

Lawrence Livermore National Laboratory (LLNL) Site-wide Environmental Impact Statement (SWEIS) *Public Hearing on the Draft SWEIS*

Fana Gebeyehu-Houston, SWEIS Document Manager

December 7, 2022: In-Person – Livermore

December 8, 2022: In-Person – Tracy

December 13, 2022: Virtual



Agenda

PURPOSE: Receive public comments on Site-wide Environmental Impact Statement

| Topic | Party | Time |
|---------------------------------------|-----------------------|-------------|
| Welcome, Introductions, Review Agenda | Tracy Craig | 6:30 – 6:35 |
| Presentation on SWEIS | Fana Gebeyehu-Houston | 6:35 – 7:00 |
| Clarifying Questions | Tracy Craig | 7:00 – 7:10 |
| Public Comments | Tracy Craig | 7:10 – 8:20 |
| Next Steps | Tracy Craig | 8:20 – 8:30 |

How to Provide Comments

At Meetings: Verbally or through comment cards at the three community hearings

By E-mail: LLNLSWEIS@NNSA.DOE.gov

By Mail:

Ms. Fana Gebeyehu-Houston
LLNL SWEIS Document Manager
DOE/NNSA
1000 Independence Ave. SW
Washington, DC 20585

**Comment Period on the Draft SWEIS:
November 4, 2022 - January 3, 2023**

Presentation and other materials at NEPA Reading Room:
<https://www.energy.gov/nnsa/nnsa-nepa-reading-room>

Hard copies of the Draft SWEIS are also available for review in the Livermore and Tracy Public Libraries.

