



[6450-01-P]

DEPARTMENT OF ENERGY

National Nuclear Security Administration

Notice of Intent to Prepare a Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory

AGENCY: National Nuclear Security Administration, Department of Energy.

ACTION: Notice of intent.

SUMMARY: The National Nuclear Security Administration (NNSA), a semi-autonomous agency within the United States (U.S.) Department of Energy (DOE), announces its intent to prepare a Site-Wide Environmental Impact Statement (SWEIS) for the Lawrence Livermore National Laboratory (LLNL or Laboratory) in Livermore, California (LLNL SWEIS). The LLNL SWEIS will be prepared by NNSA's Livermore Field Office (LFO) and analyze the potential environmental impacts of the Proposed Action, other reasonable alternatives that may be identified, and the No Action Alternative for continuing operations of LLNL for approximately the next 15 years. The continued operation of LLNL is critical to NNSA's Stockpile Stewardship Program, to preventing the spread and use of nuclear weapons worldwide, and to many other areas that may impact national security and global stability. The Proposed Action Alternative will include continued operations and foreseeable new and/or modified operations/facilities to address aging infrastructure concerns at LLNL. The purpose of this Notice is to invite public participation in the process and to encourage public involvement on the scope and alternatives that should be considered.

DATES: The public scoping period begins with the publication of this Notice in the *Federal Register* and continues until **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION]**

IN THE *FEDERAL REGISTER*]. Comments received after this date will be considered to the extent practicable. NNSA will hold one public scoping meeting for the proposed LLNL SWEIS as follows:

In light of recent public health concerns, NNSA will be hosting an internet-based, virtual public scoping meeting in place of an in-person meeting. The date of the meeting will be provided in a future notice posted on the following website: <https://www.energy.gov/nnsa/nnsa-nepa-reading-room>. NNSA will hold the meeting no earlier than 15 days from the posting of the notice. Public scoping meeting details will also be announced in local media outlets.

ADDRESSES: NNSA invites other Federal and state agencies, state and local governments, Native American tribes, industry, other organizations, and members of the public to submit comments to assist in identifying environmental issues and in determining the appropriate scope of the LLNL SWEIS. Written and oral comments will be given equal weight and NNSA will consider all comments received or postmarked by the end of the comment period in preparing the Draft LLNL SWEIS. Comments received or postmarked after the comment period will be considered to the extent practicable. Written comments on the scope of the LLNL SWEIS or requests for information related to the LLNL SWEIS should be sent to: Ms. Fana Gebeyehu-Houston, NEPA Document Manager, National Nuclear Security Administration, Livermore Field Office, 7000 East Avenue, L-293, Livermore, CA 94550-9234 or email to: LLNLSWEIS@NNSA.DOE.GOV. Before including your address, phone number, email address, or other personally identifiable information in your comment, please be advised that your entire comment — including your personally identifiable information — may be made publicly available. If you wish for NNSA to withhold your name and/or other personally identifiable information,

please state this prominently at the beginning of your comment. You may also submit comments anonymously.

Information related to the online scoping meeting, including internet and telephone access details, and instructions on how to participate will be available at the following website: <https://www.energy.gov/nnsa/nnsa-nepa-reading-room> and announced in local media outlets.

FOR FURTHER INFORMATION CONTACT: For further information about this Notice, please contact Ms. Fana Gebeyehu-Houston, NEPA Document Manager, National Nuclear Security Administration, Livermore Field Office, 7000 East Avenue, L-293, Livermore, CA 94550-9234; phone: 833-778-0508; or email to: LLNLSWEIS@NNSA.DOE.GOV.

SUPPLEMENTARY INFORMATION:

Background

LLNL has been in existence for 68 years, has an annual budget of approximately \$2.2 billion and employs approximately 8,000 people. LLNL consists of two federally-owned sites: a 770-acre site in Livermore, California (Livermore Site) and a 7,000-acre experimental test site (Site 300) southeast of the Livermore Site between Livermore and Tracy, California. Most LLNL operations are located at the Livermore Site, which is situated about 50 miles east of San Francisco in southeastern Alameda County. Site 300 is primarily a test site for explosives and non-nuclear weapons components; it is located about 15 miles southeast of Livermore in the hills of the Diablo Range. Most of Site 300 is located in San Joaquin County; the western edge of the site is in Alameda County.

