DOE/EIS-0547

FINAL SITE-WIDE ENVIRONMENTAL IMPACT STATEMENT FOR CONTINUED OPERATION OF THE LAWRENCE LIVERMORE NATIONAL LABORATORY



AUGUST 2023

VOLUME 3: COMMENT RESPONSE DOCUMENT

National Nuclear Security Administration

COVER SHEET

RESPONSIBLE FEDERAL AGENCY: U.S. Department of Energy (DOE) / National Nuclear Security Administration (NNSA)

TITLE: *Final Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory* (LLNL SWEIS) (DOE/EIS-0547)

LOCATION: Livermore, California

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This document is available for viewing and downloading on the NNSA NEPA Reading Room website (www.energy.gov/nnsa/nnsa-nepa-reading-room) and the DOE NEPA website (http://energy.gov/nepa/nepa-documents).

Abstract: The NNSA, a semi-autonomous agency within the DOE, 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 the Lawrence Livermore National Laboratory (LLNL) is critical to NNSA's Stockpile Stewardship and Management Program, to prevent the spread and use of nuclear weapons worldwide, and to many other areas that may impact national security and global stability.

NNSA has prepared this SWEIS to analyze the potential environmental impacts of the reasonable alternatives for continuing LLNL operations for approximately the next 15 years. This LLNL SWEIS has been prepared in accordance with Section 102(2)(C) of NEPA (42 U.S.C. §§ 4321–4347, as amended), regulations promulgated by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] Parts 1500–1508), DOE's NEPA implementing procedures (10 CFR Part 1021), and NNSA Policy (NAP) 451.1.

This SWEIS analyzes two alternatives: (1) No-Action Alternative and (2) Proposed Action. This SWEIS also analyzes the new hybrid work environment due to increase in telework at LLNL under both alternatives. Under the No-Action Alternative, NNSA would continue current facility operations throughout LLNL in support of assigned missions. The No-Action Alternative includes the construction of new facilities; modernization/upgrade/utility projects; and decontamination, decommissioning, and demolition (DD&D) of excess and aging facilities through 2022.

The Proposed Action includes the scope of the No-Action Alternative and an increase in current facility operations or enhanced operations that may require new or modified facilities and that are reasonably foreseeable over the next 15 years. Continued re-investment would allow LLNL to meet mission deliverables and sustain science, technology, and engineering excellence to respond to future national security challenges. Approximately 75 new projects, totaling approximately 3.3 million square feet, are proposed over the period 2023–2035. Of this, 61 projects, totaling approximately 2.9 million square feet, are proposed at the Livermore Site; 14 projects, totaling approximately 385,000 square feet, are proposed at Site 300. In addition, NNSA proposes 20 types of modernization/upgrade/utility projects each involving several facilities. Under the Proposed Action, NNSA would also DD&D about 150 facilities, totaling approximately 1,170,000 square feet. NNSA is proposing operational changes that would increase the tritium emissions limits in the National Ignition Facility (Building 581) and the Tritium Facility (Building 331), decrease the administrative limit for fuels-grade-equivalent plutonium in the Superblock (Building 332), increase the administrative limits for plutonium-239 at Building 235, and revise the National Ignition Facility radioactive materials administrative limits to be consistent with DOE's Facility Hazard Categorization Standard. The Proposed Action also includes several projects to enhance the resilience of the energy infrastructure and demonstrate renewable power solutions.

Following completion of this LLNL SWEIS, NNSA intends to decide how operations will be conducted at LLNL, including construction and operation of new facilities, modification/upgrade of existing facilities and utilities, modification of operations, and/or DD&D of excess and aging facilities. These decisions will be provided in the NNSA Record of Decision (ROD).

Public Comments: NNSA issued a Notice of Intent (NOI) in the *Federal Register* (85 FR 47362) on August 5, 2020, announcing a 45-day SWEIS scoping period to receive input on the preparation of the Draft SWEIS. In response to comments, NNSA extended that comment period for 60-days until October 21, 2020. Comments received during the scoping period were considered in the preparation of the Draft SWEIS.

On November 4, 2022, NNSA published the Notice of Availability (NOA) of the Draft LLNL SWEIS in the *Federal Register* (87 FR 66685). NNSA also announced a 60-day comment period and three public hearings (two in-person and one virtual) to receive comments on the Draft LLNL SWEIS. The comment period was scheduled to end on January 3, 2023. On December 9, 2022, NNSA notified the U.S. Environmental Protection Agency (USEPA) that it was extending the comment period until January 18, 2023. On December 16, 2022, the USEPA published a notice in the *Federal Register* that announced the public comment period extension (87 FR 77106). NNSA posted the Draft LLNL SWEIS on the NNSA NEPA Reading room website at https://www.energy.gov/nnsa/nnsa-nepa-reading-room and on the DOE NEPA website at https://www.energy.gov/nepa/articles/doeeis-0547-draft-environmental-impact-statement-0. Supporting sitewide documents were also placed on the LLNL external website which is available to the public at https://www.llnl.gov/community/site-wide-environmental-impact-statement-sweis.

In addition to the public hearings, the public was encouraged to provide comments via U.S. postal mail or electronically via email. Late comments were considered to the extent practicable. All comments received by January 31, 2023 were considered by NNSA in this Final LLNL SWEIS.

This Final LLNL SWEIS contains revisions and new information based in part on comments received on the Draft LLNL SWEIS. These revisions and new information are indicated by sidebars in the margins. Volume 3 of this Final LLNL SWEIS contains summaries of the comments received, images of the comment documents, and NNSA's responses to the comments. NNSA will use the analysis presented in this Final LLNL SWEIS, as well as other information, in preparing a ROD regarding the continued operation of LLNL.

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ABBREVIATIONS AND ACRONYMS

AEMGF	Alternative Energy Micro-Grid for the Future
AFFF	aqueous film forming foam
ALTs	alteration programs
ATP	Active Transportation Plan
ATWIR	Annual TRU Waste Inventory Report
AVLIS	Atomic Vapor Laser Isotope Separation
BAAQMD	Bay Area Air Quality Management District
BLS	United States Bureau of Labor Statistics
BMP	best management practices
BSL	Biosafety Level
Btu	British thermal unit
CAP	Climate Action Plan
CARB	California Air Resources Board
CBFO	Carlsbad Field Office
CDNL	C-weighted Day-Night Sound Level
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act*
CEQ	Council on Environmental Quality
CFF	Contained Firing Facility
CFR	Code of Federal Regulations
Ci	Curies
COVID-19	SARS-CoV-2
CRD	Comment Response Document
dBP	decibels peak
DD&D	Decontamination, decommissioning, and demolition
DDW	Division of Drinking Water
DNFSB	Defense Nuclear Facilities Safety Board
DoD	United States Department of Defense
DOE	United States Department of Energy
DOL	United States Department of Labor
DSA	documented safety analysis
DSSI	Diversified Scientific Services Inc.
DTSC	Department of Toxic Substances Control
DU	depleted uranium
EA	Environmental Assessment
EEOICPA	*Energy Employees Occupational Illness Compensation Program Act*
EIS	Environmental Impact Statement
EMS	Environmental Management System
ES&H	Environment, Safety, and Health
FGE	fuels-grade-equivalent
FOIA	*Freedom of Information Act*
FFA	Federal Facilities Agreement
FR	Federal Register
FWP	Former Worker Program
FXR	flash x-rays
FY	fiscal year

GHG	greenhouse gas
HC	Hazard Category
HE	High Explosives
HEAF	High Explosives Application Facility
HED	High Energy Density
HEPA	high efficiency particulate air [filter]
HEX	HEAF Laboratory Capability Expansion
HVAC	heating, ventilation, and air conditioning
IDA	Intentional Destructive Acts
ISMS	Integrated Safety Management System
KCNSC	Kansas City National Security Campus
LANL	Los Alamos National Laboratory
LCF	latent cancer fatality
LEP	life extension program
LLNL	Lawrence Livermore National Laboratory
LLW	low-level waste
LOS	level of service
LWA	*Land Withdrawal Act*
MCL	maximum contaminant level
MEI	maximally exposed individual
MeV	mega electron volt
MLLW	mixed low-level waste
Mods	modification programs
NAP	NNSA Policy
NATO	North Atlantic Treaty Organization
NEPA	*National Environmental Policy Act*
NESHAP	National Emission Standards for Hazardous Air Pollutants
NIF	National Ignition Facility
NMED	New Mexico Environment Department
NNSA	National Nuclear Security Administration
NNSS	Nevada National Security Site
NOA	Notice of Availability
NPR	Nuclear Posture Review
NPT	Nuclear Nonproliferation Treaty
NWSM	Nuclear Weapons Stockpile Memorandum
NWSP	Nuclear Weapons Stockpile Plan
OHSMS	Occupational Health and Safety Management System
pCi/L	pico-Curies per liter
PEIS	Programmatic Environmental Impact Statement
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	perfluorooctanoic acid (component of PFAS)
PFOS	perfluorooctane sulfonate (component of PFAS)
PRC	People’s Republic of China
PV	photovoltaic
R&D	research and development
RCRA	*Resource Conservation and Recovery Act*

ROD	Record of Decision
ROI	Region of Influence
RVF	Rift Valley Fever virus
RWQCB	Regional Water Quality Control Board
SBD	safety basis document
SCR	facility screening report
SFPUC	San Francisco Public Utilities Commission
SJVAPCD	San Joaquin Valley Air Pollution Control District
SNM	special nuclear material
SPEIS	Supplemental Programmatic Environmental Impact Statement
SRS	Savannah River Site
SSM	Stockpile Stewardship and Management
SSMP	Stockpile Stewardship and Management Program
SWEIS	Site-Wide Environmental Impact Statement
SWRCB	California State Water Resources Control Board
TPNW	Treaty on the Prohibition of Nuclear Weapons
TRU	transuranic
UDEQ	Utah Department of Environmental Quality
U.S.	United States of America
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USSTRATCOM	Commanders of U.S. Strategic Command
VEE	Venezuelan Equine Encephalitis virus
VMT	Vehicle Miles Traveled
WETRC	Weapons Environmental Testing Replacement Capability
WIPP	Waste Isolation Pilot Plant
WP&C	Work Planning and Control

CONVERSION CHART

TO CONVERT FROM U.S. CUSTOMARY INTO METRIC			TO CONVERT FROM METRIC INTO U.S. CUSTOMARY		
If you know	**Multiply by**	**To get**	**If you know**	**Multiply by**	**To get**
		Length			
inches	2.540	centimeters	centimeters	0.3937	inches
feet	30.48	centimeters	centimeters	0.03281	feet
feet	0.3048	meters	meters	3.281	feet
yards	0.9144	meters	meters	1.094	yards
miles	1.609	kilometers	kilometers	0.6214	miles
		Area			
square inches	6.452	square centimeters	square centimeters	0.1550	square inches
square feet	0.09290	square meters	square meters	10.76	square feet
square yards	0.8361	square meters	square meters	1.196	square yards
acres	0.4047	hectares	hectares	2.471	acres
square miles	2.590	square kilometers	square kilometers	0.3861	square miles
		Volume			
fluid ounces	29.57	milliliters	milliliters	0.03381	fluid ounces
gallons	3.785	liters	liters	0.2642	gallons
cubic feet	0.02832	cubic meters	cubic meters	35.31	cubic feet
cubic yards	0.7646	cubic meters	cubic meters	1.308	cubic yards
		Weight			
ounces	28.35	grams	grams	0.03527	ounces
pounds	0.4536	kilograms	kilograms	2.205	pounds
short tons	0.9072	metric tons	metric tons	1.102	short tons
		Temperature			
Fahrenheit (ºF)	subtract 32, then multiply by 5/9	Celsius (ºC)	Celsius (ºC)	multiply by 9/5, then add 32	Fahrenheit (ºF)
Kelvin (K)	subtract 273.15	Celsius (ºC)	Celsius (ºC)	add 273.15	Kelvin (K)

Note: 1 sievert = 100 rems

METRIC PREFIXES

Prefix	Symbol	Multiplication factor
exa-	E	1,000,000,000,000,000,000 = 10^{18}
peta-	P	1,000,000,000,000,000 = 10^{15}
tera-	T	1,000,000,000,000 = 10^{12}
giga-	G	1,000,000,000 = 10^{9}
mega-	M	1,000,000 = 10^{6}
kilo-	k	1,000 = 10^{3}
deca-	D	10 = 10^{1}
deci-	d	0.1 = 10^{-1}
centi-	c	0.01 = 10^{-2}
milli-	m	0.001 = 10^{-3}
micro-	μ	0.000 001 = 10^{-6}
nano-	n	0.000 000 001 = 10^{-9}
pico-	p	0.000 000 000 001 = 10^{-12}

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CHAPTER 1

Public Comment Process

1.0 PUBLIC COMMENT PROCESS

1.1 INTRODUCTION

On November 4, 2022, the National Nuclear Security Administration (NNSA) published the notice of availability (NOA) of the *Draft Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory* (Draft LLNL SWEIS) (DOE/EIS–0547) (87 FR 66685). NNSA also announced a 60-day comment period and three public hearings (two in-person and one virtual) to receive comments on the Draft LLNL SWEIS. The comment period was scheduled to end on January 3, 2023. On December 9, 2022, NNSA notified the Environmental Protection Agency (USEPA) that it was extending the comment period until January 18, 2023. On December 16, 2022, the USEPA published a notice in the *Federal Register* that announced the public comment period extension (87 FR 77106). NNSA posted the Draft LLNL SWEIS on the DOE NEPA website at https://www.energy.gov/nepa/articles/doeeis-0547-draft-environmental-impact-statement-0.

1.2 PUBLIC HEARINGS

During the comment period, NNSA held two in-person hearings and one virtual hearing to receive comments on the Draft LLNL SWEIS. Notice of the dates, times, location, and other information related to the public hearings was posted in the local newspapers as shown in Table CRD-1. Notice of the public hearings was also posted on the NNSA NEPA Reading Room website (https://www.energy.gov/nnsa/nnsa-nepa-reading-room) on November 4, 2022. Copies of all public notices are included in Appendix G of this Final SWEIS.

Table CRD-1. Newspaper Notices of Public Hearings

Newspaper	Dates of Publication Notice
The Independent	November 17, 24, December 1, 2022
Tracy Press	November 18, 24, December 2, 2022
East Bay Times	November 22, December 1, 2022
Stockton Record	November 22, December 1, 2022

At the in-person hearings, an Open House preceded the formal public comment period. During that Open House, the public was invited to engage with NNSA personnel within their areas of expertise and ask questions about the Draft SWEIS. At all hearings, NNSA gave a 20-minute presentation on the Draft SWEIS prior to the formal public comment period. Public comments were received after the NNSA presentation.

The first in-person hearing was held in Livermore, California on December 7, 2022. Approximately 10 members of the public attended that meeting, and four people provided verbal comments. The second in-person hearing was held in Tracy, California on December 8, 2022. Approximately 10 members of the public attended that meeting, and seven people provided verbal comments. In light of continued concerns regarding the Coronavirus Disease 2019 (COVID-19), NNSA also held an internet-based (with telephone access) virtual public hearing on December 13, 2022. Approximately 50 people attended the virtual hearing via either internet or telephone connections. Eighteen (18) speakers provided verbal comments.

In addition to the public hearings, the public was encouraged to provide comments via U.S. postal mail or electronically via email. Comments received by mail were date stamped when received by the DOE mail distribution center. Comments received by email have the date automatically included. NNSA considered all comments received. Late comments were considered to the extent practicable. All comments received by January 31, 2023, were considered by NNSA in this CRD.

Eighty-four (84) comment documents (including 41 comment documents submitted as an email campaign) were received from individuals, interested groups, and Federal, State, and local agencies during the comment period on this Draft LLNL SWEIS and three (3) comment documents were received after the comment period. Scans of those comment documents are located in Chapter 3 of this CRD. In addition, comments from the three public hearings are included in the scanned transcripts, which are also located in Chapter 3. All comments received were treated equally by NNSA.

1.3 ORGANIZATION OF THIS COMMENT RESPONSE DOCUMENT

This CRD has been organized into the following sections:

- Chapter 1 describes the public comment process and contains tables with an index of commenters who submitted comments and the comment document and response locators to assist readers with using this CRD.
- Chapter 2 is organized by topic area and contains summaries of the comments received during the public comment period as well as NNSA responses to those comment summaries.
- Chapter 3 contains scanned copies of comment documents received and the transcripts of the public hearings.

Tables are provided at the end of this chapter to assist in locating individual comments. Individual comments were identified within each comment document and categorized by issue (e.g., nuclear weapons policy, alternatives, land use, air quality, etc.). Table CRD-2 lists the issue categories and corresponding comment codes. Similar comments within the same issue category were then summarized, and these summaries are presented in Chapter 2 of this CRD along with NNSA's responses to the comment summaries. Table CRD-3 lists the names of all persons who submitted comments (either verbally at the public hearings or in writing) on the Draft LLNL SWEIS. If a person submitted comments multiple times (e.g., at more than one public hearing, or at a public hearing and in writing) that person's name appears multiple times, as appropriate. Table CRD-4 lists the names of persons who submitted a campaign letter.[1] NNSA also received several emails with administrative requests, such as to be added to the mailing list or informing NNSA of a change in an email address. Because those emails did not include any comments on the Draft LLNL SWEIS, they are not included in this CRD.

[1] A campaign letter is a document with essentially the same comments that is submitted by multiple persons.

1.4 HOW TO USE THIS COMMENT RESPONSE DOCUMENT

Begin by locating the commenter's name in Table CRD-3 (or CRD-4 if the commenter submitted a campaign letter). These tables list the page number on which a commenter's scanned document (or verbal comments from the transcripts at the public hearings) appears in Chapter 3. That table also shows the issue codes that were assigned to the comments. Next, the commenter can go directly to Chapter 2, locate those issue codes, and read the comment summaries and responses. Alternatively, if a commenter wants to see how NNSA assigned the issue codes to their comments, the commenter could go to the corresponding page on which their comment document appears in Chapter 3. Chapter 2 contains the comment summaries and responses to all the comments identified in Chapter 3.

For example, if Karen Moore wanted to track her comments, she would go to Table CRD-3 to find her name. She would see that her comments were assigned the following issue codes: 6-A, 15-A, 19-H, and 22-A. She could then go directly to Chapter 2, locate those issue codes, and read the comment summaries and responses. Alternatively, if Karen Moore wanted to specifically see how NNSA assigned the issue codes to her comments, she could go to the corresponding page on which her comment document appears in Chapter 3 (in this example, that document appears on page CRD-3-54). On page CRD-3-54, she would find that her scanned document has been side-barred and coded 22-A for the first comment, 6-A and 15-A for the next comment, and 19-H for the final comment. She could then go to Chapter 2, locate those issue codes, and read the comment summaries and responses.

1.5 CHANGES TO THE DRAFT LLNL SWEIS

NNSA revised the Draft LLNL SWEIS to incorporate changes after considering public comments included in this CRD, as well as any new information. The major changes include:

- NNSA revised the discussion of the Nuclear Posture Review (NPR) in Sections S.1.3.1.1, 1.3.1, and 1.5.2 as a result of the latest NPR that was published in October 2022.

- NNSA updated Sections S.3.2.3, 1.5.1, 3.2.3, 4.7.2.2, 5.6.1, and 5.7.1 to clarify that the increase in detonation size has not yet been implemented at Building 851 and is not further analyzed in this SWEIS. There are no alternatives or proposals in this SWEIS that would increase the weight of explosives tests at Site 300, and NNSA's plan at this time is to continue open detonation at Site 300 facilities under the current levels of less than 100 pounds per day and less than 1,000 pounds per year.

- Several sections in Chapters 3, 4, 5, 6, and Appendix A were updated based on public and regulatory comments and responses. They include Sections 3.2.15, 3.3.1.4, 3.3.1.5, 4.6.5, 5.8.1, 5.8.2, 5.15.2, 6.4.10.2, and A.1.2.28; Figures S.3-7 and 3-7; and Tables S.3-9, 3-9, 4-39, and 5-8.

Table CRD-2. Comment Issue Categories and Codes

Issue Category 1: Purpose and Need	
1-A	Purpose and need and/or adequacy of the SWEIS
1-B	Relationship to pit production
1-C	Need for Biosafety level (BSL)-3 facility
1-D	Fifteen (15) year analysis
1-E	Support for LLNL operations/Proposed Actions
Issue Category 2: National Security Policies	
2-A	Nuclear Nonproliferation Treaty (NPT)
2-B	Proliferation/nonproliferation
2-C	Safety of nuclear weapons stockpile
2-D	New nuclear weapons
Issue Category 3: NEPA Process	
3-A	Public comment period
3-B	Public hearings
3-C	References/document availability
3-D	Need for New PEIS
Issue Category 4: Proposed Action	
4-A	Purpose of new facilities
4-B	Uranium enrichment project
4-C	Decontamination, decommissioning, and demolition (DD&D) Projects
4-D	Tritium releases and tritium operations
4-E	Building 235 administrative limit
4-F	Superblock plutonium limits
4-G	Site 300 explosives weight
4-H	Relationship of new facilities to nuclear weapons
4-I	National Ignition Facility (NIF)
4-J	BSL-3 facility size, bioagents, and storage
4-K	Animal Care Facility
4-L	Advanced 3D Hydrotest Facility
4-M	Defense Nuclear Facilities Safety Board (DNFSB) oversight
4-M	Plutonium pits and testing
4-O	Engineering Shop Support Facility, Nuclear Science Center, Classified Lab
4-P	Next Generation LEP R&D Component Fabrication Building
4-Q	New facilities at Site 300
4-R	High Explosives Applications Facility Laboratory Capability Expansion (HEX)
4-S	High Explosives management and storage
4-T	High Bay Facility
Issue Category 5: No-Action Alternative	
5-A	Analyze a true No-Action Alternative
Issue Category 6: Other SWEIS Alternatives	
6-A	Other site-wide alternatives
6-B	Other operational alternatives
6-C	Disarmament alternative
6-D	Climate change alternative

Issue Category 7: Land Use
7-A Proximity of Tracy Hills Development to Site 300
Issue Category 8: Aesthetics and Scenic Resources
8-A Viewshed of New North Entry gate
Issue Category 9: Geology and Soils
9-A Earthquake risks and facility vulnerability
Issue Category 10: Water Resources
10-A Environmental monitoring
10-B Contaminants in the watershed
Issue Category 11: Air Quality
11-A Greenhouse gases and climate change
11-B Air pollution technologies
Issue Category 12: Noise
12-A Noise impacts from Site 300 explosives testing
Issue Category 13: Biological Resources
13-A Tritium on vineyards and wine
13-B Impacts on special status species
Issue Category 14: Cultural and Paleontological Resources: no comments received
Issue Category 15: Socioeconomics and Environmental Justice
15-A Housing impacts
15-B General Environmental Justice impacts
Issue Category 16: Traffic/Transportation
16-A Plutonium-specific transportation and impacts
16-B City traffic
16-C General radiological transportation risks
16-D New North Entry
16-E Expanded bicycle circulation
Issue Category 17: Infrastructure
17-A Dangers to the electric grid
17-B Extend Reclaimed Water Distribution System
17-C Natural gas use
17-D Water and electricity use
Issue Category 18: Waste Management and Materials Management
18-A Disposal of waste and long-term impacts
18-B Use of hazardous materials and chemicals
18-C Availability and use of the Waste Isolation Pilot Plant (WIPP)
Issue Category 19: Human Health and Safety
19-A Tritium and plutonium emissions on human health.
19-B Prevention of releases to the environment
19-C Wind-blown contamination from Site 300
19-D Calculation of maximally exposed individual (MEI) dose
19-E Worker illness compensation
19-F General health and safety comments
19-G Worker radiological doses
19-H Valley Fever risks
Issue Category 20: Accidents and Intentional Destructive Acts
20-A General accident risks

20-B	Increasing tritium release limits at NIF on accidents
20-C	Risk of radiological material theft
20-D	Increased material storage and security measures
20-E	Intentional destructive acts
20-F	Seismic events
20-G	Historical releases, accidents, and spills
Issue Category 21: Contamination, Environmental Remediation, and DD&D	
21-A	Cleanup/remediation
21-B	New cleanup from new waste
21-C	DD&D of high risk facilities
21-D	Cleanup Firing Table 850 at Site 300
21-E	Contamination from per- and polyfluoroalkyl (PFAS) substances
Issue Category 22: Miscellaneous	
22-A	Mitigation measures
Issue Category 23: Out of Scope	
23-A	Use the money for weapons on other purposes
23-B	Press release related to fusion at LLNL
23-C	NNSA honesty
23-D	Other miscellaneous issues
Issue Category 24: Response to Comments from U.S. EPA, Region 9	
24-A	Cleanup/remediation
24-B	Mitigation measures
24-C	Contamination from per- and polyfluoroalkyl (PFAS) substances
24-D	Air quality monitoring
24-E	Greenhouse gases and climate change
24-F	Siting for New Projects at Site 300
24-G	Infrastructure and water use
24-H	Waste management
24-I	Socioeconomics and Environmental Justice
24-J	Biological Resources
Issue Category 25: Letter from Congressional Representatives to NNSA Administrator Jill Hruby, dated February 9, 2023	
25-A	Extension of comment period

Table CRD-3. Index of Commenters

Commenter Identifier Number	Commenter Information	Affiliation	Document Page Number	Issue Codes Assigned to Comments
1	Allred, Chris	Nuclear Nexus Outreach Coordinator, Rocky Mountain Peace and Justice Center	CRD-3-2	3-A
2	Arends, Joni	Executive Director, Concerned Citizens for Nuclear Safety	CRD-3-3	3-A
	Arends, Joni	Executive Director, Concerned Citizens for Nuclear Safety	CRD-3-4	1-B, 1-C, 2-B, 2-D, 4-D, 4-E, 4-J, 4-K, 4-L, 6-A, 6-C, 7-A, 19-A, 20-E, 21-E
	Arends, Joni[3]	Executive Director, Concerned Citizens for Nuclear Safety	CRD-3-260	1-D, 3-A, 6-B
3	Arent, Sean	Nuclear Weapons Abolition Program Manager, Washington Physicians for Social Responsibility	CRD-3-8	3-A
	Arent, Sean[3]	Nuclear Weapons Abolition Program Manager, Washington Physicians for Social Responsibility	CRD-3-234	1-A, 2-B
4	Beaudelaire, Suzanne		CRD-3-9	3-A
5	Bechtel, Marilyn[3]		CRD-3-212	2-A, 2-D, 3-A, 4-D, 4-E, 6-C, 9-A, 19-A, 23-A
6	Boudart, Jan[3]		CRD-3-245	6-A, 6-D
7	Broadman, Gene		CRD-3-10	1-E, 10-A, 19-E
8	Buckley, Rich	Peace and Conflict Resolution Org	CRD-3-13	23-D
9	Burklund, Patrick[3]		CRD-3-246	19-F
10	Burns, Terry		CRD-3-15	1-B, 1-C, 2-A, 2-B, 2-D, 4-D, 4-E, 4-J, 4-K, 4-L, 6-A, 6-C, 7-A, 16-C,19-A, 20-E
11	Cabanne, Donna	Livermore Resident	CRD-3-17	1-B, 2-B, 4-D, 4-E, 6-A, 19-A
12	Clements, Tom	Director, SRS Watch	CRD-3-19	1-B, 1-C, 2-B, 2-D, 3-D, 4-D, 4-E, 4-J, 4-K, 4-L, 6-A, 7-A, 16-C, 19-A, 20-E
13	Coghlan, Jay	Executive Director, Nuclear Watch New Mexico	CRD-3-24	3-A
	Coghlan, Jay	Executive Director, Nuclear Watch New Mexico	CRD-3-25	1-B, 1-C, 2-A, 2-B, 2-D, 3-D, 4-D, 4-E, 4-J, 4-K, 4-L, 6-A, 6-C, 7-A, 9-A, 19-A, 20-E
	Coghlan, Jay[3]	Executive Director, Nuclear Watch New Mexico	CRD-3-243	1-A, 2-C, 2-D
52	Congressional Representatives Mark	Congressional Members of Congress	CRD-3-257	25-A

Commenter Identifier Number	Commenter Information	Affiliation	Document Page Number	Issue Codes Assigned to Comments
	DeSaulnier, John Garamendi, and Eric Swalwell			
14	Eroy, Dr. Ariane[3]		CRD-3-217	4-D, 11-A, 18-A, 19-A, 23-B, 23-C
15	Frisch, Jo Ann		CRD-3-31	3-A, 3-C
16	Gassman, David F.		CRD-3-34	3-A
	Gassman, David F.		CRD-3-35	2-A, 5-A
17	Gately, Megan		CRD-3-36	1-B, 2-A, 2-B, 2-D, 3-A, 4-B, 4-D, 4-E, 4-H, 4-I, 4-L, 4-P, 7-A, 19-A, 20-F
18	Gould, Robert MD	President, San Francisco Bay Physicians for Social Responsibility	CRD-3-40	1-B, 1-C, 2-B, 2-D, 3-A, 4-D, 4-E, 4-J, 4-K, 4-L, 6-A, 6-C, 7-A, 19-A, 20-E
	Gould, Robert MD[3]	President, San Francisco Bay Physicians for Social Responsibility	CRD-3-220	2-A, 3-A, 4-D, 5-A, 6-A, 6-B, 6-C, 6-D, 23-A
19	Green, Tony[1]		CRD-3-135	4-D, 11-A, 21-A
20	Haber, Alan[3]		CRD-3-237	6-C
49	Howell, Pat[2]		CRD-3-189	3-A, 3-B, 4-G, 10-A, 10-B, 15-A, 17-D, 19-C, 21-A
21	Jimenez, Linda[2]		CRD-3-164	4-D, 6-A, 7-A, 19-A, 19-C
22	Kelley, Marylia	Tri-Valley CARES	CRD-3-45	3-A, 3-C
	Kelley, Marylia[1]	Tri-Valley CARES	CRD-3-148	1-A, 1-B, 2-A, 3-A, 3-B, 4-A, 4-B, 4-D, 4-G, 4-H, 4-I, 4-L, 5-A, 6-A, 9-A, 19-A, 20-B, 20-F
	Kelley, Marylia[3]	Tri-Valley CARES	CRD-3-223	3-A, 6-A, 6-C, 6-D, 23-A
23	Labriola, Kathy		CRD-3-49	1-B, 1-C, 2-B, 2-D, 4-D, 4-E, 4-J, 4-K, 6-A, 19-A, 20-E
24	Luce, Tom		CRD-3-51	3-A
50	Luke[3] from Oakland		CRD-3-238	3-A, 6-A
25	Lynch, Laura		CRD-3-52	3-A
26	Marciscano, Raiza[3]		CRD-3-235	3-A, 19-E
27	Miles, Loulena		CRD-3-53	3-A
	Miles, Loulena[3]		CRD-3-228	2-A, 2-B, 2-D, 3-A
28	Moore, Karen	Tracy Earth Project	CRD-3-54	6-A, 15-A, 19-H, 22-A
	Moore, Karen[2]		CRD-3-192	3-A, 3-C, 6-A, 16-B, 22-A
29	Moore, Patricia		CRD-3-56	3-A

Commenter Identifier Number	Commenter Information	Affiliation	Document Page Number	Issue Codes Assigned to Comments
30	Oldfather, Jonathan		CRD-3-57	1-B, 1-C, 2-A, 2-B, 2-D, 4-D, 4-E, 4-J, 4-K, 4-L, 6-A, 6-C, 7-A, 19-A, 20-E
31	Olson, Inga		CRD-3-61	3-A
	Olson, Inga[3]		CRD-3-209	2-A, 4-A, 6-C
	Olson, Inga		CRD-3-252	5-A, 6-A, 6-C
32	Perner, Mary[1]		CRD-3-137	2-A, 10-B, 11-A, 13-A, 16-A, 16-B, 16-C, 16-E, 17-A, 19-A, 20-D, 23-A
	Perner, Mary[2]		CRD-3-170 & CRD-3-196	3-A, 4-L, 7-A, 15-A, 19-A, 19-C, 21-A, 21-D
33	Plascencia, Laura		CRD-3-62	3-A
34	Reade, Deborah		CRD-3-63	3-A, 3-C
35	Richard, Pamela	Board Member, Tri-Valley CARES	CRD-3-64	6-A, 6-D, 10-B, 11-A, 11-B, 12-A, 13-B, 15-B, 16-A, 16-C, 17-D, 18-A, 19-A, 20-A, 21-A
	Richard, Pamela[1]	Board Member, Tri-Valley CARES	CRD-3-143	4-A, 4-B, 4-C, 4-D, 4-G, 4-I, 6-A, 11-B, 16-A, 18-A, 19-A, 19-B, 20-A, 20-B, 20-C, 20-D, 20-F, 21-A, 21-B, 21-C
	Richard, Pamela[2]	Board Member, Tri-Valley CARES	CRD-3-174	2-A, 2-B, 2-D, 3-A, 4-A, 4-C, 4-G, 4-O, 6-A, 6-B, 11-B, 20-A, 21-C, 23-A
36	Rieger, Gail		CRD-3-67	3-A
	Rieger, Gail[2]		CRD-3-167	3-A, 3-B, 4-G, 16-A, 21-A
37	Ross, Andy	City of Livermore	CRD-3-68	8-A, 16-D, 16-E, 17-B, 17-C
38	Sneed, Regina		CRD-3-72	3-A, 3-C
	Sneed, Regina		CRD-3-73	3-A
	Sneed, Regina[3]		CRD-3-215	3-A, 15-A
39	Spaulding, Dylan K.	Senior Scientist, Global Security Program, Union of Concerned Scientists	CRD-3-75	4-D, 4-I, 19-A, 19-B, 19-G, 20-A, 20-B
40	Spiess, Martha	Chair, Peace Action Maine	CRD-3-77	2-B, 2-D
41	Truitt, Robin	Life Scientist, Environmental Review Branch, USEPA, Region 9	CRD-3-78	24-A, 24-B-1, 24-B-2, 24-C, 24-D, 24-E, 24-F, 24-G, 24-H, 24-I, 24-J
42	Unidentified Speaker #1[1]		CRD-3-159	3-A

Commenter Identifier Number	Commenter Information	Affiliation	Document Page Number	Issue Codes Assigned to Comments
43	Unidentified Speaker #2[1]		CRD-3-160	4-F
44	Van Ligten, Travis	Rutan & Tucker, LLP	CRD-3-89	7-A, 12-A
45	Watchempino, Laura		CRD-3-92	3-A
	Watchempino, Laura		CRD-3-93	1-B, 1-C, 2-B, 2-D, 4-D, 4-E, 4-J, 4-K, 4-L, 6-A, 6-B, 6-C, 16-A, 18-A, 19-A, 19-E, 20-E
46	Wilks, John	Vice President, Veterans for Peace	CRD-3-99	1-B, 2-A, 2-B, 3-D, 4-D, 4-E, 4-I, 5-A, 6-A, 18-C, 19-A, 20-A
	Wilks, John[3]	Vice President, Veterans for Peace	CRD-3-232	18-C
47	Wojtaszek, Lukasz		CRD-3-112	3-A
48	Yundt, Scott	Staff Attorney, Tri-Valley CARES and Women's International League for Peace and Freedom, San Francisco and East Bay Branches	CRD-3-113	1-A, 1-B, 1-C, 2-A, 2-B, 2-D, 3-A, 4-B, 4-D, 4-E, 4-G, 4-I, 4-K, 4-L, 4-O, 4-P, 4-Q, 4-R, 4-S, 4-T, 5-A, 6-A, 6-B, 12-A, 16-C, 18-A, 18-B, 19-A, 19-E, 20-A, 20-E, 20-F, 20-G, 21-A
	Yundt, Scott[2]	Staff Attorney, Tri-Valley CARES and Women's International League for Peace and Freedom, San Francisco and East Bay Branches	CRD-3-177 & CRD-3-199	1-C, 3-A, 3-B, 3-C, 4-D, 4-G, 4-I, 4-J, 4-K, 4-M, 4-N, 5-A, 6-A, 6-B, 16-C, 18-A, 18-B, 19-D
	Yundt, Scott[3]	Staff Attorney, Tri-Valley CARES and Women's International League for Peace and Freedom, San Francisco and East Bay Branches	CRD-3-240	3-A, 19-A, 19-E
	Yundt, Scott	Staff Attorney, Tri-Valley CARES and Women's International League for Peace and Freedom, San Francisco and East Bay Branches	CRD-3-255	25-A

1 – Livermore, CA Public Hearing
2 – Tracy, CA Public Hearing
3 – Virtual Public Hearing

Table CRD-4. Index of Commenters Who Submitted a Campaign Document

Campaign Letter #1 (appears on Page: CRD-3-131), Commenter #51	Issue Codes Assigned to Comments
Arent, Sean, Washington Physicians for Social Responsibility	1-B, 1-C, 2-B, 2-D,
Baker, Sheila L.	

Campaign Letter #1 (appears on Page: CRD-3-131), Commenter #51	**Issue Codes Assigned to Comments**
Bettis, Raiza	4-D, 4-E, 4-J, 4-K, 4-L, 6-A, 6-C, 7-A, 19-A, 20-E
Brechin, Vernon J.	
Cipolat, Urs	
Colley, Vina, National Nuclear Workers for Justice	
Colley, Vina, Portsmouth/Piketon Residents for Environmental Safety and Security	
Croom, Carolyn	
Daetz, Douglas	
Deason, Melanie Greer	
Dragovich, Martha	
Durston, Robin	
Elizabeth, Marylia	
Ertz, Arla	
Goodman, Susan	
Green, Tony	
Haider, Laura	
Hopple, Nancy	
Jakobsberg, Denise	
Katz, Deb	
Kaufmyn, Wynd	
Kelley, Marylia, Tri-Valley CARES	
Kenneth, Gibson	
Kovac, Scott, Nuclear Watch New Mexico	
Loren, Sharon	
Lynch, Laura	
Maran, Rita	
Margaret, Willits	
Marida, Patricia	
McDonald, Phyllis	
Miles, Loulena	
Moore, Patricia	
Oba, Hisako	
Reade, Deborah	
Richard, Pamela	
Rieger, Gail	
Schroeder, Janice	
Seeley, Linda	
Stevenson, Douglas	
Thabit, Nick	
Tokes, Dorcas	

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CHAPTER 2

Comment Summaries and Responses

2.0 COMMENT SUMMARIES AND RESPONSES

This chapter summarizes the comments the National Nuclear Security Administration (NNSA) received on the Draft LLNL SWEIS and provides NNSA's responses to those comments. As discussed in Chapter 1 of this Comment Response Document (CRD), NNSA received 84 comment documents (including 41 comment documents submitted as an email campaign) on the Draft LLNL SWEIS from federal agencies; state and local governments; public and private organizations; and individuals.

2.1 HOW NNSA CONSIDERED PUBLIC COMMENTS

NNSA assessed and considered public comments on the Draft LLNL SWEIS, both individually and collectively. Some comments led to SWEIS modifications; others resulted in a response to answer or explain policy questions, to refer readers to information in the Final LLNL SWEIS, to answer technical questions, to explain technical issues, or to provide clarification. A number of comments provided suggestions on improving the Draft LLNL SWEIS. As applicable, the responses in this CRD identify changes that NNSA made to the Draft LLNL SWEIS as a result of comments.

The following list highlights key aspects of NNSA's approach to recording, tracking, and responding to public comments on the Draft LLNL SWEIS:

- NNSA reviewed and considered comments received, including verbal comments made during the three public hearings, to identify, categorize, and summarize those comments. As comments were received, they were reviewed and "binned" into issue categories. Because binning was a continuous process during the public comment period, issue categories were expanded and augmented as necessary to ensure that comments were binned into a proper issue category. As shown in Chapter 2 of this CRD, comment documents have been annotated with sidebars and comment codes. These sidebars and codes provide the information that identifies where in this CRD the comments are addressed. In some cases, multiple comment codes were assigned to a comment to indicate that an identified comment was considered in multiple comment summaries and responses.

- After comment identification, NNSA grouped individual comments by categories and assigned each comment group to one or more subject matter experts to prepare the response.

- Comment summaries are intended to capture the substantive issue(s) raised by a comment for a specific issue. Comments grouped and summarized for response are, of necessity, paraphrased; NNSA made every effort to capture the essence of comments included in a comment summary. In some cases, NNSA used specific language from one or more commenters to develop a particular comment summary. This should not be interpreted to mean that NNSA considered any comment to be more or less important than other comments received relative to that comment summary; rather, NNSA felt that a comment's particular language was a reasonable articulation of many comments for a particular subject. In some cases, a commenter submitted a comment that was so unique that NNSA responded to it individually.

- In some instances, a comment and response are related to another comment and response. Instead of repeating this information, the comment response directs the reader to that related comment and response.

- Senior-level experts reviewed and revised each comment summary and response to ensure technical and scientific accuracy, clarity, and consistency, and to ensure the comment summary adequately reflected the comments in that issue category, and that the response addressed the comments. Additionally, comment responses were coordinated with representatives from other Department of Energy (DOE)/NNSA programs and sites that were addressed in the comment.

In this process, NNSA has attempted to provide an accurate record of the comments received, as well as NNSA's responses to those comments. Chapter 1, Section 1.3, of this CRD describes the organization of this CRD and the tables provided to assist readers in tracking their comments, as appropriate, to the appropriate comment summary and response. Each commenter should readily be able to locate his or her comment and the summary response that addresses the comment.

2.2 ORGANIZATION OF COMMENT AND RESPONSE SUMMARIES

The comment summaries and responses that follow are organized within issue categories, as shown in Chapter 1, Table CRD-2, of this CRD. For example, issue category 1 contains comments related to the purpose and need for agency action. Depending on the comments that were received on the Draft SWEIS, some issue categories were further defined to address a specific topic within the same issue category, such as 1-C, which addresses the need for Biosafety Level-3 (BSL-3) work at LLNL. Further, some topics within an issue category contain many comment summaries and responses. For example, issue category 19 contains specific comments related to human health. Within this issue code there are eight comment summaries and responses (19-A through 19-H). Comment summaries and responses within issue codes are not presented in any particular order of importance.

In some instances, a similar topic is addressed in multiple comment summaries and responses. This occurred because such comments were intertwined, and the binning process captured these comments in multiple issue codes. While this resulted in some redundancy within some of the comment summaries, NNSA decided that redundancy was preferred to potentially omitting some comments. In those instances where similar topics are addressed in multiple summaries and responses, cross references are provided to the similar summary and response.

2.3 COMMENTS AND RESPONSES

Issue Category 1: Purpose and Need

1-A Purpose and Need and/or Adequacy of the SWEIS

Commenters state that the Proposed Action is not needed and that the Draft SWEIS is inadequate. Commenters request that NNSA examine whether LLNL's primary responsibility should be to ensure the safety, reliability, and performance of the nation's nuclear weapons stockpile. Commenters question whether expanding nuclear weapons programs at Livermore and the other labs are actually in the nation's best interest. Commenters state that the nuclear weapon life extension program (LEP) is not needed. Commenters oppose the expansion of nuclear weapons development activities and cite the new Classified Lab, new Nuclear Science Center, and new High Bay, as examples of the expansion. (Commenters: 3, 13, 22, 48)[1]

Response: NNSA acknowledges commenters' opinion that the Proposed Action is not needed and that the Draft SWEIS is inadequate but disagrees with this opinion. This LLNL SWEIS has been prepared in accordance with Section 102(2)(C) of NEPA (42 U.S.C. 4321–4347, as amended), regulations promulgated by the Council on Environmental Quality (CEQ) (40 CFR Parts 1500–1508), DOE's NEPA implementing procedures (10 CFR Part 1021) and NNSA Policy (NAP) 451.1. The Proposed Action is needed to support NNSA's new requirements as noted below.

As discussed in Section 1.3, NNSA is responsible for meeting the national security requirements established by the President and Congress to maintain and enhance the safety, security, and effectiveness of the U.S. nuclear weapons stockpile. The 2022 Nuclear Posture Review (NPR), which was published in October 2022, reaffirms a continuing commitment to a safe, secure, and effective nuclear deterrent and strong and credible extended deterrence. A safe, secure, and effective deterrent requires modern weapons and a modern infrastructure, enabled by a world-class workforce equipped with modern tools. To accomplish this, the NPR states that the U.S. "must re-establish, repair, and modernize our production infrastructure, and ensure it has appropriate capabilities and sufficient capacity to build and maintain modern nuclear weapons in a timely manner" (DoD 2022).

As one of only three nuclear weapons laboratories in the U.S., LLNL contributes significantly to the core intellectual and technical competencies of the U.S. related to nuclear weapons. These competencies embody more than 70 years of weapons knowledge and experience. LLNL maintains specific core competencies in activities associated with research, development, design, and surveillance of nuclear weapons, and supports the assessment and certification of their safety and reliability. The continued operation of LLNL is critical to NNSA's Stockpile

[1] The commenter numbers correlate to the commenter identification numbers in Tables CRD-3 and CRD-4 in Chapter 1 of this CRD.

Stewardship and Management Program (SSMP) and to preventing the spread and use of nuclear weapons worldwide.

NNSA's reasons for the need to modernize LLNL are driven by national policy requirements. The underlying need and approach are to maintain a safe, secure, and effective nuclear weapons stockpile. NNSA is only able to evaluate how best to implement the national security policy. As discussed in Section 1.3.1.3, LEPs extend the weapons' lifetimes and enable NNSA to maintain the nation's nuclear deterrent without resuming the production of new weapons or underground nuclear explosive tests.