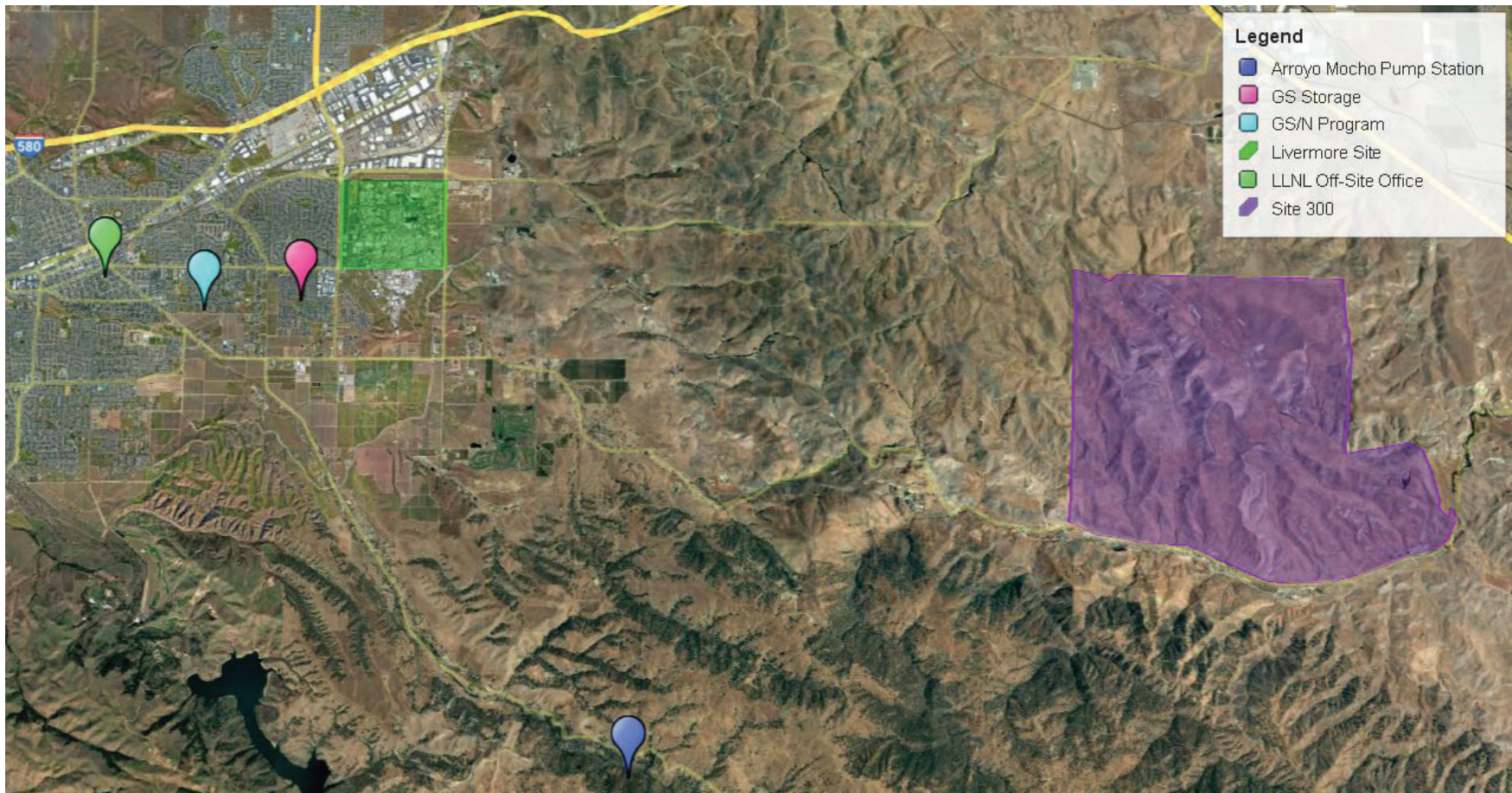
Background - NNSA Missions

- NNSA's Mission
 - Maintains the stockpile
 - Prevents nuclear weapon and nuclear threat proliferation
 - Prevents/counters/responds to terrorist and adversary uses of nuclear or radiological devices, and
 - Powers the Nuclear Navy
- LLNL provides engineering, scientific, computational, and experimental capabilities to meet these missions
- NNSA evaluates approaches to facility and operational requirements to meet this mission through 2035
- NNSA then compiles these facility and operational requirements into one document and prepares a comprehensive Site-wide Environmental Impact Statement in accordance with NEPA regulations

LLNL Background

- LLNL Operations
 - 70-year history in this location
 - Employs 8,200 people
 - Current budget: \$2.8 billion/year (includes non-NNSA agency funding)
- LLNL Sites
 - 770-acre site in Livermore, California
 - 7,000-acre experimental test site near Tracy, California.
- 1 of 3 National Laboratories that certify nuclear weapon safety, reliability and performance
- Multidisciplinary science and engineering base that serves NNSA, DOE, and other agency missions

LLNL and Site 300 Location



Background - SWEIS at LLNL

1992 SWEIS Record of Decision

- First comprehensive site-wide strategy

2005 SWEIS Record of Decision

- Increase the tritium administrative and the material-at-risk limit for the Tritium Facility
- Use plutonium, other-fissile materials, fissionable materials, and lithium hydride in experiments at National Ignition Facility (NIF)
- Increase administrative limit for plutonium

2019 NA-1 Approval to Prepare New EIS

- "...the planned operations in the existing SWEIS are becoming more and more out of sync with the 10 Year Site Plan and the overall strategic and operational direction of the Laboratory."