Missions

The 21st century presents a growing set of challenges that are the focus of the Laboratory's mission as a DOE/NNSA national security laboratory. LLNL's defining responsibility is ensuring the

safety, security, and reliability of the nation's nuclear deterrent. LLNL's mission is broader than stockpile stewardship and also includes missions that respond to national security and global security concerns that range from nuclear proliferation and terrorism to energy shortages and climate change. The Laboratory's science and engineering capabilities are applied to these challenges. Programs at LLNL support DOE, NNSA, Department of Defense (DoD), Department of Homeland Security (DHS), and other federal sponsor missions. LLNL also conducts work to collaborate with and support state and local agencies, private and academic sponsors, and other scientific collaborators.

Basic science is the engine that drives national security research at LLNL. Funded by a broad contingent of the scientific community — including the Office of Science, academic partners, and Laboratory Directed Research and Development investments — basic science ensures that LLNL research capabilities remain at the cutting edge and that LLNL's scientists and engineers are prepared to solve critical challenges across national security missions. This basic science supports the LLNL missions.

Weapons

The Weapons Program works to ensure that the nation's nuclear deterrent remains safe, secure, and reliable. The program accomplishes this through the Stockpile Stewardship Program — an ongoing effort to apply a science-based fundamental understanding of nuclear weapons performance — from the development of enhanced warhead surveillance tools that detect the onset of problems to manufacturing capabilities that produce critical components. High performance computational capabilities used for physics computer simulations and code development are conducted on some of the world's most capable supercomputers, located at LLNL.

Lasers

The National Ignition program is an important national scientific resource that uses advanced lasers to research materials at temperatures and pressures that otherwise would only exist in the cores of stars and giant planets and inside nuclear weapons. The National Ignition Facility's (NIF) primary purpose is assuring viability of the nation's nuclear deterrent as part of the Stockpile Stewardship Program. This includes a variety of scientific studies from the DOE national laboratories, high energy density science research centers, academia, and other national and international scientific programs.

Biosecurity

To keep the world safe from ever-changing biological threats, revolutionary advances in detection, characterization and mitigation are essential to safeguard against disease. High performance computational capabilities are used to enhance bioinformatics and to develop novel drug development strategies and point-of-care public health monitoring and detection.

Counterterrorism

In a world where threats are continuously changing, the Laboratory is working diligently to help the nation prevent and mitigate catastrophic incidents arising from biological, chemical, radiological, or high explosive materials. This broad scope of capabilities has resulted in collaborations with sponsors such as DHS, the Department of Agriculture, the Department of Justice, the Department of Commerce, state and local governments, and non-governmental organizations.

Defense

LLNL supports DoD as a preeminent innovative science and technology contributor. For 68 years the Laboratory has answered the call to help defend this nation, fielding products and providing

services that strengthen the ability of the DoD to achieve precision effects and enhance situational awareness.

Energy

LLNL advances the nation's security through innovative science and technology solutions to improve national energy security and surety while reducing environmental impact. LLNL is developing technologies that enable expanded use of renewable energy, improved efficiency, new resources, systems integration, and reduced costs.

Intelligence

The Laboratory's Intelligence Program delivers comprehensive analysis, policy and operational support in areas where technology research and development are critical to national strategic priorities, from combating weapons of mass destruction and cyber security, to space and other emerging and disruptive technologies.

Nonproliferation

With globalization and the spreading availability of technologies, proliferation challenges continue to grow and evolve. LLNL works to stem chemical, biological, radiological, and nuclear proliferation by providing scientific and technological solutions and sound advice to counter emerging threats.

Purpose and Need for Agency Action

National security policies require DOE, through NNSA, to maintain the U.S. nuclear weapons stockpile and the nation's core competencies in nuclear weapons. NNSA has the mission to maintain and enhance the safety, security, and effectiveness of the nuclear weapons stockpile. The 2018 Nuclear Posture Review (NPR) states that an effective, responsive, and resilient nuclear weapons infrastructure is essential to the U.S. capacity to adapt flexibly to shifting requirements

and support the sustainment of its nuclear forces to protect the homeland, assure allies, deter adversaries, and hedge against adverse developments.

The U.S. nuclear weapons infrastructure is aging and historically underfunded. Over half of NNSA's infrastructure is over 40 years old, and a quarter dates back to the early 1950s. Previous NPRs have highlighted the need to maintain a modern nuclear weapons infrastructure, but the U.S. has fallen short in sustaining a modern infrastructure that is resilient and has the capacity to respond to unforeseen developments. The 2018 NPR places a high priority on recapitalizing the physical infrastructure needed to produce strategic materials and components for U.S. nuclear weapons.