The Classified Laboratory is described in Section 3.3.1.5 of this SWEIS. There is no weapons research planned for the Classified Laboratory. This facility will support DOE nonproliferation activities as well as non-weapons work/analysis for other government sponsors. The Nuclear Science Center and the High Bay are described in Section 3.3.1.1, and both are replacements of older existing facilities.

1-B Relationship to Pit Production

Commenters state that LLNL will have a hands-on role in NNSA's plans to expand plutonium pit production by performing work for the production work that will be at Los Alamos and the Savannah River Site. Commenters state that there is a connection between increased operations at LLNL and expanded pit production. Commenters state that the federal budget contains money for new plutonium glove boxes at LLNL that are expressly to support "expanded plutonium pit production," and a LANL NEPA document states that LANL will ship plutonium to Livermore for "materials testing" in support of "expanded plutonium pit production. Commenters request that NNSA clarify the activities at LLNL that are related to expanded pit production. Commenters request that NNSA provide a crosswalk that shows the relationship of LLNL's activities to expanded pit production. Commenters ask NNSA to explain the role of LLNL in efforts to replace all pits in all weapons, including issues related to design and certification of pits, and how this contributes to planning for nuclear war. Commenters state that NNSA must explain and review the relationship between the SWEIS and a Programmatic Environmental Impact Statement (PEIS) on pit production that a court might order. (Commenters: 2, 10, 11, 12, 13, 17, 18, 22, 23, 30, 45, 46, 48, 51)

Response: As discussed in Chapters 1 and 2 of this SWEIS, LLNL has more than 70 years of nuclear weapons knowledge and experience, and weapons activities at the Laboratory represent foundational elements of the SSMP. LLNL is responsible for maintaining three of the seven active stockpile weapons systems through the annual weapon certification process and for enabling the future stockpile. LLNL designs the nuclear explosive package for life extension programs (LEPs), modification programs (Mods), and alteration programs (ALTs), and certifies the life-extended weapons as they enter the stockpile. Through routine surveillance of the systems and annual stockpile assessment, weapons issues that could lead to

future performance degradation, such as aging effects, are discovered and addressed.

To accomplish its missions, LLNL conducts plutonium-related activities. That has been true for more than 70 years and is expected to be true for the foreseeable future. As discussed in Section 2.2.4 of this SWEIS, plutonium and pit-related activities at LLNL include: material characterization and analytical chemistry of plutonium to ensure that current weapons function as designed; plutonium aging studies to determine when current weapons need to be remanufactured; certification activities for remanufactured pit components to ensure they meet design intent, testing, and certification activities for LEP and Mod nuclear material components; and other research and development.

NNSA recognizes commenters' opinion that there is a connection between increased operations at LLNL and expanded pit production. NNSA believes that increased operations at LLNL, as represented by the Proposed Action in this SWEIS, are needed for LLNL to meet national security requirements to maintain and enhance the safety, security, and effectiveness of the U.S. nuclear weapons stockpile.

With regard to new plutonium gloveboxes at LLNL, NNSA routinely replaces gloveboxes at LLNL when they reach their end-of-life.

With regard to whether LANL will ship plutonium to Livermore for "materials testing," NNSA agrees that plutonium will be shipped between the two laboratories.[2] This is evidenced from Table 5-30 (No-Action Alternative) and Table 5-31 (Proposed Action) from this SWEIS. Under both the No-Action Alternative and the Proposed Action, "plutonium target material" and "other plutonium (metal/oxide)" would be transported between the two sites. Under the Proposed Action, "other plutonium (metal/oxide)" shipments could increase from 2 times per year to 5-6 times per year.

NNSA agrees that LLNL conducts plutonium and pit-related R&D activities but does not think a "crosswalk" would be meaningful to "show the relationship of LLNL's activities to expanded pit production." Instead, NNSA believes that Chapter 2 of this SWEIS provides sufficient descriptions of the LLNL missions, programs, and activities for a reader to understand that LLNL conducts activities to meet national security requirements to maintain and enhance the safety, security, and effectiveness of the U.S. nuclear weapons stockpile. Plutonium and pit-related activities are part of LLNL's R&D mission and are included in the Chapter 2

[2] In August 2020, NNSA completed the Final Supplement Analysis of the 2008 Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory for Plutonium Operations (DOE/EIS-0380-SA-06) (NNSA 2020). Per that document, NNSA stated that, "LANL requires support from other DOE sites (e.g., SRS, Pantex, Kansas City National Security Campus (KCNSC), Lawrence Livermore National Laboratory (LLNL), NNSS, and WIPP) to provide nuclear and non-nuclear components and materials that are necessary for pit production and offsite waste disposal." That document also shows that shipments will occur between LANL and LLNL for "material testing."

descriptions. Chapter 2 is augmented by the detailed facility descriptions in Appendix A.

LLNL does not produce plutonium pits and comments related to replacing plutonium pits in weapons are beyond the scope of this SWEIS. With regard to a PEIS on pit production that a court might or might not order, it would be speculative and beyond the scope of this SWEIS to discuss a hypothetical, undefined document such as that.

1-C Need for Biosafety Level (BSL)-3 Facility

Commenters state that there is no need for BSL-3 work at LLNL. Commenters state that the Proposed Action would replace the BSL-3 facility with a facility nearly twice the size of the existing facility. Commenters stated that there should not be a proposed new BSL-3 facility at LLNL. Commenters state that an alternative that excludes this facility should be included in the SWEIS. Commenter states that the SWEIS should analyze the potential for the BSL-3 facility to stimulate the proliferation of biological weapons research in the U.S. and other countries. Commenter states that there should be complete transparency regarding potential provocative and dangerous work evinced by "gain of function" experiments that can increase transmissibility and infectivity of organisms that can pose dangers to national and global populations. Commenter states that the proposed expansion of bio-warfare agent research with experiments on animals should also be canceled, to prevent potential spread of pathogens throughout the densely populated region. (Commenters: 2, 10, 12, 13, 18, 23, 30, 45, 48, 51)

Response: One of NNSA's missions is "to support U.S. leadership in science and technology" (50 USC 2401). As discussed in Section 1.3.2 of this SWEIS, basic science research ensures that LLNL's technology capabilities remain at the cutting edge and that LLNL scientists and engineers are prepared to identify and solve critical challenges across national missions. These national missions include counterterrorism and advancing bioscience and biosecurity, which requires handling pathogens that may pose a human health challenge, could be a potential terrorist threat, or are the cause of a global pandemic, such as COVID-19 (see Section 2.2.10 of this SWEIS). Such work is conducted in LLNL's existing BSL-3 facility, which is the only BSL-3 laboratory in the DOE complex. As discussed in Section 3.3.1.4 of this SWEIS, the BSL-3 facility is experiencing an increased demand from many DOE laboratory collaborators and other government and industry strategic partners as well as ongoing and expanding programs. To meet these demands the facility must include more modern approaches that enhance the researcher's ability to operate safely, but these new approaches will require additional space to implement. The facility supports research targeted at developing medical countermeasures (medical prophylactics [e.g., vaccines] and therapeutics [e.g., antibody therapy, antibiotics, drugs]) and is equipped to provide risk reduction for public health-related incidents (i.e., COVID-19). Much of this work is important for NNSA's collaborative efforts with university and industrial partners. Research that would deliberately or incidentally increase transmissibility

of an organism is not allowed. All biological work at LLNL is reviewed by the biogovernance oversite committee (which includes a member from the Livermore community) to ensure that it is safe, ethical and meets all governmental regulations. No work related to nuclear weapons research and development is done in this facility.

The Proposed Action involves construction of a new modernized replacement BSL-3 facility, with upgraded safety systems and storage capability. The proposed facility would be approximately 5,000 square feet with laboratory, equipment, and small animal preparation and holding space. Although the replacement facility for the existing BSL-3 facility would be larger, most of that increased space is for upgrading the storage and heating, ventilation, and air conditioning (HVAC) capabilities with new modernized equipment. The workload in the new facility would remain similar to current levels. New instrumentation in the facility would be contained in Class III biosafety cabinets, which increase space demands. Currently, due to new regulatory requirements, an extensive inactivation and viability testing program is needed to safely bring inactivated select agent materials out of the BSL-3 to lower containment where instrumentation is available. Space in the new facility would be dedicated to an instrument laboratory so that all work could be done in the facility. This will increase efficiency, reduce the cost of the research, and provide for a more optimized approach for this work at LLNL.

Because this facility has low levels of pathogens and is operated under CDC approved BSL-3 standards, materials are self-contained and pose no dangerous risk to the public.

Comments related to work with animals are addressed in 4-K.

With regard to the comment that the SWEIS should evaluate an alternative that excludes this facility, the No-Action Alternative provides such an alternative.

LLNL is only permitted to do defensive biological weapons research work, and the environmental impact of this work is analyzed in the SWEIS. While NNSA does not believe that defensive biological research work promotes biological weapons proliferation, actions of other countries are beyond the scope of this SWEIS. LLNL submits semi-annual reports to DOE HQ listing projects involving agents and/or experiments that fall under the NIH definition of Dual Use Research of Concern (DURC). In addition, LLNL submits annual Biological Weapons Convention - Confidence Building Measures (BWC-CBM) returns containing data about our high-containment laboratories and biodefense research and development programs to the U.S. Department of State who compiles returns and submits a combined U.S. CBM return to the BWC Implementation Support Unit at the UN Office of Disarmament Affairs as part of the U.S. commitment to fulfill our BWC treaty obligations in a transparent way.

While NNSA does not believe that defensive biological research work promotes biological weapons proliferation, actions of other countries are beyond the scope of this SWEIS.

1-D Fifteen (15) Year Analysis

Commenter objects to a 15-year analysis in the SWEIS. (Commenter: 2)

Response: Preparation of a SWEIS is a major undertaking that takes at least two years to complete. NNSA evaluated a 15-year planning period in the SWEIS because it provides a reasonable timeframe for identifying potential actions and alternatives that could achieve the stated purpose and need. Following preparation of a SWEIS, in accordance with 10 CFR 1021.330(d), NNSA evaluates site-wide NEPA documents at least every five years by means of a Supplement Analysis, as provided in 10 CFR 1021.314. Based on the Supplement Analysis, NNSA determines whether the existing SWEIS remains adequate or whether to prepare a new SWEIS or supplement the existing SWEIS as appropriate.

1-E Support for LLNL Operations/Proposed Actions

Commenter supports the continued operation of LLNL and/or the SWEIS Proposed Actions. (Commenter: 7)

Response: NNSA acknowledges the commenters' opinions.

Issue Category 2: National Security Policies

2-A Nuclear Nonproliferation Treaty (NPT)

Commenters state that LLNL actions are illegal and/or a violation of the NPT, as well as the Treaty on the Prohibition of Nuclear Weapons (TPNW). Commenters state that the U.S. is not working in good faith toward nuclear disarmament and weapons like the W87 and W80-4 and new weapons are completely out of compliance with treaty obligations and the International Court of Justice's interpretation of the NPT. Commenters state that the International Court of Justice has clarified that, "There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control." (Commenters: 5, 10, 13, 16, 17, 18, 22, 27, 30, 31, 32, 35, 46, 48)

Response: As described in Section 1.3.1.4 of this Final LLNL SWEIS, the United States continues to view the NPT as the cornerstone of the nuclear non-proliferation regime (DoD 2018, DoD 2022). Over the past 30 years, the United States has worked to help establish an international security environment conducive to progress toward disarmament. The United States has also made significant progress toward achieving the nuclear disarmament goals set forth in the Preamble and Article VI to the NPT and has a strong record of compliance with its Article VI obligations. The nuclear arms race that was in full swing when the NPT was opened

for signature has been largely halted. The United States has taken dramatic steps toward the goal of nuclear disarmament, including working to resolve destabilizing global and regional tensions; reducing its nuclear forces and nuclear weapons stockpile, through both unilateral and bilateral initiatives; and working cooperatively with allies and partners further to reduce nuclear threats. However, even after the Cold War, international dangers remain, and nuclear deterrence will continue to be a cornerstone of U.S. national security policy for the foreseeable future. Thus, NNSA's responsibilities for ensuring the safety, security, and effectiveness of the U.S. nuclear weapons stockpile will also continue (DoD 2022).

The United States remains dedicated to preserving and strengthening the nuclear non-proliferation regime and reaffirms its commitment to the NPT. The NPT has made the world safer and more prosperous, and all Parties, including the United States and its Allies and partners, continue to benefit from the Treaty (DoD 2022). Article VI of the NPT obligates the parties "to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control." It must be noted that the NPT does not provide any specific date for achieving the ultimate goal of nuclear disarmament nor does it preclude the maintenance of nuclear weapons until their disposition. While the U.S. actively pursues the goal of a world without nuclear weapons, the U.S. does not believe that the elimination of nuclear weapons can be achieved irrespective of the prevailing international security environment (DoD 2022).

For this LLNL SWEIS, speculation on the terms and conditions of a "zero level" U.S. stockpile goes beyond the bounds of the reasonably foreseeable future consistent with the 2022 NPR. The actions at LLNL, which would enable NNSA to maintain the safety, reliability, and effectiveness of the U.S. nuclear weapons stockpile until the ultimate goals of the NPT are attained, are consistent with the NPT and the opinion expressed by the International Court of Justice. The U.S. States has never signed or ratified the TPNW.

2-B Proliferation/Nonproliferation

Commenters state that Proposed Action will increase nuclear proliferation and cause a global arms race. Commenters state that nuclear weapons are immoral and that there are more than enough stockpiled weapons and plutonium pits in this country. Commenters state that pit-related operations should be canceled as new pit production for new nuclear warheads could help stimulate a new nuclear arms race. Commenters state that LLNL is playing a central role in driving a new and dangerous global arms race. (Commenters: 2, 3, 10, 11, 12, 13, 17, 18, 23, 27, 30, 35, 40, 45, 46, 48, 51)

Response: As discussed in Section 1.3 of this SWEIS, NNSA is responsible for meeting the national security requirements (including plutonium pit production requirements) established by the President and Congress to maintain and enhance

the safety, reliability, and effectiveness of the U.S. nuclear weapons stockpile. LLNL maintains specific core competencies in activities associated with research, development, design, and surveillance of nuclear weapons, and supports the assessment and certification of their safety and reliability. The continued operation of LLNL is critical to NNSA's SSMP and to preventing the spread and use of nuclear weapons worldwide. NNSA does not decide the role of nuclear weapons (or nuclear weapon components such as plutonium pits) in national policy. Nuclear weapons policy is decided by the President and the Congress. NNSA implements U.S. nuclear weapons policy according to those decisions.

The nonproliferation and treaty compliance aspects of the SSMP were evaluated in the 1996 *Stockpile Stewardship and Management Programmatic Environmental Impact Statement* (DOE/EIS-0236) (SSM PEIS) (DOE 1996) and, more recently, in the *Complex Transformation Supplemental Programmatic Environmental Impact Statement* (DOE/EIS-0236-S4) (Complex Transformation SPEIS) (NNSA 2008a). Those documents analyze the nonproliferation aspects of the SSMP and conclude that implementation of the SSMP is fully consistent with U.S. treaty obligations. Those evaluations included the operation of LLNL and its responsibilities under the SSMP for several weapons systems. The activities identified in this SWEIS for the continued operation of LLNL are consistent with LLNL's assigned SSMP mission and as a result do not affect U.S. compliance with any treaty now in force.

As discussed in Section 1.3.1.2 of this SWEIS and as stated in the 2022 NPR, "U.S. nuclear weapons deter aggression, assure allies and partners, and allow us to achieve Presidential objectives if deterrence fails. In a dynamic security environment, a safe, secure, and effective nuclear deterrent is foundational to broader U.S. defense strategy and the extended deterrence commitments we have made to allies and partners" (DoD 2022).

While the U.S. has continued to reduce the number and prominence of nuclear weapons, others, including Russia and the People's Republic of China (PRC), have moved in the opposite direction. For example, for more than twenty years, Russia has pursued a wide-ranging military modernization program that includes replacing legacy strategic nuclear systems and steadily expanding and diversifying nuclear systems that pose a direct threat to North Atlantic Treaty Organization (NATO) and neighboring countries. Similarly, the PRC has embarked on an ambitious expansion, modernization, and diversification of its nuclear forces and established a nascent nuclear triad. The PRC likely intends to possess at least 1,000 deliverable warheads by the end of the decade (DoD 2022).

An effective, responsive, and resilient Nuclear Security Enterprise offers tangible evidence to both allies and potential adversaries of U.S. nuclear weapons capabilities. This contributes to deterrence, assurance, and hedging against adverse developments. It also discourages adversary interest in arms competition (DoD 2018, DoD 2022). The ongoing R&D program at LLNL supports the advancement

of these capabilities. Actions of other nations in response to U.S. law and policy are outside the scope of this SWEIS. See also Comment-Response 2-A for a discussion of the NPT.

2-C Safety of Nuclear Weapons Stockpile

Commenter questions the safety of the nuclear weapons stockpile. Commenter specifically states that deviations from proven designs and new types of nuclear weapons will decrease the safety of weapons and confidence in the nuclear deterrent. Commenter questions how any new or modified weapons will be tested for reliability. Commenter ask if there will be any weapon mock-up tests at Site 300. (Commenter: 13)

Response: NNSA certifies the safety, reliability, and effectiveness of the stockpile through the science-based SSMP, which was established to sustain the deterrent in the absence of nuclear explosive testing. For more than twenty years, the Secretaries of Defense and Energy, the directors of the national security laboratories, and the Commanders of U.S. Strategic Command (USSTRATCOM) have annually assessed that our nuclear stockpile is safe, reliable, and effective, and that there is no current need to conduct nuclear explosive tests to ensure stockpile reliability (DoD 2022). As discussed in Section 1.3.1.3 of this SWEIS, the annual weapon certification process of refurbished warheads requires weapons experts to rely upon research and development (R&D) experiments, simulation capabilities, and the historical nuclear test database. R&D experiments at Site 300 include weapons mock-up tests using explosives and surrogates within radiological facility limits.

The 2022 NPR acknowledges that the U.S. "must re-establish, repair, and modernize our production infrastructure, and ensure it has appropriate capabilities and sufficient capacity to build and maintain modern nuclear weapons in a timely manner. The nuclear security enterprise must be able to respond in a timely way to threat developments and technology opportunities, maintain effectiveness over time…" (DoD 2022). Consistent with the 2022 NPR, NNSA has proposed the modernization of LLNL capabilities. With regard to specific weapons systems, see comment-response 2-D.

2-D New Nuclear Weapons

Commenters state that new nuclear weapons, such as the W-87 warhead, and changes to weapons, such as the W80-4 LEP, are not needed. Commenters state that over the next 15 years, Livermore's proliferation-provocative new warhead activities can and should be curtailed and new missions pursued. Commenters state that the SWEIS must reveal and discuss specific activities that decrease LLNL's new warhead design abilities. Commenters state that LLNL is developing several new warheads and variants which could reasonably be down-scoped to eliminate novel features or canceled altogether. (Commenters: 2, 5, 10, 12, 13, 17, 18, 23, 27, 30, 35, 40, 45, 48, 51)

Response: With regard to specific weapons systems, the President of the United States determines the size and composition of the U.S. nuclear weapons stockpile annually. NNSA is responsible for ensuring the weapons are safe, secure, and reliable. The actions at LLNL support NNSA in meeting its national security requirements. The commenters' recommendations (e.g., to decrease LLNL's warhead design abilities; to down-scope or eliminate nuclear weapon features; or cancel weapons altogether) are beyond NNSA's statutory responsibilities and would not allow NNSA to meet the purpose and need discussed in Section 1.3 of this LLNL SWEIS. The W-87-1 Mod, W80-4 LEP, as well as other LEPs, Mods, and ALTs are not new weapons.

Issue Category 3: NEPA Process

3-A Public Comment Period

Commenters state that the public was not adequately informed that NNSA had prepared this SWEIS. Commenters request an extension of the comment period on the Draft SWEIS. Commenters state that a 75-day comment period, particularly over the holidays, is too short for a document that covers LLNL's activities for the next 15 years. Commenters state that its comments were constrained as a result of NNSA's failure to respond to eight outstanding Freedom of Information Act (FOIA) requests that might have contained information pertinent to understanding of the Draft SWEIS. (Commenters: 1, 2, 3, 4, 5, 13, 15, 16, 17, 18, 22, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 38, 42, 45, 47, 48, 49, 50)

Response: NNSA posted the Draft LLNL SWEIS on the DOE NEPA website at https://www.energy.gov/nepa/articles/doeeis-0547-draft-environmental-impact-statement-0 after it was approved by the NNSA Administrator on October 27, 2022. The Notice of Availability (NOA) for the Draft LLNL SWEIS was published in the *Federal Register* on November 4, 2022 (87 FR 66685), announcing a 60-day comment period that was scheduled to end on January 3, 2023. That NOA also announced three public hearings (two in-person and one virtual) to receive comments on the Draft LLNL SWEIS. Notice of the availability of the Draft LLNL SWEIS, as well as the dates, times, location, and other information related to the public hearings, was posted in the local newspapers as shown in Table CR-1 (see Chapter 1 of this CRD).

In response to public comments requesting an extension of the comment period, on December 9, 2022, NNSA notified the United States Environmental Protection Agency (USEPA) that it was extending the comment period until January 18, 2023. On December 16, 2022, the USEPA published a notice in the Federal Register that announced the public comment period extension (87 FR 77106). NNSA feels that a 75-day comment period was sufficient versus the 45-day regulatory requirement. In addition, during the public meetings, NNSA agreed to consider all late comments that were received by January 31, 2023. There have been no FOIA requests specifically related to this SWEIS and other FOIA requests are beyond the scope of this SWEIS.

3-B Public Hearings

Commenters request that NNSA hold a second virtual hearing in January 2023, in order to allow the public more time to review the Draft LLNL SWEIS and provide more meaningful comments. Commenters state that public hearings should not be held in December due to other time demands on the public. Commenter states that the newspaper ads for the public hearings were printed in the Tracy Press in the tiniest print and people may have skipped over them. (Commenters: 22, 36, 48, 82)

Response: The DOE NEPA regulations require that NNSA hold at least one public hearing on a Draft SWEIS and that the public hearings be announced at least 15 days in advance (10 CFR 1021.313(b)). Notice of the dates, times, location, and other information related to the public hearings was posted in local newspapers such as the Tracy Press. The newspaper article was printed in a single column format; however, if individuals missed reading the newspaper article, the NNSA provided other notifications.

NNSA held three public hearings and announced the hearings more than 15 days in advance. The purpose of the public hearing is to allow NNSA to present information about the Draft LLNL SWEIS and to allow the public to provide comments. The three public hearings accomplished these dual purposes. In addition, NNSA provided other means (e.g., U.S. postal mail and email) by which the public could submit comments on the Draft LLNL SWEIS. NNSA reviewed and considered all comments received during the comment period (including late comments), regardless of the means in which the comment was submitted up until January 31st. The three public meetings which were held in the first and second week in December were sufficient opportunities in to provide input and more than legally required (40 CFR 1506.6).

3-C References/Document Availability

Commenters request that NNSA make all SWEIS references available and accessible online, including comment letters from scoping. Commenters state that the LLNL Site Development Plan should be made available to the public. Commenters state that the public notice provided by NNSA was problematic— that the Draft SWEIS was impossible for the public to find on the main DOE NEPA website for several weeks. (Commenters: 15, 22, 28, 34, 38, 48)

Response: Many of the reference documents identified in Chapter 7, "References," and in the appendices of the Draft LLNL SWEIS are accessible from the Internet at the web addresses provided. References that do not include a web address are available by NNSA upon request. Some references are Official Use Only or Unclassified Controlled Nuclear Information, which are not available to the general public.

With regard to the specific comment that the LLNL Site Development Plan should be made available to the public, that document was posted on the LLNL external

website (www.llnl.gov/community/site-wide-environmental-impacts-statement-SWEIS) on January 13, 2023.

NNSA reviewed all scoping comments received during the scoping period. The individual comments were combined, as appropriate, into summary comments, and those comment summaries were used to develop/guide preparation of the Draft LLNL SWEIS. Scoping comments are summarized in Table 1-1 of the Draft LLNL SWEIS. NNSA has included all the scoping comment letters in this CRD.

The Draft LLNL SWEIS was published on the DOE NEPA web page and the NNSA NEPA web page (https://www.energy.gov/nepa, https://www.energy.gov/nnsa/nnsa-nepa-reading-room) on October 25, 2022. The availability of the Draft LLNL SWEIS was announced in *Federal Register* Notices of Availability (87 FR 66685 and 87 FR 66696), as well as in notices in local newspapers (see Section 1.2 of this CRD).

NNSA acknowledges that there were issues with the DOE NEPA website, and we addressed those as soon as we were notified. The comment period was lengthened, and this hopefully mitigated the issue.

3-D Need for New PEIS

Commenters state that the LLNL SWEIS is premature and should not be completed until a national PEIS is completed for all plants, labs, and facilities participating in the modernization of the nuclear weapons complex. Commenters state that NNSA is in violation of the National Environmental Policy Act *by refusing to complete a new PEIS. The commenters believe that the LLNL SWEIS should be tiered from a new PEIS. (Commenters: 12, 13, 46)*

Response: NNSA completed a supplemental PEIS for operation of the nuclear weapons complex in 2008, which included LLNL. This new SWEIS is the periodic update of the previous LLNL SWEIS first done in 1992, then again in 2005, for continued operations of LLNL in compliance with established DOE NEPA practices. This SWEIS focuses specifically on the operations of LLNL for the next 15 years.

Issue Category 4: Proposed Action

4-A Purpose of New Facilities

Commenters request that NNSA explain the purpose for new Proposed Action facilities. (Commenters: 22, 31, 35)

Response: Section 1.3.3 of this SWEIS explains the purpose and need to be achieved by the Proposed Action. As described in that section, through the SSMP, NNSA will continue to certify the safety, reliability, and performance of the U.S. nuclear weapons stockpile. Preventing nuclear proliferation is also a top national

priority. LLNL's nonproliferation program supports NNSA by providing expertise pertaining to weapons of mass destruction worldwide and leadership in advancing technologies to monitor, detect, and limit or prevent the proliferation of nuclear materials and technology.

LLNL is home to many key facilities that provide essential support to NNSA missions and enable LLNL to pursue many strategic partnership programs that meet a wide range of national security needs. As discussed in Section 1.3.1.1, more than half of the LLNL operating buildings are considered inadequate to meet future mission requirements. The deterioration of older assets presents program and operational risks in meeting national security requirements and other mission needs, attracting and maintaining a high-quality workforce. NNSA strives to maintain the highest safety and environmental standards for their facilities. The Proposed Action and alternatives represent an investment in the facilities and infrastructure that would enable LLNL to successfully meet national security requirements and other mission needs. The net effect of the Proposed Action would increase LLNL's footprint, improve efficiency, and enhance the safety of required operations.

LLNL does not develop new nuclear weapons. The W-87, W80-4 LEP, as well as other LEPs, Mods, and ALTs are not new weapons.

4-B Uranium Enrichment Project

Commenters state that the uranium enrichment project should not be built and likened that project to a canceled project of the past — the Uranium Atomic Vapor Laser Isotope Separation (Uranium-AVLIS) Project — which the commenters said released hazardous materials into the environment. Commenters state that there are other uranium enrichment places in the United States where this work could be done. Commenters state that the Draft SWEIS contains very little explanation of the activities that will occur inside the proposed facility, or the history of the previous failed attempt. Commenters state that the public needs more explanation in the SWEIS in order to understand, analyze, and discuss the potential impacts and risks of a new Laser Isotope Pilot Program. (Commenters: 17, 22, 35, 48)

Response: NNSA acknowledges the commenters' opinion that the uranium enrichment project should not be built, and their opinions about the former project known as the Uranium-AVLIS Project. The analysis in the SWEIS focuses on the potential environmental impacts of the alternatives. As such, the SWEIS is a forward-looking document, and past activities associated with a completely different facility with older technology than the one proposed in the SWEIS are beyond the scope of this SWEIS.

As discussed in Section 3.3.1.5, NNSA has a need for domestic uranium enrichment using U.S.-developed technologies in support of the SSMP and advanced civilian and defense reactor systems. As experts in the previous uranium-atomic vapor laser isotope separation (Uranium-AVLIS) work at LLNL, the laboratory is well-suited

to conduct pilot-scale laser-based technology research and development work. Consequently, NNSA has proposed siting this new project at LLNL.

With regard to the activities that would occur inside the proposed facility, Section 3.3.1.5 describes the Domestic Uranium Enrichment Program that NNSA is proposing. The facility would be a radiological facility and would remain below Hazard Category-3 (HC-3) threshold classified in accordance with DOE-STD-1027. The proposed project would require an approximately 150,000 square feet laboratory facility in the north-central portion of the Livermore Site. LLNL would use the facility to conduct pilot-scale laser-based technology research and development work. Once selected and successfully developed, this LLNL technology would then be transferred to one of the NNSA production agencies where it can be scaled up to support NNSA uranium enrichment programs.

As described in Chapter 3, the first year of this 5- to 10-year project would define the sizes for equipment and materials for this facility. It is expected that the facility would use modern dye-pumped solid-state laser systems, and isotope separators to conduct this technology development work. The facility would also house optics systems, cleaning, optics development work, computer systems, dye pump support systems, ethanol tanks, and ethanol recovery system. The facility would also utilize the existing LLNL dye-pump facility, Building 491. Hazards in the facility would include laser systems, dye systems, and the use of radioactive materials.

4-C Decontamination, Decommissioning, and Demolition (DD&D) Projects

Commenter requests additional information about DD&D Projects, including the amount of DD&D, identification of the buildings that would undergo DD&D, and the dates when DD&D would occur. (Commenter: 35)

Response: Tables 3-3 and 3-6 in Chapter 3 of this LLNL SWEIS identify the specific facilities that would undergo DD&D and the dates of that DD&D. That table also includes an estimate of the amount (i.e., square footage) of DD&D for the listed facilities.

4-D Tritium Releases and Tritium Operations

Commenters state that the Proposed Action would increase tritium release limits and release tritium into the air, which would cause adverse impacts to the public. Commenters state that this Proposed Action should be canceled. Commenters ask how many tritium-loading operations are expected per year at the Tritium Facility. Commenters ask if LLNL will cease doing more tritium loading operations if 3,600 Curies of tritium are released in a period of less than 12 months. Commenters ask if the public and staff in nearby buildings would be notified of tritium releases. (Commenters: 2, 5, 10, 11, 12, 13, 14, 17, 18, 19, 21, 22, 23, 30, 35, 39, 45, 46, 48, 51)

Response: NNSA agrees that the Proposed Action could increase tritium releases into the air and the SWEIS conservatively analyzes the potential impacts of tritium

releases. Section 5.14.2 of this SWEIS specifically analyzes the potential impacts on human health. As shown in that section, at both the Livermore Site and Site 300, the annual radiation dose to the offsite maximally exposed individual (MEI) would be much less than the limit of 10 millirem per year set by both the USEPA (40 CFR Part 61, Subpart H) and DOE (DOE Order 458.1) for airborne releases of radioactivity. The risk of a latent cancer fatality (LCF) to the MEI from operations would be 2.5×10^{-6} per year at the Livermore Site and 1.0×10^{-10} per year at Site 300. The projected number of LCFs to the population within a 50-mile radius would be 4.3×10^{-3} at the Livermore Site and 3.0×10^{-8} at Site 300. NNSA needs the proposed action to accomplish the National Security mission. The public will be made aware of any annual tritium releases through the Annual Site Environmental report (ASER).

The National Ignition Facility (NIF) conducts about 100 shots per year with tritium as a target fuel. Under the Proposed Action alternative, actual operational emissions from the Tritium Facility and NIF are not expected to increase; however, the use of tritium reservoirs with substantially greater amounts of tritium could result in the potential for greater tritium releases from routine operations during handling of these reservoirs. Although the potential for higher discharges is greater, the facilities would continue to operate engineered systems that have proven to be highly effective at capturing tritium emissions. LLNL intends to maintain operations within the tritium release limits established in this SWEIS.

4-E Building 235 Administrative Limit

Commenters state that the plutonium administrative limits in Building 235 should not be increased and cited seismic vulnerabilities of that building. Commenter asks if the increase in plutonium limits at Building 235 would increase plutonium shipments from other sites to LLNL. (Commenters: 2, 5, 10, 11, 12, 13, 17, 18, 23, 30, 45, 46, 48, 51)

Response: NNSA notes the commenters' opposition to the proposed increase in the plutonium administrative limits in Building 235. With regard to seismic vulnerabilities, as discussed in Section 3.2.1.6, seismic upgrades are planned for Building 235 as part of the No-Action Alternative.

As described in Section 3.3.3 of this SWEIS, NNSA is proposing to increase the administrative limits for plutonium mixtures at Building 235 from less than 8.4 grams plutonium-239 under the No-Action Alternative to less than 38.2 grams under the Proposed Action. This increase would maintain the existing facility limit of less than HC-3 in accordance with DOE-STD-1027 revisions approved for use at LLNL. As stated in Chapter 3, the increased limits in Building 235 would lead to expanding the laboratory space dedicated to the preparation of plutonium samples for experimental work conducted outside of Building 235. This would enable the preparation of experimental samples for critical high-pressure experiments at NIF, and at facilities at other DOE/NNSA sites identified in Section 3.3.3. This work scope currently proposed will support the operational change

needed to enhance the experimental facilities to allow the work to be done safely at LLNL.

As described in Chapter 3, approximately 600 square feet of existing laboratory space would be repurposed to plutonium operations, and three additional glove boxes would be installed to accommodate diamond turning, sample polishing, diamond wire saw cutting, and other experimental sample preparation operations along with a dedicated focused ion beam mill. All of the equipment would enable NNSA to better characterize plutonium samples and to prepare plutonium metal into the proper geometry to support critical experimental efforts across the weapons complex.

The number of shipments from other sites to LLNL are included in the transportation analysis in the SWEIS (see Section 5.11.3).

4-F Superblock Plutonium Limits

Commenter states that the proposed increase in plutonium administrative limits in the Superblock should be compared to the 2012 limits and not the 2005 SWEIS limits. Commenter states that NNSA needs to be more forthcoming about the inventories of each separate isotope, rather than just discussing fuels-grade equivalent. (Commenter: 43)

Response: The 2005 LLNL SWEIS ROD established an administrative limit in the Superblock (Building 332) of 1,400 kilograms of all plutonium isotopes, 500 kilograms of enriched uranium, and 3,000 kilograms of depleted or natural uranium. Although Security Category I and II SNM were de-inventoried in 2012, NNSA did not decrease the administrative limits in the Superblock (Building 332). In this SWEIS, the proposed administrative limits in Superblock would be 300 kilograms of FGE plutonium; 200 kilograms of enriched uranium; and 1,000 kilograms of natural or depleted uranium. The proposed 300 kilograms of fuels-grade equivalent plutonium accounts for all the individual isotopes of plutonium. For additional information on FGE, please see Section 3.3.3 of this SWEIS.

As stated in the 2011 Supplement Analysis to the 2005 SWEIS, "The goal of the De-inventory Project was to reduce the amount of SNM on site while retaining the ability to complete the mission." Additionally, it stated that "Even if all Security Category I/II SNM were removed, the Superblock facilities would continue to operate with Category III quantities of SNM, although it is possible that small amounts of Category I/II SNM would be present for limited time periods." This information has been clarified in Chapter 1, Section 1.5.1; Chapter 4, Table 4-39; and Appendix A, Section A.1.2.28.

4-G Site 300 Explosives Weight

Commenters state that "the SWEIS asserts that LLNL will move forward with increasing the weight of explosives detonated at Site 300." Commenters state that

the SWEIS fails to mention that LLNL has not received a permit to conduct these tests from the San Joaquin Valley Air Pollution Control District (SJVAPCD). Commenters request that NNSA clarify whether it is proceeding with increasing the weight of explosives detonated at Site 300. Commenters state that NNSA should abandon increasing the weight of test explosives at Site 300. (Commenters: 22, 35, 36, 48, 49)

Response: As discussed in Section 1.5.1 of this SWEIS, in January 2018, NNSA prepared the *Final Environmental Assessment for the Proposed Increase in the Weight of Explosives Detonated at Lawrence Livermore National Laboratory Experimental Test Site, Site 300* (DOE/EA-2076) (2018 EA) (NNSA 2018a) to evaluate the potential environmental consequences of increasing the weight of explosives for outdoor explosives tests (otherwise known as open detonations) at Site 300. R&D activities at LLNL's Site 300 Building 851 currently involve (and have historically involved) detonation of explosives up to 100 pounds per day and 1,000 pounds per year. Under the proposed action in the 2018 EA, the maximum cumulative weights of explosives detonated at the Building 851 firing table would increase to up to 1,000 pounds per day and 7,500 pounds per year. Based on the analysis in the 2018 EA, and after considering all comments received, NNSA determined that the proposed action in the 2018 EA did not constitute a major federal action significantly affecting the quality of the human environment within the meaning of NEPA and issued a Finding of No Significant Impact (FONSI) on March 5, 2018 (NNSA 2018b).

The increase in detonation size has not yet been implemented at Building 851 and is not further analyzed in this SWEIS. There are no alternatives or proposals in this SWEIS that would increase the weight of explosives tests at Site 300, and NNSA's plan at this time is to continue open detonation at Site 300 facilities under the current levels of less than 100 pounds per day and less than 1,000 pounds per year.

4-H Relationship of New Facilities to Nuclear Weapons

Commenters request NNSA to explain the relationship between new facilities and nuclear weapons design and fabrication. (Commenters: 17, 22)

Response: As discussed in Chapters 1 and 2 of this SWEIS, LLNL is responsible for maintaining three of the seven active stockpile weapons systems through the annual weapon certification process and for enabling the future stockpile. LLNL designs the nuclear explosive package for LEPs, Mods, and ALTs, and certifies the life-extended weapons as they enter the stockpile. Through routine surveillance of the systems and annual stockpile assessment, weapons issues that could lead to future performance degradation, such as aging effects, are discovered and addressed. Many of the new facilities described in Chapter 3 (for both the No-Action Alternative and the Proposed Action) are replacements of existing facilities that have reached their end-of-life. The Livermore Nuclear Science Center, HED Capability Support Facility Replacement, and Micro/Nano Technology Laboratory Facility are three examples of replacement facilities. Many other projects, such as

the upgrades of electrical, mechanical, and civil utilities, are associated with improving the mission-enabling infrastructure at LLNL. Some projects, such as the Next Generation LEP R&D Component Fabrication Building, would provide LLNL with new capabilities needed to support NNSA's expanding mission. LLNL does not develop new nuclear weapons. The W-87-1 Mod, W80-4 LEP, as well as other LEPs, Mods and ALTs are not new weapons.

4-I National Ignition Facility (NIF)

With regard to the NIF, commenters question whether direct drive experiments at NIF will contaminate the inside of the NIF chamber with radionuclides. If so, commenters question whether the chamber would be decontaminated by workers and what those impacts would be. Commenters state that the SWEIS should include an explanation of how the rate of experiments in NIF will increase from 400 shots per year to 600 shots per year in the Proposed Action, but there will not be a corresponding change in NIF limits as described in the operational changes under the Proposed Action. Commenters request that NNSA clarify the frequency of experiments, the number of shots, the potential for increased worker dose, and the potential for skyshine increases. Commenters state that the Draft SWEIS needs to be explicit as to whether plutonium-242 and other plutonium isotopes will be used in NIF experiments in the future and in what quantities. Commenters state that there should be an analysis of the proliferation risks posed by NIF doing experiments on plutonium. Commenters request NNSA to define "reservoir" with respect to the increase in tritium limits at the NIF. Commenters state that the draft SWEIS contains very little explanation of the activities that will occur inside the High Energy Density Capability Support Facility Replacement and a Future NIF Laser Expansion. (Commenters: 17, 22, 35, 39, 46, 48)

Response: NIF is an R&D facility and will continue to conduct experiments involving direct drive (during which NIF beams strike the fuel capsule directly). The frequency of direct drive experiments is determined by NIF availability and the scientific merits of the experiments. The fate of the tritium used in direct-drive experiments is no different than the tritium used in indirect drive (where a hohlraum is used to convert beam energy to x-ray energy). In both cases, target tritium is released into the Target Chamber. Nearly all of the tritium is then captured by NIF's vacuum system and is directed to the Tritium Processing System (TPS), which binds the tritium to molecular sieve material. The TPS is >99% efficient at removing tritium from NIF's air emissions. The molecular sieve material is later disposed of as low-level radioactive waste. A small amount of tritium does remain in the Target Chamber. During infrequent Target Chamber entries (about once per year), this hazard is effectively mitigated through engineered contamination control systems (high levels of air flow, access/egress vestibules, etc.) and the use of Personnel Protective Equipment.

As noted in Section 3.3.1.3, NIF plans to conduct approximately 400 to 600 experiments (shots) per year. Also noted in this Section is that NIF plans to stay within the previously identified annual yield of 1245 megajoules. This is the nuclear

energy released during fusion experiments and is the source of the skyshine. Because NIF plans to stay within this defined level of yield, no increase in skyshine is anticipated. It should be noted that the majority of shots at NIF involve no nuclear energy yield. Skyshine is scattered radiation which occurs above NIF during experiments. Skyshine also includes a small component of direct radiation (prompt radiation during yield experiments that penetrates installed shielding systems).

As noted in Section 1.3.1.4 of the SWEIS, NNSA missions are conducted in a manner that is fully consistent with current treaty obligations. The Stockpile Stewardship and Management Program is fully consistent with and supports the U.S. commitment to the Nuclear Nonproliferation Treaty (NPT) and enables the U.S. to continue the 1992 moratorium on underground nuclear explosive testing.

With respect to the potential for proliferation, plutonium experiments are done on NIF using small amounts of material to study material properties and behavior. Plutonium material used at NIF is well controlled and used as a part of the NPT-compliant Stockpile Stewardship Program. Pu-242 has reduced activity and thus, results in lower impact to NIF operations.

Successful research on Inertial Confinement Fusion (ICF) at NIF, including the ignition breakthrough, will continue to lay the foundation for utilization of fusion as a nuclear energy source. This would continue to enhance nonproliferation efforts, since fusion-based energy would not produce plutonium and would not involve enrichment, reprocessing, or other technologies associated with proliferation.

As stated in Chapter 3, emissions from the Tritium Facility and NIF may not increase; however, increased reservoir tritium loading (up to 1,500 Ci) presents the potential for higher emissions during reservoir handling and associated system operations or maintenance. The fill systems are complex and operated manually and could release part or all of the tritium from the target or reservoir to the NIF or Building 331 environmental stacks instead of the intended tritium recovery systems. The reservoir is a small-volume container that is used to transport the fuel (tritium, deuterium, potentially other gases) from the Tritium Facility to NIF. It is a commercial, off-the-shelf system consisting of the vessel (about one milliliter), an isolation valve, and a cap downstream of the valve. This system is uncapped and mated with NIF systems that deliver the fuel to the target. Only a small portion of the fuel actually goes into the target. Most of the fuel is needed to fill the line going to the target.

Section 3.3.1.3 describes the HED Capability Support Facility Replacement. This new 145,000 square-foot facility would house fabrication of targets, target diagnostics, and optics. The facility would consolidate operations currently conducted in Buildings 298, 381, 391, 490, and at several vendor locations. Some operations currently conducted in Building 331 could also be relocated to this facility. The new facility would provide advanced clean room and laboratory facilities for the next generations of targets and diagnostics for HED physics.

Section 3.3.1.3 also describes the Future NIF Laser Expansion. As explained in that section, NIF has the potential for adding a second Switchyard/Target Bay/Target Chamber to conduct experiments using the NIF beam lines. For example, this expansion could allow for shielding design to support higher yields, the division of yield/non-yield experiments, direct-drive architecture, and enhanced shot rate. The expansion would be approximately 50,000 square feet and could disturb approximately 3 acres of land located southwest adjacent to the NIF. A new target chamber would require excavation to approximately 50-feet-deep.

4-J BSL-3 Facility Size, Bioagents, and Storage

Commenter states that the Proposed Action would replace the BSL-3 facility with a facility nearly twice the size of the existing facility. Commenter requests that NNSA identify the bioagents that would be used in the BSL-3 facility and level of storage. Commenter requests that NNSA verify that the quantities of bioagents is not going to be increased. (Commenter: 2, 10, 12, 13, 18, 23, 30, 45, 48, 51)

Response: The BSL-3 facility is approved for the use of Risk Group 1, 2, and 3 organisms. Some examples of the types of organisms for Risk Group 1 and 2 that could be used include: *E. coli* (Risk Group 1) and *Streptococcus* (Risk Group 2). As identified in Section C.3.7 of this SWEIS, the Risk Group 3 organisms/materials used in the BSL-3/ABSL-3 may include, but are not limited to:

- Bacteria/(disease)
  - Bacillus anthracis (Anthrax)
  - Burkholderia spp. (Glanders, Meliodosis)
  - Francisella tularensis (Tularemia)
  - Yersinia pestis (Plague)
  - Brucella spp. (Brucellosis)
  - Clostridium botulinum (Botulism)
- Viruses/(disease)
  - Rift Valley Fever virus (RVF)
  - Venezuelan Equine Encephalitis virus (VEE)
  - SARS-CoV-2 (COVID-19)
- Fungi/(disease)
  - Coccidioides spp. (Valley Fever)

For more information, the American Biological Safety Association maintains a Database (https://my.absa.org/tiki-index.php?page=Riskgroups) of the Risk Groups of many different bacteria, viruses, fungi, and parasites.