1999 Supplement Analysis

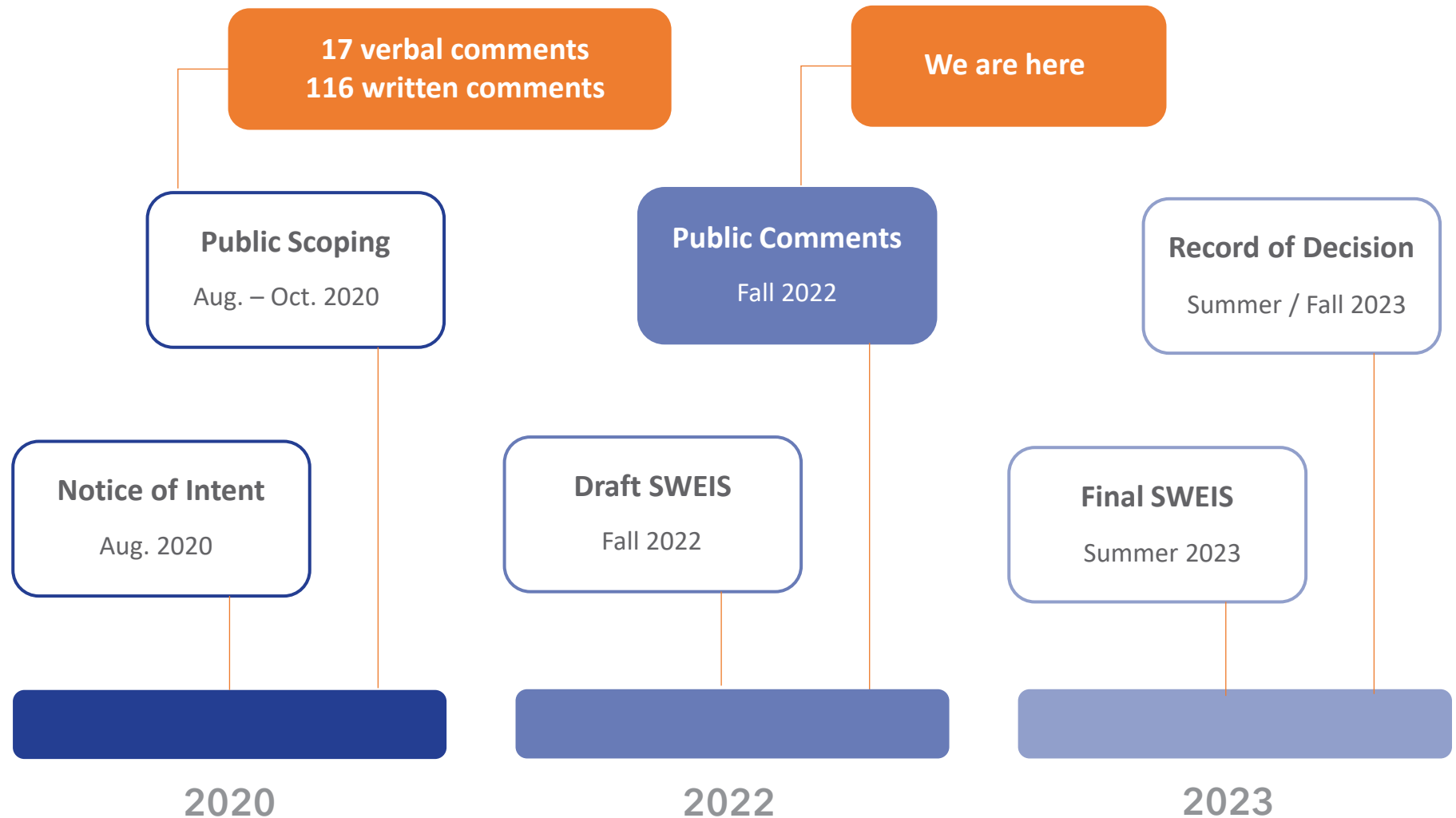
- No supplement of the 1992 SWEIS required

