

**Amended Record of Decision for the Site-Wide Environmental Impact Statement for
Continued Operation of Lawrence Livermore National Laboratory;
Supplemental Environmental Impact Statement for Enhanced Plutonium Facility
Utilization at Lawrence Livermore National Laboratory**

National Nuclear Security Administration (NNSA)

Department of Energy (DOE)

PUBLIC AVAILABILITY AND CONTACT INFORMATION:

This Amended Record of Decision (AROD), the Supplemental Environmental Impact Statement for Enhanced Plutonium Facility Utilization at Lawrence Livermore National Laboratory (LLNL SEIS), and related documents developed pursuant to the *National Environmental Policy Act of 1969* (NEPA), as amended, are available on the following website: <https://www.energy.gov/nepa/doeeis-0547-s1-supplemental-eis-enhanced-plutonium-facility-utilization-livermore-california>.

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Background

NNSA is responsible for meeting the national security requirements established by the President and Congress to maintain and enhance the safety, reliability, and performance of the U.S. nuclear weapons stockpile. The continued operation of LLNL is critical to NNSA's Stockpile Stewardship Program (SSP), to prevent the spread and use of nuclear weapons worldwide, and to many other areas that may impact national security and global stability (50 U.S.C. §2521). In November 2023, NNSA completed the 2023 LLNL SWEIS, which analyzed the potential environmental impacts of the reasonable alternatives for continuing LLNL operations for the next 15 years to fulfill mission requirements. The ROD for the 2023 LLNL SWEIS was issued on February 20, 2024 (89 *Federal Register* [FR]12831).

The NNSA nuclear security enterprise is currently performing the highest throughput of work in more than 30 years, which includes plutonium research and development (R&D). As the Nation's weapons continue to age beyond their original design lifetime, an increased amount of experimental data developed through plutonium R&D is necessary to continue NNSA's science-based stewardship of the nuclear weapons stockpile. Since publication of the 2023 LLNL SWEIS, NNSA identified a need for additional R&D capacity and capability due to new and evolving international security concerns. NNSA is constrained in plutonium R&D capacity and capability, and the Plutonium Facility R&D capabilities at LLNL could be better optimized in support of mission areas.

The NEPA process for the LLNL SEIS began with the publication of the Notice of Intent (NOI) in the *Federal Register* on January 13, 2025 (90 FR 2678). Publication of the NOI began a 45-day public scoping comment period, during which NNSA held one virtual scoping meeting. All comments received during the scoping period were considered and incorporated into the development of the Final LLNL SEIS.

Summary of Alternatives

The LLNL SEIS analyzes two alternatives: the No-Action Alternative and the Enhanced Plutonium Facility Utilization Proposed Action. The LLNL SEIS tiers from and uses the 2023 LLNL SWEIS as the baseline data for the No-Action Alternative and analyzes the potential environmental impacts for the Proposed Action. The Proposed Action would: (1) enhance utilization of Building 332 to allow an increase in R&D activities and a corresponding increase in the amount of fissile materials used, (2) upgrade the security categorization of the Plutonium Facility from Security Category (CAT) III to Security CAT II, (3) conduct security and other infrastructure construction activities at the Superblock to support Security CAT II operations in the Plutonium Facility, (4) increase materials shipments and waste generation/shipments, (5) add operational and security personnel to support Security CAT II operations, and (6) construct a new office building to support additional personnel. Although NNSA proposed a change to the security category of the facility in the LLNL SEIS, NNSA did not propose changes to the hazard categorization of the facility or changes to the administrative limit in the Plutonium Facility in that document. The only action proposed at Site 300 in the LLNL SEIS would be an upgrade to an existing live fire shoot house.

In accordance with the NEPA statute (42 U.S.C. 4331 et seq.) and DOE's NEPA Implementing Procedures (June 30, 2025; Rev 1 February 2026), on January 13, 2026, NNSA issued the Draft LLNL SEIS for a 30-day comment period to agencies with jurisdiction by law or special expertise with respect to any environmental impact involved. NNSA considered the comments from the agencies and provided responses, which are found in the appendix of the Final LLNL SEIS.

Summary of Potential Environmental Impacts

A summary of the potential impacts of the Proposed Action alternative is provided below for each resource area:

Land Use: Up to five additional acres of previously developed areas on the Livermore Site could be disturbed, which would be an increase of 0.7 percent over the No-Action Alternative. Operations would be consistent with current land use designations and historic uses of LLNL land.

Visual Resources: Construction activities on the Livermore Site would not be visible from the site boundary. At Site 300, upgrades to the training area would be visible from Corral Hollow Road and be consistent with the existing character of the site but would not change the existing views of Site 300.

Geology and Soils: Soil disturbances on the Livermore Site would be minimal. Erosion controls and best management practices would be used to minimize soil erosion during construction and operations. No known geologic resources would be adversely affected by construction and operations.

Water Resources: No change in impervious surfaces would occur. Ongoing remediation efforts would continue to improve groundwater conditions at LLNL.

Air Quality: Construction and operational emissions would not: (1) be greater than the *de minimis* thresholds of any criteria pollutant for which the project region is in non-attainment, (2) expose any receptors to pollutant concentrations, (3) conflict with or obstruct implementation of the applicable air quality plan, or (4) violate any air quality standard. There would be no additional radiological emissions over the No-Action Alternative.

Noise: No noise regulations would be exceeded.

Biological Resources: Neither construction nor operations would have any quantifiable impact on native vegetation, plant species of concern, wetlands or waters of the U.S., viability of federally or state-listed species, or modification of U.S. Fish and Wildlife Service-designated critical habitat.