Although the replacement facility for the existing BSL-3 facility would be larger, much of that increased space is for upgrading the storage and HVAC capabilities. The workload in the new facility would remain similar to current levels, but the storage and HVAC would be improved and more efficient, enhancing overall worker safety. With regard to the quantities of bioagents and storage levels, no changes are expected compared to existing quantities and storage levels.

4-K Animal Care Facility

Commenter state that operations inside the Animal Care Facility will collect tissues for nuclear analysis and expose the animals to chemicals and radionuclides. Commenters request that NNSA clarify what is meant by the term, "humane treatment of animals in the Animal Care Facility." Commenter states that the SWEIS needs to provide an estimate of how many animals per month and year will be killed in this facility so that the public can understand and analyze the impact of this proposal. Commenter states that the SWEIS needs to provide an explanation of why 20,000 square feet is necessary for this facility, and it should analyze an alternative of a smaller facility. Commenter states that the SWEIS should also provide a clear purpose and need for the NNSA/DOE to do this type of biological research. Commenter states that the SWEIS should explain why radionuclides are used in the research and whether there are experiments with animals involving the use of bioagents and radionuclides together. Commenters state that this bio research with experiments on animals should be canceled. Commenters state that the SWEIS should include an alternative that excludes this facility. (Commenter: 2, 10, 12, 13, 18, 23, 30, 45, 48, 51)

Response: The overall need and objective of the Animal Care Facility is described in Section 3.3.1.4 of the SWEIS document. In summary this facility supports biological counterterrorism activities as well as supporting research focused on understanding disease mechanisms and developing countermeasures.

Animals are treated in a way that emphasizes compassion and consideration for the health and well-being of the animals. Paramount to this is elimination or minimization of pain and distress in an enriched environment that provides opportunity for body temperature regulation, natural nesting behavior, social housing, and allows for naturalistic behaviors as much as possible. Use of experimental techniques that reduce the potential for pain or distress, and the use of pain-alleviating medications, are emphasized.

The facility does not keep records of animals killed per se, but rather tracks how many animals are used. Animals are considered used once they arrive at the facility, and from there they may be part of a study, used for breeding, live out their natural lifespan, or be incorporated into training programs. The facility does not use a set number of animals per given timeframe, but rather usage is determined by the documented and approved use by our oversight committees, which have determined that every animal used meets the requirement of furthering scientifically justified and valid results according to National Institutes of Health Office of Animal Welfare (NIH/OLAW), and the Public Health Service (PHS) standards. Usage varies from project to project and year to year, but over the past three years (2020-2022), the program has used an average of 442 animals per month. The size of the facility is determined by humane housing standards which require that animals are not crowded, and that species are separated.

Radionuclides are used in exquisitely small quantities, which allows researchers to label a drug, chemical or other countermeasure molecule, so the drug and its metabolism can be traced throughout the body- it is used as a drug tracer. The amount used is not hazardous to human or animal health in these small quantities (typically much less radiation than would be found in a chest x-ray), and it allows researchers to determine whether, when and how drugs are metabolized, or whether toxicity can build up. This allows the researcher to determine rapidly if a drug is worth further study for the benefit of human health. The use of radionuclides is not associated with nuclear weapons research or development. As mentioned, the radionuclides are attached to other molecules, which may be biological or chemical in nature, to allow it to be traced as it moved through the body.

With regard to the comment that the SWEIS should evaluate an alternative that excludes this facility, the No-Action Alternative provides such an alternative.

4-L Advanced 3D Hydrotest Facility

Commenters state that the Advanced Hydrodynamic Test Facility was previously considered in the 1990s for siting at Site 300 and was rejected because it was not "appropriate." Commenters question why NNSA thinks the Proposed Action to site an Advanced Hydrodynamic Test Facility at Site 300 is appropriate now? (Commenters: 2, 10, 12, 13, 17, 18, 22, 30, 32, 45, 48, 51)

Response: This SWEIS is a forward-looking document, and past activities associated with a completely different facility than the one proposed previously in the 1990s are beyond the scope of this SWEIS. This proposed facility incorporates new advanced technologies and has no relationship to the earlier proposed facility.

As discussed in Section 3.3.1.2, the proposed 75,000-square-foot Advanced 3D Hydrotest Facility would deliver a unique cinematographic capability for understanding vital weapons physics and validating an array of high-fidelity simulations. This cinematographic capability was recently developed at LLNL and will be part of this new advanced facility. NNSA proposes to site the Advanced 3D Hydrotest Facility at Site 300, as that is where other hydrodynamic testing facilities, such as the Contained Firing Facility (CFF), are located. As stated in Section 3.3.1, the proposed locations for new facilities are primarily based on land availability and synergies/efficiencies with respect to existing facilities/operations.

4-M Defense Nuclear Facilities Safety Board (DNFSB) Oversight

Commenter requests that NNSA identify any new facilities that will be under the oversight authority of the DNFSB. (Commenter: 48)

Response: The mission of the DNFSB is to "provide independent analysis, advice, and recommendations to the Secretary of Energy to inform the Secretary, in the role of the Secretary as operator and regulator of the defense nuclear facilities of the Department of Energy, in providing adequate protection of public health and safety at such defense nuclear facilities, including with respect to the health and safety of

employees and contractors at such facilities" (*Atomic Energy Act of 1954*, Chapter 21, as amended; 42 USC 2286 et seq). Radiological facilities (i.e., facilities with less than HC-3 thresholds of radionuclides) are not considered "defense nuclear facilities," and thus, are not under DNFSB oversight authority. Because none of the new proposed facilities would be HC-2 or HC-3 level facilities, they would not be new "defense nuclear facilities," and would not be under DNFSB oversight authority. LLNL continues to work with the DNFSB as appropriate.

4-N Plutonium Pits and Testing

Commenter asks whether tests at LLNL would use plutonium pits, and if so, where those pits would come from? (Commenter: 48)

Response: LLNL does not receive any pits from offsite. No pits are used onsite for any activities. LLNL only receives small pieces from pit materials from offsite for testing and evaluation activities in support of the NNSA Stockpile Stewardship Program.

4-O Nuclear Science Center, Classified Lab, High Bay, and Engineering Shop Support Facility

Commenters state that there is a lack of transparency in the mission of the Nuclear Science Center. Commenters state that new projects at the Livermore Site include a new Engineering Shop Support Facility, Nuclear Science Center, a new High Bay, a new "Classified Lab," and others that are directly related to new weapons activities. Commenters state that the Draft SWEIS contains very little explanation of the activities that will occur inside these facilities. Commenters state that the public needs more explanation in the SWEIS so that it can understand, analyze, and discuss the potential impacts and risks these facilities pose. Commenters state that an alternative that excludes these facilities should be included in the SWEIS. (Commenters: 35, 48)

Response: The Nuclear Science Center is discussed in Section 3.3.1.1 of this SWEIS. As discussed in that section, the Nuclear Science Center would replace the existing above-ground nuclear physics building (Building 194). The work planned for this facility can be divided into three categories: (1) handling nuclear and radioactive samples; (2) material characterization and analytical chemistry; and (3) nuclear physics and chemistry experiments using a high-intensity pulsed beam mono-energetic neutron source. The new facility would be a multi-level nuclear chemistry facility with radionuclide inventories below HC-3 thresholds. The facility would include gloveboxes and hot cells. The facility would generate approximately 20 to 40 drums of LLW and MLLW wastes annually. No new accidents would be introduced compared to existing operations.

Section 3.3 of this SWEIS includes descriptions of the High Bay, Classified Laboratory, and other notable facilities. The Classified Laboratory is specifically described in Section 3.3.1.5 of this SWEIS. There is no weapons R&D planned for

the Classified Laboratory. The High Bay is described in Section 3.3.1.1 of the SWEIS and Section 4-T of the CRD. The Engineering Shop Support Facility is listed in Table 3-4 and is typical of machine shops throughout the Laboratory and industry. The potential environmental impacts of constructing and operating these facilities are addressed in Chapters 5 and 6 of this SWEIS. With regard to the comment that the SWEIS should evaluate an alternative that excludes this facility, this project is needed to support the NNSA purpose and need and hence is included in the Proposed Action alternative as indicated in Section 1.3 of the SWEIS.

4-P Next Generation LEP R&D Component Fabrication Building

Commenters state that the Next Generation Life Extension Program Research and Development Fabrication Building will work on new nuclear warheads, including the fabrication (production) of new-design weapons components in order to test them out. Commenters states that work in this facility will be to create "next generation" technology but it fails to analyze the potential risk associate with pushing the envelope. Commenters request an analysis of the proliferation risks of this research be included in the SWEIS. Commenters state that the public needs more explanation in the SWEIS so that it can understand, analyze, and discuss its potential impacts and risks. Commenters state that an alternative that excludes this facility should be included in the SWEIS. (Commenters: 17, 48)

Response: Section 3.3.1.1 of this SWEIS describes the Next Generation Life Extension Program Research and Development Fabrication Building. As discussed in that section, the scope of this project is the construction and operation of a 60,000-square-foot R&D complex for increasing capacity and capability in support of current and future LEPs and Mods. The new facility would provide the precision required in manufacturing weapons parts and assemblies while increasing efficiencies and safety by adding automation and advanced technologies. Manufacturing innovations and process modernization that will be developed cannot enter the stockpile without being qualified. The qualification process itself requires a level of precision that is approximately ten times higher than typical production components and, thus, requires modern manufacturing and inspection capabilities (note: manufacture of components for LEPs and Mods will take place at other NNSA sites). The new facility would consist of flexible secure manufacturing high bay space and office space, including state-of-the-art manufacturing tools. The facility would include medium energy x-ray bays with shielding, a high bay with a temperature-controlled environment, and a 32-inch foundation to control vibration. There would be an increase over current Building 321C waste streams because of the qualification process. Hazards would include flammability and explosivity. The potential environmental impacts of constructing and operating this facility are addressed in Chapters 5 and 6 of this SWEIS. With regard to proliferation, please see comment-response 2-B. With regard to the comment that the SWEIS should evaluate an alternative that excludes this facility, this project is needed to support the NNSA purpose and need and hence is included in the Proposed Action alternative as indicated in Section 1.3 of the SWEIS.

4-Q New Facilities at Site 300

Commenter states that additional facilities at Site 300 in the Proposed Action include a new Weapons Test Facility, a new Accelerator Bay and Support Bunker expansion, and others. Commenter states that the Draft SWEIS contains very little explanation of the activities that will occur inside these facilities. Commenter states that the public needs more explanation in the SWEIS so that it can understand, analyze, and discuss the potential impacts and risks these facilities pose. Commenter states that an alternative that excludes these facilities should be included in the SWEIS. (Commenter: 48)

Response: There is no facility proposed at Site 300 known as the "Weapons Test Facility," and NNSA assumes that the commenters are referring to the "Weapons Environmental Testing Replacement Capability (WETRC)." Section 3.3.1.3 of this SWEIS describes the WETRC and Section 3.3.1.2 describes the Accelerator Bay and Support Bunker Expansion.

The WETRC project would construct up to 40,000 square feet of new facilities to consolidate activities that are currently housed in Buildings 834, 836, and the OS858 Complexes at Site 300. The existing prefabricated facilities are old (1960s-era) and unable to address new environments for future stockpile LEPs and Mods with new delivery platforms. The new facilities would be constructed based on HE standoff distance requirements and would consolidate the 834 and 836 complexes which encompass 14 cells. The facilities would also include a small conference/office area, control rooms, and large high bay rooms with 5-ton cranes and roll up doors to house large pieces of programmatic test equipment. These test facilities must be rated for explosives operations, meet electrical supply requirements, have a reaction mass in one test cell facility floor, have cooling systems for a shaker in another test cell, and have ducting into certain test cells to accommodate external thermal condition units. This project would also include procurement of environmental test equipment. The project would also upgrade the OS858 Complex capability, which houses the drop tower. The scope includes seismic retrofit of the 100-foot drop tower, a new cable lift system, improvements to the existing drop table platform, improvements to earth berm protecting control building area and a new control building with sensor lines between it and the drop tower.

The Accelerator Bay and Support Bunker Expansion would be a 10,000-square-foot facility that would generate flash x-rays videos for diagnostics of HE. The proposed project would include radiographic facilities using the N-pulse (20 pulses over a relevant time) solid-state 8- to 10-MeV linear accelerator capable of imaging weapons physics configurations over a range of densities. It would remain below the 10-MeV threshold for an accelerator. The facility would fulfill the gap for deep-penetrating x-ray systems between the 17-MeV FXR (in the CFF) and the smaller 1-MeV systems. It would not irradiate the target materials at the firing table and there would not be any additional radiological waste generated at the firing table. Maintenance of the equipment might require some oils and wipe cleaning wastes.

With regard to the comment that the SWEIS should evaluate an alternative that excludes this facility, this project is needed to support the NNSA purpose and need and hence is included in the Proposed Action alternative as indicated in Section 1.3 of the SWEIS.

4-R High Explosives Applications Facility Laboratory Capability Expansion (HEX)

Commenter states that the new High Explosives Application Facility Laboratory Capability Expansion (HEX) will generate hazardous waste contaminated with HE and non-hazardous waste and managed in accordance with the California Department of Toxic Substances Control (DTSC) permit requirements. Commenter states that the hazardous waste permit from the DTSC for the Livermore Site was recently finalized and will last for 10 years, but the Draft SWEIS does not explain whether the increase in hazardous HE waste will require an expansion of the current permit limits. Commenter states that the SWEIS should provide detail about how the increase in HE and hazardous waste generally will impact and coordinate with the existing hazardous waste permit issued by the State of California for both the Livermore Site and Site 300. Commenter states that the SWEIS should explicitly address whether the Proposed Action is consistent with the DTSC hazardous waste permit as issued. Commenter states that NNSA should analyze an alternative in which all high explosives research is ended at the Lab. (Commenter: 48)

Response: As discussed in Section 4.13.2.1, LLNL performs a broad range of research activities that can generate a variety of waste materials. Additionally, LLNL's research and chemical laboratories use many chemicals that may require disposition as hazardous waste once they are used, no longer needed, determined to be off-specification, or residues in containers, as well as if they contaminate cleanup materials or protective gear. The nature of the LLNL mission is also such that research activities often change over time, either by small amounts or in their entirety, and the wastes produced can likewise change. As a result, LLNL's approach to managing hazardous waste, particularly at the Livermore Site, is designed to accommodate a wide variety of waste generators and waste types. This is also reflected in LLNL's hazardous waste permits with the California DTSC.

Section 4.13.2.4 of this SWEIS presents an overview of LLNL's compliance status with regard to hazardous waste permits. As discussed in that section, in 1999, DTSC authorized the Livermore Site's continued hazardous waste management operations under a full RCRA-equivalent Hazardous Waste Facility Permit (99-NC-006). Modifications to the permit have been submitted to the DTSC throughout the lifetime of the permit to ensure it remained reflective of current operations. LLNL has two hazardous waste permits with DTSC, one for the Livermore Site and one for Site 300. The permit that was recently approved in October of 2022 is the Livermore Site permit. The Livermore Site does not treat explosives waste, only Site 300. The quantities in the currently approved Site 300 permit are adequate to support both current and future proposed operations. Additionally, the quantities of hazardous waste in the currently approved Livermore Site permit are adequate to

support both current and future proposed operations at Livermore Site. Increases in HE waste associated with the Proposed Action would not impact the existing Site 300 hazardous waste permit issued by DTSC. NNSA thinks that actions associated with the Proposed Action will comply with the current and any future DTSC hazardous waste permits.

With regard to comments that NNSA should analyze an alternative in which all high explosives research is ended at the Lab, please see comment-response 6-A.

4-S High Explosives Management and Storage

Commenter states that a September 9, 2020, U.S. Department of Energy's Inspector General Inspection Report disclosed that serious problems persist in the Lab's management of high explosives. Commenter states that the Report identified errors that could lead to a loss (or theft) of explosive material. Commenter states that the Report identified physical problems with high explosives storage at Site 300 and at the HEAF. Commenter states that the SWEIS should include an analysis of the utility, cost, and environmental impacts of maintaining the High Explosives mission at Site 300 when other NNSA sites perform much of the same function farther away from population centers. Commenter states that Site 300 has potential as a green energy production site (wind farms) and other potential uses, such as a return to wild park land. (Commenter: 48)

Response: The Report (DOE 2020) identified by the commenter states, "We found that LLNL managers adequately tracked and stored their explosives but did not fully comply with federal and Departmental requirements." The Report states that, "LLNL demonstrated that it adequately tracked its explosives." The Report identified "minor storage container and facilities issues." The Report concluded by stating, "We believe that the ongoing actions, if fully implemented, should help to address the similar issues identified during this review." In response to this Report, "an NNSA official stated that they are going to take an NNSA-wide approach to provide guidance for ensuring that all NNSA sites meet the requirements in 41 CFR, Subpart 109," as it would apply to explosives.

Chapter 5 of this SWEIS analyzes the utility requirements and the environmental impacts of conducting the HE mission at Site 300. Costs are beyond the scope of the SWEIS. With regard to comments that NNSA should analyze an alternative in which Site 300 transfers the HE mission to another site and/or is converted to another mission, please see comment-response 6-A.

4-T High Bay Facility

Commenter states that the Draft SWEIS includes the removal of the old High Bay (Building 131) and the construction of a replacement High Bay. Commenter states the public needs more explanation in the SWEIS so that it can understand, analyze and discuss the potential impacts and risks of the new High Bay, including; (1) Whether the High Bay be authorized to use plutonium pit material; (2) What the types of experiments and operations that will take place in the High Bay will be;

and, (3) What material be shipped from LANL (or other NNSA sites) to LLNL for experiments in the High Bay. Commenter states that an alternative that excludes this facility should be included in the SWEIS. (Commenter: 48)

Response: Section 3.3.1.1 of this SWEIS discusses the new High Bay. As discussed in that section, the new High Bay would replace the existing Building 131 High Bay, which is now experiencing seismic issues due to its 60+ year-old age. The new High Bay would be 100,000-square-foot industrial shop-type building housing 20 occupants. This facility would provide workshop, machine shop, and storage capabilities for experiments and operations in engineering evaluations, primarily in support of the SSMP, although other programs are supported as well. Because it would be classified as a low-hazard radiological facility, quantities of radionuclides would be maintained less than HC-3 thresholds. The current or future High Bay is not authorized to use plutonium but could be included in the future if additional health and safety requirements are met and inventory is continued to be managed as a low-hazard radiological facility. With regard to the transportation of material from LANL (or other NNSA sites) to LLNL for experiments in the High Bay, Table 5-31 of this SWEIS identifies the materials and destination pairs for radiological material shipments. Some of those shipments could be associated with operation of the new High Bay.

The work in the new High Bay would cover a range of operations including fabricating parts, assembling hardware, gauging, calibrating, bonding, potting, and testing parts and assemblies-using mechanical shock, acceleration, and vibration. Facility space would be dedicated to the storage of components, material stock, fixtures, tooling, and equipment. Materials Management would move classified and controlled materials in and out of the building. Some storage, handling, cleaning, assembly/disassembly, and testing operations involve hazardous materials (beryllium and lithium hydride/lithium deuteride), non-dispersible radioactive material (DU), and toxic chemicals, generally in a non-dispersible form. Small quantities of powdered metals and glass/ceramic microspheres would be handled using pressure and vacuum transport systems. Operations may require cryogens such as liquid nitrogen or liquid argon. Explosives in limited quantities would be present in the facility. RGDs would be used for radiography and testing operations. Hazardous and radiological wastes would be generated. With regard to the comment that the SWEIS should evaluate an alternative that excludes this replacement facility, the No Action Alternative provides this alternative to maintain the existing facility. However, the existing facility is reaching its end of life and this replacement is needed to support the NNSA purpose and need and hence is included in the Proposed Action alternative.

Issue Category 5: No-Action Alternative

5-A Analyze a True No-Action Alternative

Commenters state that NNSA should evaluate a true No-Action Alternative that is limited to the current scope of activities that already exist at LLNL. Commenters

state that the No-Action Alternative should not include new projects. Commenters state that there are 19 approved projects included in the No-Action Alternative. Commenters state that the No-Action Alternative should not presuppose that these 19 projects, which do not actually exist in the world yet may not move forward. (Commenters: 16, 18, 22, 31, 46, 48)

Response: NNSA analyzed the No-Action Alternative to comply with the CEQ's NEPA implementing regulations (40 CFR Parts 1500–1508), and to provide a baseline against which the impacts of the Proposed Action can be compared. The No-Action Alternative reflects implementation of decisions NNSA made based on the 2005 LLNL SWEIS and its 2011 Supplement Analysis, and implementation of decisions made on actions evaluated in other relevant NEPA documents completed since 2005. As described in Section 3.2, the No-Action Alternative includes the construction of new facilities, modernization/ upgrade/utility projects, and DD&D of excess and aging facilities through 2022. Because NNSA has already completed NEPA documentation for these projects and has decided to proceed with them regardless of this SWEIS, they are appropriately included in the No-Action Alternative. This approach to the No Action Alternative is consistent with guidance issued by the CEQ Forty Most Asked Questions (46 FR 18026, March 23, 1981). The guidance provides that "where ongoing programs, initiated under existing legislation and regulations, will continue, even as new plans are developed, 'no action' is 'no change' from the current status. Therefore, the 'no action' alternative may be thought of in terms of continuing with the present course of action until that action is changed." NNSA believes that the SWEIS allows the reader to compare the Proposed Action against the No-Action Alternative as the reference point.

Issue Category 6: Other SWEIS Alternatives

6-A Other Site-Wide Alternatives

Commenters state that NNSA needs to have a much wider view of the SWEIS alternatives and should consider alternatives to the current mission. Commenters state that the SWEIS alternatives feel like an all-or-nothing option and do not present a real reasonable range of alternatives. Commenters state that many of the Proposed Action projects will be conducting dangerous, internationally provocative nuclear weapons activities that should be analyzed in more depth and parsed out into separate alternatives that allow the agency to opt out of some of these dangerous proposals when coming to a Record of Decision (ROD) on the SWEIS. Commenters state that the SWEIS alternatives should focus more on civilian science-based alternative missions at LLNL, such as climate change, and less on weapons. Commenters state that NNSA should evaluate an alternative to make Site 300 an alternative energy site. Commenters state that NNSA should evaluate alternatives that would transfer LLNL missions to other sites. Commenters ask if any existing or proposed activities are redundant or duplicative of operations or programs being conducted at other agency facilities. Commenters state that an alternative should be analyzed that removes all special nuclear material from the

Lab. (Commenters: 2, 6, 10, 11, 12, 13, 18, 21, 22, 23, 28, 30, 31, 35, 45, 46, 48, 50, 51)

Response: Section 1.3 of this Final LLNL SWEIS describes the purpose and need for NNSA action. The reasonable alternatives are those that NNSA determined would meet the purpose and need described in that section. NNSA disagrees that the No-Action Alternative and the Proposed Action are "all-or-nothing" options. Rather, those two alternatives present a reasonable range of alternatives that NNSA could implement. NNSA believes the SWEIS appropriately analyzes the potential impacts associated with all of the projects in the Proposed Action and provides NNSA flexibility to select a variety of projects in the Record of Decision (ROD), if desired. For example, in the ROD, NNSA could decide to implement the No-Action Alternative, the Proposed Action, or a combination of the No-Action Alternative and the Proposed Action. Listed below are some examples of decisions that NNSA could make based on the alternatives evaluated in the SWEIS:

1. NNSA could decide to proceed with only proposed non-nuclear projects; in this case, NNSA would not proceed with projects such as the Next Generation LEP R&D Component Fabrication Building, the Stockpile Materials R&D Center, the Livermore Nuclear Science Center, and the Domestic Uranium Enrichment Program, to name a few.

2. NNSA could decide to proceed with only infrastructure modernization projects, such as office buildings, parking structures, the New North Entry, the Fire Station Facility, and utility upgrades, to name a few.

3. NNSA could decide to proceed with only non-weapons related projects, such infrastructure modernization projects, the project to extend the City of Livermore reclaimed water distribution system for cooling tower use, the Alternative Energy Micro-Grid for the Future, and the Hertz Hall expansion and revitalization, to name a few.

4. NNSA could decide to not proceed with any of the proposed operational changes, meaning that NNSA: would not increase the tritium emissions limits at the NIF and the Tritium Facility; would not decrease the administrative limit for fuels-grade equivalent (FGE) plutonium, enriched uranium, and depleted uranium radioisotopes in Superblock; would not revise the NIF radioactive materials administrative limits; and would not increase the administrative limit for Building 235.

Section 3.5 of this SWEIS also discusses other alternatives that NNSA considered in developing this SWEIS. Those alternatives (listed below), include the alternatives suggested by commenters during the scoping period for the Draft LLNL SWEIS.

- Complete Closure of LLNL (Livermore Site and/or Site 300)
- Transfer of Current Missions/Operations from LLNL to Other Sites

- Relocation of All Nuclear Materials and Nuclear Research to Another Site
- Conversion of LLNL to an Academic Laboratory and/or an Environmental Research Laboratory
- Reduced Operations at LLNL
- Shift Funding from Weapons Work to Environmental Cleanup
- Analyze Alternatives for Elimination of Outdoor Detonations with Hazardous Materials at Site 300
- No W87-1 Warhead Development

Those alternatives were eliminated from detailed analysis because they would not allow LLNL to fulfill the NNSA mission requirements. The specific reasons for elimination are provided in Section 3.5. With regard to whether any existing or proposed activities are redundant or duplicative of operations of programs being conducted at other agency facilities, NNSA developed the SWEIS alternatives to meet the purpose and need described in Section 1.3 of tis SWEIS. NNSA is proposing to operate existing facilities and/or construct new facilities that would enable NNSA to meet its mission requirements.

6-B Other Operational Alternatives

Commenters state that NNSA should consider other operational-specific alternatives, including: (1) scaling back NIF to the minimum operations necessary for stockpile maintenance and abandoning the goal of ignition; (2) no BSL-3 replacement; and (3) alternatives to open burning/open detonations with no emissions. Commenters stated that the USEPA is working on a ban of open burning/open detonations. (Commenters: 2, 18, 35, 45, 48)

Response: The operational-specific alternatives suggested by commenters are addressed as follows:

Scaling Back NIF. As discussed in Section 2.2.2.2, NIF is the world's largest and highest-energy laser. NIF's 192 laser beams routinely create temperatures and pressures similar to those that exist only in the cores of stars and giant planets, and inside nuclear weapons. As such, NIF provides the only means by which scientists may access the pressure and temperature conditions relevant to thermonuclear burn. This allows access to high energy density (HED) regimes that are essential for the nation's stockpile assessment and certification strategy. For example, the physical properties of plutonium can be examined under the most extreme conditions reached during detonation of a nuclear weapon. Because of NIF's importance to the SSMP, NNSA does not think scaling back NIF is a reasonable alternative. With regard to abandoning the goal of ignition, NNSA acknowledges that on December 5, 2022, a team at NIF conducted the first controlled fusion experiment in history to reach the milestone of producing more energy from fusion than the laser energy used to drive it (i.e., ignition).

No BSL-3 Replacement. Under the No-Action Alternative, NNSA would not replace the existing BSL-3 facility at LLNL. Consequently, this suggested

alternative is already addressed in the SWEIS. See comment-response 1-C for more information on the need for a BSL-3 replacement.

No Open Burning/Open Detonations. As discussed in Section 2.2.5.2 of this SWEIS, NNSA conducts explosives testing in both indoor (contained) facilities (such as the HEAF and CFF) as well as outdoor firing sites at Site 300. There are limitations with the weight of explosives that can be detonated in indoor (contained) facilities. As discussed in Section 2.2.5, LLNL's HE R&D program is an integral element of the NNSA's design and development effort that supports broad national security missions. These HE capabilities provide core competencies for the weapons program's annual assessment of energetic materials, components, and subassemblies. LLNL has ongoing efforts to evaluate alternative technologies from the current operations for the treatment of HE by open burning/open detonation. NNSA will comply with any new regulations regarding open burning/open detonation.

6-C Disarmament Alternative

Commenters state that NNSA should consider an alternative that would abolish nuclear weapons (disarmament alternative). Commenters state that this would represent an alternative to escalation of the nuclear arms race and could even prompt questions about the feasibility of war itself. Commenter states that a positive role for the Lab going forward, which is not presented in the Draft SWEIS, would be to conduct research on how to dismantle and destroy old nuclear weapons as effectively as possible, with disposal of related waste in the safest possible way. (Commenters: 2, 5, 10, 13, 18, 20, 22, 30, 31, 45, 51)

Response: As discussed in Section 1.3, NNSA is responsible for meeting the national security requirements established by the President and Congress to maintain and enhance the safety, reliability, and effectiveness of the U.S. nuclear weapons stockpile. With regard to specific weapon requirements, the President of the United States determines the size and composition of the U.S. nuclear weapons stockpile annually. Abolishing the U.S. stockpile is inconsistent with the 2022 NPR and national security requirements. Additionally, abolishing the U.S. stockpile would not meet the purpose and need for this SWEIS. NNSA is responsible for ensuring weapons are safe, secure, and effective. The actions at LLNL support NNSA in carrying out that responsibility. Additionally, there are NNSA programs within the Complex, including LLNL, to conduct research to dismantle nuclear weapons effectively and safely. LLNL activities in support of this mission area are included as part of the SWEIS. With regard to the disposal of waste, please see comment-response 18-A.

6-D Climate Change Alternative

Commenters state that NNSA should consider a climate change alternative. (Commenters: 6, 18, 22, 35)

Response: A standalone climate change alternative would not allow LLNL to meet the purpose and need described in Section 1.3 of this SWEIS, and thus was not analyzed as a reasonable alternative. However, both the No-Action Alternative and the Proposed Action include site sustainability and climate change considerations aimed at reducing fossil fuel usage and minimizing greenhouse gas (GHG) emissions. As discussed in Section 4.12.5 of this SWEIS, LLNL strives to be a leader in responsible environmental stewardship and sustainability and incorporates sustainability and environmental management into the planning and performance of day-to-day operations and nonroutine activities. LLNL also conducts a significant amount of R&D for new climate change technologies and will continue to do so in the future.

Consequently, although the SWEIS does not include a "climate change alternative," site-wide actions to reduce energy intensity, reduce fossil fuel consumption, increase the use of alternate fuel vehicles, increase the use of renewable electrical energy, and reduce GHG emissions are included in both the No-Action Alternative and the Proposed Action.

Issue Category 7: Land Use

7-A Proximity of Tracy Hills Development to Site 300

Commenters state that Site 300 activities will encroach upon the Tracy Hills Development and the City of Tracy. Commenters request that NNSA identify the proximity of new facilities at Site 300 to the Tracy Hills Development. Commenters state that the proximity of Site 300 to the Tracy Hills Development is an endangerment for that community. Commenter states that the SWEIS does not properly/accurately reflect the location of Site 300 as it relates to other users. Commenter states that the following statements are not accurate: (1) "only a few residences/businesses, but no schools, are within several miles of this facility;" and (2) "there are no residences or other noise receptors within several miles of this facility." (Commenters: 2, 10, 12, 13, 17, 18, 21, 30, 32, 44, 51)

Response: The SWEIS includes information on the proximity of Site 300 and the Tracy Hills Development within the City of Tracy (see Section 4.2.2.2). As discussed in that section, Site 300 lies outside any defined city limits. The nearest urban area is the City of Tracy. Tracy's city limits are approximately 1 mile from Site 300. Undeveloped agricultural land lies between Tracy and Site 300. The closest housing development to Site 300 is the Tracy Hills Development, which is currently being developed by Integral Communities. The Tracy Hills Development could be as close as approximately 1.15 miles from Site 300. With regard to any new facilities proposed at Site 300, Figure 3-3 identifies the location of those facilities for both the No-Action Alternative and the Proposed Action. With regard to the potential impacts to human health, please see comment-responses 19-A and 20-A. In the Final SWEIS, NNSA has corrected and clarified the description of Site 300 relative to other nearby communities (i.e., Tracy Hills Development). The overall average sound levels from activities at Site 300 are completely compatible

with all land uses outside of the Site 300 property boundary. These are described in Section 4.7.2.2 of the SWEIS.

Issue Category 8: Aesthetics and Scenic Resources

8-A Viewshed of New North Entry Gate

Commenter recommends that the new entry gate (and other improvements in this vicinity) be designed and constructed in a manner to maintain and minimize disturbances to the viewshed. (Commenter: 37)

Response: As discussed in Section 5.3.2, the entry road and low-profile bridge would not attract attention as the site and surrounding landscape is largely developed. Although there would be short-term adverse visual impacts from construction activities, long-term impacts are expected to be minimal.

Issue Category 9: Geology and Soils

9-A Earthquake Risks and Facility Vulnerability

Commenters ask NNSA to clarify the earthquake risks at LLNL facilities. Commenters also state that Building 235 is one of the most earthquake-vulnerable facilities at LLNL and the plutonium administrative limits should not be increased in Building 235. (Commenters: 5, 13, 22)

Response: In 2020, Building 235 was seismically upgraded to reduce the vulnerability to an earthquake. Increasing the plutonium administrative limits for this radiological facility would not change its hazard category. Building 235 would be a less-than-HC-3 designation per DOE-STD-1027-2018. In the event of an earthquake and subsequent fire, impacts would be localized. See Tables 5-60 and 5-61 in this SWEIS for the details of the Building 235 accident analysis.

Issue Category 10: Water Resources

10-A Environmental Monitoring

Commenters request additional information about environmental monitoring at LLNL, and specifically if testing is done on off-site domestic well water. (Commenters: 7, 49)

Response: Chapter 4 of this SWEIS includes detailed information about environmental monitoring that is conducted at LLNL. For example, Section 4.5.1.3 describes stormwater monitoring, Section 4.5.2.4 describes groundwater monitoring, Section 4.6.5 describes air monitoring for radiological constituents, Section 4.8 describes biological monitoring, including tritium in vineyards and wine, Section 4.12 describes sanitary effluent monitoring, and Section 4.15 describes monitoring associated with environmental restoration activities. As discussed in Section 4.5.2.4, LLNL conducts surveillance monitoring of

groundwater in the Livermore Valley through networks of wells and springs that include offsite private wells and onsite DOE *Comprehensive Environmental Response, Compensation, and Liability* (CERCLA) wells. Additionally, broader survey surveillance monitoring results are available in the Annual Site Environmental Reports (ASER) on the LLNL external website (https://enviroinfo.llnl.gov/news/report).

10-B Contaminants in the Watershed

Commenters request additional information about contaminants in the watershed from LLNL activities. Commenter states that tritium bonds inextricably with water and raises concerns about tritium levels in water. Commenter questions whether there will be changes in testing for City of Livermore water and whether the costs of such testing have been taken into account. Commenters state that there is a water shortage in California and asks how NNSA will ensure water will not be contaminated. Commenters ask how we know that water in Tracy would not be contaminated by Site 300 activities. (Commenters: 32, 35, 49)

Response: For the existing environmental baseline, contaminants in the watershed are discussed in Section 4.5.1 (surface water) and Section 4.5.2 (groundwater). Potential contaminants associated with the two alternatives are discussed in Section 5.5.1 (surface water) and Section 5.5.2 (groundwater). LLNL conducts water surveillance monitoring in support of DOE Order 458.1. Surface and drinking water near the Livermore Site and in the Livermore Valley were sampled at the locations shown in Figure 4-39 in 2018. All locations were sampled for tritium and other radioactive contaminants. The median activity for tritium in all water location samples was estimated to be below the analytical laboratory's minimum detectable activities or minimum quantifiable activities. With regard to groundwater, as stated in Section 4.5.2, in 2018 and 2019, the tritium measurements in groundwater continued to show concentrations below the 20,000 pCi/L MCL established for drinking water in California. Monitoring and testing of the City of Livermore water is conducted as required in accordance with regulatory requirements.

With regard to Site 300, all tritium levels in groundwater are below the regulatory standard of 20,000 pCi/L when the water reaches the site boundary. Surface water runoff from Site 300 poses no risk to water quality for the City of Tracy (LLNL 2021). Costs associated with meeting any regulatory requirements are supported by NNSA.

Issue Category 11: Air Quality

11-A Greenhouse Gases and Climate Change

Commenters state that NNSA should assess the impacts of increased greenhouse gases (GHGs) and climate change. Commenters state that fossil fuels threaten the world. (Commenters: 19, 32, 35)

Response: For the existing environmental baseline, GHGs and climate change issues are discussed in Section 4.6.3. For the alternatives, potential impacts associated with GHG emissions and climate change are discussed in Section 5.6.1 (No-Action Alternative) and Section 5.6.2 (Proposed Action). As discussed in Section 5.6.2, the Proposed Action would increase the total annual LLNL GHG emissions by approximately 5,239 metric tons per year (3.4 percent increase) over the No-Action Alternative estimates. In California, state-wide GHGs are estimated to be approximately 363.5 million metric tons per year. GHG emissions associated with the Proposed Action at LLNL would account for less than 0.03 percent of those emissions. With regard to employing all practicable methods of reducing GHG emissions and moving toward the net-zero emissions goal, please see comment-response 17-C.

11-B Air Pollution Technologies

Commenter requests additional information about air pollution technologies that could be used at Site 300 to mitigate hazardous air emissions and impacts. Commenter states that NNSA has never fully addressed citizen complaints about Site 300 air pollution. (Commenter: 35)

Response: NNSA takes citizen complaints seriously and always attempts to address the concerns of citizens. Section 5.19 of this SWEIS contains information on mitigation measures. With regard to mitigating impacts from air pollution, Section 5.19.6 identifies the following measures:

- Construction equipment criteria pollutant emissions would be minimized by using specific fuels (e.g., low-sulfur diesel fuel, alternative ethanol-containing fuel) and by maintaining equipment to ensure that emissions control systems and other components are functioning at peak efficiency.

- Construction emissions would be minimized using water to control dust emissions from exposed areas, revegetation of exposed areas, watering of roadways, and minimizing construction activities under dry or windy conditions.

- Emissions from facility operations would be controlled using best available control technologies to ensure that emissions are compliant with applicable standards. Impacts would be minimized by use of biosafety cabinets, glovebox confinement and air filtration systems (e.g., HEPA filters) to remove particulates (e.g., radioactive, microorganism) before discharging process exhaust air to the atmosphere.

Issue Category 12: Noise

12-A Noise Impacts from Site 300 Explosives Testing

Commenters ask NNSA to acknowledge that loud noise above 120 dB can cause immediate harm to your ears. Commenters also request that NNSA assess the noise

impacts from Site 300 explosives testing on nearby homes at the Tracy Hills Development. Commenters state that the Tracy Hills Specific Plan includes improvements to be constructed within 1.5 miles of the Site 300 boundary. (Commenters: 35, 44, 48)

Response: Table 4-19 of this SWEIS outlines level of concern and complaint for an individual impulsive noise using peak noise levels. Peak noise levels of 120 dB are considered to have a medium level of concern and possibility of complaint. Potential noise impacts at the Tracy Hills Development are addressed in Section 5.7.2 of this SWEIS. As discussed in that section, explosive testing conducted at the open firing tables are audible beyond the Site 300 property boundary. Those tests produce audible noises beyond the Site 300 property boundary (see Figure 4-54). As shown in Table 4-18, the overall average sound levels (i.e., C-weighted Day-Night Sound Level [CDNL]) are completely compatible with all land uses outside of the Site 300 property boundary. NNSA would continue open detonation at Site 300 facilities under the current levels of less than 100 pounds per day and less than 1,000 pounds per year. In addition, LLNL continues to monitor testing activities to ensure that noise levels remain below its self-imposed impulse noise limit of 126 dB in nearby residential areas.

Issue Category 13: Biological Resources

13-A Tritium Impacts on Vineyards and Wine

Commenter states that a percentage of tritium emitted from LLNL will become organically bound in our plants. Commenter states that NNSA should assess the impact of tritium on vineyards and wine. (Commenters: 32)

Response: NNSA agrees that a small percentage of tritium emissions from LLNL will become organically bound in vegetation and plants. This SWEIS includes an analysis of the potential impacts to vegetation, including grapes for wines, from LLNL tritium emissions in Section 5.8.1 (No-Action Alternative) and Section 5.8.2 (Proposed Action). As discussed in Section 5.8.1, under the No-Action Alternative, the highest concentration of tritium (156.4 pCi/L) in Livermore Valley wines would be just 0.78 percent the USEPA standard for maximal permissible level of tritium in drinking water (20,000 pCi/L). Drinking one liter per day of the Livermore Valley wine with the highest concentration would result in a dose of 0.001 millirem/year (based on LLNL 2020b). Therefore, the impacts of the No-Action Alternative on tritium levels in vegetation and commodities would be minimal.

As discussed in Section 5.8.2, under the Proposed Action, the highest concentration of tritium (1,876 pCi/L) in Livermore Valley wines would be just 9.4 percent the USEPA standard for maximal permissible level of tritium in drinking water (20,000 pCi/L). Drinking one liter per day of the Livermore Valley wine with the highest concentration would result in a dose of 0.012 millirem/year (based on LLNL 2020b). Therefore, the impacts of the Proposed Action on tritium levels in vegetation and commodities would be minimal.

13-B Impacts on Special Status Species

Commenter states that there is a possibility that one or more of the special status species will wander into a blast area at Site 300. (Commenters: 35)
Response: The amount and frequency of outdoor explosives testing at Site 300 will remain at current levels. Explosives testing occurs at research facilities on or near designated firing tables that are developed areas that do not provided habitat for special status species. The firing tables are surrounded by largely undisturbed areas of grassland and coastal scrub habitat. Site 300 outdoor explosives test facilities have operated for over 60 years with minimal impacts on special status species. LLNL wildlife biologists conduct regular surveys for special status species in areas surrounding explosive testing facilities and throughout Site 300 and implement a Natural Resources Management Plan for Site 300. Surveys conducted for the current draft SWEIS show that the special status species observed at Site 300 prior to 2005 are still found at the site. Some changes in the distribution and abundance of special status species have been observed because of drought and other environmental conditions, but no changes in the abundance or distribution of special status species have been observed that are attributable to outdoor explosives testing. Alternatively, beneficial effects have been observed that are attributable to the maintenance of outdoor explosives testing facilities. Outdoor explosive testing requires the maintenance of large undeveloped buffer areas surrounding the firing tables. Development and human access are limited in these buffer areas providing for large relatively undisturbed areas of habitat. In addition, the Site 300 prescribed burn that is conducted to control wildfire risk has the beneficial effect of promoting a diverse native grassland ecosystem. This information has been added to Sections 5.8.1 and 5.82, under Outdoor Testing at Site 300.

Issue Category 14: Cultural and Paleontological Resources: no comments received.

Issue Category 15: Socioeconomics and Environmental Justice

15-A Housing Impacts

Commenters state that the City of Tracy has expanded its boundary toward Site 300 and the population has skyrocketed over the last 25 years. Commenters state that this growth has increased the risks to the public. Commenters state that NNSA needs to address the potential impacts on housing. (Commenters: 28, 32, 38, 49)

Response: This SWEIS includes an analysis with respect to the growth of the City of Tracy in Section 5.2 (land use) and Section 5.10 (socioeconomics and environmental justice). Section 4.10 discusses growth and employment in the four local counties including the City of Tracy. Potential impacts on housing are presented in Sections 5.10.1 (No-Action Alternative) and 5.10.2 (Proposed Action). Potential human health risks from normal operations are presented in Section 5.14, and accident consequences and risks are presented in Section 5.16.

With regard to housing specifically, as discussed in Section 5.10.1, the increase in direct and indirect jobs associated with the No-Action Alternative would be 2,528, which is less than 0.1 percent of the projected ROI population in 2022. Because the increase in direct and indirect jobs would be less than 0.1 percent of the projected population, a large influx of workers/families due to LLNL employment into the ROI is not expected. In 2020, there were 78,413 vacant housing units in the ROI. Because a large influx of workers/families into the ROI is not expected, the No-Action Alternative would not result in notable changes in vacant housing units. More likely, non-LLNL-related activities would be expected to cause reductions in vacant housing units. At most, the additional jobs associated with the No-Action Alternative would reduce the vacant housing units by 2,528, or approximately 3.2 percent.

As discussed in Section 5.10.2, the increase in direct and indirect workers associated with the Proposed Action would be 2,270, which is less than 0.05 percent of the projected ROI population in 2035 of 2.24 million. Because the increase in direct and indirect jobs would be approximately 0.1 percent of the projected population, a large influx of workers/families into the ROI is not expected. In 2020, there were 78,413 vacant housing units in the ROI. Because a large influx of workers/families into the ROI is not expected, the Proposed Action would not result in notable changes in vacant housing units. More likely, non-LLNL-related activities would be expected to cause reductions in vacant housing units. At most, the additional jobs associated with the Proposed Action would reduce the vacant housing units by 2,270, or approximately 2.9 percent.