2011 Supplement Analysis

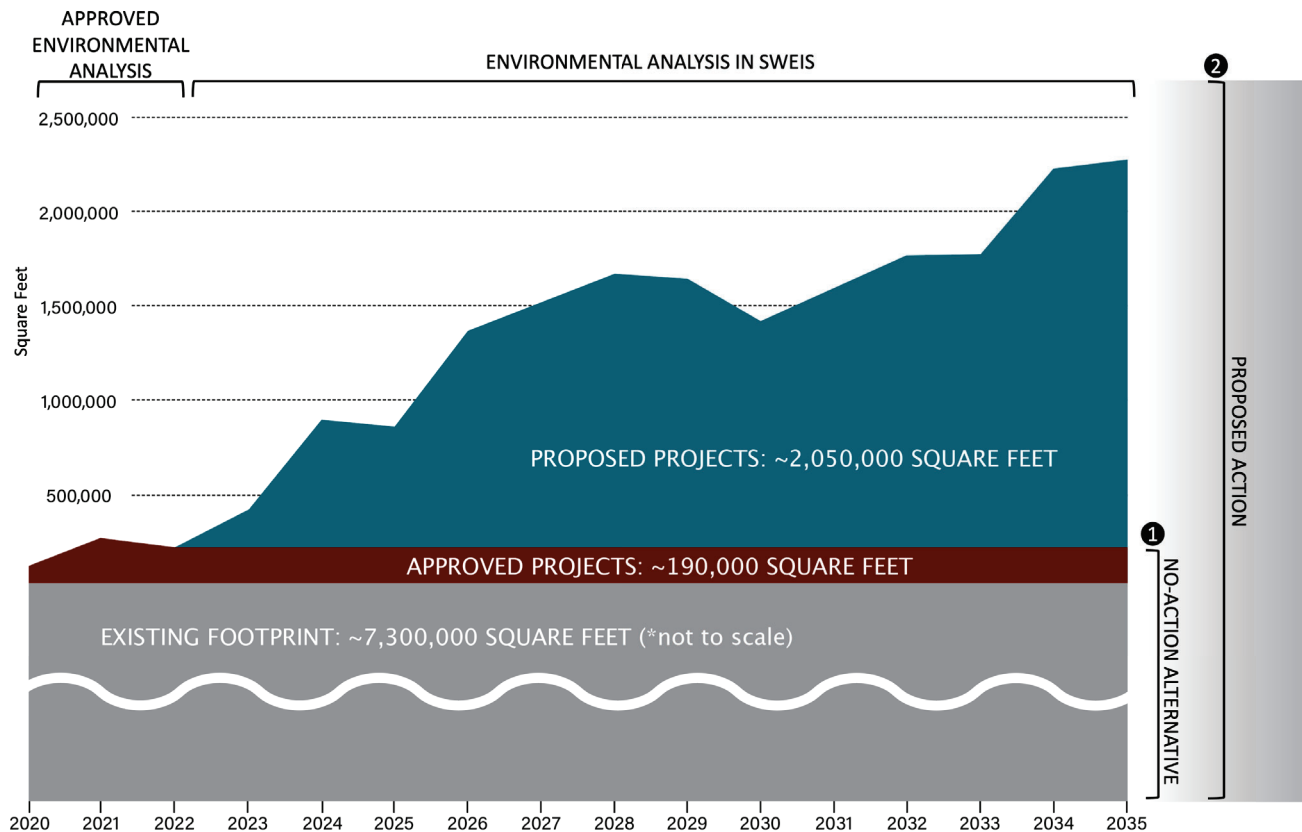
- No supplement of the 2005 SWEIS required

2023 SWEIS Record of Decision

Timeline of NEPA Process



SWEIS Alternatives



- **No-Action Alternative:** Provides a baseline for comparison
- **Proposed Action:** Includes all facility and operational changes

No-Action Alternatives - 3 Types of Projects

1. New Facility Construction

- 19 new facility construction projects totaling 416,300 square feet, for which NEPA review is done or underway through 2022
 - Laboratory facilities (1 at Site 300)
 - General office buildings and conference center
 - Emergency Operations Center

2. Modernization/Upgrade

- A range of projects that include upgrades to infrastructure, computing capabilities, seismic risk reduction, site wide utility upgrades, including Arroyo Mocho pumping station

3. Decontamination, Decommissioning, and Demolition (DD&D)

- 42 excess facilities, 228,000 square feet. Includes 1 facility at Site 300.