The 2018 NPR affirms the U.S. will have the ability to maintain and certify a safe, secure, and effective nuclear arsenal. Synchronized with DoD replacement programs, the U.S. will sustain and deliver on-time the warheads needed to support both strategic and non-strategic nuclear capabilities by completing several Life Extension Programs (LEPs) as part of the Stockpile Stewardship Program. LLNL will complete some of the LEPs by conducting testing and maintenance of weapons components without nuclear testing. LLNL will also continue its basic science to support biosecurity, counterterrorism, defense, weapons technology, energy, intelligence, nonproliferation, space programs, climate security, and cybersecurity.

LLNL is in need of facilities and infrastructure investments. Half of the operating buildings at LLNL are assessed as being inadequate or in substandard condition. This deterioration of assets presents program and operational risks in executing mission needs, attracting and maintaining a high-quality workforce, and meeting regulatory requirements.

Requirements to Fulfill DOE NEPA Compliance

The LLNL SWEIS will be prepared pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.), the Council on Environmental Quality's NEPA regulations (40

CFR parts 1500–1508) and the DOE NEPA Implementing Procedures (10 CFR part 1021). The DOE regulations (10 CFR 1021.330) require preparation of site-wide documents for certain large, multiple facility sites, such as LLNL. The purpose of a SWEIS is to provide the public with an analysis of the potential environmental impacts from ongoing and reasonably foreseeable new and modified operations and facilities, and reasonable alternatives at a DOE site, to provide a basis for site-wide decision making, and to improve and coordinate agency plans, functions, programs, and resource utilization. The SWEIS provides an overall NEPA baseline so that the environmental effects of proposed future changes in programs and activities can be compared to the baseline. A SWEIS also enables DOE to “tier” its later NEPA project-specific reviews at a site to eliminate repetitive discussion of the same issues in future project-specific NEPA studies, and to focus on the actual issues ready for decisions at each level of environmental review.

The NEPA process allows for all interested agencies (federal, state and local), public interest groups, Native American Tribes, local businesses, and members of the general public to participate in the environmental review process. The new SWEIS will utilize the baseline information from the previous LLNL SWEIS (2005 LLNL SWEIS), to the extent possible, as well as current information contained in annual site environmental reports and other technical reports.

Preliminary Alternatives

The scoping process is an opportunity for the public to assist NNSA in determining the alternatives and issues for analysis. NNSA welcomes specific comments or suggestions on the content of these alternatives, or on other alternatives that could be considered. A preliminary set of alternatives and issues for evaluation in the LLNL SWEIS is identified below. Additionally, during the development of the LLNL SWEIS, NNSA may consider other alternatives judged to be reasonable.

No Action Alternative: Continuing Present Operations

The No Action Alternative would continue current facility operations throughout LLNL in support of assigned missions. NEPA regulations require analysis of the No Action Alternative to provide a benchmark for comparison with environmental effects of the other alternatives. This alternative includes the programs and activities described above in the LLNL Mission and those activities for which NEPA review is already done or underway.

Proposed Action Alternative

The programmatic context for this alternative is the continued support of existing programs and development of additional missions or projects that would be needed to meet DOE/NNSA mission requirements and sustain science, technology, and engineering excellence to respond to future national security challenges. This alternative would include the scope of the No Action Alternative, as described above, and an increase in current facility operations or enhanced operations that may require new or modified facilities and are reasonably foreseeable over the next 15 years. NNSA has identified four categories of actions associated with the Proposed Action: (1) New Facility Construction Projects; (2) Modernization/Upgrades of Existing Facilities and Infrastructure; (3) Operational Changes; and (4) Decontamination, Decommissioning, and Demolition Projects. Each of these categories of actions is discussed below.

NNSA has identified approximately 35 new facility construction projects, including laboratory facilities related to materials engineering, exascale computing, laser-explosives applications, and high explosives research and development; general office buildings; maintenance facilities; science centers for both nuclear security and forensics; and a new fire station. New facility projects would be proposed at both the Livermore Site and Site 300.