15-B General Environmental Justice Impacts

Because there are many Spanish-speakers in the area, the commenter asks if the SWEIS has been translated into Spanish. The commenter states that low-income and minority populations disproportionately bear the cost in tax dollars, work in lower paid positions, and bear the risks of radioactive pollution if there is a major accident at the Lab. The commenter asks if radioactive waste will be disposed of in low-income and minority populations. (Commenter: 35)

Response: In support of the public hearings for the Draft LLNL SWEIS, NNSA prepared Spanish versions of fact sheets, posters, and NNSA's public presentation. NNSA entertains requests from the public for special assistance, such as translation of NNSA documents. NNSA did not receive any requests to translate the SWEIS.

See comment response 20-A for a discussion of accident impacts from LLNL operations. As discussed in that comment response, the risk of an LCF to the population within a 50-mile radius of LLNL is approximately 1 in 10 million. Given this risk, NNSA does not think that there will be any disproportionate impact to low-income or minority populations.

Radioactive waste from LLNL operations could be disposed of at the following locations: the WIPP near Carlsbad, New Mexico; the Energy*Solutions* facility in

Clive, Utah; the Nevada National Security Site (NNSS) outside of Las Vegas, Nevada; Perma-Fix Environmental Services in Oak Ridge, Tennessee; Perma-Fix in Richland, Washington; and Waste Control Specialists in Andrews County, Texas. Disposal facilities comply with all regulatory requirements required for their specific operation. Impacts at these disposal facilities are beyond the scope of this SWEIS.

However, this SWEIS does analyze the potential impacts (including accidents) of transporting radioactive materials and waste from LLNL to these facilities. As discussed in Section 5.11.3.2, under the Proposed Action, modeling of all 888 potential offsite shipments would yield a bounding collective incident-free dose to the general public of 24.7 person-rem, with an associated increased risk of 0.015 LCF; and a bounding cumulative increased risk of 2.9×10^{-6} LCF to the general public from accidents that result in a container breach/release. Based on the potential routes to the disposal sites, impacts to the minority and low-income populations would consist of a fraction of the LCF risk presented above.

Issue Category 16: Traffic/Transportation

16-A Plutonium-Specific Transportation Impacts

Commenters state that NNSA should address plutonium transportation from Los Alamos National Laboratory (LANL) to LLNL, including impacts to communities along the transportation route. Commenters question whether plutonium was flown from LANL to LLNL. Commenters state that NNSA did not respond to a FOIA request as to why plutonium was flown from LANL to LLNL. (Commenters: 32, 35, 36, 45)

Response: The potential impacts from plutonium transportation between LLNL and LANL are specifically provided in Tables 5-30 and 5-31 of this SWEIS. LANL informed NNSA of this incident, and NNSA launched an investigation and took appropriate corrective actions to ensure a mistake like this would not happen again. NNSA confirmed that there was no loss of radioactive material or contamination. Issues related to air transportation and related FOIA requests are beyond the scope of this SWEIS.

16-B City Traffic

Commenters request that NNSA clarify the impacts on city traffic from the Proposed Action, both in Livermore and in Tracy. They also request that NNSA create VMT (Vehicle Miles Traveled) plans. (Commenters: 28, 32)

Response: This SWEIS includes an analysis of the potential impacts on Livermore city traffic in Section 5.11.1 (No-Action Alternative) and Section 5.11.2 (Proposed Action). As discussed in Section 5.11.1, over the No-Action Alternative planning period (2020-2022), the total workforce at LLNL is expected to increase by 1,431 persons, from 7,909 persons to a total of 9,340 persons. Traffic impacts were determined by comparing current traffic levels with projected traffic increases

associated with the No-Action Alternative. The addition of 1,431 workers per year would represent an approximately 18.2 percent increase compared to the current workforce at both sites. If all 1,431 workers were to commute to the Livermore Site (which is a bounding assumption for the transportation analysis), local traffic would increase by an average of approximately 2.4 percent (note: specific roads in the vicinity of the Livermore Site would increase by 1.6 – 3.4 percent). The increase in traffic would not affect the level of service (LOS) on roads in the vicinity of the Livermore Site.

As discussed in Section 5.11.2, during the 13-year Proposed Action planning period (2023–2035), NNSA estimates that a maximum of 700 additional construction workers per year would commute to LLNL annually (mostly to the Livermore Site, but some to Site 300). In addition, the operational workforce at LLNL is expected to increase from the No-Action Alternative baseline of 9,340 workers to 10,050 workers. Consequently, the LLNL workforce is expected to increase from 9,340 workers to a total of 10,750 workers. Overall, direct employment at LLNL would increase by approximately 1,410 workers compared to the No-Action Alternative workforce, which would be a 15.2 percent increase. If all 1,410 workers were to commute to the Livermore Site (which is a bounding assumption for the transportation analysis), local traffic would increase by an average of approximately 2.3 percent (note: traffic on specific roads in the vicinity of the Livermore Site would increase by 1.6 – 3.2 percent). The increase in traffic would not affect the level of service (LOS) on roads in the vicinity of the Livermore Site. The proposed New North Entry to the Livermore Site would alleviate traffic backups and delays (some up to 15 minutes) that occur during the mornings on Vasco Road at the West Gate entrance.

As discussed in Section 4.11.1, because traffic in the Site 300 area is generally not heavy (except during commuting times) due to its rural location and the relatively small workforce, a qualitative analysis is presented for that area in this SWEIS. NNSA does not think VMT plans need to be created in order to present the potential traffic impacts.

16-C General Radiological Transportation Risks

Commenters request that the SWEIS clearly shows the relationship of the Proposed Action to the corresponding increase in shipments of plutonium or other materials between sites. Commenters state that radiological transportation impacts would increase by 35 percent. Commenters state that the SWEIS does not adequately describe transportation risks in detail that allows the public to understand the type, location, potential severity, or precautions taken that can mitigate the risk of transportation rather than just relying on transportation guidelines and packaging requirements. Commenters state that the SWEIS should include an alternative where less radiological and hazardous materials are transported to and from the Lab. (Commenters: 12, 32, 35, 48)

Response: This SWEIS presents the potential radiological transportation impacts in Section 5.11.3. As shown in that section, for the No-Action Alternative, modeling of all 645 potential offsite shipments would yield a bounding collective (i.e., cumulative) incident-free dose to transport-crews of 61.6 person-rem per year, with an associated increased risk of 0.037 LCF; a bounding collective incident-free dose to the general public of 21.6 person-rem, with an associated increased risk of 0.013 LCF; and a bounding cumulative increased risk of 1.9×10^{-6} LCF to the general public from accidents that result in a container breach/release. Under the Proposed Action, modeling of all 888 potential offsite shipments would yield a bounding collective (i.e., cumulative) incident-free dose to transport-crews of 69.2 person-rem per year, with an associated increased risk of 0.042 LCF; a bounding collective incident-free dose to the general public of 24.7 person-rem, with an associated increased risk of 0.015 LCF; and a bounding cumulative increased risk of 2.9×10^{-6} LCF to the general public from accidents that result in a container breach/release.

The only quantifiable difference in radiological transportation characteristics between the No-Action Alternative and Proposed Action are the numbers of shipments (per year) of nonroutine LLW/MLLW to NNSS and Energy*Solutions* from LLNL. Because those shipments only account for a fraction of the total radiological transportation impacts, the total radiological impacts for the Proposed Action would be only slightly higher across all categories as compared to the No-Action Alternative.

An alternative to reduce radioactive materials transportation would not meet NNSA mission requirements and hence was not analyzed.

16-D New North Entry

With regard to the New North Entry, commenter states that portions of the areas north of Patterson Pass Road are being evaluated as an improved industrial area and new residential neighborhoods as part of the Livermore General Plan Update. Commenter recommends further coordination in entry locations and roadway configurations. Commenter states that an encroachment permit is required for any work conducted within the City right-of-way including medians and landscape areas and all work must comply with applicable roadway standards. Commenter requests the opportunity to review the improvement plans at the time of encroachment permit submittal to evaluate the interface with the roadway and any potential impacts to circulation. (Commenter: 37)

Response: NNSA would coordinate with the City of Livermore as appropriate as plans for the New North Entry progress. As discussed in Section 5.11.2, the intersection/signalization of the New North Entry would likely be similar to the intersection/signalization that currently exists on Vasco Road and the West Gate entrance to the Livermore Site (see Figure 5-6). Although new turn lanes on Patterson Pass Road are expected, NNSA would coordinate with the City of Livermore on the specifics of the intersection/signalization. NNSA acknowledges

that an encroachment permit would be required for any work conducted within the City of Livermore right-of-way and that all work must comply with applicable roadway standards. NNSA would provide the City of Livermore the opportunity to review the improvement plans at the time of encroachment permit submittal to evaluate the interface with the roadway and any potential impacts to circulation.

16-E Expanded Bicycle Circulation

Commenter encourages LLNL to consider the interface with the City's existing or proposed bicycle infrastructure to support ridership to and from the LLNL site. Commenter states that the City of Livermore is currently evaluating improvements to East Avenue as part of a pilot study to implement the City's Active Transportation Plan. The commenter recommends continued coordination regarding proposed bicycle improvements. (Commenters: 32, 37)

Response: As discussed in Section 3.2.2, NNSA is proposing to expand the bicycle network on the Livermore Site in order to improve bicycle transportation on site (see specifically Figure 3-17 of this SWEIS). Although NNSA's Proposed Action does not extend beyond the boundaries of the LLNL Site, NNSA recognizes that improvements within the LLNL boundaries could encourage more LLNL workers to commute via bicycle. As discussed in Section 6.4.6 of this SWEIS, NNSA acknowledges that the City of Livermore is in the process of updating its bicycle master plan. Livermore already plans to double its bike paths from 46 miles to nearly 90 miles (Livermore 2009). Per the "Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan, 2018" (hereafter, "Active Transportation Plan" [ATP]), NNSA also is aware that the City of Livermore has identified challenges and recommended implementation strategies to improve walking, biking, and trails in Livermore. The ATP analyzes existing conditions, incorporates community objectives, implements current policies, and recommends enhancements to the existing network to close gaps and increase safety, comfort, connectivity. Specifically in the area of the Livermore Site, the ATP proposes Class II buffered bicycle lanes on East Avenue between South Livermore Avenue and South Vasco Road, as well as other pedestrian crossing enhancements. NNSA actions within the boundaries of the LLNL Site would be consistent with the City of Livermore's initiatives, and NNSA would coordinate with the City as appropriate.

Issue Category 17: Infrastructure

17-A Dangers to the Electrical Grid

Commenters state that LLNL should be working to address issues like security dangers to the electric grid. (Commenter: 32)

Response: Basic science is the engine that drives research at LLNL and LLNL scientists and engineers are prepared to solve critical challenges across national missions. As discussed in detail in Chapter 2, these other missions include energy security and long-term energy needs. With specific regard to dangers to the electric

grid, LLNL is proposing two projects described in Section 3.3.1.5 (Site 300 Cyber-physical Test Capability for Energy Distribution and Alternative Energy Micro-Grid for the Future) which would be used to enhance the resilience of the U.S. energy production and distribution infrastructure.

17-B Extend Reclaimed Water Distribution System

Commenter states the extension of the City's reclaimed water infrastructure system to the LLNL site has not yet been approved or funded and would require significant capital investment and further coordination between the City and LLNL. (Commenter: 37)

Response: NNSA acknowledges that extension of the City of Livermore's reclaimed water infrastructure system to the LLNL site has not yet been approved or funded and would require significant capital investment and further coordination between the City and LLNL. NNSA would coordinate with the City of Livermore as appropriate as plans progress for the reclaimed water extension.

17-C Natural Gas Use

Commenter states that although the increased use of natural gas could be considered insignificant to the state of California, overall, this could account for a significant increase in Livermore's emissions. Commenter states that the City of Livermore has recently adopted the 2022 Climate Action Plan (CAP), which establishes a goal of achieving carbon neutrality by 2045. Commenter recommends that LLNL consider electrification of new or renovated facilities and buildings on its campus to the extent feasible. (Commenter: 37)

Response: LLNL is required by DOE Order 436.1 *Departmental Sustainability* to implement a site sustainability plan (SSP) including goals addressing GHG emissions. Specific goals included in Executive Orders 14057 and 14008 apply to sustainability and climate adaptation and resilience. Energy and emissions reductions are the focal point targeting both Scope 1 and Scope 2 GHG reductions. For example, all new construction >25,000 GSF entering design in FY2022 and beyond must be net zero emissions by 2030. Also, the lab must establish energy efficiency targets by 2030, and have a net zero emissions building portfolio by 2045.

In FY2022, LLNL completed a Vulnerability Assessment and Resilience Plan (VARP) consistent with the U.S. DOE 2021 Climate Adaptation & Resiliency Plan (CARP) guidance. The VARP identifies the key mission-critical assets at LLNL and outlines the expected risks to those assets from climate change. Top resilience solutions will be implemented and tracked annually and the VARP will be updated every 4 years.

In April 2022 LLNS signed an MOU with the City of Livermore to collaborate on advancing climate action in Livermore and building community-wide resilience to climate change impacts.

17-D Water and Electricity Use

Commenters ask if the increased water and electricity use will put a strain on California water resources and cause more pollution from electricity use. Commenter asks how much water (in gallons) is 0.3 percent of the Hetch Hetchy water supply. Commenters ask how much less than 1 percent of California electricity supply will be required. Commenters ask about potential power blackouts. (Commenters: 35, 49)

Response: As stated in Section 6.4.12.1, the Hetch Hetchy reservoir can store as much as 117 billion gallons of water. LLNL's current water use (380 million gallons annually) amounts to approximately 0.32 percent of the capacity of the Hetch Hetchy reservoir. As discussed in Section 5.12.2, using reclaimed water would reduce Hetch Hetchy potable water usage at LLNL by approximately 200 million gallons per year. As discussed in Section 5**.**18, the new hybrid work environment would reduce onsite worker population on any given day, which, in turn, would further reduce domestic water use (by a maximum of approximately 7.4 million gallons annually). This reduction would amount to approximately 1.4-1.6 percent of the LLNL future usage.

As stated in Section 6.4.12.3, state-wide electricity demand is expected to be a maximum of 339,863 million gigawatt-hours/year by the year 2030. As shown in Table 6-11, the LLNL electric power consumption of 559.7 million kilowatt-hours per year would represent less than one percent (0.00002 percent) of any of the state-wide demand scenarios. Because LLNL electricity use is insignificant compared to state-wide use, power blackouts would not be expected to occur as a result of LLNL operations. As shown on Table 6-10, more than 50 percent of California's electricity is generated via non-GHG emitting sources.

Issue Category 18: Waste Management and Materials Management

18-A Disposal of Waste and Long-Term Impacts

Commenters request that NNSA address the disposal of radiological wastes. Commenters state that NNSA should address the long-term impacts of waste disposal at disposal facilities. Commenters state that these disposal sites often have spills and ·accidents and releases into the environment. (Commenters: 14, 35, 45, 48)

Response: As discussed in Sections 4.13 and 5.13 of this SWEIS, waste disposal facilities are generally licensed/permitted for operation by local and/or state regulators. For example, the Energy*Solutions* facility in Clive, Utah is a commercial facility licensed as a Class A LLW disposal facility by the Utah Department of Environmental Quality (UDEQ). Similarly, commercial facilities used by LLNL

for MLLW include the Nevada National Security Site (NNSS), the Energy*Solutions* facility in Utah, and a Perma-Fix facility (specifically Diversified Scientific Services Inc. or DSSI) in Tennessee. These facilities have permits with their applicable states allowing them to receive MLLW for treatment and/or disposal. With regard to hazardous waste, LLNL manages these wastes under contract with large commercial enterprises that must show adequate capacity and compliance with applicable permitting and regulatory requirements in order to be considered for the contract. For nonhazardous solid waste, both the Altamont and Vasco Road facilities have appropriate permits to operate as solid waste landfills and the County of Alameda, Department of Environmental Health, is identified as the local enforcement agency for both landfills. The WIPP facility is DOE's only authorized repository for TRU waste and has a hazardous waste permit issued by the New Mexico Environment Department (NMED). LLNL wastes are managed at these disposal facilities in accordance with approved operating licenses/permits.

Operations of the offsite disposal facilities are outside the scope of this SWEIS.

18-B Use of Hazardous Materials and Chemicals

Commenters state that NNSA should minimize the use of hazardous materials and chemicals. Commenters state that the SWEIS does not indicate whether NNSA tries to limit the proposed programmatic use of hazardous chemicals, substances, or radioactive materials to the bare minimum. (Commenter: 48)

Response: As discussed in Section 4.13.6.2 of this SWEIS, a key element of LLNL's strategy in managing its chemical inventory is to ensure chemicals are used safely and appropriately. For new or planned actions, this is done largely through implementing the following hierarchy of controls, in order of preference: (1) select materials and process designs that avoid or minimize use of hazardous materials; (2) use engineered controls to confine, shield, or remove hazards; (3) use administrative or procedural controls; and (4) use personal protective equipment. Concurrently and consistent with requirements of 29 CFR Part 1910, Subpart Z, Toxic and Hazardous Substances, and other standards, the LLNL ES&H program includes measures and requirements to inform workers of the hazards posed by chemicals in their workplace and to provide training so that they can perform their work in a manner that minimizes the risk of adverse effects from those chemicals.

Another key element of LLNL's strategy in managing its chemical inventory is to minimize its size. Efforts to this end include actions taken whenever hazardous materials are ordered for the site. Such requests are reviewed by subject specialists to determine if there are less hazardous materials available to accomplish the same need. Another review is performed to determine if the hazardous chemical is already available onsite as determined through the LLNL ChemShare program. Once chemicals have been ordered, all hazardous materials coming to the Livermore Site from commercial vendors or other DOE sites are received by the Receiving Section of the Supply Chain Management Department; that is, unless prior approval has been given, or is already in place, for a specific, direct delivery.

Supply Chain Management Department personnel are then responsible for bar coding containers and entering record of the receipt into the ChemTrack system or requesting the ChemTrack Group to enter the data. Similar container bar-coding and inventory data entry in the ChemTrack system are performed by receiving organization at Site 300. The ChemTrack system is LLNL's centralized chemical inventory database for tracking hazardous chemicals and represents the site's means of determining whether goals of inventory reduction are being achieved. ChemTrack allows RFID-tagged chemical containers to be tracked by location and usage information from receipt through disposal. It also links each chemical to data on its properties and hazards, including the safety data sheets if available. Measures to maintain and validate ChemTrack chemical inventory data include performing, at least on an annual basis, a wall-to-wall inventory and reconciliation at each facility where tracked items are used.

As stated in Section 5.19.11 of this SWEIS, NNSA would implement waste minimization efforts that could potentially make waste management simpler and even conserve resources. Waste minimization would be pursued during operations as part of the goals and objectives of the LLNL Environmental Management System and Site Sustainability Plan that are discussed in Section 4.12.5 of this SWEIS.

18-C Availability and Use of the WIPP

Commenters state that NNSA should consider the availability and use of the WIPP for TRU waste disposal. Commenters stated that WIPP could be prioritized for other site's TRU waste and may not be available for the disposal of LLNL TRU waste. Commenters state that the WIPP will close in 2024. Commenters state that it is highly unlikely that New Mexico will accept much, if any, TRU waste from Livermore Lab, under various WIPP permit conditions and proposals now under consideration by the New Mexico governor. Commenters state that NNSA should not assume that any LLNL TRU waste will be admitted after the new WIPP operational permit is issued by the New Mexico Environmental Department. Commenters ask if NNSA has a contingency plan for TRU waste disposal in case WIPP is not available. (Commenter: 46)

Response: This SWEIS evaluates the relevant NEPA-related activities associated with managing TRU and TRU-mixed wastes and transporting those wastes to the WIPP facility for disposal. The approximate volume estimates of TRU waste that could be generated and the estimated increase in shipments presented in the SWEIS represent conservative estimates for the purposes of identifying environmental consequences. The DOE Carlsbad Field Office (CBFO) tracks the volume of TRU waste disposed at the WIPP facility using proven quality assurance procedures to ensure it does not exceed the total TRU waste volume capacity limit of 6.2 million cubic feet (175,564 cubic meters), in accordance with the WIPP Land Withdrawal Act (LWA).

Chapter 6, Section 6.4.13.3 of this SWEIS evaluates potential impacts from all TRU waste generators, including those from LLNL. As described in that section, the *Annual TRU Waste Inventory Report* (ATWIR) serves as a current estimate of the TRU waste inventory for potential disposal at WIPP and documents the TRU waste that may be considered in future Compliance Recertification Applications submitted to the USEPA. As of the data collection cutoff date for the 2019 ATWIR, approximately 67,400 cubic meters of TRU waste were disposed at WIPP. The maximum amount of TRU waste estimated to potentially be generated over the life of the Proposed Action at LLNL is 2,621 cubic meters[7] (note: this estimate includes: 52.8 cubic meters of routine TRU waste and 60 cubic meters of non-routine TRU waste that would be generated annually under the No-Action Alternative between 2020-2022; and 52.8 cubic meters of routine TRU waste and up to 122.8 cubic meters of non-routine TRU waste that would be generated annually under the Proposed Action between 2023-2035). The 2,621 cubic meters of TRU waste would represent 1.5 percent of the LWA TRU waste disposal volume capacity of 175,564 cubic meters. It would also represent 2.4 percent of the available WIPP capacity, based on the 2019 ATWIR. Based on the small quantity of TRU waste from LLNL, NNSA thinks that WIPP has sufficient capacity available to meet the TRU waste disposal requirements.

NNSA also acknowledges that TRU waste volume estimates such as those provided in NEPA documents cannot be used to determine compliance with the WIPP LWA total TRU waste disposal volume capacity limit. The TRU waste estimates in the ATWIR change annually. Determining compliance to the WIPP LWA disposal capacity limit is determined by proven and audited procedures and process implemented for the WIPP facility by the CBFO. CBFO monitors and tracks the actual defense related TRU waste volume emplaced at the WIPP facility to ensure compliance with the WIPP LWA and will take action as appropriate in a timely and appropriate manner to ensure needs of the DOE complex are met.

Issue Category 19: Human Health and Safety

19-A Tritium and Plutonium Emissions on Human Health

Commenters express concern about the impacts of the alternatives on human health. Commenters state that Site 300 activities will endanger the health of the public living at the Tracy Hills Development. Commenters state that increasing tritium emission limits and increasing the administrative limits governing the amount of weapons-grade plutonium at Building 235 and radioactive materials at NIF could result in pollution of atmosphere and soil, potentially affecting as many as 8 million San Francisco Bay Area residents to a range of health challenges, including lethal cancers. Commenters state that NNSA should analyze all nuclear material exposure pathways to receptors, both long-term and short-term, so that the increased risk from the proposed tritium emissions to humans and the environment can be assessed. Commenters state that an increase in the population

[7] In contrast, the No-Action Alternative would generate a maximum of 1,692 cubic meters of TRU waste over 2020-2035.

dose and LCF risk is unacceptable. (Commenters: 2, 5, 10, 11, 12, 13, 14, 17, 18, 21, 22, 23, 30, 32, 35, 39, 45, 46, 48, 51)

Response: Section 5.14 of this SWEIS specifically analyzes the potential impacts on human health. This includes emissions from all facilities at the Livermore Site and from facilities at Site 300. For the Proposed Action, as shown in Section 5.14.2, at both the Livermore Site and Site 300, the annual radiation dose to the offsite MEI would be much less than the limit of 10 millirem per year set by both the USEPA (40 CFR Part 61, Subpart H) and DOE (DOE Order 458.1) for airborne releases of radioactivity. The risk of an LCF to the MEI from operations would be 2.5×10^{-6} per year at the Livermore Site and 1.0×10^{-10} per year at Site 300. The projected number of LCFs to the population within a 50-mile radius would be 4.3×10^{-3} at the Livermore Site and 3.0×10^{-8} at Site 300. Impacts to an individual living at Tracy Hills would be less than impacts to the MEI at Site 300. These doses present a much smaller risk to the public than the risk associated with natural background radiation.

As described in Appendix C (Section C.2.1.6 and Section C.3.1.4), meteorological conditions at both the Livermore Site and Site 300 are considered in the SWEIS human health and accident analyses. In addition, the LLNL National Emission Standards for Hazardous Air Pollutants (NESHAPs) 2019 Annual Report (LLNL 2020c) provides additional details regarding the meteorological conditions that are considered in determining the potential human health impacts from the operational releases of materials from LLNL operations.

19-B Prevention of Releases to the Environment

Commenters state that NNSA needs to prevent releases to the environment to minimize human health impacts. Commenters state that there have been major releases of tritium in the past. (Commenters: 35, 39)

Response: NNSA implements stewardship practices that are protective of the air, water, land, and other natural and cultural resources affected by NNSA operations in accordance with an environmental management system established pursuant to DOE Order 436.1, "Departmental Sustainability." Section 5.19 of this SWEIS discusses a combination of design features and BMPs that are implemented to avoid or reduce potential environmental impacts. With regard to human health specifically, facility designs include features such as HEPA filtration and seismically qualified confinement structures that could minimize potential impacts to worker and public safety. BMPs are policies, practices, and measures that reduce the environmental impacts of proposed activities, functions, or processes. Safety features are incorporated into the design of facilities to minimize impacts to workers and the public. These include, but are not limited to, confinement (e.g., gloveboxes), shielding, ventilation, and air filtration systems. BMPs to ensure radiation protection include formal analysis by workers, supervisors, and radiation protection personnel of methods to reduce exposure of workers to the lowest practicable level. Currently, tritium processing systems in the Tritium Facility and NIF capture >99% of potential tritium releases.

19-C Wind-Blown Contamination from Site 300

Commenters state that NNSA needs to analyze the human health impacts of wind-blown contamination from Site 300. Commenters state that the SWEIS should specifically consider the fact that tule fog and westerly winds at Tracy could cause the air to contain particulates from Site 300 and cause adverse effects to human health and wildlife. Commenters state that NNSA needs to analyze the human health impacts of wind-blown contamination from Site 300 to the Tracy Hills Development. (Commenters: 21, 32, 49)

Response: Section 5.14.2 of this SWEIS specifically analyzes the potential impacts on human health from airborne radiological constituents from LLNL activities for the Proposed Action. As shown in that section, at Site 300, the annual radiation dose to the offsite MEI would be much less than the limit of 10 millirem per year set by both the USEPA (40 CFR Part 61, Subpart H) and DOE (DOE Order 458.1) for airborne releases of radioactivity. The risk of an LCF to the MEI from operations would be 1.0×10^{-10} per year at Site 300. The projected number of LCFs to the population within a 50-mile radius would be 3.0×10^{-8} at Site 300.

Section 4.15.2 discusses potential releases of other materials offsite from Site 300. Depleted uranium (surface contamination) has been sampled offsite four times out of the last ten years. This is reported annually in the annual NESHAPs and ASERs. The sampler at Site 300 that is considered to be offsite is located as close to the road as possible at the Site 300 firing range. This sampler is only about 75 feet away from the Carnegie Ranger Station. LLNL also conducts ecological risk assessments to determine if other contaminants such as high explosives materials, metals, and depleted uranium could be transported via airborne pathways to offsite locations.

19-D Calculations of maximally exposed individual (MEI) Dose

Commenters ask if the tritium emission used to calculate the MEI dose is measured "out of the stack." Commenters ask NNSA to clarify how the MEI dose is calculated. (Commenter: 48)

Response: Tritium emissions used to calculate the MEI dose are from stack emissions measured at the Tritium Facility and NIF. Additionally, the MEI dose includes estimated surface emissions from diffuse sources; and the major portion of the MEI dose is from skyshine from NIF (4 mrem).

To comply with NESHAPs regulations and DOE guidance, the USEPA-approved atmospheric dispersion and radiation dose calculation computer code, CAP88-PC, Version 4.0.1.17, was used to calculate the dose at specific distances from release points. For dose assessment, LLNL uses building-specific information about radionuclide releases, as well as building-specific parameters for stack height, stack exhaust rate, stack diameter, and distances to the fence line. Meteorological data from the Livermore Site meteorological tower are used to model Livermore Site sources, and meteorological data from the Site 300 meteorological tower are used to model Site 300 sources. The CAP88-PC code implements a steady-state

Gaussian plume atmospheric dispersion model to calculate concentrations of radionuclides in the air and dose to the MEI.

19-E Worker Illness Compensation

Commenters state that the "collective annual dose to radiological workers" will increase from 8.45 person/rem at the baseline 2019 level to 106.7 person/rem under the Proposed Action. Commenters state that this 12-fold increase in radiation exposure to radiological workers is extreme and will result in additional illnesses to worker and additional claims under the Energy Employee Occupational Illness Compensation Program Act *(EEOICPA). Commenters state that more than 2,000 current and former Livermore Labs employees have applied to the EEOICPA because of serious illnesses, including cancer, that are being caused by on the job exposure to radioactive and toxic materials in the Lab. Commenters state that NNSA needs to discuss the worker illness compensation program and assert that increase radiological dose to workers will cause more illnesses and more compensation claims. Commenters state that NNSA needs to analyze the lost work from employee illnesses and the economics of compensating injured workers. Commenters state that the SWEIS fails to consider the synergistic health effects of radiological workers also being exposed to toxic chemicals and substances in the course of their work at the Lab. Commenters state that the SWEIS should include an analysis of any available medical science that shows synergistic health effects of any mixture of chemicals used at the Lab, of radiation and toxic chemical together, and of multiple types of radiation on workers. (Commenters: 7, 26, 45, 48)*

Response: Potential radiological impacts to workers is addressed in Section 5.14 of this SWEIS. As discussed in Section 5.14.2, the total annual collective dose to all LLNL radiological workers would be 106.7 person-rem under the Proposed Action. Statistically, a total annual dose of 106.7 person-rem would result in 0.06 LCFs annually to the LLNL radiological workforce. NNSA recognizes commenters' opinion that this risk is "extreme." It would be speculative to assume that the increased worker dose will result in additional claims under the EEOICPA, as long as the regulatory limits are maintained.

The DOE Former Worker Medical Screening Program, otherwise known as the Former Worker Program (FWP), provides for the conduct of medical screenings for former employees to identify adverse health conditions that may have resulted from working at DOE facilities. Mandated by the Congress, the FWP conducts preliminary site assessments to identify groups of former at-risk federal and contractor workers and DOE site-specific exposures. It also provides medical screening, including examinations, to check for adverse health effects that could be related to occupational exposures to radiation, noise, beryllium, asbestos, silica, lead, cadmium, chromium, and solvents. The program, managed by the DOE Office of Health Safety and Security, uses independent health experts through cooperative agreements held by consortia of universities, labor unions, and commercial organizations throughout the United States with expertise in administration of

medical programs. Initiated in 1996, the FWP now provides medical screening services at all DOE sites for the more than 600,000 former construction and production workers who were involved in the nuclear weapons program.

In 2000, the Congress passed the EEOICPA, administered by the Department of Labor (DOL), to compensate current and former workers for illness and injuries that resulted from their work at DOE facilities over certain time periods. The DOE FWP complements EEOICPA, as it provides DOE workers with medical evaluations conducted by expert occupational medicine physicians and laboratories that provide both claimants and the claims evaluators with defensible information for decisionmaking about the appropriateness of compensation.

Section 5.14 of this SWEIS provides an analysis of potential human health impacts to workers using Bureau of Labor Statistics (BLS) occupational injury/illness/fatality rates. As discussed in that section, in an average year approximately 77.5 days of lost work from illness/injury and 0.15 fatality would be expected from LLNL operations under the No-Action Alternative. For the Proposed Action, in an average year approximately 92.5 days of lost work from illness/injury and 0.18 fatality would be expected from LLNL operations. The majority of these lost workdays are due to injuries associated with slips, trips, and falls. The economics associated with compensating injured workers is beyond the scope of the SWEIS.

With regard to synergistic health effects of radiological workers also being exposed to toxic chemicals and substances, NNSA prepared the human health analyses in this SWEIS in accordance with generally accepted scientific approaches. Impacts are addressed for both radiological and chemical exposures. As discussed in Section 5.14.2, no significant chemical-related health impacts are associated with normal (accident-free) operations at LLNL. Initial screens for the hazard analyses did not result in the identification of any additional controls necessary to protect the public or workers from direct chemical exposures during normal operations. Facility design features are integrated to minimize worker exposures during facility operations and act as defense-in-depth controls. NNSA maintains worker health and safety through prevention and mitigation measures, which includes engineering controls, worker training, and safety equipment, including personal protective equipment (PPE). In addition to these controls, worker protection is augmented by, industrial hygiene, health physics, personnel monitoring, and emergency preparedness. NNSA is not aware of any studies that would invalidate the approach used in the SWEIS or the results of the human health analyses.

19-F General health and safety comments

Commenter states that people making claims about safety and health risks to workers at LLNL are not well enough informed and do not really know what hazards are really at the Lab. (Commenter: 9)

Response: All laboratory employees are required to take health and safety training annually. This training provides information on the potential safety and health risks associated generally with working at the Livermore Site and Site 300. This also includes the identification of hazards, safety and health risks for their specific job, and the necessary required training. LLNL maintains an integrated database for each employee that reviews the specific health and safety risks at their position and assigns the appropriate training to that individual. This is reviewed by the employee supervisor and signed off by the health and safety organization. Each employee has access to this database to see the risks assigned to them and the training required for that job position. Potential human health impacts to workers from normal operations are presented in Section 5.14 of this SWEIS. Potential impacts to workers from accidents are presented in Section 5.16.

19-G Worker Radiological Doses

Commenter asks NNSA to explain why worker average radiological exposure would increase from 69.6 mrem/year to 173.5 mrem/year. Specifically, commenter asks NNSA to identify the primary sources of this increase and specify where the largest increases are expected to occur across the laboratory campus. (Commenter: 39)

Response: As discussed in Section 5.14.1 of this SWEIS, under the No-Action Alternative, NNSA has estimated that both the average and total worker dose at the Livermore Site would increase as a result of higher yield experiments at NIF. Currently, NIF has approximately 450 radiation workers, most of whom receive no measurable dose. As a result of higher yield experiments at NIF, NNSA is estimating that all 450 radiation workers at NIF would receive a measurable dose. For the 100 primary operations workers, a maximum dose of 600 millirem per year could result. For 350 non-primary operations workers, a dose of 100 millirem per year is estimated. Consequently, conducting higher yield experiments at NIF is the primary source of the increase in both average and total worker dose.

As discussed in Section 5.14.2, the Proposed Action would increase total worker dose as a result of operations associated with the Next Generation LEP R&D Component Fabrication Building, the Domestic Uranium Enrichment Program, and sample preparation work in Building 235. However, when compared to conducting higher yield experiments at NIF, the increase in total worker dose associated with the Proposed Action is negligible.

19-H Valley Fever Risks

Commenter states that any airborne dirt during the construction process should be reduced under a Valley Fever Management Plan (VFMP) to establish guidelines for educating and training personnel on the management of Valley Fever during construction. Commenter recommends training construction and operations personnel to understand and manage the risks associated with Valley Fever. (Commenter: 28)

Response: The fungus that causes Valley Fever lives in the soil in the southwestern U.S., including in the area of LLNL Site 300. NNSA is committed to protecting the health and safety of workers and specific training is required for Valley Fever for all employees, contractors, and visitors working at Site 300. A specific training course has been developed and informs them of the associated health risks of Valley Fever. To minimize airborne dust during the construction, NNSA would employ mitigation measures and BMPs. As discussed in Section 5.19.5, such measures and BMPs could include the use of water to control dust emissions, revegetation of exposed areas, watering of roadways, minimizing construction activities under dry or windy conditions and wearing appropriate PPE such as dust masks.

Issue Category 20: Accidents and Intentional Destructive Acts

20-A General Accident Risks

Commenters ask NNSA to address the general accident risks for the alternatives. Commenters state that Site 300 activities will endanger the health of the public living at the Tracy Hills Development in the event of an accident. Commenters ask if the accident risks are low because they are compared to previous accidents, and states that previous accidents are large. Commenters state that it is essential for the SWEIS to evaluate the risks posed by an accident or intentional act from HE material being housed in close proximity to workers and the public. Commenters state that the consequences of a potential fire in the primary tritium facility (Building 331) should also be addressed, including down-wind risk to the public from complete release of the administrative limit. (Commenter: 35, 39, 46, 48)

Response: The accident analysis in this SWEIS was prepared in accordance with the "DOE Recommendations for Analyzing Accidents under the National Environmental Policy Act" (DOE 2002), which provides guidance for preparing accident analyses in DOE environmental impact statements and environmental assessments. This LLNL SWEIS informs the decisionmaker and the public about the chances that reasonably foreseeable accidents could occur, as well as the potential adverse consequences and risks. Section 5.16 of this SWEIS provides that analysis. More detailed information regarding accidents is provided in Appendix C, Section C.3. As discussed in Section 5.16, this SWEIS analyzes radiological, chemical, high explosives, and biological accidents that could be caused by events such as explosions, fires, aircraft crashes, criticalities, and earthquakes. None of the accidents evaluated would cause a death to a member of the public, with the exception of an aircraft crash into Building 625, which could cause approximately 3 LCFs. That accident has an annual probability of occurring of approximately 6.3×10^{-7}, meaning that the risk that an LCF would occur is approximately 1 in 10 million. The SWEIS does not compare past accident scenarios but analyzes credible accidents of current activities.

With regard to the Tracy Hills Development, because Site 300 facilities are below HC-3, there would be no offsite radiological impacts from accidents. With regard to chemical accidents at Site 300, for average meteorological conditions, the MEI

chemical concentrations would be below their respective protective action criteria (PAC)-1 levels, meaning that the MEI would not experience any discomfort, irritation, or certain asymptomatic, non-sensory effects.

HE accidents at Site 300 are discussed in detail in Section C.3.6.2. As shown in Table C-53, a non-involved worker located 100 meters from the explosion would not be affected by the blast. Hence, a member of the public at the fenceline or beyond would also not be affected. The only consequence to the non-involved worker, the MEI, or any member of the public would be if the explosion resulted in the dispersal of radiological or hazardous chemical material. With administrative controls, the likelihood of an accidental detonation of explosives commingled with chemical materials is reduced to between 1 in 10,000 to 1 in a million (i.e., $\leq 1\times10^{-4}$ to 1×10^{-6}) per year or less. With regard an accidental detonation of explosives commingled with radiological materials, as shown in Table C-56, the LCF risks due to would be Low (i.e., less than 1 in 170 years for a non-involved worker, and less than 1 in 4,000 years for the public). The Intentional Destructive Acts (IDA) associated with HE would not have any offsite consequences.

As discussed in Section C.3.4.2, the bounding accident in the Tritium Facility is an aircraft crash and subsequent fire that releases the entire tritium inventory from that facility to the environment. The potential impacts of that accident are presented in Tables C-37, C-38, and C-39.

20-B Increasing Tritium and Plutonium Release Limits at NIF on Accidents

Commenters ask NNSA to address the accident impact of increasing tritium release limits at NIF. Commenters state that increased tritium release limits at NIF will result in an increase in the potential impact during tritium accidents. Commenters ask NNSA to clearly outline under what circumstances tritium could be released accidentally through the environmental stacks and how standard operating procedures or new engineering controls will be implemented to avoid such releases. (Commenters: 22, 35, 39)

Response: Under the Proposed Action, NIF's annual emissions limit for tritium would increase from 80 Ci/year to 1,600 Ci/year. This is driven by mission needs to use tritium reservoirs with substantially greater amounts of tritium. Reservoirs with more tritium could result in greater tritium releases during routine operations with these reservoirs. NIF's target gas (including tritium) management system is highly complex and is manually operated. If valves are operated incorrectly, it is possible for tritium to move into system components that cannot be accessed by NIF's tritium recovery system. If this were to occur, the tritium would be directed to NIF's environmental discharge point (the stack). Although a large tritium release is possible, it is unlikely due to NIF's highly formal conduct of operations. This type of incident is not considered to be an accident but an operational excursion. An accident analysis reflective of inventory limits under the Proposed Action has been performed at NIF and includes a fire involving NIF's tritium recovery system and a transportation-related fire during transport of plutonium material. The

potential impacts of these scenarios are detailed in Chapter 5, Section 5.16, of this SWEIS. Increase in tritium release limits are analyzed in the MEI dose calculations in Section 5.14.2 of the SWEIS. The increase in the MEI dose is calculated to be 4.036 millirem per year in the No-Action Alternative to 4.123 millirem per year in the Proposed Action. These are below the regulatory limits of 10 millirem per year.

20-C Risk of Radiological Material Theft

Commenter states that NNSA needs to analyze the risk of radiological material theft and the potential accident impacts of that theft. (Commenter: 35)

Response: As described in Section 5.16.10, NNSA has prepared an Intentional Destructive Acts (IDA) analyses in Appendix C to support this LLNL SWEIS that analyzes the potential impacts of intentional destructive acts (e.g., sabotage, terrorism). The accident analysis done in the SWEIS represents the bounding accidents relative to environmental concerns for the IDA analysis.

NNSA gives high priority to the safety and security of all its facilities. Security and potential acts of sabotage are integral considerations in the designs and operating procedures for NNSA sites such as LLNL. The existing facilities at LLNL were designed to protect against attacks by outsiders and sabotage by disgruntled employees or other insiders. NNSA would construct new facilities in a similar manner, incorporating modern design features that provide even more robust protection against intentional destructive acts. NNSA considers the threat of terrorist attacks, such as theft of radiological material, to be real and has an established safeguards and security process it undertakes to assess facility vulnerabilities to various threats, including those from intentional destructive acts.

20-D Increased Material Storage and Security Measures

Commenter states that LLNL previously failed a security check and asks whether reductions in plutonium at the Lab are a result of that failure. Commenters ask whether there would be increased material storage and security measures at LLNL, including Site 300, and how those would affect the public. Commenters ask how NNSA can be trusted after the incident. (Commenters: 32, 35)

Response: The reduction in plutonium at the lab is not due to security concerns. NNSA devotes considerable resources to protecting nuclear materials and understanding and preventing terrorism in the nuclear weapons complex at sites such as LLNL. DOE Orders 470.3A and 470.4, describe activities conducted under the Safeguards and Security Program aimed at preventing unauthorized access, theft, diversion, or sabotage (including unauthorized detonation or destruction) of nuclear weapons, nuclear weapons components, and SNM. In accordance with the requirements set forth in these Orders, NNSA conducts vulnerability assessments and risk analyses to evaluate the effectiveness of existing safeguards in reducing the likelihood of terrorist acts, such as those analyzed in the SRA, of being successful and assisting in the development of new safeguards to further reduce

these risks. NNSA does not think there would be any significant changes in material storage and security measures at LLNL.

20-E Intentional Destructive Acts

Commenters question whether a new analysis was conducted to analyze the potential impacts from a release of bioagents from the proposed BSL-3 facility. Commenters state that 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. Commenters question whether the classified analysis of Intentional Destructive Acts included a review of impacts from the proposed BSL-3 facility. Commenters state that 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. (Commenters: 2, 10, 12, 13, 18, 23, 30, 45, 48, 51)

Response: The current older BSL-3 facility is being replaced with a newer facility which will include more modern safety systems and equipment. Although the replacement facility for the existing BSL-3 facility would be larger, much of that increased space is necessary for upgrading the newer operational safety systems and capabilities. The workload in the new facility would remain similar to current levels and current security protocols will be implemented in the replacement facility. The IDA that was done in support of the 2022 SWEIS showed no additional environmental impacts from the previous NEPA analysis (NNSA 2008b).

As discussed in Section C.3.1.3, this SWEIS did not conduct a separate analysis of biological hazard release, but instead tiered from previous NEPA analyses performed for the BSL-3 facility, including the *Final Revised Environmental Assessment for The Proposed Construction and Operation of a Biosafety Level 3 Facility at Lawrence Livermore National Laboratory, Livermore, California* (DOE/EA-1442R) (NNSA 2008b), the *Evaluation of LLNL BSL-3 Maximum Credible Event Potential Consequence to the General Population and Surrounding Environment*, LLNL-TR-455072, September 2010, the *Supplement Analysis of the 2005 Site-wide Environmental Impact Statement for Continued Operation of Lawrence Livermore National Laboratory* (DOE/EIS-0348-SA-03) (NNSA 2011), and the *Final Programmatic Environmental Impact Statement Biological Defense Research Program* (Army EIS) (Army 1989). NNSA selected a representative facility accident that was previously analyzed in the Army EIS (Army 1989). The microorganism analyzed by the Army was *Coxiella burnetii*, which is considered representative of all types of BSL-1, BSL-2, and BSL-3 laboratory microorganisms (bacteria, rickettsia, viruses, fungi, parasites, and prions) because it is highly durable, infectious, and transmissible, and has excellent environmental survivability (NNSA 2008b). The Army EIS concluded that the escape of *Coxiella burnetii* from the containment laboratory, even under the worst-case meteorological conditions, does not represent a credible hazard to the non-involved worker or offsite population. In preparing this SWEIS, NNSA reviewed that analysis and concluded that this accident scenario bounds any potential scenarios associated

with the LLNL Biosafety Level 3/Animal Biosafety Level 3 (BSL-3/ABSL-3) Facility. Per 40 CFR 1501.11, NNSA is encouraged and allowed to tier this SWEIS when it would "eliminate repetitive discussions of the same issues, focus on the actual issues ripe for decision, and exclude from consideration issues already decided…" As discussed in Section C.4.2, the IDA Appendix considered the impacts of Biological Agents, Biological Select Agents, and Toxins such as bacteria, virus, and fungi (see Table C-63).