Proposed Action - 4 Types of Projects

1. New Facility Construction

- 75 new projects totaling 3.3 million square feet
 - 61 – Livermore Site (2.9 million square feet)
 - 14 – Site 300 (385,000 square feet)
- Multiple Facility Types
 - Laboratory facilities: engineering, computing, research/development
 - General office buildings and maintenance facilities
 - New fire station

2. Modernization/Upgrades

- National Ignition Facility (NIF) upgrades
- Revitalization projects
- Seismic risk reduction
- Laboratory upgrades
- Site-wide utility projects

Proposed Action - 4 Types of Projects

3. Operational Changes

- Increase the tritium emissions limits at the NIF Complex and the Tritium Facility (B331). However, actual emissions from the Tritium Facility and NIF may not increase.
- Decrease the administrative limit for fuels-grade-equivalent (FGE) plutonium in the Superblock facilities.
- Increase the radioactive materials administrative limits, remaining below HC-3 limits per DOE-STD-1027 (2018):
 - NIF Tritium inventory limit would increase from 8,000 curies to 16,000 curies.
 - Decrease administrative limit for Fuels-Grade Equivalent Plutonium, Enriched Uranium, and Depleted Uranium Radioisotopes in Superblock.
 - Increase the plutonium administrative limits in NIF and B235 to 38.2 grams

4. Decontamination, Decommissioning, and Demolition Projects

- 131 facilities at Livermore Site, totaling 1.1 million square feet
- 18 facilities at Site 300, totaling 17,000 square feet

Content of SWEIS

Summary

Volume 1

- Chapter 1 : Introduction and Purpose and Need for Action
- Chapter 2: U.S. DOE and NNSA Capabilities Supported by the LLNL
- Chapter 3: Proposed Action and Alternatives
- Chapter 4: Existing Environment
- Chapter 5: Environmental Consequences
- Chapter 6: Cumulative Impacts
- Chapter 7: References
- Chapter 8: Index
- Chapter 9: Glossary
- Chapter 10: List of Preparers

Volume 2

- Appendix A: Facilities and Infrastructure
- Appendix B: Methodologies Used in the SWEIS
- Appendix C: Human Health, Safety, Accidents, Intentional Destructive Acts, and Emergency Management
- Appendix D: Radiological Transportation
- Appendix E: Floodplain and Wetlands Assessment
- Appendix F: NEPA and CEQA Crosswalk
- Appendix G: Public Notices
- Appendix H: NEPA Disclosure Statements
- Appendix I: 2018-2021 Biological Resources Survey

Key Environmental Impact Findings

| | |
|--|--|
| Land Use | <p>No-Action Alternative: 13.6 acres disturbed/affected at Livermore Site and less than 1 acre at Site 300.</p> <p>Proposed Action: 85.5 acres at Livermore Site and 36 acres at Site 300.</p> |
| Aesthetics and Scenic Resources | <p>Replacing aging facilities could improve the overall visual appearance, but the Livermore Site would remain highly developed with a campus-style or business park appearance. No notable changes at Site 300.</p> |
| Geology and Soils | <p>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.</p> |
| Water Resources | <p>No adverse impacts are expected, and remediation efforts would continue to improve groundwater conditions at both sites.</p> |
| Air Quality | <p>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.</p> |

Key Environmental Impact Findings

| | |
|---|--|
| <p>Noise</p> | <p>Although construction and DD&D activities would cause temporary noise impacts, most activities would be confined to areas on site at least 500 feet from the site property boundary.</p> |
| <p>Biological Resources</p> | <p>There would be no appreciable impact on native vegetation or federally or state-listed species.</p> |
| <p>Cultural Resources</p> | <p>The probability of impacting resources would be very low based on past history. Because fossils have been discovered at both sites, 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.</p> |
| <p>Socioeconomic Characteristics</p> | <p>No-Action Alternative: Employment is projected to increase to 9,340 workers (9,020 workers at the Livermore Site and 320 workers at Site 300). This would represent an increase of 1,431 workers over the 2019 workforce.</p> <p>Proposed Action: Employment is projected to increase to 10,750 workers (10,344 workers at the Livermore Site and 406 workers at Site 300).</p> <p>There would be no notable effect on housing, schools, or community services from the employment increases at LLNL as they contribute only a small portion of the population in the region.</p> |
| <p>Environmental Justice</p> | <p>There would be no disproportionately high and adverse safety risks to minority or low-income populations from construction activities and the transportation of radiological and hazardous materials.</p> |