With regard to modernization/upgrades of existing facilities and infrastructure, NNSA has identified approximately 65 discrete projects, including upgrades to basic infrastructure (e.g.,

domestic water systems, electrical systems, fire protection systems, communication systems, and security systems); modernization of firing and control systems at Site 300; NIF laser power upgrades and utility system replacements; biosecurity and bioscience facility upgrades; modernization of high performance computing capabilities; seismic risk reduction initiatives; and waste management facility enhancements. Modernization/upgrades will extend facility lifetimes, improve work environments, and enhance operational capabilities.

Proposed operational changes are expected to include: changes to material-at-risk (MAR), administrative limits, and radiological bounding accident scenarios as a result of the deinventory of Security Category I and II special nuclear materials from LLNL, which was completed in 2012; and changes in various facility operations, which would be defined in the LLNL SWEIS, and may result in changes in generated wastes and shipments to disposal sites. All proposed operational changes would be described in detail and analyzed in the Draft LLNL SWEIS.

Decontamination, decommissioning, and demolition of older facilities would be conducted on a continuing basis to eliminate excess facilities and reduce costs and risks. Over the 15-year LLNL SWEIS planning horizon, NNSA has identified more than 110 excess facilities, totaling more than 1.1 million square feet, to be decontaminated, decommissioned, and demolished.

The net effect of new facility construction, existing facility modernization/upgrades, and demolition of excess facilities is expected to reduce LLNL's footprint and improve the efficiency of operations. The LLNL SWEIS will identify the specific projects and facilities that are potentially affected by the Proposed Action, and will assess the potential impacts associated with implementation of the Proposed Action.

Other Potential Reasonable Alternatives

The timeframe for the LLNL SWEIS analysis is approximately 15 years into the future. NNSA recognizes that requirements, needs, opportunities, and vision may change over such a long planning horizon. Consequently, NNSA is exploring the possibility of including additional alternatives in the LLNL SWEIS — such as reduced operations or expanded operations — that could be reasonable and responsive to that planning horizon. NNSA welcomes input on alternatives that the public thinks are reasonable and should be analyzed in the LLNL SWEIS.

Alternatives that NNSA will not consider as reasonable are: the complete closure and decontamination and decommissioning of the Livermore Site or Site 300, and transfer of current missions/operations from LLNL to other sites, as those actions would be inconsistent with the LLNL mission defined by NNSA. Such a possibility was considered in 2008 when NNSA prepared the Complex Transformation Supplemental Programmatic EIS. In that document, NNSA concluded that, “as a result of the continuing challenges of certification [of nuclear weapons] without underground testing, the need for robust peer review, benefits of intellectual diversity from competing physics design laboratories, and uncertainty over the details [of] future stockpiles, NNSA does not consider it reasonable to evaluate laboratory consolidation [or elimination] at this time.” That conclusion has not changed today. In addition, as one of only three nuclear weapons laboratories, LLNL contributes significantly to the core intellectual and technical competencies of the United States related to nuclear weapons. These competencies embody more than 50 years of weapons knowledge and experience. The laboratories perform the basic research, design, system engineering, development testing, reliability and assessment, and certification of nuclear weapon safety, reliability, and performance. From a broader national security perspective, the core intellectual and technical competencies of LLNL (and Los Alamos National Laboratory and

Sandia National Laboratories [NNSA's other nuclear weapons laboratories]) provide the technical basis for the pursuit of U.S. arms control and nuclear nonproliferation objectives.

The Complex Transformation Supplemental Programmatic EIS also considered and evaluated the transfer of missions/operations to/from LLNL, and NNSA has implemented, as appropriate, decisions that followed preparation of that document. NNSA has not identified any new proposals for current missions/operations that are reasonable for transfer to/from LLNL.

Preliminary Environmental Analysis

The following issues have been identified for analysis in the LLNL SWEIS. The list is tentative and intended to facilitate public comment on the scope of the LLNL SWEIS. It is not intended to be all-inclusive, nor does it imply any predetermination of potential impacts. The NNSA specifically invites suggestions for the addition or deletion of items on this list.

1. Potential effects on the public and workers from exposures to radiological and hazardous materials during normal operations, construction, reasonably foreseeable accidents, and intentional destructive acts.
2. Impacts on surface and groundwater, floodplains and wetlands, and on water use and quality.
3. Impacts on air quality.
4. Impacts to plants and animals and their habitat, including species which are federally- or state-listed as threatened or endangered, or of special concern.
5. Impacts on physiography, topography, geology, and soil characteristics including vadose zone.
6. Impacts to cultural resources such as those that are historic, prehistoric, archaeological, scientific, or paleontological.