20-F Seismic Events

Commenters state that NNSA needs to expand the discussion of seismic events/accidents. Commenters state that the SWEIS needs to include an analysis of the release of toxic and radioactive materials in a "design basis" earthquake as well as an analysis of those impacts from an earthquake that exceeds "design basis." Commenters identify Building 235 as one of a dozen buildings with "seismic deficiencies." Commenters state that the analyses should include the Proposed BSL-3 facility. (Commenters: 17, 22, 35, 48)

Response: As discussed in Section C.3.1.2, the selection of accidents for inclusion in this SWEIS was built upon existing accident analyses contained in safety-related documents such as documented safety analysis (DSA), safety basis document (SBD), facility screening report (SCR), and emergency planning hazard assessment (EPHA) (see Table C-18). All of the documents in Table C-18, as well as other documents, were reviewed to select the facilities to be included in this SWEIS. Most of the DSAs and SBDs identify a complete spectrum of accidents, meaning that low consequence/high probability accidents, as well as high consequence/low probability accidents, and accidents in-between, are considered and analyzed. Seismic accidents are considered in those safety-basis documents, as appropriate. As shown in Tables C-51, C-52, and C-62, seismic accidents were specifically included in the SWEIS accident analysis. The SWEIS evaluation basis earthquake is estimated to have a frequency of occurrence of $\leq 1 \times 10^{-4}$ to 1×10^{-6} per year. Per the DOE guidance ("Recommendations for Analyzing Accidents under the National Environmental Policy Act;" DOE 2002), "accident scenarios that have frequencies less than 10^{-6} per year are so unlikely to occur during the life of such facilities that they generally are not important to consider in making decisions about the facilities." The Recommendations also suggest analyzing accidents that are reasonably foreseeable if their consequences are large. Reasonably foreseeable accidents can have frequencies as low as 10^{-7}. As such, NNSA did not evaluate accidents of lesser frequency (such as the beyond basis earthquake, as suggested by the commenters). See comment-response 9-A for a discussion of earthquake risks and the vulnerability of Building 235. See comment-response 20-E for a discussion of accidents associated with the BSL-3 facility.

20-G Historical Releases, Accidents and Spills

Commenter states that the Draft SWEIS lacks historical context. Commenter states that there is a history of accidents, leaks and spills, at the Livermore Site and Site

300, which have resulted in toxic and radioactive releases and contamination to workers and the environment. Commenter states that the SWEIS should include information and data about these historical releases, accidents, and spills. It should explain the lessons learned from these past incidents and show the trends between the amount of hazardous and radioactive material on site at both sites and the frequency of incidents. Commenter states that the SWEIS should also analyze the relationship between increase in work volumes (like the increase in the Proposed Alternative) and the frequency of incidents. (Commenter: 48)

Response: LLNL Livermore Site was originally a Naval Airforce base. Previous releases are part of the existing environment that is being cleaned up under CERCLA. Since 1952, when DOE/NNSA took over the site there have been accidents and releases that have been reviewed and documented with the regulatory agencies. As a result of those reviews appropriate cleanup and mitigations have been implemented to prevent such future incidents. A historical review of the past incidents is not within the scope of this SWEIS. The analysis in the SWEIS focuses on the potential impacts of the alternatives. As such, the SWEIS is a forward-looking document. Contamination from past activities is appropriately described in the SWEIS as part of the existing environment at LLNL. For example, Section 4.15.1 and 4.15.2 of this SWEIS describes and discusses contamination in groundwater from past activities at LLNL. As discussed in Section 4.14, in accordance with DOE Order 450.2 and DOE Order 440.1B, NNSA and LLNL are required to operate in a manner that protects the health and safety of workers and the public, preserves the quality of the environment, and prevents property damage. Environment, Safety, and Health (ES&H) is a priority consideration in the planning and execution of all work activities at LLNL. DOE Order 452.3 requires LLNL to comply with applicable ES&H laws, regulations, and requirements and with directives promulgated by DOE/NNSA regarding occupational safety and health. Operations at LLNL are conducted in accordance with an Integrated Safety Management System (ISMS) and EMS, an Operational Health and Safety Management System (OHSMS), a Worker Safety and Health Program, and Work Planning and Control (WP&C). These systems protect the health and safety of workers and the public, preserve the quality of the environment, and prevent property damage. NNSA and LLNL also utilize a Lessons Learned approach to continually improve its operations and protect human health and the quality of the environment. With regard to the relationship between increase in work volumes (like the increase in the Proposed Alternative) and the frequency of incidents, the accident analysis addresses the potential frequency of accidents for current and future proposed operations at LLNL.

Issue Category 21: Contamination, Environmental Remediation and DD&D

21-A Cleanup/Remediation

Commenters state that Site 300 has been contaminated for many decades and needs to be cleaned up. Commenters state the SWEIS analysis of cleanup is inadequate. Commenters state that cleanup should be accelerated. Commenters state that past

contamination must be fully considered in the Draft SWEIS. Commenters ask NNSA to clarify the progress of LLNL in meeting cleanup milestones and describe the effectiveness of the current remedial solutions and when the sites are expected to meet regulatory standards. Commenters state that the Draft SWEIS does not state whether any program activities considered in the Proposed Action complicate or delay any of the ongoing or planned Superfund monitoring or cleanup, despite the fact that many of the proposed activities occur near clean up areas. Commenters state that the SWEIS should include an alternative that uses new cleanup technologies, provides more staff dedicated to the cleanup, and hastens the cleanup schedule. (Commenters: 19, 32, 35, 36, 48, 49)

Response: As discussed in Sections 4.4.1.5 and 4.5.2.3, soils and groundwater at both the Livermore Site and Site 300 are contaminated from historical operations; the contamination is mostly confined to within the boundaries of each site. Ongoing remedial investigations and cleanup activities for legacy contamination of environmental media at LLNL fall under the CERCLA (42 U.S.C. § 9601). The Livermore Site and Site 300 came under CERCLA in 1987 and 1990, respectively, when they were each placed on the National Priorities List. NNSA complies with provisions specified in Federal Facilities Agreements (FFAs) (DOE 1988, DOE 1992) entered into by USEPA, DOE, the California EPA Department of Health Services (now DTSC), and the San Francisco Bay Regional Water Quality Control Board (RWQCB; for Livermore Site) and the Central Valley RWQCB (for Site 300). Chapter 4, Section 4.15, of this SWEIS discusses ongoing and pending remediation efforts. Those remediation efforts would continue under both the No-Action Alternative and the Proposed Action. NNSA does not believe any activities included in the Proposed Action would complicate or delay any of the ongoing or planned monitoring or cleanup. All remediation actions would be conducted in accordance with the FFAs to ensure the success and effectiveness of the remedial solutions. If any changes are needed, this will be discussed with all appropriate agencies and coordination and a path forward would be negotiated. NNSA acknowledges commenters' opinions that alternative new cleanup technologies should be applied, and the cleanup should be accelerated, but those are issues beyond the scope of this SWEIS.

Efforts will be taken to minimize any impacts from DD&D activities or new construction activities. This includes a review of alternatives to ensure that waste amounts and any emissions are minimized, and appropriate mitigation methods are used. Any amendments or addenda to the 2008 Site 300 and the 1992 Livermore Site CERCLA Record of Decisions (ROD) would be addressed through the CERCLA process and the FFAs. The Five-Year Review reports on the LLNL Environmental Restoration Department's website (https://erd.llnl.gov/library/) do clarify the progress of LLNL in meeting cleanup milestones and describe the effectiveness (and protectiveness) of the current remedial solutions.

21-B New Cleanup from New Waste

Commenter asks whether there would be new cleanup requirements as a result of new wastes that would be created. (Commenter: 35)

Response: NNSA manages all wastes in accordance with regulatory requirements. Per existing regulatory requirements, there would be no expected contamination to the soil and groundwater from the proposed projects. Wastes from future operations would not create new cleanup requirements. Ongoing remediation efforts would continue under both the No-Action Alternative and the Proposed Action, and all remediation actions would be conducted in accordance with the FFAs.

21-C DD&D of High-Risk Facilities

Commenter asks NNSA to address the DD&D impacts of high-risk facilities. Commenters state that they may still be leaking radiation and should be a higher priority for DD&D. Commenter asks why so many facilities are being demolished now. Commenter asks about the DD&D schedule for these high-risk facilities, as well as what mitigation measures will be employed during DD&D. (Commenter: 35)

Response: This SWEIS analyzes the DD&D impacts for approximately 192 facilities, totaling more than 1.4 million square feet (see Tables 3-3 and 3-6 in Chapter 3 of this SWEIS). The facilities that would undergo DD&D were identified by NNSA as "excess to needs." Most of these facilities are not contaminated, but those that are will be DD&D in a safe manner to ensure minimal risk to workers and the public.

Many facilities are slated for DD&D because they are expected to be replaced. Tables 3-3 and 3-6 of this SWEIS identify the facilities and expected dates of DD&D. Section 5.20 of this SWEIS discusses DD&D. Prior to the initiation of DD&D activities, the facility operator would prepare a detailed DD&D plan for review and approval by ES&H subject matter experts at the Laboratory. The DD&D plan would contain a detailed description of the facility-specific DD&D activities to be performed and would be sufficient to allow an independent reviewer to assess the appropriateness of the decommissioning activities; the potential impacts on the health and safety of workers, the public, and the environment; and the adequacy of the actions to protect health and safety and the environment.

21-D Cleanup Firing Table 850 at Site 300

Commenter states that the Firing Table 850 at Site 300 is contaminated with uranium and needs to be cleaned up. (Commenter: 32)

Response: The regulatory agency-approved remedy for uranium in surface soil and subsurface soil at the Building 850 Firing Table is No Further Action. This remedy is codified in the *Interim Record of Decision for LLNL Site 300* (DOE 2001) and re-stated in the *Final Site-Wide ROD for LLNL Site 300* (DOE 2008) and *Action*

Memorandum for LLNL Site 300 (LLNL 2008a). Regardless, much of the surface soil and shallow subsurface soil in the immediate Building 850 firing table area was removed in 2009 during the excavation of 27,592 cubic yards (yd^3) of PCB-, dioxin-, and furan-contaminated soil. The *Remedial Action Completion Report (RACR) for the Building 850/Pit 7 Complex Operable Unit LLNL Site 300* (LLNL 2011) documents this soil removal and the extents and depths of all excavations.

21-E Contamination from Per- and Polyfluoroalkyl (PFAS) Substances

Commenter states that per- and polyfluoralkyl (PFAS) substances are found in explosives. Commenter states that sampling must be done during excavation for the Advanced 3D Hydrotest Facility and that cleanup plans put in place to protect the people, farms, ranches, water and environment of the area from forever contamination. (Commenter: 2)

Response: DOE/NNSA recognizes the growing concerns over the presence of PFAS substances in the environment and is working to understand its current and past uses and releases of PFAS at DOE sites. DOE issued a policy memorandum (September 2021) entitled *Addressing Per- and Polyfluoroalkyl Substances at the Department of Energy* (DOE 2021), to address PFAS management for DOE operations. The memorandum required that DOE program offices and sites discontinue use of aqueous film forming foam (AFFF), which contain PFAS chemicals, except for use in actual fire emergencies; required fire protection personnel to wear appropriate personal protective equipment when working with PFAS; suspended disposal of waste containing PFAS until further notice (absent an approved waiver); and established reporting requirements for PFAS-related releases or spills.

In addition, the *PFAS Strategic Roadmap: DOE Commitments to Action, 2022-2025* (DOE 2022a) was released on August 18, 2022, and identifies activities that DOE will undertake to determine the potential liabilities and risks associated with PFAS use and environmental releases. The PFAS Strategic Road map developed the following goals.

- Develop information concerning PFAS uses and environmental releases to characterize and assess the DOE's potential liabilities and risks.
- Safeguard the health and well-being of DOE employees, the public, and the environment by minimizing exposure to PFAS and addressing PFAS releases.
- Leverage expertise at DOE's National Laboratories and collaborate with research partners to enhance PFAS knowledge and develop technological solutions.
- Engage with regulators, Tribal nations, local communities, and stakeholders to ensure transparency on DOE's PFAS progress and develop effective PFAS strategies.

As part of the *PFAS Strategic Roadmap*, a survey was developed to compile existing knowledge and gain a baseline understanding of PFAS use, releases, and stakeholder/regulator engagement at DOE sites. DOE prepared an *Initial Assessment of Per-and Polyfluoroalkyl Substances at Department of Energy Sites* (DOE 2022b), as a first step in understanding the risks PFAS may pose to DOE employees, the public and the environment. This report captures current knowledge of historical and on-going uses of PFAS, presence of PFAS in the environment and drinking water, and stakeholder/regulatory engagement.

The Livermore Site has more than 100 pounds of PFAS onsite. Site 300 has fewer than 100 pounds of any one PFAS onsite. There are approximately 20 gallons of a Class A firefighting foam which does not contain PFAS.

DOE did an Initial Assessment of PFAs in 2021 which provides details of historical and current usage (DOE 2022b). The San Francisco Bay Area Water Board (Livermore Site), the Central Valley Regional Water Quality Control Board (Site 300) and the California Department of Toxic Substance Control contacted LLNL regarding potential PFAS use onsite and have required groundwater and soil sampling to investigate potential presence of PFAS compounds in the environment. In response, LLNL collected a groundwater sample in 2018 and provided the sampling results and historical information to the governing bodies. The key summary points are:

1. PFAS were undetectable in Livermore Site drinking water sources.
2. At Site 300, the groundwater was sampled at a location with the likelihood of PFAS presence. The results do not indicate any groundwater contamination.
3. AFFF is not used onsite at the fire departments (Site 300 and Livermore Site); however, there is an AFFF-based fire suppression system (Livermore Site).

NNSA will continue to provide additional characterization and monitoring data as requested from Federal and State regulators. Sampling of drinking water wells is planned for Summer of 2023; sampling of soil and groundwater is planned under CERCLA in the next 2-3 years. NNSA will continue to consult with all the appropriate regulatory agencies as requested for mitigation actions that would impact any changes to CERCLA or *Resource Conservation and Recovery Act* (RCRA) remedies or potential amendments to the CERCLA ROD, and other air and water quality permits. Any CERCLA corrective actions, changes, amendments/addenda to the ROD are addressed in ongoing CERCLA data evaluations, and reporting, including the five-year review process and RPM meetings.

Issue Category 22: Miscellaneous

22-A Mitigation Measures

Commenters state that NNSA should mitigate the increase of GHG emissions, water use, and energy use. Commenter requests that NNSA submit an Etrips plan to the San Joaquin County Air Resources Board in an effort to mitigate GHG emission. (Commenter: 28)

Response: Section 5.19 of this SWEIS contains information on mitigation measures. That section identifies the mitigation measures that NNSA could employ related to increases in GHG emissions, water use, and energy use. Table 5-74 provides examples of design features and potential BMPs that could be utilized for new projects at LLNL. The first column of Table 5-74 lists a series of potential design features and BMPs, and the remaining columns identify those environmental resource areas that could benefit from the potential design features and BMPs. Sections 5.19.1–5.19.12 discuss these features and BMPs as applicable to the environmental resources evaluated in this SWEIS. Following completion of this SWEIS, NNSA will determine the need for a Mitigation Action Plan and will prepare one if required. The SWEIS analysis of GHG emissions includes worker commuting. In addition, NNSA is promoting telework through the new hybrid work environment. LLNL reports information for air-travel and rental car use in the Site Sustainability Plan to estimate GHG emissions. Additionally, LLNL is required to submit an Employer Trip Reduction Implementation Plan (eTRIP) for the Site 300 Central Worksite to the San Joaquin Valley Air Pollution Control District (SJVAPCD) via its eTRIP Online Reporting and will implement all selected trip-reductions measures listed on the eTRIP.

Issue Category 23: Out of Scope

23-A Use the Money for Weapons on Other Purposes

Commenters state that money for the weapons programs should be used for other purposes, such as health insurance, combatting climate change, and many other societal problems. Commenter states that NNSA should study effective ways to help sites in our country and around the world that have been devastated by pollution during nuclear weapons production and testing and eliminate the resulting hazards to their populations. Commenters question why there is such a large increase in the budget for modernizing the infrastructure at LLNL. (Commenters: 5, 18, 22, 32, 35)

Response: The increases in LLNLs budget are primarily associated with enhanced mission to support NNSA requirements which are included in the SWEIS Purpose and Need. Additionally, the cost associated with safe DD&D of contaminated facilities is expected to be high. It is beyond the scope of this SWEIS to address federal budget authorizations and appropriations, and other uses of these monies.

23-B Press Release Related to Fusion at LLNL

Commenter states that the December 2022 press release regarding fusion achievements at the NIF was timed to confuse and distract the public from the LLNL SWEIS, the weapons work at LLNL, and the impacts to the public. (Commenter: 14)

Response: The timing for this major scientific breakthrough had nothing to do with the SWEIS schedule. The announcements for public meetings occurred on over a month prior to NIF discovery, which occurred on December 5, 2022. On that date a team at NIF conducted the first controlled fusion experiment in history to reach the milestone of producing more energy from fusion than the laser energy used to drive it. Approximately one week later, on December 13, 2022, NNSA issued a press release to announce this achievement at NIF. The press release was not made to distract the public from the LLNL SWEIS and the weapons work at LLNL.

23-C NNSA Honesty

Commenter states that NNSA is not being honest and is playing with war, with armaments, and the lives of defenseless people all over the world. (Commenter: 14)

Response: Although this comment is beyond the scope of this SWEIS, NNSA is subject to numerous laws and regulations that requires it to be transparent and accountable to the public. NNSA always tries to be honest and support national security in the best interest of the country.

23-D Other Miscellaneous Issues

Commenter states that the U.S. Supreme Court may reverse the legitimacy of the Biden Administration and that a range of likely consequences should be considered in the event the Biden Administration is declared illegitimate. (Commenter: 8)

Response: This comment is beyond the scope of this SWEIS.

Issue Category 24: Response to Comments from U.S. EPA, Region 9 (Commenter 41)

24-A Cleanup/Remediation

"Section 4.15 of the Draft SWEIS [DEIS] on Environmental Remediation does not discuss the relative success or effectiveness of the remedial solutions currently being implemented or when the sites may be expected to meet regulatory standards. Further, it does not explain how any increased constituents of concern mobilized from new construction, decontamination, decommissioning, and demolition activities or operational changes could be minimized and/or subsumed into the CERCLA process.

"Recommendation for the Final EIS and future analysis: Describe the effectiveness of the current remedial solutions and when the sites are expected to meet regulatory

standards. Discuss how any project-related increase in mobilization of constituents of concern would be minimized. Consider preparing a Supplement Analysis if significant changes to the CERCLA remedy or amendments to the 2008 CERCLA Record of Decision are warranted by the implementation of future project components.

"Various parts of the DEIS, including Sections 4.6.3 and 5.6, consider LLNL's potential contributions to climate change from GHG emissions, but the effects of climate change on existing and proposed facilities and activities are not analyzed as well. For example, although the Pit 4 and 7 landfills were capped in 1992, an especially wet 'El Nino' year caused extreme rainfall and rising groundwater levels to penetrate soils and unlined landfills and leached tritium, depleted uranium, volatile organic compounds, perchlorate, nitrate, and PCBs to groundwater (pgs. 4-256-258). Increases in the frequency and intensity of extreme precipitation events that result from climate change will continue to mobilize legacy contaminants of concern as well as hazardous COCs dispersed through continued firing table detonations." (Commenter: 41)

Response: Ongoing remedial investigations and cleanup activities for legacy contamination of environmental media at LLNL fall under the CERCLA (42 U.S.C. § 9601). The Livermore Site and Site 300 came under CERCLA in 1987 and 1990, respectively, when they were each placed on the National Priorities List. NNSA complies with provisions specified in FFAs (DOE 1988, DOE 1992) entered into by USEPA, DOE, the California EPA Department of Health Services (now DTSC), and the San Francisco Bay Regional Water Quality Control Board (RWQCB; for Livermore Site) and the Central Valley RWQCB (for Site 300). Chapter 4, Section 4.15, of this SWEIS discusses ongoing and pending remediation efforts. Those remediation efforts would continue under both the No-Action Alternative and the Proposed Action. NNSA does not believe any activities included in the Proposed Action would complicate or delay any of the ongoing or planned monitoring or cleanup. All remediation actions would be conducted in accordance with the FFAs. If any changes are needed this will be discussed with all appropriate regulatory agencies and coordination and a path forward would be negotiated.

In the Site 300 Pit 7 Complex landfill area (includes Pit 4 as well as Pit 3 and Pit 5), water table rises in response to major storms and high annual rainfall totals often result in the inundation of the unlined landfills and contaminant-bearing bedrock and soil, releasing contaminants to groundwater. U.S. EPA has already requested, as a part of the five-year review process and related work in determining if the approved remedy can be enhanced to increase its protectiveness, that DOE/NNSA define potential impacts of climate change on promoting more frequent contaminant releases and evaluate relevant engineered actions to reduce this risk. DOE/NNSA continues to work with U.S. EPA and the other regulatory agencies to address the potential effects of climate change on CERCLA-approved remedies within the five-year review process and during regular remedial project manager (RPM) meetings.

The success, effectiveness, and protectiveness of the CERCLA-approved remedies for contaminants in environmental media at Site 300 is also addressed by the CERCLA five-year review process. All the five-year review reports for Site 300 and the LLNL Livermore Site are available at the LLNL Environmental Remediation Department website (https://erd.llnl.gov/library/). NNSA has done cleanup time estimates, but these have not been published or re-assessed for over 10 years. Historically, the CERCLA process at LLNL and Site 300 has only addressed legacy contamination from previous operations. The SWEIS does not contain an impact analysis of the potential for mobilization of contaminants of concern (pre-existing or newly released) from continuing site operations.

At Site 300 it will be important to verify whether currently planned future activities at re-vitalized Building 850 firing table (and Building 851 among others) will add new contaminants to surface soil and could impact subsurface soil or water resources in the future. Over 27,000 cubic yards (yd^3) of PCB-contaminated (elevated metals, uranium isotopes, and perchlorate also present) surface and subsurface soil around Building 850 were excavated and disposed in a CERCLA-approved Corrective Action Management Unit (CAMU) immediately east of the old firing table building. Appropriate mitigation and engineering controls would be utilized to avoid impacts from future proposed and approved projects.

Efforts will be taken to minimize any impacts from DD&D activities or new construction activities. This includes a review of alternatives to ensure that waste amounts and any emissions are minimized, and appropriate mitigation methods are used. Future addenda to the 2008 Site 300 and the 1992 Livermore Site CERCLA Record of Decisions would be addressed through the CERCLA process and the FFA. At this time, NNSA does not see a need to prepare a Supplement Analysis.

24-B-1 Mitigation Measures

"The potential design features or best management practices listed in Table 5-74 for construction and operations are written broadly (e.g., ventilation systems) and do not contain enough detail for EPA to assess their effectiveness in avoiding, minimizing, or mitigating environmental impacts.

"Though not a substitute for a more comprehensive Mitigation Action Plan that covers construction and operational matters, the proposed DD&D Plan should provide the level of detail necessary to guide agency actions to limit the mobilization of contaminants of concern and implement protective measures.

"Recommendations for the Final EIS and ROD: The EPA recommends that LLNL/NNSA's Mitigation Action Plan prepared for the 2005 DEIS for Continued Operations be summarized or appended to this EIS to the extent that it is still applicable. If no longer applicable, prepare a new or updated Mitigation Action Plan that details the methods that would be used to minimize contaminant migration to groundwater, prevent vapor intrusion into new buildings and limit offsite emissions. The EPA recommends that the Mitigation Action and DD&D

Plans be based on high quality quantitative data that comprehensively lists the levels of all contaminants of concern (with a particular focus on heavy metals, volatile organic compounds and PFAS), identifies all pathways for exposure and uses the best available science to prevent constituents of concern from mobilizing.

"In the Mitigation Action and DD&D Plans, consider including a commitment to follow CERCLA protocols and include training for construction and demolition teams on the types and locations of CERCLA remedial activities being conducted on-site and what specific mitigation measures, BMPs and design measures would be required to prevent mobilization of contaminants.

"In the development of Mitigation Action or DD&D Plans, consult with state and federal regulators to discuss: the need for additional corrective actions, changes to CERCLA or Resource Conservation and Recovery Act (RCRA) remedies or potential amendments to the CERCLA ROD, and other air and water quality permits." (Commenter: 41)

Response: Section 5.19 of this SWEIS contains information on mitigation measures. That section identifies the mitigate measures that NNSA could employ related to increases in GHG emissions, water use, and energy use. Table 5-74 provides examples of design features and potential BMPs that could be utilized for new projects at LLNL. The first column of Table 5-74 lists a series of potential design features and BMPs, and the remaining columns identify those environmental resource areas that could benefit from the potential design features and BMPs. Sections 5.19.1–5.19.12 discuss these features and BMPs as applicable to the environmental resources evaluated in this SWEIS. More specific design features and best management practices will be identified and implemented during the project planning phase for any new proposed and approved work. Engineering controls will be employed to reduce potential impacts to acceptable levels for protection of human health and the environment. This includes any DD&D, construction, and operational activities. NNSA assures EPA that all operations will follow approved regulatory standards and be optimized to mitigate any environmental impacts.

Following completion of this SWEIS, NNSA will determine the need for a Mitigation Action Plan and will prepare one if required. We are in agreement that these plans need to be based on high quality quantitative data which addresses all the contaminants of concern.

NNSA will continue to provide additional characterization and monitoring data as requested from Federal and State regulators. NNSA will continue to consult with all the appropriate regulatory agencies as requested for mitigation actions that would impact any changes to CERCLA or RCRA remedies or potential amendments to the CERCLA ROD, and other air and water quality permits. Any CERCLA corrective actions, changes, amendments/addenda to the ROD are addressed in ongoing CERCLA data evaluations, and reporting, including the five-year review process and RPM meetings.

24-B-2 Mitigation Measures (continued)

"Recommendations for the Final EIS: Discuss specific design changes that may be needed to prevent meteoric or ground waters from penetrating covers or infiltrating landfills. Consider these measures in conjunction with any adjustments to CERCLA remedies or amendments to the CERCLA Record of Decision.

"Augment the discussion in the Final EIS with alternative siting or facility design features that would reduce water use or increase efficiencies. Utilize green infrastructure: direct uncontaminated stormwater runoff to rapid infiltration or percolation pits, eliminate lawns, choose native or other xerophytic plants for landscaping, reduce impervious surfaces beneath walkways and parking structures, increase the depth and reduce the surface area of Lake Haussmann to minimize evaporation, etc. Commit to these measures in any future mitigation or construction plans." (Commenter: 41)

Response: The approved CERCLA-remedies were selected, authorized, and implemented, with an understanding of the potential for mobilization of contaminants. Any need for further evaluating or enhancing the CERCLA-approved remedies for the nine landfills at Site 300 would be made within the CERCLA process, including the five-year review process that specifically is geared at maintaining the ongoing short term and long term protection of human health and the environment.

NNSA is committed to site sustainability mitigation measures whenever feasible. With regard to design features that would reduce water use or increase efficiencies, and commitment to measures that would utilize "green infrastructure," Section 5.19 of this SWEIS describes such measures. That section identifies and discusses measures such as: erosion and sediment control plans; water conservation practices; and spill/contamination prevention control and countermeasures. As discussed in Section 4.2.1.1, the landscaping on the Livermore Site is also being modernized to reduce water usage; LLNL is reducing turf, planting native species, installing bioswales, and utilizing smart irrigation. With regard to Lake Haussmann, it is a conveyance channel for both stormwater runoff and treated groundwater that is discharged off site into Arroyo Las Positas. As noted in Section 3.3.1.6, NNSA is proposing additional landscaping around Lake Haussmann to facilitate a collaborative environment while retaining a significant water feature. Additionally, NNSA will work with LLNL to provide input on Site 300 enhancements that could be realized.

24-C Contamination from per- and polyfluoroalkyl (PFAS) substances

"Per- and polyfluoroalkyl substances (PFAS) are emerging pollutants of concern. Known as 'forever' chemicals, PFAS are found in water, air, fish, and soils throughout the world due to their persistence and high level of mobility in the environment. Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals.

"The DEIS states that PFAS were added to the list of Contaminants of Special Concern for all municipal supply wells and select monitoring wells in 2019 (p. 4-71). The document does not say where PFAS are found, where they are monitored, if they are reported, or what actions could be taken to limit PFAS mobilization to air, soils, and water.

"Recommendations for the Final EIS: Disclose current PFAS levels from the site reported to the EPA or state agencies and compare monitored data with current standards. Discuss PFAS pathways for exposure in soils, air emissions and groundwater at both LLNL sites and potential health risks. Identify sites where PFAS are monitored and discuss whether data collection and the monitoring program would need to be expanded due to continued operations or proposed reporting changes. Discuss what actions could be taken to limit the mobilization of PFAS from soils to water.

"The EPA recommends continued coordination with EPA's Superfund and Emergency Management Division, the Central Valley Regional Water Quality Control Board, and the Department of Toxic Substances Control to implement short-term and long-term sequestration or removal actions on PFAS-impacted liquid streams (e.g., groundwater, landfill leachates, wastewater, and industrial discharges), particularly those that would directly or indirectly affect drinking water sources." (Commenter: 41)

Response: DOE/NNSA recognizes the growing concerns over the presence of PFAS substances in the environment and is working to understand its current and past uses and releases of PFAS at DOE sites. DOE issued a policy memorandum (September 2021) entitled *Addressing Per- and Polyfluoroalkyl Substances at the Department of Energy* (DOE 2021), to address PFAS management for DOE operations. The memorandum required that DOE program offices and sites discontinue use of aqueous film forming foam (AFFF), which contain PFAS chemicals, except for use in actual fire emergencies; required fire protection personnel to wear appropriate personal protective equipment when working with PFAS; suspended disposal of waste containing PFAS until further notice (absent an approved waiver); and established reporting requirements for PFAS-related releases or spills.

In addition, the *PFAS Strategic Roadmap: DOE Commitments to Action, 2022-2025* (DOE 2022a) was released on August 18, 2022, and identifies activities that DOE will undertake to determine the potential liabilities and risks associated with PFAS use and environmental releases. The PFAS Strategic Road map developed the following goals.

- Develop information concerning PFAS uses and environmental releases to characterize and assess the DOE's potential liabilities and risks.
- Safeguard the health and well-being of DOE employees, the public, and the environment by minimizing exposure to PFAS and addressing PFAS releases.

- Leverage expertise at DOE's National Laboratories and collaborate with research partners to enhance PFAS knowledge and develop technological solutions.
- Engage with regulators, Tribal nations, local communities, and stakeholders to ensure transparency on DOE's PFAS progress and develop effective PFAS strategies.

As part of the *PFAS Strategic Roadmap*, a survey was developed to compile existing knowledge and gain a baseline understanding of PFAS use, releases, and stakeholder/regulator engagement at DOE sites. DOE prepared an *Initial Assessment of Per-and Polyfluoroalkyl Substances at Department of Energy Sites* (DOE 2022b), as a first step in understanding the risks PFAS may pose to DOE employees, the public and the environment. This report captures current knowledge of historical and on-going uses of PFAS, presence of PFAS in the environment and drinking water, and stakeholder/regulatory engagement.

The Livermore Site has more than 100 pounds of PFAS onsite. Site 300 has fewer than 100 pounds of any one PFAS onsite. There are approximately 20 gallons of a Class A firefighting foam which does not contain PFAS.

DOE did an Initial Assessment of PFAs in 2021 which provides details of historical and current usage (DOE 2022b). The San Francisco Bay Area Water Board (Livermore Site), the Central Valley Regional Water Quality Control Board (Site 300) and the California Department of Toxic Substance Control contacted LLNL regarding potential PFAS use onsite and have required groundwater and soil sampling to investigate potential presence of PFAS compounds in the environment. In response, LLNL collected a groundwater sample in 2018 and provided the sampling results and historical information to the governing bodies. The key summary points are:

1. PFAS were undetectable in Livermore Site drinking water sources.
2. At Site 300, the groundwater was sampled at a location with the likelihood of PFAS presence. The results do not indicate any groundwater contamination.
3. AFFF is not used onsite at the fire departments (Site 300 and Livermore Site); however, there is an AFFF-based fire suppression system (Livermore Site).

NNSA will continue to provide additional characterization and monitoring data as requested from Federal and State regulators. Sampling of drinking water wells is planned for Summer of 2023. Sampling of soil and groundwater is planned under CERCLA in the next 2-3 years. NNSA will continue to consult with all the appropriate regulatory agencies as requested for mitigation actions that would impact any changes to CERCLA or RCRA remedies or potential amendments to the CERCLA ROD, and other air and water quality permits. Any CERCLA corrective actions, changes, amendments/addenda to the ROD are addressed in

ongoing CERCLA data evaluations, and reporting, including the five-year review process and RPM meetings.

24-D Air Quality Monitoring

"LLNL's Annual Site Environmental Report uses modelling to estimate receptor/dose and latent cancer risks to an offsite 'maximally exposed individual,' its workers, and the population within a 50-mile radius of both sites (pgs. 3-73/74). This model relies on the results of continuous monitoring at six discharge points – five on the Livermore campus but only 1 at Site 300 (p. 4-94). Given the existing population density within a 50-mile radius, and the expected extension of the City of Tracy's residential developments within 1-2 miles immediately to the north and east of Site 300 (p. 6-3/4), more real time data points placed along site boundaries would not only provide more accurate engineered data, but would also help inform a coordinated response to potentially excessive or harmful emissions that transcend boundaries and could impact residential areas or other sensitive receptors.

"Recommendations for the Final EIS: Discuss the adequacy of the number and locations of the existing continuous air quality monitoring stations to provide comprehensive operational and air quality data for future projections. To better estimate risk and make informed management and emergency response plans, the EPA recommends that additional air quality monitoring facilities be added along site perimeters to provide real time information on criteria pollutants and radiological constituents during all construction/demolition or earthmoving activities, controlled burns and firing or explosive events. The EPA is aware that air monitoring funding may be available through the Inflation Reduction Act." (Commenter: 41)

Response: LLNL's air monitoring program is discussed in Section 4.6.5. In accordance with 40 CFR Part 61, Subpart H, LLNL performs air effluent monitoring of atmospheric discharge points to evaluate its compliance with local, state, and federal laws and regulations and to ensure that human health and the environment are protected. The air effluent sampling program measures only radiological emissions. Surveillance monitors for radioactive particulate, tritium, and at some locations, beryllium, are well established at the perimeter of both Livermore Site and Site 300 and at off-site locations. While they are not "real-time," a quick turnaround in basic radionuclide analysis for gross alpha, gross beta, gamma, and tritium is achievable by the analytical labs performing the analysis.

The analysis in the SWEIS shows that the risk of a latent cancer fatality (LCF) to the MEI from operations would be 2.5×10^{-6} per year at the Livermore Site and 1.0×10^{-10} per year at Site 300. The projected number of LCFs to the population within a 50-mile radius would be 4.3×10^{-3} at the Livermore Site and 3.0×10^{-8} at Site 300. These values are well below the regulatory NESHAPs limits. Current permits and registrations require reporting of equipment inventory, equipment usage, material usage, and/or record keeping during operations. LLNL maintains air emissions inventory and risk assessment of more than 300 listed chemicals,

which is the basis for the California Air Toxics "Hot Spots" program. As a result of this inventory, BAAQMD and SJVAPCD consider LLNL a low-risk facility for nonradiological air emissions (LLNL 2020b).

NNSA considers the air quality monitoring stations at LLNL to be adequate and ensure regulatory compliance.

24-E Greenhouse Gases and Climate Change

"While recognizing that this DEIS is largely conceptual and acknowledging DOE's leadership in designing to LEED building standards, the construction of approximately 3.3 million square feet of 75 new facilities at the Livermore Site and Site 300 presents the opportunity to reduce climate changing GHG emissions and minimize building energy and water usage to sustainable levels pursuant to federal law and policy. Table 4-32 summarizes site sustainability goals but notes that the risk of not attaining energy reductions or sustainable building certifications is high.

"Recommendations for the Final EIS: The EPA recommends that the status report to the DOE Sustainability Performance Office on LLNL/NNSA's "initiatives to improve 34 energy efficiency metrics, reduce energy cost, and reduce emissions of greenhouse gases" be included in the Final EIS. Discuss the barriers to meet existing and proposed DOE's standards as found in the Energy Independence and Security Act. Commit to employing all practicable methods of reducing greenhouse gas emissions from the project to move toward the net-zero emissions goal, particularly for those parts of the project that would be implemented after 2030." (Commenter 41)

Response: With regard to site sustainability goals and performance status, Section 4.12.5 provides such information (see specifically Table 4-32). The status report provided to the DOE Sustainability Performance Office is the annual Site Sustainability Plan. Any further details regarding performance status would be presented in updates to the Site Sustainability Plan. Any barriers associated with meeting standards in the *Energy Independence and Security Act* would be addressed in any updates to the Site Sustainability Plan.

24-F Siting of New Projects at Site 300

"*The DEIS states that beginning in 2023, LLNL will install additional rooftop and microgrid solar photovoltaic and advanced energy storage systems and pilot a new bladeless wind technology (to reduce adverse impacts to birds) at Site 300. We appreciate that the DEIS states that LLNL would endeavor to limit new land disturbance to previously disturbed areas or areas already designated for industrial use, but we note that the pilot project would be located on 9.4 acres of previously undisturbed land (p.3-41). RE-Powering America's Land is an EPA initiative that encourages renewable energy development on current and formerly contaminated lands and landfills. In this document, the EPA outlines the processes*

and benefits of land reuse and provides information on siting renewable energy projects while simultaneously addressing environmental issues.

"Recommendation for the Final EIS: The EPA recommends that alternative brownfield locations or previously disturbed lands be used to the fullest extent possible for siting any renewable energy projects. As the pilot project plans are prepared, continue to consult with the U.S. Fish and Wildlife Service to determine whether the 9.4 acres of undeveloped land for the proposed project has been properly surveyed and is subject to the existing or updated management actions prescribed in the Biological Opinions, like buffer zones, creek crossings, or construction BMPs. List related conservation measures or compensatory mitigation in the Final EIS." (Commenter: 41)

Response: As shown on Figure 3-3 of this SWEIS, NNSA has identified multiple (five) locations for various aspects of the AEMGF at Site 300. To the extent possible, NNSA has proposed to use previously disturbed lands. In fact, most (11 acres out of a total of 20.4 acres) of the land associated with this project is previously disturbed, as discussed in Section 3.3.1.5 of this SWEIS. NNSA conservatively estimated that about 9.4 acres of previously undisturbed land would be used for equipment installation, a significant portion of which would be ground mounted solar PV arrays. Because all of Site 300 is within critical habitat designation for the California red-legged frog, surveys would be required for all new facilities prior to construction. These projects would be completed in consultation with the USFWS as required by Section 7 of the federal *Endangered Species Act*. As the project evolves, NNSA would minimize any new land disturbance, and would consult with the USFWS, as appropriate, to properly survey any undeveloped land for the proposed project and determine if such land is subject to the existing or updated management actions prescribed in the Biological Opinions, like buffer zones, creek crossings, or construction BMPs. Once the location for the proposed project is determined, appropriate mitigation actions would be developed and reviewed with the appropriate regulatory agencies, including the USFWS for final approval.

24-G Infrastructure and Water Use

"Further, California continues to experience periods of prolonged drought. Water consumption at the Livermore site from 2015 -2019 averaged 243.2 million gallons per year with Site 300 ranging between 10 and 14 million gallons per year. Construction and decontamination, decommissioning, and demolition activities would require an additional 0.37 million gallons of water per year (p. 5-96).

"LLNL's primary water sources are San Francisco's Hetch Hetchy regional water system and Zone 7 water (mixed groundwater and water from the State Water Project). For both water supply sources, water availability is dependent on annual precipitation rates. In the summer of 2019, the NNSA/LLNL was formally asked to reduce Zone 7 water use as much as possible (pgs. 4-183-186).

"Even though LLNL is evaluating wastewater reuse and the feasibility of using non-potable water in its primary cooling towers (p. 4-181), the DEIS states that 475-535 million gallons would be used annually, and the proposed reductions would only reduce LLNL water use by 1.4-1.6% (p. 5-170). (Commenter: 41)

Response: As stated in Section 6.4.12.1, the Hetch Hetchy reservoir can store as much as 117 billion gallons of water. LLNL's current water use (380 million gallons annually) amounts to approximately 0.32 percent of the capacity of the Hetch Hetchy reservoir. As discussed in Section 5.12.2, using reclaimed water for cooling towers would reduce Hetch Hetchy potable water usage at LLNL by approximately 200 million gallons per year. As discussed in Section 5.18, the new hybrid work environment would reduce onsite worker population on any given day, which, in turn, would further reduce domestic water use (by a maximum of approximately 7.4 million gallons annually). This reduction would amount to approximately 1.4-1.6 percent of the LLNL future usage.

24-H Waste Management

"The DEIS predicts a marked increase in waste generation from construction and decontamination, decommissioning, and demolition of legacy contaminated facilities and equipment. New construction may generate more radioactive or hazardous materials wastes due to building placement or modernized operations. For example, building the 60,000 square foot Dynamic Radiography Development Facility plus a 60,000 - 80,000 square foot open air shed at Site 300 may require extensive excavation of thousands of tons of soil from the hillside where the upper few feet of the soil could be contaminated with beryllium, depleted uranium, metals, and other components. Alternatively, there would be much less contaminated soil if located on the south side of the hill (p. 3-30).

"The DEIS acknowledges that the Proposed Action could eventually involve the decontamination, decommissioning, and demolition of approximately 1.5 million square feet of buildings and structures over the next 15-year period although the extent, types and amounts of DD&D waste associated with the Proposed Action would be estimated when facilities reach the end of their useful life.

"Recommendation for the Final EIS: The EPA recommends choosing siting or design alternatives that generate substantially less contaminated wastes or solve potential storage, treatment, or disposal issues." (Commenter: 41)

Response: NNSA agrees with EPA that the Proposed Action would be taken underway to minimize contaminated waste. Various design alternatives would be evaluated to minimize generation of contaminated waste. Waste minimization would be pursued during construction as part of the goals and objectives of the LLNL Environmental Management System and Site Sustainability Plan that are discussed in Section 4.12.5 of this SWEIS.

24-I Socioeconomics and Environmental Justice

"LLNL/NNSA operations would also generate Transuranic (TRU) waste. TRU wastes must be sent to the Waste Isolation Pilot Plant (WIPP) near Carlsbad and Hobbs, New Mexico (pgs. 4-194/195; 5-179). The DEIS notes that past shipments to the WIPP have been done through "campaigns" in which several years of waste were stored onsite until the requisite characterization and packaging processes were completed. Although there is an intent for the NNSA to 'develop an enduring program to make annual shipments from LLNL to WIPP" (p. 3-63), it is possible that TRU may be shipped first to an interim facility for the additional processing required to meet WIPP's waste acceptance criteria (p. 5-90). We note that the final license from the Nuclear Regulatory Commission for the WIPP is not expected until February 2023 and there are local concerns about the environmental justice implications of the site itself. Under the Proposed Action, NNSA estimates that up to 8 annual shipments of TRU to the WIPP would be needed to remove accumulations of TRU from LLNL (Table 3-8). The DEIS acknowledges potential radiological exposure to the public through transportation or offsite shipments. It relies on previous DOE analyses to conclude that there are no disproportionate and adverse safety risks to low- income or minority populations (pgs. 6-19, 5-77), but the DEIS does not incorporate these analyses by reference or provide a summary to support the conclusion of no adverse impacts.

"Executive Order 13175, "Consultation with Indian Tribal Governments" (November 6, 2000), was issued to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationship with Indian tribes. We note also the DEIS does not mention that TRU could travel through 10 Native American reservations across six states on its way to the WIPP, nor does it describe any outreach or government-to-government consultation with these tribes.

"Recommendations for the Final EIS: Identify any low-income or minority populations that might be disproportionately impacted by the transportation of TRU wastes to interim or permanent disposal facilities. Describe efforts to identify communities with environmental justice concerns along the route and at the ultimate disposal destination. Describe how DOE would engage with communities with environmental justice concerns, if any are identified, in the development of the Final EIS and mitigation for transportation impacts. If the Final EIS continues to rely on previous DOE analysis, provide a summary of the analysis and its conclusions. To support the conclusion of no disproportionate impacts to low-income or minority populations, summarize how the Nuclear Regulatory Commission addressed environmental justice concerns in the Final EIS for the WIPP licensing process.

"DOE's Carlsbad Field Office website describes a Tribal Program offering formal government to government agreements that promote participation in DOE's decision-making process on TRU waste transportation activities. Describe DOE's

tribal consultation process and the outcome of any government-to-government consultations between the DOE and each of the tribal governments along the transportation route between LLNL and the WIPP. Summarize the concerns identified, the opportunities the affected communities had or will have to provide input into the DOE's NEPA process, and how that input would be used in the decisions that will be made regarding long-term or permanent disposal of TRU wastes.

