LLNL SWEIS: Potential Environmental Impacts

The National Nuclear Security Administration (NNSA), a semi-autonomous agency with the Department of Energy (DOE) has prepared this Draft Site-Wide Environmental Impact Statement (SWEIS) to evaluate the continued operation of Lawrence Livermore National Laboratory (LLNL). The Draft LLNL SWEIS analyzes the potential environmental impacts of the reasonable alternatives for continued and proposed LLNL operations for approximately the next fifteen (15) years. This fact sheet summarizes the potential environmental impacts for the alternatives that are analyzed in the Draft SWEIS.

Resource Area:	Potential Environmental Impacts:
Land Use	No-Action Alternative: 13.6 acres disturbed/affected at Livermore Site and less than 1 acre at Site 300. Proposed Action: 85.5 acres at Livermore Site and 36 acres at Site 300.
Aesthetics & Scenic Resources	Replacing aging facilities would improve the overall visual appearance, but the Livermore Site would remain highly developed with a campus-style appearance. No notable changes at Site 300.
Geology & Soils	Soil disturbances would be minimal. Ongoing remediation efforts would continue to improve soil conditions at both sites. Any new facility would be designed and constructed to meet seismic design criteria commensurate with the risk category requirements.
Water Resources	No adverse impacts are expected, and remediation efforts would continue to improve groundwater conditions at both sites.
Air Quality	Construction and operational emissions would not violate any air quality standard. Greenhouse gases would increase slightly but would represent 0.03 percent of the State of California GHG emissions.
Noise	Although construction and DD&D activities would cause temporary noise impacts, most activities would be confined to areas more than 500 feet from site property boundaries.
Biological Resources	There would be no appreciable impact on native vegetation or federally or state-listed species.
Cultural Resources	The probability of impacting resources would be very low based on past history. Any excavations have the potential to impact similar fossils/fossil remains. Both sites have undergone a comprehensive review to identify significant historic buildings, structures, and objects, and those that were determined eligible for the National Register have already been mitigated and are no longer eligible.
Socioeconomic Characteristics	No-Action Alternative: Employment is projected to increase to 9,340 workers. This would represent an increase of 1,431 workers over the 2019 workforce. Proposed Action: Employment is projected to increase to 10,750 workers.
Environmental Justice	There would be no high and adverse impacts from construction and operation activities at LLNL are expected. Consequently, there would be no disproportionately high and adverse impacts to minority or low- income populations. There would be no high and adverse impacts from the transportation of radiological materials, as impacts would be much less than one latent cancer fatality for any member of the public.

Resource Area:	Potential Environmental Impacts:
Nonradiological Traffic & Transportation	Traffic would increase in the vicinity of the Livermore Site but would not affect the level of service on area roads. The New North Entry to the Livermore Site would reduce traffic backups and delays in the mornings on Vasco Road at the West Gate entrance. Increased telecommuting will also mitigate traffic increases.
Radiological Traffic & Transportation	As a result of increased nonroutine shipments of radiological wastes associated with DD&D, there could be more total shipments of radiological materials for both alternatives compared to existing shipments. The potential impacts from these potential offsite shipments would result in: a maximum dose to transport-crews of 69.2 person-rem per year (which equates to a risk of 0.042 latent cancer fatalities annually); and a maximum dose to the general public: 24.7 person-rem (which equates to a risk of 0.015 latent cancer fatalities annually).
Infrastructure	Both water and electricity use would increase. Most of these increases are due to increases in supercomputing activities which are occurring under the No-Action Alternative. The increases would not exceed the available capacity in utility systems. The LLNL water demand would represent approximately 0.3 percent of the Hetch Hetchy water supply capacity. LLNL electric power consumption would represent less than one percent of any of the state-wide demand scenarios.
Waste Management	There could be increased non-routine shipments of low-level waste due to DD&D. Wastes would be managed and shipped in accordance with regulatory requirements and impacts to human health would be small (much less than 0.1 latent cancer fatality). Wastes would not exceed waste management capabilities.
Human Health	Radiological doses to the public and workers would remain well below regulatory limits. Dose to maximally exposed individual would be less than 5 mrem per year, which is half as much as the regulatory dose limit. Statistically, worker doses would result in 0.06 latent cancer fatalities annually.
Accidents & Intentional Destructive Acts	Accident risks would remain low. Due to decreases in radiological materials at the Livermore Site that have occurred over the past 15 years, the bounding radiological accident would have smaller impacts than identified in the 2005 SWEIS. A maximum of 3.1 latent cancer fatalities could result from the highest consequence accident.

FOR MORE INFORMATION:
Livermore Field Office: P.O. Box 808, Livermore, CA 94551, (833) 778-0508

Copies of the Draft LLNL SWEIS are available for review at the Livermore Public Library, 1188 South Livermore Avenue, Livermore, California, and the Tracy Public Library, 20 East Eaton Avenue, Tracy, California.
Copies are available electronically at:
https://www.energy.gov/nepa/doeeis-0547-site-wide-eis-continued-operation-lawrence-livermore-national-laboratory-livermore

HOW TO PROVIDE COMMENTS:

At the public meeting

By email:
LLNLSWEIS@nnsa.doe.gov

By U.S. mail:
Ms. Fana Gebeyehu-Houston
LLNL SWEIS Document Manager, DOE/NNSA
1000 Independence Avenue SW
Washington, DC 20585

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National Nuclear Security Administration

Lawrence Livermore National Laboratory