Key Environmental Impact Findings

| | |
|--|--|
| <p>Traffic and Transportation</p> | <p>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. Transportation impacts would be small.</p> |
| <p>Infrastructure</p> | <p>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.</p> |
| <p>Waste Management</p> | <p>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.</p> |
| <p>Human Health</p> | <p>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.</p> |
| <p>Accidents and Intentional Destructive Acts</p> | <p>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 be similar to that identified in the 2005 SWEIS.</p> |

Next Steps in SWEIS Process

NNSA will evaluate all information – including public comments – and make a formal decision to modify, approve or deny the Proposed Action

- Environmental impacts as studied in the SWEIS
- Public input
- Technical
- Policy
- Cost

A Record of Decision would announce decisions regarding continued operations at LLNL, including:

- Construction and operation of new facilities,
- Modification/upgrade of existing facilities and utilities,
- Operational changes, and
- DD&D of excess and aging facilities.

NNSA and LLNL will continue to inform the public about Laboratory operations through a variety of communication resources, including websites, news releases and social media platforms.

The final SWEIS will include a response to comments and will be available for the public

Five FAQs

Question: Does LLNL conduct manufacturing or production?

Answer: LLNL is a National Laboratory that conducts R&D activities. LLNL does not conduct production and/or manufacturing operations for nuclear weapons. LLNL supports production and manufacturing missions at other NNSA sites through the design and testing of advanced technology concepts.

Question: Are there any limits on the type of Special Nuclear Materials used at LLNL?

Answer: Since NNSA removed Security Category I/II SNM from LLNL in 2012, R&D experiments are limited to Security Category III/IV SNM.

Question: What does the Modernization Program include?

Answer: Modernization programs involve research, design and development that potentially extend the lifetime of existing weapons for multiple decades. LLNL designs and tests advanced technology concepts; provides safety, security, and reliability assessments and certification of stockpile weapons; conducts plutonium and tritium R&D; and hydrotesting, high explosives (HE) R&D and environmental testing.

Five FAQs

Question: Why is another Bio-Safety Level-3 facility proposed?

Answer: LLNL has proposed a **replacement** BSL-3 facility for increased workload with extra space for modern environmental and safety enhancements.

Question: Have the limits of explosive testing at Site 300 changed?

Answer: The increase in weight of explosives at Site 300 is not analyzed in this SWEIS. Experiments will continue with current operational limits of 100 lbs. per day and 1,000 lbs. per year.

The SWEIS includes all identified proposed projects as distributed; new projects envisioned after completion will require separate environmental analysis under NEPA

Clarifying Questions



How to Provide Comments

At public hearing – 3 minutes per person

By E-mail:

LLNLSWEIS@NNSA.DOE.gov

By Mail:

Ms. Fana Gebeyehu-Houston
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Hard copies of the Draft SWEIS are also available for review in the Livermore and Tracy Public Libraries.

Ground Rules for Public Comment

- All comments will be considered equally, whether written, spoken, mailed, or sent via electronic mail. Please remember that the comment period closes January 3, 2023.
- Any individual person wishing to make an oral comment will have an opportunity to do so.
- The time allocated for each individual commenter (3 - 5 minutes) will depend on the number of people who sign up to make an oral comment. The facilitator will announce the time limit at the beginning of the public comment portion of this meeting. Please limit your comment to the time allowed.
- Unused time may **not** be deferred to another commenter. Everyone will be allowed the time specified for comment.

Ground Rules for Public Comment (cont.)

- If time remains before the published meeting end time and everyone who has signed up to comment has had the opportunity to speak, individuals who have already spoken may provide additional comments.
- If you have a written comment, please consider summarizing it during your oral comments and provide the written document for the record.
- As mentioned in the Federal Register notice, today's meeting is on the analysis contained in the Draft Site-Wide Environmental Impact Statement (SWEIS) for Continued Operation of the Lawrence Livermore National Laboratory (LLNL SWEIS). Please limit your comments to this topic.
- Please be respectful of others, even if you don't agree with their comments.