"Summarize any agreements reached and commit to completing a Supplement Analysis if issues are raised that require mitigation. The EPA's Tribal Branch can provide tribal contact information as needed for the future analysis of transportation routes." (Commenter: 41)

Response: After demonstrating TRU waste compliance in a series of audits, in 2020, LLNL became a certified site through the DOE established National TRU Program (NTP). This certified status indicates that LLNL is intimately familiar with characterization and packaging of TRU waste as applicable to the WIPP Waste Acceptance Criteria and ensures that these criteria are met as early in the life of a waste stream as possible. The result of a certification in this program is: 1) significantly reduced on-site storage time relating to characterization and packaging, and 2) the ability to routinely transport TRU waste to WIPP, eliminating the need for "campaigns" that may ship multiple years of waste storage. Because LLNL is competent in its ability to characterize and package the TRU waste for acceptance into WIPP, LLNL does not plan on shipping waste first to an interim facility. Furthermore, there is no interim facility that is currently operating.

See comment response 20-A for a discussion of accident impacts from LLNL operations. As discussed in that comment response, the risk of an LCF to the population within a 50-mile radius of LLNL is approximately 1 in 10 million. Given this risk, NNSA does not think that there will be any disproportionate impact to low-income or minority populations.

However, this SWEIS does analyze the potential impacts (including accidents) of transporting radioactive materials and waste from LLNL to these facilities. As discussed in Section 5.11.3.2, under the Proposed Action, modeling of all 888 potential offsite shipments would yield a bounding collective incident-free dose to the general public of 24.7 person-rem, with an associated increased risk of 0.015 LCF; and a bounding cumulative increased risk of 2.9×10^{-6} LCF to the general public from accidents that result in a container breach/release. Based on the potential routes to the disposal sites, impacts to the minority and low-income populations would consist of a fraction of the LCF risk presented above.

24-J Biological Resources

"The latest Biological Opinion of the United States Fish and Wildlife Service, dated August 9, 2018, discussed the effects of Continued Operations and Maintenance at Site 300 on the California Red- Legged Frog and Central California Tiger Salamander. It was specifically limited to the effects of routine infrastructure

maintenance and minor construction activities (e.g., erosion control or repair, well and treatment facility decommissioning projects, soil sampling) for a period of 5 years, exclusive of CERCLA actions. The conservation measures proposed were based on specific acreages for proposed activities in 2018 and include mitigation ratios for permanent and temporary effects, temporal limits to grading and construction activities, exclusionary fencing, minimizing stormwater runoff, and restoring habitats. The FWS concluded that the limited actions in combination with reasonable and prudent conservation measures would not preclude recovery or reduce the likelihood of survival of the species.

"The BO notes that accumulated effects - individual activities that may overlap or may impact areas larger than the sum of the individual projects – are tracked through a single programmatic BO. The 2018 Biological Opinion stated that LLNL would submit a letter to the Service requesting programmatic consultation or request an extension of the Biological Opinion at the end of the fourth year.

"Recommendations for the Final EIS: Discuss the status of the relevant biological assessments or biological opinions and whether LLNL/NNSA anticipates the necessity for future consultation, either on an individual project or programmatic basis. Commit to conducting a Supplement Analysis for project changes required by a future biological opinion that do not fit within the bounds of the current analysis. (Commenter: 41)

Response: Section 4.8.3 discusses the status of the relevant biological assessments or biological opinions for LLNL. As discussed in that section, a biological assessment for the 2005 SWEIS was prepared in 2004 and revised in 2007. Due to the potential for impacts on protected species and their habitats, LLNL has conducted multiple consultations with USFWS. These consultations have resulted in several biological opinions and associated amendments. The USFWS issued an amendment to the existing biological opinion for maintenance activities at the Livermore Site in December 2010 and an amendment to the existing biological opinion for maintenance activities at Site 300 in August 2007. The most recent formal consultations for the Livermore Site and Site 300 were completed in 2013 and 2018, respectively. In 2013, the USFWS issued a sitewide biological opinion for Infill Construction and Redevelopment at the Livermore Site (USFWS 2013), and in 2018, the USFWS and the DOE/NNSA completed a formal consultation on continued operation and maintenance of Site 300 that includes a programmatic framework (LLNL 2018). A biological opinion on the maintenance of the Arroyo Mocho Pumping Station was completed in 2004 and amended in 2008 (LLNL 2008). NNSA will determine the necessity for future consultations with the USFWS as appropriate. The need for future biological assessments or supplement analysis will be determined as needed.

Because all of Site 300 is within critical habitat designation for the California red-legged frog, surveys would be required for all new facilities prior to construction. These projects would be completed in consultation with the USFWS as required by

Section 7 of the federal Endangered Species Act. Biological assessments would be prepared as required, based on consultations with the USFWS.

Issue Category 25: Letter from Congressional Representatives to NNSA Administrator Jill Hruby, dated February 9, 2023 (Commenters 52)

25-A Extension of comment period

"We respectfully request an additional, extended period for public comment on the Draft Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory (DOE/EIS-0547).

"While we appreciate that NNSA closed the original 60-day comment period on January 18, 2023, concerned constituents and residents of communities in our Congressional districts nearby Lawrence Livermore National Laboratory have contacted our offices requesting additional time to review and comment. We trust you can appreciate that this Environmental Impact Statement is a voluminous and highly technical document, even for the most interested members of the public." (Commenters: 48, 52)

Response: On November 4, 2022, NNSA published the Notice of Availability (NOA) of the Draft LLNL SWEIS in the Federal Register (87 FR 66685). NNSA also announced a 60-day comment period and three public hearings (two in-person and one virtual) to receive comments on the Draft LLNL SWEIS. The comment period was scheduled to end on January 3, 2023. On December 9, 2022, NNSA notified the U.S. Environmental Protection Agency (USEPA) that it was extending the comment period until January 18, 2023. On December 16, 2022, the USEPA published a notice in the Federal Register that announced the public comment period extension (87 FR 77106). NNSA posted the Draft LLNL SWEIS on the NNSA NEPA Reading room website at https://www.energy.gov/nnsa/nnsa-nepa-reading-room and on the DOE NEPA website at https://www.energy.gov/nepa/articles/doeeis-0547-draft-environmental-impact-statement-0. Supporting sitewide documents were also placed on the LLNL external website which is available to the public at https://www.llnl.gov/community/site-wide-environmental-impact-statement-sweis.

In addition to the public hearings, the public was encouraged to provide comments via U.S. postal mail or electronically via email. Late comments were considered to the extent practicable. All comments received by January 31, 2023, were considered by NNSA in this Final LLNL SWEIS. That essentially extended the comment period by another 15 days for a total of 90 days. This extension is twice the legal 45-day requirement in the regulations.

2.4 REFERENCES

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CHAPTER 3

Comment Documents

3.0 COMMENT DOCUMENTS

This chapter is a compilation of all the documents (including the public hearing transcripts) that the National Nuclear Security Administration (NNSA) received on the *Draft Lawrence Livermore National Laboratory Site-wide Environmental Impact Statement* (SWEIS) during the public comment period. The documents are presented alphabetically, and transcripts are presented after the documents. On each document, comments have been identified by NNSA with sidebars and numbers that identify the codes assigned to the comments. These numbers can be used to locate the comment summaries and responses that are contained in Chapter 3 of this CRD. Comments that NNSA received after January 18, 2023 (which was the close of the comment period) are presented after the public hearing transcripts.

Allred, Chris (1)
Page 1 of 1

[redacted]

From: chris@rmpjc.org
Sent: Monday, December 12, 2022 1:11 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Full 30-day extension of the public comment period for LLNL SWEIS

Dear Ms. Fana Gebeyehu-Houston,

Please extend the public comment period on the Draft Site-Wide Environmental Impact Statement (SWEIS) for Continued Operation of the Lawrence Livermore National Laboratory for 30-days, from its original end date of January 3, 2023 to February 2, 2023.

People are very busy through the holidays and the extra time is needed to give this matter the full attention it deserves. 3-A

Thank you very much for your time and consideration. Sending my best wishes for the holidays and new year.

Sincerely,

Chris Allred
christopher.allred@rmpjc.org
Nuclear Nexus Outreach Coordinator
Rocky Mountain Peace and Justice Center
Boulder, Colorado

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Arends, Joni (2)
Page 1 of 1

[redacted]

From: Joni Arends <jarends@nuclearactive.org>
Sent: Tuesday, December 13, 2022 6:40 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Request for Extension of LLNL SWEIS Public Comment Period

Good afternoon,

Concerned Citizens for Nuclear Safety (CCNS) respectfully requests that the National Nuclear Security Administration (NNSA) extend the comment period for the Lawrence Livermore National Laboratory (LLNL) Site Wide Environmental Impact Statement (SWEIS) of at least thirty (30) days, until February 2, 2023, at the earliest.

As you know, it is a difficult time for the public to provide informed comments about the 1,408 page draft LLNL SWEIS during the on-going major religious and cultural holiday seasons. In many ways it is unconscionable for NNSA to request public comments during this time.

Many Americans are on retreat, traveling to be with family and friends, taking well-deserved vacations and/or meeting all forms of family obligations, traditions and celebrations. Further and consequentially, there are many people dealing with the post-Thanksgiving surges of COVID-19, RSV and flu throughout the country. And there are limited hospital beds.

Right now, public comments are due on January 3, 2023 - the first business day of 2023. Please be reasonable and extend the public comment period to February 2, 2023 at the earliest so that Americans may provide informed and thoughtful comments about the draft LLNL SWEIS.

3-A

Thank you.

--
Joni Arends, Executive Director
Concerned Citizens for Nuclear Safety
P. O. Box 31147
Santa Fe, NM 87594-1147
505 986-1973
https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.nuclearactive.org%2F&data=05%7C01%7Cllnlsweis%40nnsa.doe.gov%7Ce95a653a76544aa6ed6908dadd635c94%7C6b183ecc4b554ed5b3f87f64be1c4138%7C0%7C0%7C638065716083056846%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=MZB66jd9eYnjKN%2BoJ7TT4%2FIAS2M7agI299GigyDOK8o%3D&reserved=0

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Arends, Joni (2)
Page 1 of 4

[redacted]

From: Joni Arends <jarends@nuclearactive.org>
Sent: Thursday, January 19, 2023 1:55 AM
To: LLNLSWEIS
Subject: [EXTERNAL] CCNS Comments for LLNL draft Site Wide EIS

Concerned Citizens for Nuclear Safety
P.O. Box 31147
Santa Fe, NM 87594-1147
ccns@nuclearactive.org

January 18, 2023

Ms. Fana Gebeyehu-Houston,

LLNL SWEIS Document Manager,

1000 Independence Ave., SW,

Washington, DC 20585

Dear Ms. Fana Gebeyehu-Houston:

Below are the abbreviated comments of Concerned Citizens for Nuclear Safety (CCNS), a Santa Fe, NM non-governmental organization that formed 35 years ago to address the proposed transportation of radioactive and hazardous waste from Los Alamos National Laboratory (LANL) to the proposed Waste Isolation Pilot Plant (WIPP) through the center of Santa Fe.

Our comments are abbreviated due to the number of proposals of the Department of Energy / National Nuclear Security Administration (DOE/NNSA) released for public comment in November and December 2022. DOE/NNSA has piled on the number of opportunities to provide public comments during the winter holidays. Examples include the draft environmental impact statement (DEIS) for the Surplus Plutonium Disposition Project, which would impact operations at LANL and WIPP in New Mexico, and the Draft Site-Wide Environmental Impact Statement (SWEIS) for the continued operation of the Lawrence Livermore National Laboratory (Livermore Lab) Main Site in Livermore, CA and Site 300 high explosives testing range near Tracy, CA.

Despite numerous requests for adequate extensions of time to provide informed public comments, DOE/NNSA have limited the requested time, such as in the case of the Livermore Lab DEIS with half the requested time extension.

CCNS's concerns include:

1. **Plutonium Increase Opposed**. According to the 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- 4-E

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Action Alternative to 38.2 grams under the Proposed Action. (SWEIS 3-54) The proposed increase from 8.4 grams to 38.2 grams is similar - or the same - as what has been implemented at LANL. What's next? At LANL, the current proposal is to increase the administrative limit from 38.6 plutonium-239 equivalent grams to 400 grams - a nearly 50-fold increase. http://nuclearactive.org/doe-wants-50-fold-plutonium-increase-at-lanl-rad-lab/ The proposed LLNL administrative limit refers to how much weapons-grade plutonium can be in the building at one time. This is an **increase of nearly five times.** Plutonium can be deadly in microscopic amounts; it emits extremely high-energy rays (alpha particles) that tear through tissue as the plutonium radioactively disintegrates 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 very 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. 4-E, 6-A

2. **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 - one in NM at LANL. 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. Further, these operations should be canceled. A plutonium pit programatic DEIS is needed NOW! 1-B, 2-B

3. **Tritium Emissions Increase Opposed**. The site-wide **air emission of tritium** (radioactive 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.** Why? 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 the air we breathe; it will travel with the wind and tumble into our neighborhoods as it goes, fall out over our homes in the rain, and become organically bound in our plants, Tritium crosses the placenta - damaging future generations. 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. 4-D, 6-A, 19-A

4. **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. Further PFAS are found in explosives. Sampling for PFAS must be done at the AHF and cleanup plans put into place to protect the people, farms, ranches, water and environment of the area from forever chemical contamination. 4-I., 7-A, 21-E

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5. **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 bio-agents, (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 DOE/NNSA). Expanding operations at Livermore Lab creates the optics bio-weapons may be created. Further, 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.

1-C, 4-J, 4-K, 20-E

6. **Reduce or Cancel New Warhead Development Programs.** Livermore Lab is one of two locations 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. Livermore Lab is developing several new warheads and variants. Reasonably, the designs could be down-scoped to eliminate novel features or canceled altogether. They include:

2-B, 2-D

- The **W87-1**, a wholly new warhead currently being designed at Livermore Lab to sit atop a new ICBM that the Pentagon is developing, called the Sentinel missile. The W87-1 will require new plutonium bomb cores (pits) and is a major driver for NNSA's plan to expand plutonium pit production.
- The **W80-4**, a new warhead being designed at Livermore Lab for the new Long Range Stand-Off Weapon. This warhead will sit atop a new air-launched cruise missile.
- The **W80-4Modification**, a special variant of the new W80-4, designed for a new Sea-Launched Cruise Missile to will be placed on ships that do not currently carry any nuclear weapons and are not certified for that mission.

7. **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, 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:

6-A, 6-C

* minimizing and preventing infections 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,

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* 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 21st century. 6-A

The DOE/NNSA must hold pubic meetings specifically to develop these ideas in partnership with the community and non-governmental organizations.

Thank you for your careful consideration of our comments.

Sincerely,

--
Joni Arends, Executive Director
Concerned Citizens for Nuclear Safety
P. O. Box 31147
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Arent, Sean (3)
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[redacted]

From: Sean Arent <sean@wpsr.org>
Sent: Tuesday, December 6, 2022 7:48 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Extend SWEIS Comment Period

Dear Fana Gebeyehu-Houston,

On behalf of the Washington Physicians for Social Responsibility, we demand that the Department of Energy and National Nuclear Security Administration extend the public comment period on the Draft Site-Wide Environmental Impact Statement (SWEIS) for Continued Operation of the Lawrence Livermore National Laboratory for 30-days, from its original end date of January 3, 2023 to February 2, 2023. 3-A

In Washington state we know well the impacts of nuclear weapons production. The legacy and harms of these weapons are still felt today at Hanford where the first bombs were produced and on the Spokane reservation where the Uranium was mined, contaminating the land and killing many people that lived there. You can bet that the people who live in our region would have appreciated an extra month to review the costs of these projects, but were afforded none. That's why these environmental review processes exist today, but to hide this report behind legal jargon and a difficult to navigate webpage is to not keep with that intent, It's to simply go through the motions.

People need time to review the impacts to the place they call home. A month is not enough time, but it's literally the least this agency can do.

--
Sean Arent
Nuclear Weapons Abolition Program Manager, Washington Physicians for Social Responsibility
Email: sean@wpsr.org | **Phone**: 253.363.0843
Visit us: wpsr.org | **Join us**: Become a member
Donate: Support our work | **Learn more**: Sign up for emails

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Beaudelaire, Suzanne (4)
Page 1 of 1

[redacted]

From: Suzanne <sbeaudelaire@gmail.com>
Sent: Tuesday, December 6, 2022 2:33 AM
To: LLNLSWEIS
Subject: [EXTERNAL] Livermore Lab Site-Wide Environmental Impact Statement (SWEIS)

Dear Ms. Fana Gebeyehu- Houston,

As a concerned citizen and long-time supporter of the important work of Tri-Valley CARES, I respectfully add my voice to their urgent request for a 30 day extension of the public comment period on the above subject matter.

Matters as important and as rare as this one deserve to be well considered by the public, and that is just not possible given the Nov & Dec. holidays, as well as for the other valid reasons outlined in TVC's request letter. 3-A

Please grant a 30-day extension for public comment on SWEISS.

Thank you.

~Suzanne Beaudelaire

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1

Broadman, Gene (7)
Page 1 of 3

From: Gene Broadman
To: LLNLSWEIS
Subject: [EXTERNAL] SWEIS COMMENTS
Date: Friday, December 2, 2022 7:28:23 PM
Attachments: Elephant Water.pdf

To Whom It May Concern.

Attached is a letter containing my comments

Gene Broadman

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Broadman, Gene (7)
Page 2 of 3

Ms. Fana Gebeyehu-Houston
LLNL SWEIS Document Manger

December 1, 2022

My name is Gene Broadman. I was employed at the LLNL Livermore Lab site from 1958-1988. I wholeheartedly support the nuclear weapons development work at the Lab. Continued research of nuclear weapons is critically important for our nation's national security! 1-E

On a more local level, I live on East Avenue about a mile west of the Lab. Our primary water source for domestic uses comes from an on-site well. The Draft EIR indicated that chemically contaminated water from the Lab is slowly moving westward. However, I couldn't find any information on the testing and evaluation of off-site domestic well water. Is this type of testing being done, and is data available to off-site well water users? 10-A

THE ELEPHANT IN THE ROOM

I reviewed the voluminous amount of published information on the Lab's contaminated water. It struck me that while we are spending millions of EPA Super Fund dollars to clean up the contaminated water migrating from the Lab site, I couldn't find any information about "The Elephant in the Room. "The Elephant" is the **health impacts** on the thousands of Lab and Sandia employees that worked on the Livermore site from 1951-1962. Employees at these sites used water solely from contaminated wells for drinking, washing, swimming etc. Reports indicated that Hetch-Hetchy water was brought to the Lab site in 1962. However, the Hetch-Hetchy water may have only been used to supplement the existing on-site well water. 19-E

We are bombarded daily with **negative publicity** about how serious illnesses are now linked to chemically contaminated water that was used at the U.S. Marine North Carolina Camp Lejeune base and at the Fort Old base in California.
The legal community is making a fortune representing military people and their families who are now eligible for compensation for their contaminated water related medical illnesses.

Broadman, Gene (7)
Page 3 of 3

Shouldn't the Departments of Energy and Labor's **existing** Energy Employees Occupational Illness Compensation Program (EEOIP) be **"tweaked"** to include all employees who worked at the Livermore and Site 300 sites and now have serious chemically contaminated water-related medical issues? 19-F

Let's get **ahead** of this issue!

Gene Broadman
gbroadman@comcast.net

Buckley, Rich (8)
Page 1 of 2

[redacted]

From: Rich Buckley <richbuckley7@gmail.com>
Sent: Thursday, December 15, 2022 10:23 AM
To: LLNLSWEIS
Cc: Rich Buckley
Subject: [EXTERNAL] Re: Draft LLNL SWEIS Comment Period Extension

Re SWEIS Comment

On January 6, 2023 the US Supreme Court is Docketed to start review of protocols that may then lead quickly to the reversal of legitimacy of the Biden Administration.

A range of likely consequences should be considered in the event Biden Administration is declared illegitimate by emerging facts and supporting testimony brought into popular public awareness. 23-D

Rich Buckley, Pres.
Peace And Conflict Resolution . Org.
Livermore, CA

--

On Wed, Dec 14, 2022 at 11:00 PM LLNLSWEIS <llnlsweis@nnsa.doe.gov> wrote:

> Dear Stakeholder,
>
> Thank you for your interest in the Site-Wide Environmental Impact Statement (SWEIS) for Continued Operations of the Lawrence Livermore National Laboratory (LLNL). The U.S. Department of Energy (DOE), National Nuclear Security Administration (NNSA) is extending the public comment period on the Draft LLNL SWEIS by 15 days to a total of 75 days. The Draft SWEIS comment period will now end on January 18, 2023. Comments received or postmarked after the comment period will be considered to the extent practicable. I will be monitoring email and postal mail until the end of January 2023.
>
> Sincerely,
>
> Fana Gebeyehu-Houston
>
> NEPA Document Manager

1

Buckley, Rich (8)
Page 2 of 2

Livermore Field Office

The Draft LLNL SWEIS is available here for your review: https://www.energy.gov/nepa/articles/doeeis-0547-draft-environmental-impact-statement-0

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Confidentiality Notice: The USA has alledgedly invested itself into unconstitutional, worldwide surveillance of all electronic communications including this communication and all future phone calls and electronic communications: http://tinyurl.com/kbzfve7 You should assume there is no longer any communication privacy whatsoever or Secure Internet Lines as a result of the "Snowden Event" unless and until we lay-to-rest the thinking and mindset of the old New World Order and reach new levels of trust and cooperation.
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Burns, Terry (10)
Page 1 of 2

[redacted]

From: TB <tbscpbsc@satx.rr.com>
Sent: Wednesday, January 18, 2023 5:00 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Livermore Lab Draft Site-Wide Environmental Impact Statement

Postal mail: Ms. Fana Gebeyehu-Houston,
LLNL SWEIS Document Manager,
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 (Livermore Lab) Main Site in Livermore, CA and Site 300 high explosives testing range near Tracy, CA.

I am a retired physician and pathologist with a long history of special interest in radiation and other toxic chemical hazards to human health (publications on ammonia, asbestos, etc). I have read the materials attached here from another source. I have read these carefully and they state clear facts regarding the health hazards of these proposals. I have family and friends that live just across the hills in the Bay Area. I strongly oppose these huge expansions of plutonium storage at Livermore, and huge releases of H-3, tritium. These proposals, if carried out, will substantially and unacceptably raise the risks of serious health damage to millions of people. 19-A

I also oppose the large expansion of the Animal/Biosafety Level-3 Facility. Bioterrorism is a threat I am familiar with; however, I do not support another "arms race" in expanded research and development. A completely new NEPA should be done at the very least. There is no place for these materials so close to a large urban population. 1-C, 20-E

The renewed nuclear arms race, under the guise of "modernization" is a costly and risky jobs program with no clear need, regardless of current perceived threats from Russia and China. Livermore should NOT be expanded in all these proposed and highly dangerous ways. 2-A

I urge you instead to give serious consideration to the last paragraph and acceptance to the proposed peaceful work that SHOULD occupy the scientists and staff of Livermore. These needs are great, and your skills much better put to use.

Plutonium Increase Opposed. According to the 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 5x. Plutonium can be deadly in microscopic amounts; it emits extremely high-energy rays (alpha particles) that tear through tissue as the plutonium radioactively disintegrates 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. 4-E, 6-A

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. Further, these operations should be canceled. 1-B, 2-B

Tritium Emissions Increase Opposed. The site-wide air emission of tritium (radioactive 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 the air we breathe; it will travel with the wind and tumble into our neighborhoods as it goes, fall out over our homes in the rain, and become organically bound in our plants. 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. 4-D, 6-A, 19-A

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 4-L, 7-A

Burns, Terry (10)
Page 2 of 2

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. 4-L, 7-A

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 bio-agents, (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 Livermore Lab creates the optics bio-weapons may be created. Further, 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. 1-C, 4-J, 4-K, 4-L, 7-A, 20-E

Reduce or Cancel New Warhead Development Programs. Livermore Lab is one of two locations 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. Livermore Lab is developing several new warheads and variants. Reasonably, the 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 Livermore Lab to sit atop a new ICBM that the Pentagon is developing, called the Sentinel missile. The W87-1 will require new plutonium bomb cores (pits) and is a major driver for NNSA's plan to expand plutonium pit production.
The W80-4, a new warhead being designed at Livermore Lab for the new Long Range Stand-Off Weapon. This warhead will sit atop a new air-launched cruise missile.
The W80-4Modification, a special variant of the new W80-4, designed for a new Sea-Launched Cruise Missile to will be placed on ships that do not currently carry any nuclear weapons and are not certified for that mission. 2-B, 2-D

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, 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 infections 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 21st century. The NNSA could hold pubic meetings specifically to develop these ideas in partnership with the community and non-governmental organizations. 6-A, 6-C

Sincerely,

Terry Burns, M.D.
13139 Vista del Mundo
San Antonio, TX 78216

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Cabanne, Donna (11)
Page 1 of 2

[redacted]

From: Donna Cabanne <donna.cabanne@gmail.com>
Sent: Wednesday, January 18, 2023 5:52 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Nuclear Security Draft Site Wide Environmental Impact Statement

Dear Ms. Fana Gebeyehu-Houston:

These are my comments 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 (Livermore Lab) Main Site in Livermore, CA and Site 300 high explosives testing range near Tracy, CA.

1. **Plutonium Increase Opposed.** According to the 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 5x.** Plutonium can be deadly in microscopic amounts; it emits extremely high-energy rays (alpha particles) that tear through tissue as the plutonium radioactively disintegrates 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. 4-E, 6-A

2. **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. Further, these operations should be canceled. 1-B, 2-B

3. **Tritium Emissions Increase Opposed.** The site-wide **air emission of tritium** (radioactive 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 the air we breathe; it will travel with the wind and tumble into our neighborhoods as it goes, fall out over our homes in the rain, and become 4-D, 19-A

1

Cabanne, Donna (11)
Page 2 of 2

organically bound in our plants. 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. 4-D, 6-A

Sincerely
Donna Cabanne
Livermore Resident
email bcabanne@comcast.net
donna.cabanne@gmail.com

3.

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Clements, Tom (12)
Page 1 of 5

[redacted]

From: Tom Clements <tomclements329@cs.com>
Sent: Tuesday, January 17, 2023 11:39 AM
To: LLNLSWEIS
Subject: [EXTERNAL] Comments attached on LLNL Draft Site Wide EIS, LLNL by SRS Watch, Jan. 17, 2023
Attachments: SRS Watch Comments on Draft SWEIS Jan 17 2023.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Please find attached the comments of Savannah River Site Watch on the Draft Site-Wide EIS on Lawrence Livermore National Lab.

Please confirm receipt of these comments.

I anticipate a response to each point raised in my comments.

Sincerely,

Tom Clements
Director, Savannah River Site Watch
1112 Florence Street
Columbia, SC 20201
www.srswatch.org

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Clements, Tom (12)
Page 2 of 5

SRS WATCH
Savannah River Site Watch

January 17, 2023

Ms. Fana Gebeyehu-Houston
LLNL SWEIS Document Manager
1000 Independence Ave., SW
Washington, DC 20585
LLNLSWEIS@nnsa.doe.gov

Comments on the Livermore Lab Draft Site-Wide Environmental Impact Statement (In Response to Federal Register Notice of November 4, 2022: https://www.govinfo.gov/content/pkg/FR-2022-11-04/pdf/2022-24069.pdf)

Hello Ms. Fana Gebeyehu-Houston:

I submit these comments 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 on behalf of Savannah River Site Watch, located in Columbia, South Carolina. SRS Watch is a non-profit, public-interest organization that works on policies and programs of the U.S. Department of Energy, with a focus on the Savannah River Site.

1. **The relationship between the SWEIS and the requested Programmatic Environmental Impact Statement (PEIS) on pit production must be explained and reviewed.** There is a federal lawsuit in court in Columbia, SC - Docket 1:21-cv-1942 - requesting that the court direct NNSA to prepare a PEIS on pit production. That PEIS would analyze environmental impacts at all DOE sites, including LLNL, that have a role in the NNSA's current plant to increase pit production at the Los Alamos National Lab and to expand pit production to the Savannah River Site. As LLNL would be involved in aspects of pit design and pit production and would likely handle plutonium related to pit production research, those aspects must be incorporated in any PEIS that the court might order. The PEIS lawsuit was filed by Tri-Valley CAREs, Nuclear Watch New Mexico and SRS Watch in June 2021 and the last filing was by NNSA in October 2022. When the court may rule is unknown. I-B, 3-D

2. **Transparency Needed on Livermore Role in Plutonium Pit Plans.** While the SWEIS discloses an increase in plutonium levels for Livermore Lab, 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 per year will be done at two other locations. The Government Accountability Office I-B

Clements, Tom (12)
Page 3 of 5

(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*Nuclear Weapons: NNSA Does Not Have a Comprehensive Schedule or Cost Estimate for Pit Production Capability*, January 2023, page 31). 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, or to other NNSA programs and projects. 1-B

Further, pit-related operations should be canceled as new pit production for new nuclear warheads could help stimulate a new nuclear arms race. It appears that NNSA not only wants to produce new pits for new nuclear warheads but also plans to replace all pits in the existing U.S. nuclear weapon stockpile or almost 4000 nuclear weapons. If NNSA were to reach production of 80 pits per year, such a costly and challenging project could take 50 years when and if production were to be ramped up to 80 pits per year. Please explain the role of LLNL in efforts to replace all pits in all weapons, including issues related to design and certification of pits, and how this contributes to planning for nuclear war. 1.B, 2-B

3. **Plutonium Increase Opposed.** According to the 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 extremely high-energy rays (alpha particles) that tear through tissue as the plutonium radioactively disintegrates 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 LLNL, rather than increasing it. 4-E, 6-A

4. **Tritium Emissions Increase Opposed.** The site-wide air emission of tritium (radioactive 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 the air we breathe; it will travel with the wind and tumble into our neighborhoods as it goes, fall out 4-D

Clements, Tom (12)
Page 4 of 5

over our homes in the rain, and become organically bound in our plants. 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. Further, if any of the tritium handled and released at LLNL is from another site, the origin and transport of that tritium to LLNL must be explained and analyzed. 4-D, 6-A, 16-C, 19-A

5. **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, including on pit design and production. The decision should be to cancel plans for an AHF. 4-L, 7-A

6. **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 bio-agents, (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 Livermore Lab creates the optics bio-weapons may be created. Further, 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. 1-C, 4-J, 4-K, 20-E

7. **Reduce or Cancel New Warhead Development Programs.** Livermore Lab is one of two locations 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. The SWEIS must reveal and discuss specific activities that decrease Livermore Lab's new warhead design abilities. Livermore Lab is developing 2-B, 2-D

Clements, Tom (12)
Page 5 of 5

several new warheads and variants. Reasonably, the 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 Livermore Lab to sit atop a new ICBM that the Pentagon is developing, called the Sentinel missile. The W87-1 will require new plutonium bomb cores (pits) and is a major driver for NNSA's plan to expand plutonium pit production.
- The **W80-4**, a new warhead being designed at Livermore Lab for the new Long Range Stand-Off Weapon. This warhead will sit atop a new air-launched cruise missile.
- The **W80-4Modification**, a special variant of the new W80-4, designed for a new Sea-Launched Cruise Missile to will be placed on ships that do not currently carry any nuclear weapons and are not certified for that mission.

2-B, 2-D

7. **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, is the responsibility of the agency to fully analyze reasonable alternatives, which the Draft SWEIS fails to do. A "civilian science alternative" must be presented and analyzed 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 National Lab should include but not be limited to: minimizing and preventing infections 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 21st century. The NNSA could hold public meetings specifically to develop these ideas in partnership with the community and non-governmental organizations.

6-A

Submitted by:
Tom Clements
Director, Savannah River Site Watch
1112 Florence Street
Columbia, SC 29201
www.srswatch.org
srswatch@gmail.com

4

Coghlan, Jay (13)
Page 1 of 1

[redacted]

From: Jay Coghlan <jay@nukewatch.org>
Sent: Tuesday, December 6, 2022 5:20 PM
To: LLNLSWEIS
Subject: [EXTERNAL] I respectfully request that you extend the comment period for the draft LLNL SWEIS

I respectfully request that you extend the comment period for the draft LLNL SWEIS by a minimum of two weeks. The main justifications for my request are the voluminous content of the draft SWEIS and that the comment period largely falls within the holiday period. 3-A

Thank you for your consideration.

Sincerely,

Jay Coghlan

--
Jay Coghlan, Executive Director
Nuclear Watch New Mexico
903 W. Alameda #325, Santa Fe, NM 87501
505.989.7342 c. 505.470.3154
jay@nukewatch.org

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Coghlan, Jay (13)
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[redacted]

From: Jay Coghlan <jay@nukewatch.org>
Sent: Sunday, January 22, 2023 12:46 AM
To: LLNLSWEIS
Subject: [EXTERNAL] NWNM LLNL SWEIS comments
Attachments: NWNM LLNL SWEIS comments 1-21-23.pdf

Attached please find Nuclear Watch New Mexico's comments on the draft LLNL SWEIS.

Acknowledgment of receipt is appreciated.

Thank you,

Jay

--
Jay Coghlan, Executive Director
Nuclear Watch New Mexico
903 W. Alameda #325, Santa Fe, NM 87501
505.989.7342 c. 505.470.3154
jay@nukewatch.org

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Coghlan, Jay (13)
Page 2 of 6

nuclear watch new mexico

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

Via email to: LLNLSWEIS@nnsa.doe.gov

Ms. Fana Gebeyehu-Houston,
LLNL SWEIS Document Manager,
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. 4-E 6-A

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 9-A

903 W. Alameda #325, Santa Fe, NM 87501 • Voice and fax: 505.989.7342
info@nukewatch.org • www.nukewatch.org • http://www.nukewatch.org/watchblog/

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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. 9-A

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. 1-B

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. 3-D

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. 4-D, 6-A, 19-A, 6-A

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

Coghlan, Jay (13)
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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. 4-L, 7-A

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. 1-C, 4-J, 4-K, 20-E

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: 2-B, 2-D

- 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.

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- 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. 2-B, 2-D

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. 2-A

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 21st century. The NNSA could hold public meetings specifically to develop these ideas in partnership with the community and non-governmental organizations. 6-A, 6-C

Sincerely,

Jay Coghlan,
Executive Director
Nuclear Watch New Mexico

Coghlan, Jay (13)
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jay@nukewatch.org

Frisch, Jo Ann (15)
Page 1 of 3

[redacted]

From: JoAnn Frisch <joannfrisch@sbcglobal.net>
Sent: Thursday, December 8, 2022 11:36 PM
To: LLNLSWEIS
Cc: marylia@trivalleycares.org
Subject: [EXTERNAL] Request for extension of public comment period on Draft Site-Wide Environmental Impact Statement

Ms. Fana Gebeyehu-Houston

NEPA Document Manager
National Nuclear Security Admin.
1000 Independence Ave.
SW Washington, DC 20085

The following letter from Tri-Valley-Valley CAREs is also submitted in my name. I concur with its contents and implore you to consider the extension of time for public comment on the SWEIS as stated in the letter. I expect a response to my letter as I am unable to attend the public hearings or the Zoom meeting Dec. 13. 3-A

Thank you for your consideration to this important effort to let the public know what is being considered that will impact their lives and future generations. A short time limit for this response from the public during the busy holiday season is a slap in the face of your public community living near the Lab.

Sincerely,
Jo Ann Frisch
925-596-0801
3231 Vineyard Ave #110
Pleasanton, CA 94566

Copy of Tri-Valley-Valley CAREs letter:

December 2, 2022

Ms. Fana Gebeyehu-Houston,
NEPA Document Manager
National Nuclear Security Administration 1000 Independence Ave., SW Washington, DC 20085

Sent by email:

LLNLSWEIS@nnsa.doe.gov

RE: Request for Extension of Public Comment Period on the Draft Site-Wide Environmental Impact Statement for Continued Operation of Lawrence Livermore National Laboratory (DOE/EIS-0547)

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Frisch, Jo Ann (15)
Page 2 of 3

Dear Fana Gebeyehu-Houston:

I write you today on behalf of Tri-Valley CAREs and its 6,000 members to formally request that the Department of Energy and National Nuclear Security Administration extend the public comment period on the Draft Site-Wide Environmental Impact Statement (SWEIS) for Continued Operation of the Lawrence Livermore National Laboratory for 30-days, from its original end date of January 3, 2023 to February 2, 2023.

The current public comment period is insufficient for the following reasons:

1. The Draft SWEIS contains three volumes totaling 1,408 pages that are often dense, highly technical, and extremely difficult to read by an interested layperson. Indeed, Tri-Valley CAREs has heard from some of its members, including some with a scientific background, that they are struggling to get through the document in the allotted time.

2. The Draft SWEIS was released in November, at the beginning of an incredibly busy holiday season that includes but is not limited to Thanksgiving. The public comment period then runs through December, an often even busier holiday and family season – and the month in which every major religion and culture has its most important holidays and, for most, its highest holy days. The current comment period then ends immediately following the New Year holiday. Tri-Valley CAREs has heard from some of its members that they have long-planned travel, vacation time, family obligations and the like that make it difficult (some have said impossible) to review the Draft SWEIS and formulate comments. Additionally, most of Tri-Valley CAREs' staff and board members are in the same boat. I note this to say that even the most motivated and interested members of the public have obligations during this season that preclude the depth of review the

Draft SWEIS deserves. Simply put, the pubic is hamstrung during this season when it comes to producing the depth of comments they wish to provide (and deserve to have the opportunity to provide).

3. The public notice provided by DOE and NNSA has been problematic. For example, the Draft SWEIS was impossible to find on the agencies' main NEPA website (to which search engines guide people and to which most people go). When members of the public told me they could not find the documents, I went to the site myself and was not able to find any mention of the Livermore Lab SWEIS. I used the site link to send this notice on November 14: 3-A

"From: Marylia Kelley <marylia@earthlink.net>
Subject: updating NEPA main page to include LLNL SWEIS Date: November 14, 2022 at 8:36:14 PM PST
To: NEPA@nnsa.doe.gov

I notice that NNSA's main NEPA page still has scoping hearings listed for the LANL SWEIS but has nothing about the LLNL Draft SWEIS release and upcoming in-person hearings. Further, there is no information about the date and time of the virtual hearing. Please update and let me know the actions you have taken. My email and other coordinates are below. — Marylia Kelley..."

I did not receive any response. Today, December 2, I returned to the main NEPA website (for the third time overall). I saw that its front page had been visually updated. However, that "updated" page has significant gaps that make it difficult, at best, for any member of the public to find the Draft SWEIS for Continued Operation of the Lawrence Livermore National Laboratory. For example, the main page has a very prominent map of the United States that has big dots denoting all of the locations at which there are present (open) NEPA processes. The Livermore Lab site is entirely missing from that map! To the right of the map is a click-in to "Latest

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Frisch, Jo Ann (15)
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Documents and Processes". As I looked down that list, I saw NEPA open processes where it stated the site involved. However the words Lawrence Livermore National Laboratory appear *nowhere*. Instead there is a link that only says Draft SWEIS and gives its DOE number, which is meaningless to members of the public who would be searching that webpage for the Livermore Lab SWEIS documents. There are also issues involving the size and visibility of the legal notices in newspapers for the public hearings. In sum, Tri-Valley CAREs has heard from members that our organization, and not the DOE or NNSA, is the only place they are able to find information although they looked for it on the government website, which should not be the case. 3-A

4. The DOE and NNSA have not responded to Tri-Valley CAREs' Freedom of Information Act (FOIA) requests, which include documents and information we want to reference in our Draft SWEIS comment –and as such are relevant to comments we intend to make on the Draft SWEIS. As you may know, Tri-Valley CAREs filed litigation under the Freedom of Information Act outlining eight separate FOIA requests for which we have received zero records even though it is far beyond the statutory time frames, contrary to law. We are hopeful that the DOE and NNSA will provide the requested documents before February 2 (our requested extension date for the public comment period). Without the documents, and the information they contain, we are hamstrung and cannot produce comments based on the information we requested. As a strictly personal, non-legal opinion, Fana, while the agencies should respond immediately, I am not sure they *will* comply significantly before January 3, in part due to the holidays, but am hopeful that we will get the overdue documents in January, and in time to review them in advance of submitting comments on or before February 2. 3-A, 3-C

If you have any questions, or would like further information, please email me at marylia@earthlink.net (preferred) or, alternatively, at marylia@trivalleycares.org.

Thank you for your consideration of our request for a 30-day extension of the public comment period.

Sincerely,
Marylia Kelley
Executive Director
Tri-Valley CAREs (Communities Against a Radioactive Environment)

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Gassman, David F. (16)
Page 1 of 1

[redacted]

From: dfgassman@aol.com
Sent: Monday, December 5, 2022 8:53 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Site Wide EIS for Lawrence Livermore National Laboratory (DOE/EIS 0547) extension

Hello, I join request for a 30-day extension of the public comment period for the *Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory (DOE/EIS-0547).* 3-A

Coming during the holiday season it is simply unfair not to grant a 30-day extension to study a 1408 page highly technical document.

Thank you very much.

David F. Gassman 389 Belmont Street #111 Oakland, CA 94610 Home: 510-835-2334 Email: dfgassman@aol.com

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1

Gassman, David F. (16)
Page 1 of 1

[redacted]

From: dfgassman@aol.com
Sent: Monday, December 12, 2022 6:11 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Comment on the SWEIS for Continued Operation of the Lawrence Livermore National Laboratory.

I demand that the "no action" alternative truly be "no action" and that the 19 new projects under consideration be removed. Genuine alternatives are conversion of the Lab to civilian science and not those that expand nuclear weapons activities. 5-A

It is wrong for the SWEIS to present the public with one alternative that increases nuclear weapons activities under supposed "no action" and a second alternative that expands new weapons activities.

Livermore Lab has been working to modernize its arsenal and push the envelope on weapons capabilities, essentially turning them into new weapon designs. This not only promotes nuclear development worldwide but is fundamentally contradictory of our obligations under the Non-Proliferation Treaty (NPT). 2-A

Please note these comments. Thank you very much.

David F. Gassman 389 Belmont Street #111 Oakland, CA 94610 Home: 510-835-2334 Email: dfgassman@aol.com

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1

Gately, Megan (17)
Page 1 of 4

[redacted]

From: Megan Gately <megan_gately@hotmail.com>
Sent: Monday, January 2, 2023 4:27 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Comments on Site Wide Environmental Impact Statement (SWEIS) for Continued Operation of the Lawrence Livermore National Laboratory

Follow Up Flag: Follow up
Flag Status: Flagged

To whom it may concern:

I am writing to submit comments opposing several key aspects of the Site-Wide Environmental Impact Statement (SWEIS) for Continued Operation of the Lawrence Livermore National Laboratory, specifically, proposals to raise the allowable limits on tritium (radioactive hydrogen) and weapons-grade plutonium at Livermore Lab. I oppose these increases which increase radioactive dangers for workers, the public, and the environment.