7. Socioeconomic impacts to affected communities.
8. Environmental Justice, particularly whether or not activities at LLNL have a disproportionately high and adverse effect on minority and/or low-income populations.
9. Potential impacts on land use and applicable plans and policies.
10. Impacts from traffic and transportation of radiological and hazardous materials and waste on and off the LLNL sites.
11. Pollution prevention and materials and waste management practices and activities.
12. Impacts on visual aesthetics and noise levels of the LLNL facilities on the surrounding communities and ambient environment.
13. Impacts to community services, including fire protection, police protection, schools, and solid waste disposal in landfills.
14. Impacts from use of utilities, including water and electricity consumption, fuel use, sewer discharges, and resource conservation.
15. Impacts from site contamination, characterization and remediation.
16. Unavoidable adverse impacts due to natural phenomena (e.g., floods, earthquakes, etc.).
17. Environmental compliance and inadvertent releases.
18. Short term uses and long-term productivity.
19. Irreversible and irretrievable commitment of resources.
20. Cumulative effects of past, present, and future operations.
21. Reasonably foreseeable impacts associated with the shutdown or demolition of excess facilities.
22. Mitigation commitments.

Site Specific LLNL SWEIS Process

The scoping process is intended to involve all interested agencies (federal, state, and local), public interest groups, Native American Tribes, local businesses, and members of the general public. Interested parties are invited to participate in the LLNL SWEIS process, to refine the preliminary alternatives and environmental issues that are not reasonable or pertinent. Input from the scoping meeting will assist NNSA in formulating the proposed action, refining the alternatives, and defining the scope of the LLNL SWEIS analyses.

Following the scoping process announced in this Notice, and after consideration of comments received during scoping, NNSA will prepare a Draft LLNL SWEIS for the continued operation of the LLNL. NNSA will announce the availability of the Draft LLNL SWEIS in the **Federal Register** and local media outlets. NNSA will hold one or more public hearings for the Draft LLNL SWEIS. Any comments received on the Draft LLNL SWEIS will be considered and addressed in the Final LLNL SWEIS. NNSA will then issue a Record of Decision no sooner than 30 days after publication by the Environmental Protection Agency of a Notice of Availability of the Final LLNL SWEIS.

Relationship to Existing and Other NEPA Analyses

NNSA is responsible for management and implementation of the requirements of NEPA and the regulations and policies promulgated thereunder, including but not limited to the Council of Environmental Quality NEPA regulations (40 CFR parts 1500-1508), the DOE NEPA implementing procedures (10 CFR part 1021), and NNSA Policy (NAP) 451.1. In addition to compliance with NEPA, the LLNL SWEIS will address requirements in the California Environmental Quality Act (CEQA), Public Resources Code Sec 21000 et seq. Because requirements for NEPA and CEQA are somewhat different, the document would be prepared to comply with whichever requirements are more stringent.

The current SWEIS for Continued Operation of LLNL (2005 LLNL SWEIS) was completed in 2005. This was the conclusion of a process involving roughly 42 months of analysis, public meetings, and document preparation. Previously, a SWEIS was issued in 1992. While there is no specific “lifespan” for a SWEIS, historically, NNSA has performed new SWEIS analyses for national laboratories on an average of every 10 years.

In 2008, the NNSA completed the Complex Transformation Supplemental Programmatic EIS which included further analysis for LLNL programs/facilities. Some facilities identified for closure in that document remain operational due to programmatic requirements.

In 2011, NNSA prepared a Supplement Analysis (SA) to the 2005 LLNL SWEIS which included new information that was not available for consideration when the 2005 LLNL SWEIS was prepared. It concluded that the 2005 LLNL SWEIS remained adequate for LLNL for the next five years. A team of LFO and Lawrence Livermore National Security, LLC subject matter experts then began working on a new SA in 2016. Although this more recent SA process was not completed, the team reached a consensus that a new SWEIS would provide numerous programmatic and operational benefits for the LLNL national security mission.

EIS Preparation and Schedule

NNSA expects to issue the Draft LLNL SWEIS in early 2021.

Signing Authority

This document of the Department of Energy was signed on this 21st day of July, 2020, by Lisa E. Gordon-Hagerty, Under Secretary for Nuclear Security and Administrator, NNSA, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the Federal Register.

Signed in Washington, DC, on July 31, 2020.

Treena V. Garrett,

Federal Register Liaison Officer,

U.S. Department of Energy.

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