Cultural and Paleontological: Excavations are expected to be in highly disturbed areas and at depths of less than approximately 10 feet. Consequently, there is a low probability that cultural resources such as fossil remains could be encountered during construction activities.

Socioeconomics and Demographics: Approximately 245 additional personnel would be added at the Livermore Site, which would be an increase of 2.2 percent over the No-Action Alternative. Therefore, there would be no impact on fire protection, police protection services, medical services, and school enrollment. No disproportionate or adverse impacts are expected for at-risk populations.

Traffic and Transportation: Local traffic would increase by an average of approximately 0.3 percent but would not affect the level of service on roads in the vicinity of LLNL.

Radiological and Hazardous Material Transportation: Anticipated changes would include an increase in routine transuranic (TRU) waste shipments from 8 to 10 shipments per year, and 30 additional shipments associated with non-routine TRU waste that was not accounted for in the 2023 LLNL SWEIS. This includes TRU waste associated with decontamination of rooms, gloveboxes, and major pieces of equipment, some of which would require shipment directly to the Idaho National Laboratory (INL) for characterization, volume reduction, and repackaging. The 2023 LLNL SWEIS acknowledged the possibility for TRU packages to be shipped to INL for any additional characterization or repackaging that may be required. There would also be an increase in plutonium-material shipments from 22 to 40 shipments per year. Overall, the total number of shipments for LLNL would increase from 888 to 938. This would yield a cumulative dose to transportation crews of 73.8 person-rem per year (a 6.6 percent increase over the No-Action Alternative), with an associated risk of 0.045 latent cancer fatalities (LCFs) per year. For the entire population along the transportation route, the cumulative collective dose would be 30.0 person-rem (a 21 percent increase over the No-Action Alternative), with an associated risk of 0.018 LCF per year. Potential doses to the public and workers would be well below regulatory limits.

Infrastructure: The existing infrastructure (water consumption, sanitary sewer, electricity usage) would be adequate to support the construction and operations.

Waste Management: There would be increases in routine low-level radioactive waste (LLW). For routine LLW generation, waste volumes would increase from 1,000 cubic meters per year to 1,200 cubic meters per year, a 20 percent increase. The non-routine LLW generation would remain the same as under the No-Action Alternative. The total (routine plus non-routine) LLW generated would increase by 2.5 percent over the No-Action Alternative. There is sufficient onsite storage capacity to handle the increased LLW prior to transporting this waste to either the Nevada National Security Site or EnergySolutions in Clive, Utah, for disposal. While the routine and non-routine TRU/Mixed TRU waste generation is also expected to increase, the total annual generation would remain within the projections in the 2023 LLNL SWEIS of 175.6 cubic meters per year. There is sufficient onsite storage capacity to handle the increased TRU waste. Once sufficient TRU waste is accumulated and verified to meet the Waste Isolation Pilot Plant (WIPP) waste acceptance criteria, arrangements would be made to ship the waste to WIPP and INL (as an intermediate site for waste processing).

Human Health & Safety: At the Livermore Site, there would be no change to the public radiation doses from radiological emissions compared to the No-Action Alternative. The collective worker dose would increase by 28.8 person-rem (a 27 percent increase over the No-Action Alternative) and worker LCFs would increase from 0.06 to 0.08 LCFs. This is equivalent to 0.08 cancer fatalities in their lifetime for the workers receiving a measurable dose.

Accidents: There would not be any additional accident risks over the No-Action Alternative. The accident analysis is based on the material at risk, which does not change under the proposed Security CAT II operations. Therefore, there are no changes in accident impacts from the impacts discussed in the No-Action Alternative.

Intentional Destructive Acts: NNSA prepared a Conceptual Security Vulnerability Assessment (CVA) to determine physical mitigative features for the Superblock based on potential terrorist threats for Security CAT II operations. The CVA provides security mitigations that would not result in consequences relative to environmental concerns different from the No-Action Alternative. The CVA contains sensitive information related to security concerns and is not publicly releasable.

Decision

NNSA is constrained in plutonium R&D capacity and capability and the Plutonium Facility R&D capabilities at LLNL could be better optimized in support of mission areas. The increased amount of experimental data that would be developed through plutonium R&D is necessary to continue NNSA's science-based stewardship of the nuclear weapons stockpile. NNSA has decided to implement the Proposed Action, which would enable NNSA to fulfill its statutory missions and other responsibilities, considering economic, environmental, technical, and other factors.

NNSA has prepared this AROD pursuant to NEPA, 10 CFR Part 1021, and DOE's NEPA Implementing Procedures (June 20, 2025; Rev 1, February 2026). This AROD is based on Federal law, NNSA's mission, and information and analysis in the LLNL SEIS.

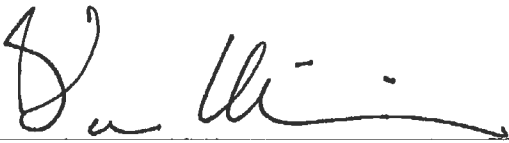
Basis for Decision

The Final LLNL SEIS provides the NNSA decision-maker with important information regarding the potential environmental impacts of alternatives and options for satisfying the purpose and need. In addition to environmental information, NNSA also considered public scoping comments, comments from agencies with jurisdiction on the Draft LLNL SEIS, statutory responsibilities, strategic objectives, technical needs, safeguards and security, costs, and schedule in its decision-making.

Mitigation Measures

Because no potential adverse impacts were identified that would require additional mitigation measures beyond those required by regulation or achieved through design features or best management practices, NNSA does not expect to prepare a mitigation action plan.

Signed in Washington, D.C. this 11 day of MAY 2026.



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