biosphere. Tritium exposure is related to numerous bad health outcomes, including deadly cancers. The SWEIS should analyze an alternative in which the experiments that require the tritium loading operations are not done at Livermore and tritium activities are reduced, not increased at the Lab.

**No Advanced Hydrotest Facility.** The Proposed Action in the SWEIS includes building a 75,000 square foot "Advanced Hydrotest Facility" (AHF) at Site 300 (see

page S-40). Livermore Lab pushed for a new AHF at Site 300 in the mid-1990s. However, Site 300 was determined to be an *inappropriate* location due in part to the AHF's associated hazards and the proximity of the public. Over the last 25 years, the City of Tracy has expanded its boundary toward Site 300 and the population has skyrocketed, increasing the risk of operating the AHF. Further, it is notable that a weapons designer at the time referred to the proposed AHF as "a nuclear weapons designer's dream," referring to its capacity to help design new plutonium primaries. The SWEIS should specify the programmatic usages of the AHF and its potential proliferation impacts. The decision should be to cancel plans for an AHF.

**New Bio-Agent & Animal Research Lab Opposed.** The SWEIS proposes to replace the current Animal/Biosafety Level-3 Facility with a facility nearly twice the size of the existing facility. (SWEIS 3-38) This lab performs biological defense experiments with highly contagious bioagents, (including anthrax and botulism) on animals inside of Livermore Lab, a classified nuclear weapons laboratory. There is no mandate for bio-defense research to be done at Livermore (or by this agency). Expanding operations at a secret nuclear weapons lab can foster the suspicion that bioweapons may be pursued.

Moreover, this SWEIS did not conduct a separate analysis of a potential biological hazard release, but instead tiered from previous NEPA analyses performed for the BSL-3 facility, despite the proposal to build a larger new BSL-3. (Appendix C, C-48) Reliance on NEPA analyses that are over a decade old and not specifically tailored to the proposed action for the new BSL-3 makes the document's conclusions of safety doubtful.

The SWEIS should analyze both an accident scenario and an Intentional Destructive Act scenario that are specifically tailored to the new BSL-3 as outlined in the Proposed Action. The SWEIS should further analyze the "purpose and need" for this facility and look at whether its work is redundant and/or duplicative of other BSL-3 labs at other agencies. The SWEIS should further analyze the potential for this lab to stimulate the proliferation of biological weapons research in other countries. This expansion of bio-warfare agent research with experiments on animals should be canceled.

**Reduce or Cancel New Warhead Development Programs.** Livermore Lab is one of two nuclear design agencies that develop every nuclear warhead and bomb in the U.S. stockpile. The SWEIS is intended to guide Livermore Lab activities for the next 15-years or more. Over that time frame, Livermore's proliferation-provocative new warhead activities can and should be curtailed and new missions pursued. Instead, the SWEIS *only* contains programmatic activities that increase Livermore Lab's new warhead design activities, which is not reasonable consideration of reasonable alternatives. Livermore Lab is developing several new warheads and variants. These designs could be down-scoped to eliminate novel features or canceled altogether. They include:

- The **W87-1**, a wholly new warhead currently being designed at the Livermore Lab to arm a new ICBM that the Pentagon is developing, called the Sentinel missile. The W87-1 will require new plutonium pits and is a major driver for NNSA's plan to expand pit production.
- The **W80-4**, a new warhead being designed at Livermore Lab for the new Long Range Stand-Off Weapon. This warhead will arm a new air-launched cruise missile.

- The **W80-4 Modification**, a special variant of the new W80-4, designed for a new Sea-Launched Cruise Missile that will be placed on ships that do not currently carry any nuclear weapons and are not certified for that mission.

**Concerning the W87-1:** I note that NNSA's FY 2020 Congressional Budget Request repeatedly mentioned that "W87-like" plutonium pits would be produced for this new warhead. This indicates that new pits could substantially deviate from tested designs. This could negatively impact national security given that these new pits cannot be full-scale tested because of the existing international testing moratorium, thereby perhaps eroding confidence in stockpile reliability. Alternatively, this could prompt the U.S. to resume full-scale testing, which would have profoundly negative proliferation consequences.

The draft LLNL SWEIS should critically examine whether a new W87-1 is really in the best interests of the country. It should specifically address how the reliability of future pits will be assured, including the fidelity of weapons codes. Moreover, conservatively maintaining the existing, extensively tested stockpile through prudent and time tested procedures should be analyzed as a more than reasonable alternative to programmatic pursuit of speculative, enormously expensive new-design nuclear weapons.

**Analyze Genuine Alternatives.** The Proposed Action drastically increases the nuclear weapons activities at Livermore Lab. For example, it proposes 126 new facilities be built related to new and modified nuclear weapons. The SWEIS should analyze an alternative future for Livermore Lab; one in which the Lab does more unclassified, civilian science work and less, or no, work on developing new and modified nuclear bomb designs.

Under NEPA, it is the responsibility of the agency to fully analyze reasonable alternatives, which the Draft SWEIS fails to do. A civilian science alternative must be developed in the SWEIS, in part so that the environmental impacts of civilian science research can be compared to the impacts of nuclear weapons activities – and decision makers and the public alike will have these facts in hand when making decisions.

This examination of civilian science based alternative missions for Livermore Lab should include but not be limited to: minimizing and preventing infectious disease pandemics; researching climate change adaptation and amelioration; expanding nuclear nonproliferation programs; pursuing R&D of nuclear disarmament technologies that support verifiability, irreversibility, and, where appropriate, transparency; developing new environmental clean-up technologies, alternative fuels, clean energy, environmentally friendly battery development, energy-grid efficiency, green building technologies, and other science areas that deal with the many challenges facing the United States and the world in the 21<sup>st</sup> century. The NNSA could hold public meetings specifically to develop these ideas in partnership with the community and non-governmental organizations.

Sincerely,

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