Here are specific aspects of the report which I vehemently oppose:

1. The SWEIS proposes an increase in the emissions limit for radioactive tritium from two locations – the main tritium facility in the "Superblock" and the National Ignition Facility (NIF). The larger releases are slated to begin in 2023 (see page S-40). In the context of these planned increases, the SWEIS describes loading tritium reservoirs with up to 1,500 curies of tritium at time. It then states that both the main tritium facility and the NIF could release the entire tritium load directly into the environment without having it go through any tritium "recovery system" (see section 3.3.3). 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 the air we breathe; it will travel with the wind and tumble into our neighborhoods as it goes, fall out over our homes in the rain, and become organically bound in our plants. Tritium exposure is related to numerous bad health outcomes, including deadly cancers. 4-D, 19-A
2. The SWEIS proposes to increase the administrative limit for weapons-grade plutonium in building 235 from its current allowable limit of 8.4 grams or less to a new limit of 38.2 grams (see page S-41). The administrative limit refers to how much weapons-grade plutonium can be in the building at one time. This is an increase of nearly 5x. Plutonium can be deadly in microscopic amounts; it emits extremely high-energy rays (alpha particles) that tear through tissue as the plutonium radioactively disintegrates within the body. 4-E
3. The SWEIS also proposes to revise the administrative limits for "radioactive materials" at the NIF. The radioactive materials used at the NIF include tritium; however, plutonium-242 is also used in NIF experiments. While the description on page S-41 is very sparse, this plan should also be canceled out of potential danger. 4-I
4. The proposed action in the SWEIS includes a new, 60,000 square foot, "Next Generation Life Extension Program Research & Development Fabrication Building." This is for new warhead work, including the fabrication (production) of new-design weapons components in order to test them out (see page S-38 and surrounding pages). This is not only nuclear proliferation provocative and costly, it can also be quite hazardous to human health and the environment. It should not be built. 4-P

1

Gately, Megan (17)
Page 2 of 4

5. The proposed action in the SWEIS includes building a 75,000 square foot "Advanced Hydrotest Facility" at Site 300 (see page S-40). In the mid-1990s, Livermore Lab pushed for a new AHF at Site 300. 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. I oppose this plan. 4-I, 7-A
6. Other new projects at the Lab's Main Site include a new Engineering Shop support facility, a new Nuclear Science Center, a new High Bay, a new "Classified Lab", and more. These are all directly related to new weapons activities, assuming the "Classified Lab" is in that grouping (see Pages S-38 to S-40). 4-H
7. Specific to NIF and related weapons research, the proposed action includes a new "High Energy Density" support facility and a "Future NIF Laser Expansion". At Site 300, additional facilities in the proposed action alternative include a new "Weapons Test Facility," and a new "Accelerator Bay and Support Bunker" expansion, among others. I oppose this huge expansion of new nuclear weapons development activities at the Lab. If this goes forward the way it is outlined in the SWEIS, it will enable a whole generation of new warhead development. I oppose this proposed action. 4-H, 4-I
8. The SWEIS discloses that there will new plutonium activities at Livermore Lab, however the "mission" has been vague and opaque. The production of the 80 or more new pits per year would take place at the Los Alamos Lab in New Mexico and the Savannah River Site in South Carolina. However, the federal budget contains money for new plutonium glove boxes at Livermore Lab that are expressly to support "expanded plutonium pit production". And, a Los Alamos National Lab NEPA document states that LANL will ship plutonium to Livermore for "materials testing" in support of "expanded plutonium pit production." So, we know there is a connection between Livermore Lab's ramp-up of its plutonium activities and infrastructure and expanded pit production. The SWEIS should do a crosswalk that would enable public comments about these proposed new plutonium activities, and include a dedicated section in the SWEIS about Livermore Lab's role. 1-B
9. There is a startling admission in the SWEIS about the dangers of the release of toxic and radioactive materials in a "design basis" earthquake (see pages S-32 and S-33). First, we know that the next Bay Area earthquake may exceed "design basis." The map lists a dozen building with "seismic deficiencies" including building 235, which is the building discussed above in which the SWEIS would increase the administrative limit for weapons-grade plutonium nearly 5x! 20-F
10. The SWEIS describes a new Livermore Lab laser isotope pilot program to enrich uranium on site. Long time Lab workers may recall the fiasco at Livermore Lab called Uranium Atomic Vapor Laser Isotope Separation. The facility cost billions of dollars and never worked. What it did do was release hazardous materials into the environment, some of which ended up in groundwater near the building. It was finally canceled. Son-of-Uranium-Atomic-Vapor-Laser-Isotope-Separation should not be built! 4-B

Further, the the SWEIS is out of compliance with International Law. Some of the programs that need to be analyzed in the SWEIS are:

1. Whether the development of the W80-4 "Long-Range Stand Off" weapon is in compliance with our treaty obligations under the NPT. (This weapon is intended for pilots to be able to "stand off" a target by thousands of miles and launch a precisely guided, radar evading nuclear weapon.) By any measure Livermore's new warhead for this LRSO (Long Range Stand Off capability) is an offensive first-use weapon that is completely out of compliance with our treaty obligations and with our commitment to stockpile stewardship. Livermore Lab is also planning to develop that new warhead (the W80-4) into a version that would be placed on small attack subs that do not now have any nuclear weapons on them. These new nuclear weapons would not be distinguishable from the conventional weapons currently on board these ships. That means that a country under attack might not be certain if the warhead heading 2-A

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toward it was conventional or nuclear – this is one scenario whereby a nuclear war could start by miscalculation.

2. The SWEIS should also analyze whether the development of the W87-1 is in compliance with our treaty obligations under the NPT. The W87-1 is the first wholly new warhead design since the end of the cold war. The W87-1 is slated to sit atop a new intercontinental ballistic missile, called the Sentinel Missile. The Lab is looking into 126 new technologies for this warhead design. This includes a new-design plutonium bomb core, called a "pit," significantly different from anything in the U.S. stockpile. Livermore's W87-1 warhead is a central reason the U.S. is planning to expand plutonium pit production at 2 locations – the Los Alamos Lab in NM and the Savannah River Site in SC. In fact, every plutonium pit that will be produced for at least 12-years will go inside a W87-1 warhead. 2-A

These new warhead designs do not comply with our treaty obligations. The US has an obligation under Article VI of the Nuclear Nonproliferation Treaty 'to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament…'

The International Court of Justice further clarified "There exists an obligation to pursue in good faith and bring to a conclusion, negotiations leading to nuclear disarmament in all its aspects under strict and effective international control." Advisory opinion on the Legality of the Threat or Use of Nuclear Weapons, July 8, 1996.

We are not working in good faith toward nuclear disarmament when we are creating new weapons designs.

Not only is the Lab's work out of compliance with our treaty obligations under the NPT but the Lab's work is making our world more dangerous. Because the US does not take a leadership role in stopping the nuclear arms race, we just fan the flames of nuclear proliferation everywhere. And it is a dangerous time to do so. Internationally the world is on the brink of the use of nuclear weapons. Russia is continually threatening their use. North Korea is parading their new missiles as a show of force. China is revamping their nuclear infrastructure. **Through this SWEIS, Livermore Lab is committing to continue the nuclear arms race indefinitely. How long will the human race survive if we don't take decisive action and play a leadership role in eliminating nuclear weapons collectively?** 2-B, 2-D

To frame this in terms of the Site Wide Environmental Impact Statement, the Lab, under the National Environmental Policy Act has an obligation to study the potentially significant environmental impacts of their actions. **There may be no greater significant environmental impact than nuclear war.** Just living under the threat of nuclear war affects the psychology of our nation and the world.

I also request that you extend the public comment period by 30 days. It is unfair and in bad faith to schedule a public comment period during the Christmas holiday season. The public deserves better. **We call upon the Department of Energy to act in good faith and change its pattern and practice of holding comment periods during the holiday breaks.** 3-A

Thank you.

Megan Gately
23 Shirley Avenue
Millbury, MA 01527

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This message does not originate from a known Department of Energy email system.

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SF Bay Physicians for Social Responsibility

COMMENT LETTER- Livermore Lab Draft Site-Wide Environmental Impact Statement

Date: January 18, 2023

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

Dear Ms. Fana Gebeyehu-Houston:

I am Dr. Robert M. Gould. After working as a Pathologist at San Jose Kaiser for over 30 years, since 2012, I've been an Associate Adjunct Professor at UCSF School of Medicine, serving as a Collaborator in our Program on Reproductive Health and the Environment (UCSF-PRHE). I also currently serve as North American Vice-President of the International Physicians for the Prevention of Nuclear War (IPPNW), which received Nobel Peace Prize in 1985 in recognition of our "considerable service to mankind by spreading authoritative information and by creating an awareness of the catastrophic consequences of atomic warfare." Since 1989 I've also been President of San Francisco Bay Physicians for Social Responsibility (SF Bay PSR), for which I'm submitting this testimony today, representing many hundreds of health professionals throughout our region, who are committed to PSR and IPPNW's steadfast work to move speedily and expeditiously to eliminate nuclear arsenals and their use.

The pathway to achieving this goal, consistent with our own government's pledge to abide by Article VI of the Nuclear-Non-Proliferation Treaty of 1968, has now been illuminated by the passage in 2021 of the UN Treaty on the Prohibition of Nuclear Weapons (TPNW). The TPNW is now supported by the overwhelming majority of the nations of the world, who, with all humans, are held hostage by the refusal of the U.S. and all other nuclear weapons states to support the abolition of nuclear weapons. Rather, the U.S. and other nuclear powers continue to justify and fund, expand and modernize, nuclear weapons programs at our collective existential risk.

Because of this, at the onset I want to register our strong protest of the limited terms of debate imposed by the DOE/LLNL/SWEIS process which rule-out in advance questioning pursuing this supremely deadly business at all, confining us to choosing between different options, all which would put us and all life at great peril, some proposals worse than others. All options, beyond those embedded programs of positive scientific value, that often amount to offering the public green-washing of weapons work, ultimately divert vast amounts of money and resources that should be better spent directly to address pressing human and planetary needs. DOE/LLNL's immense scientific and technical expertise, and resources should be completely re-directed toward quickly addressing our climate crisis, and cleaning up and removing from public

6-A

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contamination and danger all the current and accumulated, and potential future hazards associated with creating the weapons of global annihilation.

So, our primary comment is to protest the structural and time constraints that DOE has imposed on public input, and its pre-emptive curtailment of a full scientific and human health critique of the true consequences of the environmental, social, health, and justice costs of Livermore Laboratory's deadly nuclear weapons activities. 3-A, 6-A

Below are additional comments on behalf of SF Bay PSR focused on the "officially sanctioned" options, regarding the National Nuclear Security Administration's (NNSA) Draft Site-Wide Environmental Impact Statement (SWEIS) for the continued operation of the Lawrence Livermore National Laboratory (Livermore Lab) Main Site in Livermore, CA and Site 300 high explosives testing range near Tracy, CA. Note that our comments are **aligned with and supportive of testimony of partners similarly committed to abolishing nuclear weapons, and protecting our health and environment.**

1. **Plutonium Increase Opposed**. According to the 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 5x.** Plutonium can be deadly in microscopic amounts; it emits extremely high-energy rays (alpha particles) that tear through tissue as the plutonium radioactively disintegrates 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. 4-E, 6-A

2. **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 require 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 1-B, 2-B

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plutonium operations proposed for Livermore Lab are related to NNSA's expanded plutonium pit production plan. Further, these operations should be canceled. 1-B, 2-B

3. **Tritium Emissions Increase Opposed**. The site-wide **air emission of tritium** (radioactive 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 the air we breathe; it will travel with the wind and tumble into our neighborhoods as it goes, fall out over our homes in the rain, and become organically bound in our plants. 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. 4-D, 6-A, 19-A

4. **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. 4-L, 7-A

5. **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 bio-agents, (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 Livermore Lab creates at least the optics, if not the potential, that bio-weapons may be created. Further, 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 1-C, 4-J, 4-K, 20-E

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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. 20-E

The SWEIS should further analyze the potential for this lab to stimulate the proliferation of biological weapons research in the U.S. and other countries. As such, we call for complete transparency regarding potential provocative and dangerous work evinced by "gain of function" experiments that can increase transmissibility and infectivity of organisms that can pose dangers to national and global populations. The proposed expansion of bio-warfare agent research with experiments on animals should also be canceled, to prevent potential spread of pathogens throughout our densely populated region. 1-C

6. **Reduce or Cancel New Warhead Development Programs.** Livermore Lab is one of two locations 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. Livermore Lab is developing several new warheads and variants. Reasonably, the designs could be down-scoped to eliminate novel features or canceled altogether. They include: 2-B, 2-D

- The **W87-1**, a wholly new warhead currently being designed at Livermore Lab to sit atop a new ICBM that the Pentagon is developing, called the Sentinel missile. The W87-1 will require new plutonium bomb cores (pits) and is a major driver for NNSA's plan to expand plutonium pit production.
- The **W80-4**, a new warhead being designed at Livermore Lab for the new Long Range Stand-Off Weapon. This warhead will sit atop a new air-launched cruise missile.
- The **W80-4Modification**, a special variant of the new W80-4, designed for a new Sea-Launched Cruise Missile to will be placed on ships that do not currently carry any nuclear weapons and are not certified for that mission.

7. **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 rapidly moves toward canceling work on developing new and modified nuclear bomb designs. Under NEPA, 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 6-A

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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 infections disease pandemics, researching climate change prevention, mitigation 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 21st century. The NNSA should hold public meetings specifically to develop these ideas in partnership with the community and non-governmental organizations. 6-A, 6-C

Sincerely,

Robert M. Gould, MD

President, San Francisco Bay Physicians for Social Responsibility

Email: rmgould1@yahoo.com

Postal Address: 311 Douglass Street, San Francisco, CA 94114

Kelley, Marylia (22)
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[redacted]

From: Marylia Kelley <marylia@earthlink.net>
Sent: Friday, December 2, 2022 7:18 PM
To: LLNLSWEIS
Cc: Scott Yundt
Subject: [EXTERNAL] TVC request for Extension of Public comment period (LLNL Draft SWEIS)
Attachments: TVC LTR req for SWEIS extend public comment period.pdf

Hi, Fana, I hope you are well. Attached in pdf is Tri-Valley CAREs' letter requesting a 30-day extension of the public comment period for the Draft SWEIS for Continued Operation of LLNL, with an outline of key reasons for the request. Either Scott Yundt or I are available to answer any questions you might have. I look forward to the agency's (positive) response. Thank you for your consideration of our request. It's much appreciated. Best, Marylia

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****

Marylia Kelley
Executive Director, Tri-Valley CAREs (Communities Against a Radioactive Environment)
Main office: 4049 First St., Suite 243, Livermore, CA 94551 (all calls and mail are answered; office is not staffed during pandemic)
Satellite office at WorkVine209: 1005 E. Pescadero Ave Suite 167, Tracy (office hours vary; not open during pandemic)

Website: www.trivalleycares.org
Email: marylia@earthlink.net
Alt. email: marylia@trivalleycares.org
Office: 925.443.7148
Cell: 925.255.3589
Twitter: @Marylia_Kelley
Pronouns: she/her/hers

Promoting environmental cleanup and stopping nuclear weapons where they start… Livermore Lab

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Tri-Valley CAREs

Communities Against a Radioactive Environment

4049 First St., Suite 243, Livermore, CA 94551 • (925) 443-7148 • www.trivalleycares.o

Peace Justice Environment since 1983

December 2, 2022

Ms. Fana Gebeyehu-Houston,
NEPA Document Manager
National Nuclear Security Administration
1000 Independence Ave., SW
Washington, DC 20085

Sent by email:
LLNLSWEIS@nnsa.doe.gov

RE: Request for Extension of Public Comment Period on the Draft Site-Wide Environmental Impact Statement for Continued Operation of Lawrence Livermore National Laboratory (DOE/EIS-0547)

Dear Fana Gebeyehu-Houston:

I write you today on behalf of Tri-Valley CAREs and its 6,000 members to formally request that the Department of Energy and National Nuclear Security Administration extend the public comment period on the Draft Site-Wide Environmental Impact Statement (SWEIS) for Continued Operation of the Lawrence Livermore National Laboratory for 30-days, from its original end date of January 3, 2023 to February 2, 2023.

The current public comment period is insufficient for the following reasons:

1. The Draft SWEIS contains three volumes totaling 1,408 pages that are often dense, highly technical, and extremely difficult to read by an interested layperson. Indeed, Tri-Valley CAREs has heard from some of its members, including some with a scientific background, that they are struggling to get through the document in the allotted time. 3-A

2. The Draft SWEIS was released in November, at the beginning of an incredibly busy holiday season that includes but is not limited to Thanksgiving. The public comment period then runs through December, an often even busier holiday and family season – and the month in which every major religion and culture has its most important holidays and, for most, its highest holy days. The current comment period then ends immediately following the New Year holiday. Tri-Valley CAREs has heard from some of its members that they have long-planned travel, vacation time, family obligations and the like that make it difficult (some have said impossible) to review the Draft SWEIS and formulate comments. Additionally, most of Tri-Valley CAREs' staff and board members are in the same boat. I note this to say that even the most motivated and interested members of the public have obligations during this season that preclude the depth of review the

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Draft SWEIS deserves. Simply put, the pubic is hamstrung during this season when it comes to producing the depth of comments they wish to provide (and deserve to have the opportunity to provide).

3. The public notice provided by DOE and NNSA has been problematic. For example, the Draft SWEIS was impossible to find on the agencies' main NEPA website (to which search engines guide people and to which most people go). When members of the public told me they could not find the documents, I went to the site myself and was not able to find any mention of the Livermore Lab SWEIS. I used the site link to send this notice on November 14:

> "From: Marylia Kelley <marylia@earthlink.net>
> Subject: updating NEPA main page to include LLNL SWEIS
> Date: November 14, 2022 at 8:36:14 PM PST
> To: NEPA@nnsa.doe.gov
>
> I notice that NNSA's main NEPA page still has scoping hearings listed for the LANL SWEIS but has nothing about the LLNL Draft SWEIS release and upcoming in-person hearings. Further, there is no information about the date and time of the virtual hearing. Please update and let me know the actions you have taken. My email and other coordinates are below. — Marylia Kelley…"

3-A

I did not receive any response. Today, December 2, I returned to the main NEPA website (for the third time overall). I saw that its front page had been visually updated. However, that "updated" page has significant gaps that make it difficult, at best, for any member of the public to find the Draft SWEIS for Continued Operation of the Lawrence Livermore National Laboratory. For example, the main page has a very prominent map of the United States that has big dots denoting all of the locations at which there are present (open) NEPA processes. The Livermore Lab site is entirely missing from that map! To the right of the map is a click-in to "Latest Documents and Processes". As I looked down that list, I saw NEPA open processes where it stated the site involved. However the words Lawrence Livermore National Laboratory appear *nowhere*. Instead there is a link that only says Draft SWEIS and gives its DOE number, which is meaningless to members of the public who would be searching that webpage for the Livermore Lab SWEIS documents. There are also issues involving the size and visibility of the legal notices in newspapers for the public hearings. In sum, Tri-Valley CAREs has heard from members that our organization, and not the DOE or NNSA, is the only place they are able to find information although they looked for it on the government website, which should not be the case.

4. The DOE and NNSA have not responded to Tri-Valley CAREs' Freedom of Information Act (FOIA) requests, which include documents and information we want to reference in our Draft SWEIS comment –and as such are relevant to comments we intend to make on the Draft SWEIS. As you may know, Tri-Valley CAREs filed litigation under the Freedom of Information Act outlining eight separate FOIA requests for which we have received zero records even though it is far beyond the statutory time frames, contrary to law. We are hopeful that the DOE and NNSA will provide the requested documents before February 2 (our requested extension date for the public comment period). Without the documents, and the information they contain, we are hamstrung and cannot produce comments based on the information we requested. As a strictly personal, non-legal opinion, Fana, while the agencies should respond immediately, I am not sure they *will* comply significantly before January 3, in part due to the holidays, but am hopeful that we will get the overdue documents in January, and in time to review them in advance of submitting comments on or before February 2.

3-A, 3-C

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If you have any questions, or would like further information, please email me at marylia@earthlink.net (preferred) or, alternatively, at marylia@trivalleycares.org.

Thank you for your consideration of our request for a 30-day extension of the public comment period.

Sincerely,
Marylia Kelley
Executive Director
Tri-Valley CAREs (Communities Against a Radioactive Environment)

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[redacted]

From: Kathy Labriola <anarchofeminist@yahoo.com>
Sent: Monday, January 16, 2023 11:13 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Comments on Draft Site Wide Environmental Impact Statement (SWEIS)

January 16, 2023

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

Dear Ms. Fana Gebeyehu-Houston:

These are my comments 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 (Livermore Lab) Main Site in Livermore, CA and Site 300 high explosives testing range near Tracy, CA.

According to the 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 5x.** Plutonium can be deadly in microscopic amounts; it emits extremely high-energy rays (alpha particles) that tear through tissue as the plutonium radioactively disintegrates 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. 4-E, 6-A

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 60 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. Further, these operations should be canceled 1-B

The site-wide **air emission of tritium** (radioactive 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 4-D

1

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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 the air we breathe; it will travel with the wind and tumble into our neighborhoods as it goes, fall out over our homes in the rain, and become organically bound in our plants. 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.

4-D, 6-A, 19-A

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 bio-agents, (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 Livermore Lab creates the optics bio-weapons may be created. Further, 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.

1-C, 4-J, 4-K, 20-E

Please cancel all new warhead development!! Livermore Lab is one of two locations 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. Livermore Lab is developing several new warheads and variants. Reasonably, the designs could be down-scoped to eliminate novel features or canceled altogether.
They include the **W87-1**, the **W80-4**,and the **W80-4Modification**s.

2-B, 2-D

Sincerely,

Kathy Labriola
1714 Ninth Street
Berkeley, CA 94710

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Luce, Tom (24)
Page 1 of 1

[redacted]

From: Tom Luce <tomfluce@gmail.com>
Sent: Monday, December 5, 2022 11:35 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Tri Valley Cares letter

RE: Request for Extension of Public Comment Period on the Draft Site-Wide Environmental Impact Statement for Continued Operation of Lawrence Livermore National Laboratory (DOE/EIS-0547) 3-A

I wholeheartedly support this request from TriValleyCares!
Thank you for your attention.
Tom Luce 1515 Fairview St, Berkeley, CA 94703

--
Tom Luce
1515 Fairview St. Apt. C
Berkeley, Ca 94703-2317
510-575-6326
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Lynch, Laura (25)
Page 1 of 1

[redacted]

From: Laura Lynch <artistlauralynch@yahoo.com>
Sent: Tuesday, December 6, 2022 11:07 AM
To: LLNLSWEIS
Subject: [EXTERNAL] REQUEST: Extension of Public Commen the Draft SWEIS for Continued Operation of Lawrence Livermore National Laboratory (DOE/EIS-0547)

RE: Request for Extension of Public Comment Period on the Draft Site-Wide Environmental Impact Statement for Continued Operation of Lawrence Livermore National Laboratory (DOE/EIS-0547) Dear Fana Gebeyehu-Houston:

I am writing to you today as a longtime environmental and safety advocate and to formally request that the U.S. Department of Energy and National Nuclear Security Administration extend the public comment period on the Draft Site-Wide Environmental Impact Statement (SWEIS) for Continued Operation of the Lawrence Livermore National Laboratory for 30-days, from its original end date of January 3, 2023 to February 2, 2023. 3-A

Thank you for your thoughtful consideration of my request.

Laura Lynch
artistlauralynch@yahoo.com
908 W. Islay
Santa Barbara, CA 93101
805.687.7435

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Miles, Loulena (27)
Page 1 of 1

[redacted]

From: L Miles <loulena@gmail.com>
Sent: Friday, December 9, 2022 1:23 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Requesting Extension of the Public Comment Period and Additional Virtual Hearing for LLNL SWEIS

Hello Ms. Fana Gebeyehu- Houston:

Happy Holidays:

I would like to formally submit my request that the DOE extend the public comment period for at least 30 days. The SWEIS document is very very large and complicated and it isn't fair or humane or even legal under NEPA (NEPA is after all about promoting public participation) to only give us the holiday period to review it. I also request that you hold an additional virtual hearing after the New Year. 3-A

Thank you for your consideration!

Loulena Miles

****

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1

Moore, Karen (28)
Page 1 of 2

[redacted]

From: Karen Moore <karen@tracyearthproject.com>
Sent: Friday, December 9, 2022 10:15 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Comment Letter of LLNL SWEIS

Karen Moore
Member of Tracy Earth Project
1025 Mabel Josephine Court
Tracy, CA 95377
(510)377-4179
Karen@tracyearthproject.com

December 9, 2022

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

Via: Email

Dear Ms. Gebeyehu-Houston

I am writing this comment letter on the Draft SWEIS, at the meeting on December 8th in Tracy, California where the citizens heard that the new 15 year forecast SWEIS plan increases the facility's square feet of building and increases Vehicle Miles Traveled (VMT) due to more waste hauling and more employees. We ask that you submit a Etrips plan to San Joaquin County Air Resources Board in an effort to mitigate your contributions to GreenHouse Gases. https://ww2.valleyair.org/compliance/rule-9410-employer-based-trip-reduction/what-is-an-etrip-plan/ 22-A

In your SWEIS plan we see the facility expanding and Tracy itself is expanding with new homes being built 1.3 miles from site 300. According to the San Joaquin Council of Government Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), in Chapter 6 of the plan "The city of Tracy has been characterized by some as "Silicon Valley East." Many Tracy residents commute via Interstates 205 and 580 and Altamont Corridor Express trains to white-collar jobs in the San Francisco Bay Area. Overall, Tracy's employment grew by 10 percent compared to Manteca at 5.7 percent and Ripon at 5.6 percent. Tracy alone has accounted for most of the large commercial and industrial permits to accommodate this growth." 6-A, 15-A

California Department of Finance released a report in 2021 showing the city of Tracy as being one of the fastest growing cities in California. It is due to this growth that we feel quite strongly that the Lawrence Livermore Site 300 should not expand its operations and we feel that relocating the operations to another facility that isn't located by area experiencing our city's significant growth would be a better solution. You plan does the opposite of that:

1

Moore, Karen (28)
Page 2 of 2

"Approximately 75 new projects, totaling approximately 3.3 million square feet, are proposed over the period 2023–2035. Of this, 61 projects, totaling approximately 2.9 million square feet, are proposed at the Livermore Site; 14 projects, totaling approximately 385,000 square feet, are proposed at Site 300. In addition, NNSA proposes 20 types of modernization/upgrade/utility projects each involving several facilities. Under the Proposed Action, NNSA would also DD&D about 150 facilities, totaling approximately 1,170,000 square feet. NNSA is proposing operational changes that would increase the tritium emissions limits in the National Ignition Facility (Building 581) and the Tritium Facility (Building 331)."

And finally, with new buildings being constructed there is a movement of dirt and the dirt becomes airborne, any airborne dirt during the construction process should be reduced under a Valley Fever Management Plan (VFMP) to establish guidelines for educating and training personnel on the management of Valley Fever during construction. Provide construction and operations personnel training to understand and manage the risks associated with Valley Fever. Training includes information on how to recognize symptoms of Valley Fever and ways to minimize exposure; proper cleaning procedures to minimize accidental exposure; and demonstrations on how to use personal protective equipment, such as respiratory protection, skin and eye protection. 19-H

Sincerely,

Karen Moore

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Moore, Patricia (29)
Page 1 of 2

[redacted]

From: Tricia Moore <tmyoga@comcast.net>
Sent: Monday, December 5, 2022 11:43 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Requesting an Extension for the LLNL SWEIS

Ms. Fana Gebeyehu- Houston

LLNL SWEIS Document Manager

1000 Independence Ave., SW, Washington, DC 20585

The *Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory (DOE/EIS-0547)* is extremely important – it will determine the limits for the environmental impacts the Lab will be allowed to generate for the next 15-years.

Therefore, this is a once in a generation opportunity for the local community to look into the Livermore Lab's planned programs and comment on their potential health and environmental effects. In the past, public comments have led to cancellation of some of the Lab's most dangerous schemes.

I am a member and volunteer at Tri-Valley CARES and I ask that you strongly consider their letter, which requests a **30-day extension and the several valid reasons which justify such an extension.** 3-A

I am a local resident who is concerned about the Lab's toxic legacy and do not want to see further environmental damage or wasted tax dollars on unnecessary programs.

Sincerely,

Patricia Moore

23 Diamond Drive

Livermore, CA 94550

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1

Oldfather, Jonathan (30)
Page 1 of 4

[redacted]

From: jon oldfather <jon.oldfather@gmail.com>
Sent: Monday, January 23, 2023 7:29 PM
To: LLNLSWEIS
Subject: [EXTERNAL] My comments on the LLNL SWEIS

Postal mail: Ms. Fana Gebeyehu-Houston,
LLNL SWEIS Document Manager,
1000 Independence Ave., SW, Washington, DC 20585

Dear Ms. Fana Gebeyehu-Houston:

Postal mail: Ms. Fana Gebeyehu-Houston,
LLNL SWEIS Document Manager,
1000 Independence Ave., SW, Washington, DC 20585

These are my comments 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 (Livermore Lab) Main Site in Livermore, CA and Site 300 high explosives testing range near Tracy, CA.

Beyond these excellently researched and very valid bullet points below, which deserve very careful consideration in this EIS, the ratification of the TPPNW and the existence of the NPT confirm that nuclear weapons are soon to become illegal, much like chemical weapons, biological weapons, and cluster munitions. To have a national engineering lab performing research on illegal weapons is at least of serious concern and at most a corrupt crime against humanity. It is an environmental cost beyond limit. All research and development at the lab for nuclear weapons must cease and instead research that meets human needs should be pursued. Opportunity costs of resources used for nuclear weapon research that could go toward beneficial, life-affirming research must be considered. 2-A, 6-C

1. **Plutonium Increase Opposed**. According to the 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 5x.** Plutonium can be deadly in microscopic amounts; it emits extremely high-energy rays (alpha particles) that tear through tissue as the plutonium 4-E

Oldfather, Jonathan (30)
Page 2 of 4

radioactively disintegrates 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. 4-E, 6-A

2. **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. Further, these operations should be canceled. 1-B, 2-B

3. **Tritium Emissions Increase Opposed**. The site-wide **air emission of tritium** (radioactive 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 the air we breathe; it will travel with the wind and tumble into our neighborhoods as it goes, fall out over our homes in the rain, and become organically bound in our plants. 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. 4-D, 6-A, 19-A

4. **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. 4-L, 7-A

5. **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 bio-agents, (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 Livermore Lab creates the optics bio-weapons may be created. Further, 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 1-C, 4-J, 4-K, 20-E

2

Oldfather, Jonathan (30)
Page 3 of 4

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. 1-C, 4-J, 4-K, 20-E

6. **Reduce or Cancel New Warhead Development Programs.** Livermore Lab is one of two locations 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. Livermore Lab is developing several new warheads and variants. Reasonably, the designs could be down-scoped to eliminate novel features or canceled altogether. They include: 2-B, 2-D

- The **W87-1**, a wholly new warhead currently being designed at Livermore Lab to sit atop a new ICBM that the Pentagon is developing, called the Sentinel missile. The W87-1 will require new plutonium bomb cores (pits) and is a major driver for NNSA's plan to expand plutonium pit production.
- The **W80-4**, a new warhead being designed at Livermore Lab for the new Long Range Stand-Off Weapon. This warhead will sit atop a new air-launched cruise missile.
- The **W80-4Modification**, a special variant of the new W80-4, designed for a new Sea-Launched Cruise Missile to will be placed on ships that do not currently carry any nuclear weapons and are not certified for that mission.

7. **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, 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 infections 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 21st century. The NNSA could hold pubic meetings specifically to develop these ideas in partnership with the community and non-governmental organizations. 6-A, 6-C

Sincerely,
Name: Jonathan Oldfather

3

Oldfather, Jonathan (30)
Page 4 of 4

158 Pine st, San Anselmo, CA 94960
Email (preferred for communications): jon.oldfather@gmail.com

Olson, Inga (31)
Page 1 of 1

December 10, 2022

Ms. Fana Gebeyehu-Houston,
NEPA Document Manager
National Nuclear Security Administration 1000 Independence Ave., SW
Washington, DC 20085

Dear Ms. Gebeyehu-Houston,

I knew and helped many friends who were sick due to workplace exposures at Livermore Lab and their family members. This makes me keenly aware of some of the potential environmental and health impacts of working at a laboratory that widely uses radioactive and toxic materials.

I have begun reviewing the SWEIS but have a long ways to go. I am not a scientist or technical person by training so it takes me longer to grasp everything in the sections that I most want to review and understand in the SWEIS.

I very much want to provide meaningful comments because I know that this document is an opportunity to understand more about the Lab's planned work over the next 15 years. It is critical that perspectives from people like me are examined and utilized in planning what work will be conducted and how over the next 15 years.

Unfortunately, between the Thanksgiving holiday and New Year's Eve—as well as the year end roll up of responsibilities, it is an extremely busy time to take on this significant task of reviewing and commenting on the SWEIS. For this reason, I request a 30 day extension for public comments and I also request an additional virtual and in-person/hybrid public comment meeting at the end of this extended time period. At that time, I will be prepared to present my findings and suggestions fully and competently. 3-A

Thank you for your consideration of this serious matter.

Sincerely,

Inga Olson

Plascencia, Laura (33)
Page 1 of 1

[redacted]

From: Laura Plascencia <lplascencia902@gmail.com>
Sent: Tuesday, December 6, 2022 7:39 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Livermore Lab Review Comment period extension request

Hello,

I would like to request a 30-day extension of the public comment period to February 2nd, 2023. The holiday season at the end of November- beginning of January is a very busy time for the public during the holidays and given the length of the SWEIS, it is important to take this into consideration and provide more time for the public to be able to input their comments. Not extending the time truly limits the public comment, making it almost useless if not enough input from the public was obtained. For actual integration and care for the public's comment, the 30-day extension will be given. 3-A

I also agree with the other reasons Tri-Valley CARES's Letter explained and I wish for the extension to be provided.

Making decisions for the next 15 years can have lots of impact on these environments, therefore it is important to not rush and do things accordingly and effectively, having true intent to listen to the community and take concerns into consideration.

Thank you!
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Reade, Deborah (34)

Page 1 of 1

[redacted]

From: Deborah Reade <reade@nets.com>
Sent: Sunday, December 11, 2022 11:08 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Request for Extension of Time to Comment on the SWEIS for Continued Operation of LLNL (DOE/EIS-0547)

I am requesting a 30-day Extension of the Comment Period for the Site-Wide Environmental Impact Statement for the Continued Operation of Lawrence Livermore National Laboratory (DOE/EIS-0547).

This is mostly because you've released this during the holiday period and the entire comment period is during the holidays. This is an extremely busy time for me because of family obligations, travel, and an increased work schedule. To have the comment period during this time makes it seem as if you really don't want to hear from the public and want to make it as difficult as possible for us to make our comments. 3-A

Also, it is impossible with this kind of scheduling for me to inform myself adequately about a draft SEIS that is more than 1000 pages long and includes highly technical information. Without *at least* a 30-day extension, I won't be able to understand and comment meaningfully on LLNL's continued operation.

Finally, it is my understanding that Tri-Vally CAREs has filed 8 FOIAs with you that you seem to be refusing to answer. This is not transparency at work and makes me wonder what you have to hide. You must immediately provide the answers to these FOIAs and then you must extend the comment period an additional 30 days from when the FOIAs were answered. The public needs to understand the answers to these FOIAs and in time to apply that information to the huge SWEIS in order to be able to prticipate in a meaningful way. 3-A, 3-C

Sincerely,
Deborah Reade

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117 Duran Street
Santa Fe NM 87501-1817
Phone 505-986-9284
reade@nets.com

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Richard, Pamela (35)
Page 1 of 3

[redacted]

From: Pamela Richard <pamrichard35@gmail.com>
Sent: Tuesday, January 10, 2023 1:36 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Public comment on the LLNL SWEIS

Comments on the Draft Site-Wide Environmental Impact Statement for Lawrence Livermore National Laboratory

This is in regards to the fact sheet hand-out at the in-person public meetings.

To begin with, I question whether the alternatives presented are "reasonable", considering they only present 2 plans that focus almost entirely on nuclear weapons research and development. We need less, not more, nuclear weapons that could cause the end of most life on Earth. A more reasonable plan would include much more funding and work on the problem of the need for renewable, environmentally friendly energy and ways to solve the climate crisis. 6-D

1. Land Use- In the "preferred" Proposed Action there would be 85 acres disturbed. That is a large area of land that is contaminated from legacy radioactive and hazardous material use. What stringent mitigation measures could deal with so much disturbance of the soils? Won't this create more danger to workers and residents? Would the projects at the main site and Site 300 cause more radioactive and toxic pollution of air and water? 21-A

2. Aesthetics and Scenic Resources- no comment

3. Geology and soils- Ongoing remediation is very important, but if the waste streams and the chances of possible releases increase, how will this mark an improvement? Aren't there still toxic plumes coming from the Lab and Site 300? Is it wise to risk more toxic or radioactive plumes? 21-A

4. Water Resources- Again, remediation is vital, however, what about planned releases of radioactive tritium and possible accidental releases of tritium? Tritium can bind with water in the air and pollute the surrounding area. How can this not have an adverse impact? 10-B

5. Air Quality- If the planned operational emissions and the construction emissions don't violate any air quality standard, and the lab is having a very large expansion, how will this not affect the air quality of the region? The Lab has never fully addressed citizen complaints about Site 300 air pollution- will they do so in the future by limiting testing at Site 300 to a confined containment facility? 11-A, 11-B

6. Noise-No comment on construction noise. Most of the noise complaints are concerning open air blasts at Site 300. The Lab has never fully addressed citizen complaints- will they do so in the future by limiting testing at Site 300 to a confined containment facility? 12-A

1

Richard, Pamela (35)
Page 2 of 3

7. Biological Resources- There is a possibility that at Site 300 one or more of the listed endangered or threatened "species" will wander into a blast area. Also, the contamination could affect water resources in the area. 10-B, 13-B

8. Cultural Resources- no comment

9. Socioeconomic Characteristics- Why can't the increase in workers be for civilian research, instead for more nuclear weapons? Why can't we work for a better future for our children, instead of the possible destruction of the planet? 6-A

10. Environmental Justice- Since the workforce receiving these highly paid technical positions is mostly white, with few Latinx, African American or Native Americans , there is definitely environmental injustice. They have to bear the cost in tax dollars, work in lower paid positions and bear the risks of radioactive pollution if there is a major accident at the Lab. Aren't there many Spanish speaking people in this area? Has the SWEIS been translated into Spanish? 15-B

11. Non-Radiological Traffic and Transportation- no comment

12.Radiological Traffic and Transportation- What does the statement mean about no high and adverse impacts in the transportation of radiological materials, as impacts would be less than one latent cancer fatality to the public? Would about one person always die in the transport of the radioactive material? If there is an exposure of 24.7 rems to the public during transportation, and the transporter passes by many communities, what are the actual numbers of projected cancer cases? . How many deaths per 100,000 people is the cancer risk? What would be the method of transport and how are drivers protected? Would it go through highly populated areas and Native American reservations? Would people driving by be at risk? What are the quantities of radioactive and toxic waste that will be on our roadways if there are more total shipments? Are there security risks in transporting plutonium between Los Alamos Lab and Livermore Lab? 16-A, 16-C

13. Infrastructure- If water and electricity use are both increasing, won't this demand put a strain on already depleted California water resources and cause more pollution from electricity use? Exactly how much water is 0.3% of Hetch Hetchy water supply- not just water supply capacity- in gallons? How much less than 1% of California electricity supply will be required? What if there is a power blackout? 17-D

14- Waste Management- What is the number of non-routine low-level waste shipments projected? Aren't there risks in this transport? Again, please make clearer the cancer risks. How many deaths per 100,000 people is the cancer risk? 18-A, 19-A

15. Human Health- Wouldn't it be safer to workers and the public if the preferred alternative was not nuclear weapons development, but instead research in solar power, wind power, wave power and non-radioactive R & D? There are regulatory limits, however no dose of radiation is completely safe, how can you compensate if someone's child or loved one contracts cancer? Will any independent studies be funded to determine the health effects of the increased nuclear weapons activities? 6-A, 19-A

2

Richard, Pamela (35)
Page 3 of 3

16. Accidents and Intentional Destructive Acts- Even if accident risks are low, the possibility of an accident remains. Nearly 8 million people live within 50-mile of the nuclear weapons facility, many of whom would be affected by a major accident or a destructive act at the Lab. If there is a maximum risk of 3.1 latent cancer fatalities in the event of such an accident, could that mean that 10,000's of people could die? 20-A

I'm very worried for my family and friends in this area, please respond to my concerns.

Pamela Richard Tri-Valley CAREs Board Member

5422 W Wells St

Milwaukee, WI 53208

pamrichard35@gmail.com

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Rieger, Gail (36)
Page 1 of 1

[redacted]

From: gail rieger <grieger2003@yahoo.com>
Sent: Tuesday, November 22, 2022 4:52 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Please extend the comment period for 30 days

I am requesting that your agency extend the comment period for the SWEIS for Lawrence Livermore Lab and Site 300 from January 3, 2023 to February, 2023.

It is laughable that your agency proposes comments during the busiest holiday season for families. It's seems that this is done purposely so that you won't receive many comments from the public. That's shameful! 3-A

Please extend the deadline another 30 days.

Gail Rieger
1028 Atherton Dr.
Tracy, CA 95304
Grieger2003@yahoo.com

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Ross, Andy (37)
Page 1 of 4

[redacted]

From: Andy Ross <aaross@LivermoreCA.gov>
Sent: Friday, December 30, 2022 7:14 PM
To: LLNLSWEIS
Cc: Steve Stewart; Paul Spence; Wilson, Scott F
Subject: [EXTERNAL] Livermore Comments on Draft Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory
Attachments: LLNL SWEIS COL comment letter 12_27.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Ms. Fana Gebeyehu-Houston:

The City of Livermore appreciates the opportunity to comment on the Draft Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory. Attached please find a comment letter on behalf of the City of Livermore. If you have any questions, please feel free to contact me.

Thank you,

Andy

Andy Ross
Senior Planner
Community Development Department
City of Livermore
(925) 960-4475
www.cityoflivermore.net

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Ross, Andy (37)
Page 2 of 4

LIVERMORE
CALIFORNIA

December 27, 2022

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

Re: City of Livermore Comments on *Draft Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory* (LLNL SWEIS) (DOE/EIS-0547)

Dear Ms. Fana Gebeyehu-Houston:

The City of Livermore appreciates the opportunity to comment on the Draft Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory (LLNL SWEIS). Based on our review of the SWEIS, it is the City's understanding that 61 projects, totaling approximately 2.9 million square feet, are proposed over the period 2023–2035 at the Livermore Site as part of continued operations. The City further, understands that these projects will be primarily limited to on-campus improvements. However, some of the proposed projects could impact the city directly or indirectly. Therefore, the City requests continued coordination with specific projects. This letter represents the City of Livermore's response to the proposed actions, information pertaining to ongoing city planning efforts and relevant Livermore goals and policies, and Livermore's specific comments and recommendations, as described below.

Lawrence Livermore National Laboratory Livermore Site Context

The Lawrence Livermore National Laboratory (LLNL) campus is located within the Livermore city limits. The LLNL site is serviced by some municipal services and infrastructure systems and is accessed via City streets. LLNL and its employees are a valued part of the Livermore community. Furthermore, the City and LLNL organizations have long standing history of collaboration and partnership.

Livermore General Plan Update

The City is currently updating the Livermore General Plan. The General Plan is the City's long-range policy document for growth, land use, sustainability and resource and open space conservation. The planning period for the Livermore General Plan Update is 2020-2045, which overlaps with the LLNL operational period. A comprehensive General Plan update is required due to the age of the current document and data that supports it

Ross, Andy (37)
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(e.g. traffic and environmental impact studies). The comprehensive Livermore General Plan update process offers the community, the City, and its partners an opportunity to re-evaluate existing General Plan policies and develop new ones that address shifts in community priorities, technologies, and current land use and market trends.

The ongoing operations and growth of the LLNL will be considered as part of our continuing planning efforts. Additional information about the Livermore General Plan update can be found at: https://imaginelivermore2045.org/

City of Livermore Comments

As stated above, site operations and the majority of the proposed projects will be limited to the LLNL campus; however, several projects could have a potential impact to City infrastructure or policies, and/or may be related to other citywide programs.

Northern Gate Entrance

The EIS evaluates the addition of a new north access gate at Patterson Pass Road. Generally, the City is supportive of the additional access locations that would help to distribute ingress and egress of the campus and alleviate queuing. Additionally, new entry at this location could provide improved access to regional transit such as the Altamont Commuter Express (ACE) located on Vasco Road, and a future Valley Link regional rail station located near Southfront Road at I-580. Portions of the areas north of Patterson Pass Road are being evaluated as an improved industrial area and new residential neighborhoods as part of the Livermore General Plan Update. We recommend further coordination in entry locations and roadway way configurations.

An encroachment permit is required for any work conducted within the City right- of-way including medians and landscape areas and all work must comply with applicable roadway standards. We request the opportunity to review the improvement plans at the time of encroachment permit submittal to evaluate the interface with the roadway and any potential impacts to circulation. 8-A, 16-D

In addition, the Livermore General Plan identifies Goal CC-4, which states: "Protect and enhance public views within and from established scenic routes, including views of arroyos". Livermore General Plan Figure 4.1 identifies Patterson Pass Road as a scenic route at this location. The EIS states the new north entry (and possible fire station in the north buffer zone) would be the most notable visible change. Therefore, the City recommends the new entry gate (and other improvements in this vicinity) be designed and constructed in a manner to maintain and minimize disturbances to the viewshed.

Extend Reclaimed Water Distribution System

The EIS identifies the expansion of the City's reclaimed water as a possible project. An extension of the City's reclaimed water infrastructure system to the LLNL site has not yet 17-B

Ross, Andy (37)
Page 4 of 4

been approved or funded and would require significant capital investment and further coordination between the City and LLNL. 17-B

Expanded Bicycle Circulation

The EIS identifies the expansion of bicycle circulation. Although the proposed circulation improvements are limited to the LLNL campus, we encourage LLNL to consider the interface with the City's existing or proposed bicycle infrastructure to support ridership to and from the campus. Currently the City is evaluating improvements to East Avenue as part of a pilot study to implement the City's Active Transportation Plan. The City recommends continued coordination regarding proposed bicycle improvements. 16-E

Natural Gas Use on the LLNL Campus

The EIS acknowledges increased energy consumption stating that the use of natural gas will increase from the preferred alternative. Although this increase is considered insignificant to the state of California, overall, this could account for a significant increase in Livermore's emissions.

The City has recently adopted the 2022 Climate Action Plan (CAP). The CAP establishes a goal of achieving carbon neutrality by 2045 and identifies strategies for adapting to and mitigating the impacts of climate change. As stated above, LLNL is within the city limits and therefore considered as part of Livermore's GHG inventory. To implement building electrification strategy, the City's newly adopted building code limits the construction of natural gas infrastructure in new construction. Although, as a federal facility, the LLNL campus is not subject to local zoning and generally exempt from State and local code requirements, the City would recommend LLNL consider electrification of new or renovated facilities and buildings on its campus to the extent feasible. Additional information about the adopted Climate Action Plan can be found at: https://livermoreclimateaction.com/ 17-C

Thank you again for the opportunity to comment on the *Draft Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory*. Please continue to inform the City of Livermore regarding the status of this study, the evaluation process, and any other related notices, documents, or meetings. The City looks forward to building on our exciting partnerships and collaboration with the LLNL. If you have any questions regarding the comments above, please contact me at (925) 960-4468, or e-mail at scstewart@cityoflivermore.net.

Sincerely

Steve Stewart
Planning Manager

Sneed, Regina (38)
Page 1 of 1

[redacted]

From: regina sneed <reginasneed@yahoo.com>
Sent: Tuesday, December 6, 2022 2:17 AM
To: LLNLSWEIS
Subject: [EXTERNAL] Request for extension for review of Lawrence Livermore lab Environmental Impact Statement

I received information from Tri-Valley Cares a local environmental organization that keeps me informed on issues impacting my community concerning the lab about the opportunity to review this EIS.

As a retired federal employee I am familiar with the difficulties federal agencies have in facilitating opportunities for public participation in all sorts of regulatory review processes. As a citizen, I have made comments on many EIR's for Bay Area community projects and it takes time. This report is over 1,000 pages.

I took a look at the summary document and even though I have an interest in making comments on the document, I knew I basically could not do it in this time frame. It's going to require a lot of looking stuff up to understand enough to comment.

I have learned that others who are not as familiar on how to access the documents have had problems with your website. This is not surprising as most government websites are not that user friendly for non professionals.

Please grant a 30 day extension for public comment. Please provide better ways for the public to navigate your website to increase participation in this process. 3-A, 3-C

Thank you

Regina Sneed
San Francisco, California resident
Sent from my iPad

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Sneed, Regina (38)
Page 1 of 2

[redacted]

From: regina sneed <reginasneed@yahoo.com>
Sent: Thursday, December 8, 2022 10:15 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Re: Request for extension for review of Lawrence Livermore lab Environmental Impact Statement to February 3, 2023.

I heard that the agency is considering an extension for public comment by only two weeks. The San Francisco Branch of Women's International League for Peace and Freedom meets on Saturday to discuss the Lab's EIS covering projects over the next 15 years. We know that the holiday period as well as covid cases among our members and families will keep us from having sufficient time to comment. Please consider granting a 30 day extension until February 3, 2023. 3-A

Thank you.

Regina Sneed

Sent from my iPad

> On Dec 5, 2022, at 11:17 PM, regina sneed <reginasneed@yahoo.com> wrote:
>
>
> I received information from Tri-Valley Cares a local environmental organization that keeps me informed on issues impacting my community concerning the lab about the opportunity to review this EIS.
>
> As a retired federal employee I am familiar with the difficulties federal agencies have in facilitating opportunities for public participation in all sorts of regulatory review processes. As a citizen, I have made comments on many EIR's for Bay Area community projects and it takes time. This report is over 1,000 pages.
>
> I took a look at the summary document and even though I have an interest in making comments on the document, I knew I basically could not do it in this time frame. It's going to require a lot of looking stuff up to understand enough to comment.
>
> I have learned that others who are not as familiar on how to access the documents have had problems with your website. This is not surprising as most government websites are not that user friendly for non professionals.
>
> Please grant a 30 day extension for public comment. Please provide better ways for the public to navigate your website to increase participation in this process.
>
>
> Thank you
>
> Regina Sneed
> San Francisco, California resident
> Sent from my iPad

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Sneed, Regina (38)
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Spaulding, Dylan K. (39)
Page 1 of 2

[redacted]

From: Dylan Spaulding <DSpaulding@ucsusa.org>
Sent: Wednesday, January 18, 2023 12:42 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Public Comment for LLNL draft SWEIS on behalf of Union of Concerned Scientists
Attachments: UCS Public Comment_LLNL SWEIS_011823.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

To whom it may concern,

I am writing to submit public comment on the LLNL draft SWEIS (DOE/EIS-0547) on behalf of the Union of Concerned Scientists. We are a non-profit, public-interest organization headquartered in Cambridge, Massachusetts. We have more than 500,000 supporters and activists across the United States, including thousands in California. Please find attached a brief summary of issues we hope to see addressed in the final SWEIS. Should you have any questions or wish to follow up, please don't hesitate to reach out at the address below. Thank you for considering this input. Best- Dr. Dylan Spaulding

Dylan K. Spaulding, Ph.D. (he/him)
Senior Scientist, Global Security Program
Union of Concerned Scientists
P: 773.941.7927| www.ucsusa.org

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Spaulding, Dylan K. (39)
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January 18th, 2022

LLNL SWEIS COMMENTS
Ms. Fana Gebeyehu-Houston, LLNL SWEIS Document Manager
DOE/NNSA
1000 Independence Ave. S.W.
Washington, DC 20585
LLNLSWEIS@nnsa.doe.gov

Re: DOE/EIS-0547, Draft Site-Wide Environmental Impact Statement for Lawrence Livermore National Laboratory

Submitted on behalf of the Union of Concerned Scientists, Global Security Program by Dr. Dylan K. Spaulding (Senior Scientist, dspaulding@ucsusa.org, Tel: 773.941.7297)

The Union of Concerned Scientists is a non-profit, public-interest organization headquartered in Cambridge, Massachusetts. We have more than 500,000 supporters and activists across the United States, including thousands in California. We are writing to provide public comment on the draft Site-Wide Environmental Impact Statement for Lawrence Livermore National Laboratory (DOE/EIS-0547).

Proposed changes to facilities and infrastructure, including new construction and demolition, destruction and decontamination of older facilities present minimal reason for concern assuming adherence to best practices for construction and on-site remediation.

Regarding proposed operational changes, we wish to request that the final SWEIS include detailed analysis of several issues related to increased material administrative limits that could pose a risk of worker and/or public exposure in the event of an accident:

- The draft SWEIS proposes an increase in the emissions limit for tritium from building 331 as well as the National Ignition Facility. While engineering controls are understood to be in place for capture and recovery of tritium during some operations, the SWEIS should clearly outline under what circumstances tritium could be released accidentally through the environmental stacks and how standard operating procedures or new engineering controls will be implemented to avoid such releases. The consequences of a potential fire in the primary tritium facility (building 331) should also be addressed including down-wind risk to the public from complete release of the administrative limit. — 4-D, 19-A, 19-B, 20-A, 20-B,
- Administrative limits for radioactive materials (tritium and plutonium) are proposed to increase at the National Ignition Facility. While it is understood that the relatively small quantities in use at NIF do not represent the bounding case for radiological impacts across the lab, the expected worker exposures should be called out, particularly for handling and cleanup of contaminated, post-shot materials. — 4-I, 19-G, 20-B
- The draft summary (page S-68) specifies an anticipated increase in worker exposure from 69.6 mrem/year to 173.5 mrem/year. What are the primary sources of this increase and where are the largest increases expected to occur across the laboratory campus?

We commend the proposed reductions in administrative limits for plutonium and uranium in the Superblock (bldg. 332). Reducing these limits protects workers and the public and lowers the risk of accident.

On behalf of the Union of Concerned Scientists, Global Security Program,

Dr. Dylan Spaulding

Spiess, Martha (40)
Page 1 of 1

[redacted]

From: Martha Spiess <mspiess@myfairpoint.net> on behalf of info@peaceactionme.org
Sent: Wednesday, January 18, 2023 9:53 AM
To: LLNLSWEIS
Cc: 'Martha Spiess'
Subject: [EXTERNAL] for the public comment period on the Livermore Lab's review.

Follow Up Flag: Follow up
Flag Status: Flagged

MY COMMENT LETTER
On the Livermore Lab Draft Site-Wide Environmental Impact Statement
By email to: LLNLSWEIS@nnsa.doe.gov
Postal mail: Ms. Fana Gebeyehu-Houston,
LLNL SWEIS Document Manager,
1000 Independence Ave., SW, Washington, DC 20585

Jan. 18, 2023
Dear Ms. Fana Gebeyehu-Houston:
These are my comments 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 (Livermore Lab) Main Site in Livermore, CA and Site 300 high explosives testing range near Tracy, CA
Sincerely, Martha Spiess, chair, Peace Action Maine

I/we support *Reducing or Canceling New Warhead Development Programs.* Livermore Lab is one of two locations 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. Livermore Lab is developing several new warheads and variants. *Reasonably, the designs could be down-scoped to eliminate novel features or cancel them altogether*. They include:

2-B, 2-D

- The **W87-1**, a wholly new warhead currently being designed at Livermore Lab to sit atop a new ICBM that the Pentagon is developing, called the Sentinel missile. The W87-1 will require new plutonium bomb cores (pits) and is a major driver for NNSA's plan to expand plutonium pit production.
- The **W80-4**, a new warhead being designed at Livermore Lab for the new Long Range Stand-Off Weapon. This warhead will sit atop a new air-launched cruise missile.
- The **W80-4Modification**, a special variant of the new W80-4, designed for a new Sea-Launched Cruise Missile to be placed on ships that do not currently carry any nuclear weapons and are not certified for that mission.

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Truitt, Robin (41)
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[redacted]

From: Truitt, Robin <Truitt.Robin@epa.gov>
Sent: Wednesday, January 18, 2023 6:16 PM
To: LLNLSWEIS
Subject: [EXTERNAL] EPA's comments on the Draft Site Wide Environmental Impact Statement for Continued Operations of the LLNL
Attachments: 2023 01 18 EPAs comments on the LLNL DEIS_signed.pdf

Dear Ms. Gebeyehu-Houston –
Please find attached EPA's comments on the Site-Wide Draft Environmental Impact Statement for continued operations at the Lawrence Livermore National Lab. Thank you for extending the due date to provide public comments through today, January 18, 2023. I am available at the number below if you have any questions.
Happy New Year.

Robin Truitt, Life Scientist
USEPA, Region 9
Environmental Review Branch
75 Hawthorne St., TIP-2
San Francisco, CA 94105
Home office: (415) 380-9923
Truitt.Robin@epa.gov

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Truitt, Robin (41)
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January 18, 2023

Fana Gebeyehu-Houston
LLNL Site-Wide EIS Document Manager
Department of Energy/National Nuclear Security Agency
1000 Independence Ave, SW
Washington, D.C. 20585

Subject: Draft Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory, Alameda and San Joaquin Counties, California, CEQ# 20220158

Dear Fana Gebeyehu-Houston:

The U.S. Environmental Protection Agency has reviewed the above-referenced document pursuant to the National Environmental Policy Act and Section 309 of the Clean Air Act. The CAA Section 309 role is unique to EPA. It requires EPA to review and comment publicly on any proposed federal action subject to NEPA's environmental impact statement requirement.

The Draft Site-Wide Environmental Impact Statement presents two alternatives. Under the No-Action Alternative, the DEIS examines existing operations that would continue to support the National Nuclear Security Agency's (NNSA) assigned missions and discusses remedial actions that provide benchmarks against which to compare the Proposed Action Alternative. The Proposed Action would continue these operations and summarizes additional projects designed to maintain or enhance the experimental capabilities, safety, and reliability of nuclear weapons stockpiles administered by the Department of Energy's National Nuclear Security Administration. The new projects over the next 15 years would include: construction of approximately 3.3 million square feet of new facilities at the Livermore Site and Site 300 (75 new facility projects); decontamination, decommissioning, and demolition (DD&D) of about 150 facilities, totaling approximately 1,170,000 square feet; operational changes to increase administrative limits of radioactive materials or emissions; and modernization of systems, utilities, and infrastructure (20 projects).

This DEIS was prepared under the Department of Energy's programmatic NEPA procedures to support existing, continued, and planned projects and operations at its large, multiple-facility sites, including the Lawrence Livermore National Laboratory (LLNL) (10 CFR §§1021.330); it does not address site- or project-specific impacts of the individual projects and operational changes. DOE's implementing regulations call for a Supplement Analysis at least every 5 years if there are substantial changes to the proposal or significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts.

EPA 309 Review Summary
EPA identified environmental concerns in the analysis that should be addressed in the Final EIS. The attached Detailed Comments include recommendations for further protecting air quality and biological resources, adhering to Comprehensive Environmental Response, Compensation & Liability Act

Truitt, Robin (41)
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(CERCLA, aka Superfund) protocols, monitoring per- and polyfluoroalkyl (PFAS), adapting to climate change effects, reducing impacts from waste storage and disposal, and preparing a Mitigation Action Plan. Many of these recommendations apply to existing and proposed projects, operations, or remedial actions. As site-specific project designs and mitigation plans are developed, prepare the Supplement Analyses identified in DOE's implementing regulations if the proposed projects or operations could violate federal, state, local or tribal law or if they reveal or increase the potential for adverse environmental and human health impacts, including cumulative effects and effects to low-income and minority populations.

We appreciate the opportunity to provide comments on the DEIS. When the Final EIS and future NEPA documents are available electronically, please notify Robin Truitt, the lead reviewer for this project, at truitt.robin@epa.gov. If you have any questions, please contact me at (415) 947-4167 or Robin at or (415) 972-3742.

Sincerely,
JEAN PRIJATEL
Digitally signed by JEAN PRIJATEL
Date: 2023.01.18 15:06:26 -08'00'
Jean Prijatel
Manager, NEPA Environmental Review Branch

Enclosure: EPA's Detailed Comments

cc: Khatira Nawabi, Lawrence Livermore National Laboratory
Phil Wong, National Nuclear Security Administration
Yun-hu Hsu, California Department of Toxic Substances Control
Durin Linderholm, Central Valley Regional Water Quality Control Board
David Tanouye, San Francisco Bay Regional Water Quality Control Board
Peter Satin, Central Valley Air Quality Management District
Alicia Thomas, U.S. Fish & Wildlife Service
Ryan Olah, U.S. Fish and Wildlife Service

Truitt, Robin (41)
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U.S. EPA DETAILED COMMENTS ON THE DRAFT SITE-WIDE ENVIRONMENTAL IMPACT STATEMENT FOR CONTINUED OPERATION OF THE LAWRENCE LIVERMORE NATIONAL LABORATORY, ALAMEDA AND SAN JOAQUIN COUNTIES, CALIFORNIA – JANUARY 18, 2023

LEGACY CONTAMINATION AND ONGOING REMEDIATION

The DEIS describes projects at the two sites of the Lawrence Livermore National Laboratory: the Livermore Site that was placed on the EPA National Priorities List under its Superfund program in 1987 and Site 300 that was placed on the National Priorities List in 1990. Remedial investigations involve the EPA, the San Francisco Bay and Central Valley Regional Water Quality Control Boards, and the California Department of Toxic Substances Control who follow Federal Facility Agreements drafted pursuant to Section 120 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The EPA is aware that the first 5-year CERCLA review is underway to evaluate the progress of efforts to remediate legacy groundwater contamination at Site 300 and to determine whether the remedies continue to be protective of human health and the environment. The 2008 CERCLA Record of Decision established the remedies and cleanup standards for site-wide operable units and may require modifications or amendment.

Continued Clean-Up of Contaminants of Concern

Lawrence Livermore National Laboratory's environmental restoration program is designed to prevent current and future human exposure to contaminated soil, soil vapor, and groundwater, thereby preventing further contaminant migration of concentrations above drinking water standards, reducing concentrations of contaminants in groundwater and soil vapor, and minimizing contaminant migration from the unsaturated zone to the underlying groundwater (p. 4-250). Most remedial actions essentially "pump and treat' groundwater and saturated soils at various locations at the Livermore Site. As of 2019, LLNL maintains and operates 27 groundwater extraction wells and dual (groundwater and soil vapor) extraction wells, as well as eight soil vapor treatment facilities (p. 4-246). Section 4.15 of the DEIS on Environmental Remediation does not discuss the relative success or effectiveness of the remedial solutions currently being implemented or when the sites may be expected to meet regulatory standards. Further, it does not explain how any increased constituents of concern mobilized from new construction, decontamination, decommissioning, and demolition activities or operational changes could be minimized and/or subsumed into the CERCLA process (see Future Mitigation and Remedial Action comments, below). 21-A

> ***Recommendation for the Final EIS and future analysis:*** Describe the effectiveness of the current remedial solutions and when the sites are expected to meet regulatory standards. Discuss how any project-related increase in mobilization of constituents of concern would be minimized. Consider preparing a Supplement Analysis if significant changes to the CERCLA remedy or amendments to the 2008 CERCLA Record of Decision are warranted by the implementation of future project components.

Future Mitigation and Remedial Actions

The DEIS anticipates that any future remedial actions resulting from new facility construction, modernization/upgrade/utility projects, operational changes, and decontamination, decommissioning, and demolition activities would be conducted in accordance with existing Federal Facility Agreements (p. 5-148). The Department of Energy's NEPA implementing procedures require the preparation of a Mitigation Action Plan that explains commitments to mitigation that are essential to render the impacts of the proposed action less than significant and how mitigation would be planned, designed, and implemented pursuant to Record of Decision commitments informed by the EIS. Mitigation Action

Truitt, Robin (41)
Page 5 of 11

Plans should be a complete as possible and made available for public inspections, although they may be revised as more specific and detailed information becomes available (10 CFR 1021.331).

The DEIS states that the National Nuclear Security Administration does not expect to prepare a Mitigation Action Plan because it would follow standard design and best management or stewardship practices (p. 171); nor is NNSA proposing any specific future remediation activities in this DEIS (p. 5-148). The DEIS states that continued operations would be performed concurrently with efforts to identify and remediate past contamination of soils, buildings, and groundwater (p. S-81) and that any contaminated media would be managed in accordance with existing waste management practices (p. 5-17). The potential design features or best management practices listed in Table 5-74 for construction and operations are written broadly (e.g., ventilation systems) and do not contain enough detail for EPA to assess their effectiveness in avoiding, minimizing, or mitigating environmental impacts. 22-A

The DEIS states that LLNL would prepare a detailed Decontamination, Decommissioning, and Demolition (DD&D) Plan for NNSA approval. The DD&D Plan would describe project-specific activities to be performed in sufficient detail as to allow an independent reviewer to assess the appropriateness of the decommissioning activities; the potential impacts to workers, the public, and the environment; and the adequacy of the actions needed to protect health and safety and the environment (p. 5-177). Facilities would be characterized to identify waste types (e.g., radiological and chemical waste), construction material types (e.g., steel, roofing, concrete), levels of contamination, expected waste volumes, and other information that would be used to support safe demolition and clarify requirements for developing facility-specific plans (p. 5-178). Though not a substitute for a more comprehensive Mitigation Action Plan that covers construction and operational matters, the proposed DD&D Plan should provide the level of detail necessary to guide agency actions to limit the mobilization of contaminants of concern and implement protective measures.

Recommendations for the Final EIS and ROD: The EPA recommends that LLNL/NNSA's Mitigation Action Plan prepared for the 2005 DEIS for Continued Operations be summarized or appended to this EIS to the extent that it is still applicable. If no longer applicable, prepare a new or updated Mitigation Action Plan that details the methods that would be used to minimize contaminant migration to groundwater, prevent vapor intrusion into new buildings and limit offsite emissions. The EPA recommends that the Mitigation Action and DD&D Plans be based on high quality quantitative data that comprehensively lists the levels of all contaminants of concern (with a particular focus on heavy metals, volatile organic compounds and PFAS), identifies all pathways for exposure and uses the best available science to prevent constituents of concern from mobilizing. 22-A

In the Mitigation Action and DD&D Plans, consider including a commitment to follow CERCLA protocols and include training for construction and demolition teams on the types and locations of CERLA remedial activities being conducted on-site and what specific mitigation measures, BMPs and design measures would be required to prevent mobilization of contaminants.

In the development of Mitigation Action or DD&D Plans, consult with state and federal regulators to discuss: the need for additional corrective actions, changes to CERCLA or Resource Conservation and Recovery Act (RCRA) remedies or potential amendments to the CERCLA ROD, and other air and water quality permits. Andy Bain, EPA's LLNL CERLA Project Manager, is available to consult on the development of Mitigation Action or DD&D Plans. He can be reached at (415) 972-3167 or by email at Bain.Andrew@epa.gov.

Truitt, Robin (41)
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Contaminants of Special Concern
Per- and polyfluoroalkyl substances (PFAS) are emerging pollutants of concern. Known as 'forever' chemicals, PFAS are found in water, air, fish, and soils throughout the world due to their persistence and high level of mobility in the environment. Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals.

The DEIS states that PFAS were added to the list of Contaminants of Special Concern for all municipal supply wells and select monitoring wells in 2019 (p. 4-71). The document does not say where PFAS are found, where they are monitored, if they are reported, or what actions could be taken to limit PFAS mobilization to air, soils, and water.

21-E

The EPA is currently proposing to add all 180 types of PFAS included on the Toxic Release Inventory to the list of chemicals of special concern[1] pursuant to the 2020 National Defense Authorization Act and the Emergency Planning and Community Right-to-Know Act. The proposed rule[2] would mandate that EPA be notified when PFAS exceed very low release thresholds of 0.1 gram thereby eliminating the *de minimus* exception of fewer than 100 pounds. The proposed change could eliminate supplier notification exemptions and increase the amount of data reported and available to the public on the waste management of these chemicals.

Recommendations for the Final EIS: Disclose current PFAS levels from the site reported to the EPA or state agencies and compare monitored data with current standards. Discuss PFAS pathways for exposure in soils, air emissions and groundwater at both LLNL sites and potential health risks. Identify sites where PFAS are monitored and discuss whether data collection and the monitoring program would need to be expanded due to continued operations or proposed reporting changes. Discuss what actions could be taken to limit the mobilization of PFAS from soils to water.

21-E

The EPA recommends continued coordination with EPA's Superfund and Emergency Management Division, the Central Valley Regional Water Quality Control Board, and the Department of Toxic Substances Control to implement short-term and long-term sequestration or removal actions on PFAS-impacted liquid streams (e.g., groundwater, landfill leachates, wastewater, and industrial discharges), particularly those that would directly or indirectly affect drinking water sources.

AIR QUALITY
Fugitive Dust and Radiological Emissions
Land disturbance of 85.5 acres at the Livermore site and 36 acres at Site 300 associated with construction and decontamination, decommissioning, and demolition activities would generate particulate matter and fugitive dust that may contain constituents of concern and potentially toxic emissions. Site 300 is an 11 square mile high explosive testing range used to support testing and chemical formulations of explosives. Wastes generated from high-explosives research are treated by open burning and detonation on 'firing tables" or under a covered building (pgs. 5-47/49).[3] Explosive

[1] https://www.epa.gov/toxics-release-inventory-tri-program/list-pfas-added-tri-ndaa.
[2] *Changes to Reporting Requirements for Per- and Polyfluoroalkyl Substances and to Supplier Notifications for Chemicals of Special Concern; Community Right-to-Know Toxic Chemical Release Reporting* was published in the Federal Register on Dec. 5, 2022 at https://www.federalregister.gov/documents/2022/12/05/2202-26022
[3]See also Ecological Risk Assessment for the Operation of the Explosives Waste Treatment Facility at Site 300 of the LLNL (Dec. 2013) Executive Summary (osti.gov), https://www.osti.gov/servlet/purl/1116865

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debris may emit small quantities of depleted uranium and dust could contain metals, asbestos containing materials, or other air pollutants that are harmful to humans, plants, or animal life (pgs. S-76; 3-33; 5-145). LLNL also proposes to continue annual controlled burns of up to 2,500 acres at Site 300 to limit fire hazards and sustain natural vegetation.

The DEIS states that the proposed operational changes could increase regulated tritium emissions limits at the Livermore site as manually operated maintenance tasks increase the likelihood of incidental releases and would increase the administrative limits for all isotopes of plutonium (enriched, depleted, or natural) at the LLNL's chemistry and nuclear materials complex at the main site (pgs. 3-53/54). The DEIS states that tritium and other radiological emissions are not expected to increase using existing controls that operate with high efficiency (>99 percent); radiological air emissions and tritium levels in drinking water would remain under USEPA's maximum contaminant levels (pgs. 4-238, 5-31, 5-55).[4]

LLNL's Annual Site Environmental Report uses modelling to estimate receptor/dose and latent cancer risks to an offsite 'maximally exposed individual,' its workers, and the population within a 50-mile radius of both sites (pgs. 3-73/74). This model relies on the results of continuous monitoring at six discharge points – five on the Livermore campus but only 1 at Site 300 (p. 4-94). Given the existing population density within a 50-mile radius,[5] and the expected extension of the city of Tracy's residential developments within 1-2 miles immediately to the north and east of Site 300 (p. 6-3/4), more real time data points placed along site boundaries would not only provide more accurate engineered data, but would also help inform a coordinated response to potentially excessive or harmful emissions that transcend boundaries and could impact residential areas or other sensitive receptors. 11-C

> ***Recommendations for the Final EIS***: Discuss the adequacy of the number and locations of the existing continuous air quality monitoring stations to provide comprehensive operational and air quality data for future projections. To better estimate risk and make informed management and emergency response plans, the EPA recommends that additional air quality monitoring facilities be added along site perimeters to provide real time information on criteria pollutants and radiological constituents during all construction/demolition or earthmoving activities, controlled burns and firing or explosive events. The EPA is aware that air monitoring funding may be available through the Inflation Reduction Act.

CLIMATE CHANGE

Greenhouse Gas (GHG) Emissions

Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, places the climate crisis at the forefront of national security planning and outlines policies to reduce greenhouse gas (GHG) emissions, including building modern and sustainable infrastructure, using carbon pollution-free electricity and zero-emission government fleets to bolster resilience to the impacts of climate change.[6] Executive Order 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*,[7] dated December 8,

[4] EPA has established Maximum Contaminant Levels of 4 millirem/year from man-made radionuclides in drinking water and 10 millirem/year total site-effective dose equivalent from airborne pathways. The average concentration of tritium that is assumed to yield 4 millirems per year is 20,000 picoCuries (pCi/L); the sum of the annual dose from all radionuclides cannot exceed 4 millirems/year in drinking water. See https://www.epa.gov/dwreginfor/radionuclides-rule; https://semspub.epa.gov/work/HQ/175261.pdf

[5] Table 5-56. *Annual Radiological Impacts to the Public from Operational Radiological Emissions under the Proposed Action Alternative at the Livermore Site and Site 300* are based on projections of 8,364,520 people living within 50 miles of the Livermore Site in the year 2030 and 7,613,858 people living within 50 miles of Site 300 in the year 2030.

[6] eo-14008-tackling-climate-crisis-home-abroad.pdf (energy.gov)

[7] https://www.federalregister.gov/d/2021-27114

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2021 states that agencies shall design new construction and modernization projects greater than 25,000 gross square feet to achieve net-zero greenhouse gas emissions by 2030.

The Proposed Action would increase the total annual GHG emissions by approximately 5,239 metric tons per year over 2019 levels of the No Action Alternative (152,569 metric tons per year) (p. 6-9), largely from proposed construction, waste disposal and operations (pgs. 4-190/191). While recognizing that this DEIS is largely conceptual and acknowledging DOE's leadership in designing to LEED building standards, the construction of approximately 3.3 million square feet of 75 new facilities at the Livermore Site and Site 300 presents the opportunity to reduce climate changing GHG emissions and minimize building energy and water usage to sustainable levels pursuant to federal law and policy. Table 4-32 summarizes site sustainability goals but notes that the risk of not attaining energy reductions or sustainable building certifications is high. 11-A

> ***Recommendations for the Final EIS***: The EPA recommends that the status report to the DOE Sustainability Performance Office on LLNL/NNSA's "initiatives to improve 34 energy efficiency metrics, reduce energy cost, and reduce emissions of greenhouse gases" be included in the Final EIS. Discuss the barriers to meet existing and proposed DOE's standards[8] as found in the Energy Independence and Security Act. Commit to employing all practicable methods of reducing greenhouse gas emissions from the project to move toward the net-zero emissions goal, particularly for those parts of the project that would be implemented after 2030.

The DEIS states that beginning in 2023, LLNL will install additional rooftop and microgrid solar photovoltaic and advanced energy storage systems and pilot a new bladeless wind technology (to reduce adverse impacts to birds) at Site 300.[9] We appreciate that the DEIS states that LLNL would endeavor to limit new land disturbance to previously disturbed areas or areas already designated for industrial use, but we note that the pilot project would be located on 9.4 acres of previously undisturbed land (p.3-41). *RE-Powering America's Land* is an EPA initiative that encourages renewable energy development on current and formerly contaminated lands and landfills. In this document, the EPA outlines the processes and benefits of land reuse and provides information on siting renewable energy projects while simultaneously addressing environmental issues.[10] 7-B

> ***Recommendation for the Final EIS***: The EPA recommends that alternative brownfield locations or previously disturbed lands be used to the fullest extent possible for siting any renewable energy projects. As the pilot project plans are prepared, continue to consult with the U.S. Fish and Wildlife Service to determine whether the 9.4 acres of undeveloped land for the proposed project has been properly surveyed and is subject to the existing or updated management actions prescribed in the Biological Opinions,[11] like buffer zones, creek crossings, or construction BMPs. List related conservation measures or compensatory mitigation in the Final EIS.

[8] See DOE's *Supplemental Notice of Proposed Rulemaking on Clean Energy for New Federal Buildings and Major Renovations of Federal Buildings* at 10 CFR Parts 433 and 435, dated 12/7/22, which calls for a 90% reduction in energy consumption from 2003 levels by 2025, and full decarbonization of on-site emissions by 2030.
[9] As all or part of site 300 is critical habitat for several special status species, the EPA appreciates that changes to disturbed sites proposed for redevelopment or construction have been broadly analyzed (p. B-7).
[10] https://www.epa.gov/re-powering; https://www.epa.gov/re-powering/handbook-siting-renewable-energy-projects-while-addressing-environmental-issues
[11] There are two Biological Opinions from the USFWS for Infill Construction/Development at the main campus and Continued Operations at Site 300 (p. 4-122).

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Climate Change Effects
Various parts of the DEIS, including Sections 4.6.3 and 5.6, consider LLNL's potential contributions to climate change from GHG emissions, but the effects of climate change on existing and proposed facilities and activities are not analyzed as well. For example, although the Pit 4 and 7 landfills were capped in 1992, an especially wet 'El Nino' year caused extreme rainfall and rising groundwater levels to penetrate soils and unlined landfills and leached tritium, depleted uranium, volatile organic compounds, perchlorate, nitrate, and PCBs to groundwater (pgs. 4-256-258). Increases in the frequency and intensity of extreme precipitation events that result from climate change will continue to mobilize legacy contaminants of concern as well as hazardous COCs dispersed through continued firing table detonations. 11-A

Further, California continues to experience periods of prolonged drought. Water consumption at the Livermore site from 2015 -2019 averaged 243.2 million gallons per year with Site 300 ranging between 10 and 14 million gallons per year. Construction and decontamination, decommissioning, and demolition activities would require an additional 0.37 million gallons of water per year (p. 5-96). LLNL's primary water sources are San Francisco's Hetch Hetchy regional water system and Zone 7 water (mixed groundwater and water from the State Water Project). For both water supply sources, water availability is dependent on annual precipitation rates. In the summer of 2019, the NNSA/LLNL was formally asked to reduce Zone 7 water use as much as possible (pgs. 4-183-186).

Even though LLNL is evaluating wastewater reuse and the feasibility of using non-potable water in its primary cooling towers (p. 4-181), the DEIS states that 475-535 million gallons would be used annually, and the proposed reductions would only reduce LLNL water use by 1.4-1.6% (p. 5-170).

> ***Recommendations for the Final EIS***: Discuss specific design changes that may be needed to prevent meteoric or ground waters from penetrating covers or infiltrating landfills. Consider these measures in conjunction with any adjustments to CERCLA remedies or amendments to the CERCLA Record of Decision.
>
> Augment the discussion in the Final EIS with alternative siting or facility design features that would reduce water use or increase efficiencies. Utilize green infrastructure: direct uncontaminated stormwater runoff to rapid infiltration or percolation pits,[12] eliminate lawns, choose native or other xerophytic plants for landscaping, reduce impervious surfaces beneath walkways and parking structures, increase the depth and reduce the surface area of Lake Haussmann to minimize evaporation, etc.[13] Commit to these measures in any future mitigation or construction plans. 21-A

WASTE GENERATION AND MANAGEMENT
The DEIS predicts a marked increase in waste generation from construction and decontamination, decommissioning, and demolition of legacy contaminated facilities and equipment. New construction may generate more radioactive or hazardous materials wastes due to building placement or modernized

[12] We note that any *contaminated* stormwater runoff cannot be directed to percolation pits per the July 2007 Amendment to the Routine Maintenance of Operations Projects at the LLNL Site 300 Biological Opinion (water diversion and effluent discharges from CERCLA projects are designed to avoid the creation of wetlands).
[13]Federal developments that exceed 5000 square feet are required to reduce stormwater runoff by maintaining or restoring pre-development hydrology. Federal agencies can comply using a variety of stormwater management practices often referred to as "green infrastructure" or "low impact development" practices as may be outlined in Section 438 of the Energy Independence and Security Act at https://www.epa.gov/nps/stormwater-management-federal-facilities-under-section-438-energy-independence-and-security-act

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operations. For example, building the 60,000 square foot Dynamic Radiography Development Facility plus a 60,000 - 80,000 square foot open air shed at Site 300 may require extensive excavation of thousands of tons of soil from the hillside where the upper few feet of the soil could be contaminated with beryllium, depleted uranium, metals, and other components. Alternatively, there would be much less contaminated soil if located on the south side of the hill (p. 3-30).

The DEIS acknowledges that the Proposed Action could eventually involve the decontamination, decommissioning, and demolition of approximately 1.5 million square feet of buildings and structures over the next 15-year period although the extent, types and amounts of DD&D waste associated with the Proposed Action would be estimated when facilities reach the end of their useful life. 18-B

> ***Recommendation for the Final EIS:*** The EPA recommends choosing siting or design alternatives that generate substantially less contaminated wastes or solve potential storage, treatment, or disposal issues.

Offsite Waste Disposal - Environmental Justice and Tribal Concerns

The combined capacity of storage facilities for radioactive and hazardous waste may not be sufficient to accommodate the expected increase in annual quantities of low-level radioactive waste (LLW) or non-routine mixed low-level radioactive waste (MLLW) for extended periods. If mixed low level radioactive waste were to be stored for an entire year, estimated waste (i.e., 3,258 cubic meters) would occupy 90% of the maximum storage capacity of the facility's permitted waste storage units (p. 5-122). The DEIS notes that the proposed project could increase offsite shipments of nonroutine LLW/MMLW from 160 to 384 shipments per year (p. 3-62).

LLNL/NNSA operations would also generate Transuranic (TRU) waste. TRU wastes must be sent to the Waste Isolation Pilot Plant (WIPP) near Carlsbad and Hobbs, New Mexico (pgs. 4-194/195; 5-179). The DEIS notes that past shipments to the WIPP have been done through "campaigns" in which several years of waste were stored onsite until the requisite characterization and packaging processes were completed. Although there is an intent for the NNSA to "develop an enduring program to make annual shipments from LLNL to WIPP" (p. 3-63), it is possible that TRU may be shipped first to an interim facility for the additional processing required to meet WIPP's waste acceptance criteria (p. 5-90). We note that the final license from the Nuclear Regulatory Commission for the WIPP is not expected until February 2023 and there are local concerns about the environmental justice implications of the site itself. Under the Proposed Action, NNSA estimates that up to 8 annual shipments of TRU to the WIPP would be needed to remove accumulations of TRU from LLNL (Table 3-8). The DEIS acknowledges potential radiological exposure to the public through transportation or offsite shipments. It relies on previous DOE analyses to conclude that there are no disproportionately high and adverse safety risks to low-income or minority populations (pgs. 6-19, 5-77), but the DEIS does not incorporate these analyses by reference or provide a summary to support the conclusion of no adverse impacts. 18-C

Executive Order 13175, "Consultation with Indian Tribal Governments" (November 6, 2000), was issued to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationship with Indian tribes. We note also the DEIS does not mention that TRU could travel through 10 Native American reservations across six states on its way to the WIPP, nor does it describe any outreach or government-to-government consultation with these tribes. 15-B

> ***Recommendations for the Final EIS***: Identify any low-income or minority populations that might be disproportionately impacted by the transportation of TRU wastes to interim or

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permanent disposal facilities. Describe efforts to identify communities with environmental justice concerns along the route and at the ultimate disposal destination. Describe how DOE would engage with communities with environmental justice concerns, if any are identified, in the development of the Final EIS and mitigation for transportation impacts. If the Final EIS continues to rely on previous DOE analysis, provide a summary of the analysis and its conclusions. To support the conclusion of no disproportionate impacts to low-income or minority populations, summarize how the Nuclear Regulatory Commission addressed environmental justice concerns in the Final EIS for the WIPP licensing process.

DOE's Carlsbad Field Office website describes a Tribal Program offering formal government to government agreements that promote participation in DOE's decision-making process on TRU waste transportation activities.[14] Describe DOE's tribal consultation process and the outcome of any government-to-government consultations between the DOE and each of the tribal governments along the transportation route between LLNL and the WIPP. Summarize the concerns identified, the opportunities the affected communities had or will have to provide input into the DOE's NEPA process, and how that input would be used in the decisions that will be made regarding long-term or permanent disposal of TRU wastes. 15-B

Summarize any agreements reached and commit to completing a Supplement Analysis if issues are raised that require mitigation. The EPA's Tribal Branch can provide tribal contact information as needed for the future analysis of transportation routes.

BIOLOGICAL RESOURCES

The latest Biological Opinion of the United States Fish and Wildlife Service, dated August 9, 2018, discussed the effects of Continued Operations and Maintenance at Site 300 on the California Red-Legged Frog and Central California Tiger Salamander. It was specifically limited to the effects of routine infrastructure maintenance and minor construction activities (e.g., erosion control or repair, well and treatment facility decommissioning projects, soil sampling) for a period of 5 years, exclusive of CERCLA actions. The conservation measures proposed were based on specific acreages for proposed activities in 2018 and include mitigation ratios for permanent and temporary effects, temporal limits to grading and construction activities, exclusionary fencing, minimizing stormwater runoff, and restoring habitats. The FWS concluded that the limited actions in combination with reasonable and prudent conservation measures would not preclude recovery or reduce the likelihood of survival of the species.

The BO notes that accumulated effects - individual activities that may overlap or may impact areas larger than the sum of the individual projects – are tracked through a single programmatic BO. The 2018 Biological Opinion stated that LLNL would submit a letter to the Service requesting programmatic consultation or request an extension of the Biological Opinion at the end of the fourth year.

Recommendations for the Final EIS: Discuss the status of the relevant biological assessments or biological opinions and whether LLNL/NNSA anticipates the necessity for future consultation, either on an individual project or programmatic basis. Commit to conducting a Supplement Analysis for project changes required by a future biological opinion that do not fit within the bounds of the current analysis. 13-B

[14] See https://wipp.energy.gov/TribalProgram.htm

Van Ligten, Travis (44)
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[redacted]

From: Johnson, Patricia <PJohnson@rutan.com>
Sent: Wednesday, January 18, 2023 7:11 PM
To: LLNLSWEIS
Cc: johnpalmer@integralcommunities.com; msouza@integralcommunities.com; Van Ligten, Travis
Subject: [EXTERNAL] Comment Regarding National Nuclear Security Administration's Draft Environmental Impact Statement DOE/EIS-0546 for Continued Operation of the Lawrence Livermore National Laboratory (DOE/EIS-0547)
Attachments: Letter to Fana Gebeyehu-Houston Re EIS.pdf

Ms. Gebeyehu-Houston,

Please see the attached correspondence relating to the above referenced subject matter. If you should have any questions please direct them to Attorney Travis Van Ligten of this office. Thank you.

Patricia Johnson
Legal Secretary
18575 Jamboree Road, 9th Floor | Irvine, CA 92612
O. (714) 641-5100 | D. (714) 641-5100 x 1544
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RUTAN
RUTAN & TUCKER, LLP

Travis Van Ligten
Direct Dial: (714) 641-3435
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January 18, 2023

VIA E-MAIL AND
FIRST CLASS MAIL

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

Re: Comment Regarding National Nuclear Security Administration's Draft Environmental Impact Statement DOE/EIS-0546 for Continued Operation of the Lawrence Livermore National Laboratory (DOE/EIS-0547)

Dear Ms. Gebeyehu-Houston:

This office represents a series of property owners that own real property within the City of Tracy's Tracy Hills Specific Plan ("Specific Plan"), including Tracy Phase 2, LLC, Tracy Phase 3, LLC, Tracy Phase 4, LLC, Tracy BPS, LLC and The RV Owner LPV, LLC (collectively "Property Owners"). This letter is being sent on behalf of these Property Owners in regards to the Department of Energy's and National Nuclear Security Administration's ("NNSA") Draft Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory (DOE/EIS-0546) (the "EIS").

After reviewing the EIS, we note that the EIS claims that there are "only a few residences/businesses, but no schools, within several miles of this facility," in addition to at least one other statement along a similar vein. (*See e.g.*, EIS, p. S-76 [noting that ". . . there are no residences or other noise receptors within several miles of this facility ..."].)

Please be advised that this statement appears to be inaccurate, as Site 300 is located less than 1.5 miles away from portions of the Tracy Hills Specific Plan. The Specific Plan consists of approximately 2,767 acres that were annexed into the City of Tracy in 1998 and will include the eventual development of 7,265 residential units and three K-8 schools. Some of these residences have already been constructed, and one school is currently under construction. The remainder of the improvements will be constructed in the foreseeable future. Furthermore, it is our understanding that some of these improvements already have been, or eventually will be, constructed within 1.5 miles of the boundary of Site 300. 7-A, 12-A

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RUTAN

Ms. Fana Gebeychu-Houston
January 18, 2023
Page 2

In light of this inconsistency, the NNSA and Department of Energy should consider this information, and revise the EIS to properly reflect the location of Site 300 as it relates to other uses, and otherwise adjust the EIS's analysis as the agencies deem appropriate. 7-A

Thank you for the opportunity to provide these comments, and please do not hesitate to contact the undersigned if you should have any questions.

Sincerely,

RUTAN & TUCKER, LLP

Travis Van Ligten

TV:pj

cc: John Palmer
Mike Souza

2990/518909-0785
18720253.1 a01/18/23

Watchempino, Laura (45)
Page 1 of 1

[redacted]

From: Laura Watchempino <5000wave@gmail.com>
Sent: Tuesday, December 6, 2022 2:19 AM
To: LLNLSWEIS
Subject: [EXTERNAL] Request for Extension of Public Comment Period for Draft LLNL SWEIS (DOE/EIS 0547)

I herein request a minimum 30-day extension for members of the public to review and meaningfully comment on the Draft Site-Wide Environmental Impact Statement for the Lawrence Livermore National Laboratory,

The public should be given more time to access and review this voluminous and far-reaching document totaling 1,408 pages beyond the end-of-year holiday season that ends for many after the start of the New Year. This time of the year is generally set aside to honor our traditional and cultural practices and to be with our children and families, near and far.

The SWEIS covers the environmental impacts of the Livermore Lab's planned activities, including the manufacture of extremely dangerous plutonium pits, for the next fifteen years. There can be no doubt that the capacity of the Lab facilities and the capability of Lab employees to carry out these activities pursuant to the strictest safety standards must be scrutinized by the public and all impacted communities. 3-A

A 30-day extension of the Public Comment period would also allow individuals that attend any of the scheduled public hearings more time to deliberate on the information provided without having to forego holiday obligations and traditions, or time with their families. I note that no meetings or public hearings are scheduled after mid-December so that the NNSA is also given an opportunity to observe the holiday season.

Opportunities for meaningful public comment enshrined in the National Environmental Policy Act and environmental justice will be better served by honoring the public's request for more time to review this highly technical document.

Thank you for your careful consideration of this request to extend the public comment period to February 2, 2023.

L. Watchempino
PO Box 407
Pueblo of Acoma, NM 87034

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Watchempino, Laura (45)
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[redacted]

From: Laura Watchempino <5000wave@gmail.com>
Sent: Tuesday, January 17, 2023 12:40 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Draft Site Wide EIS for LLNL and Site 300
Attachments: My Comments-LLNL Draft SWEIS.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Ms. Fana Gebeyehu-Houston:

I have attached my comments for 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.

Thank you,

L. Watchempino

****

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January 17, 2023

Re: ***Draft Site-wide Environmental Impact Statement for the Continued Operation of Lawrence Livermore National Laboratory and Site 300 High Explosives Testing Range near Tracy, CA***

Via email: ***LLNLSWEIS@nnsa.doe.gov***

Dear Ms. Fana Gebeyehu-Houston:

These are my comments regarding the National Nuclear Security Administration's (NNSA) Draft Site-Wide Environmental Impact Statement (SWEIS) for the continued operation of the Lawrence Livermore National Laboratory (Livermore Lab) Main Site in Livermore, CA and Site 300 high explosives testing range near Tracy, CA.

1. **Plutonium Increase Opposed**. According to the SWEIS, the NNSA is proposing to increase the administrative limits for plutonium mixtures at Livermore Lab's Building 235 from 8.4 grams of 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 stored in the building at any one time. Even the No-Action Alternative proposes an **increase of nearly 5 times** the current allowable limit for on-site plutonium mixtures. Invisible plutonium particles are extremely lethal. Plutonium emits extremely high-energy rays (alpha particles) that tear through living tissue as the plutonium radioactively disintegrates within the body. The proposed increase in administrative limits for plutonium mixtures at the Lab in every SWEIS alternative poses unacceptable risks to humans and the environment. The Livermore Lab has a poor safety record that includes accidents, near-accidents, spills and releases. The Livermore Lab is located in close proximity to residential neighborhoods and nearly 8 million people reside within a 50-mile radius of the Lab. The SWEIS should analyze an alternative that decreases the amount of extremely dangerous plutonium that is stored at the Lab in any location, at any time, rather than increasing it, along with an analysis of the comparative risks for each alternative. Additionally, a database that tracks health impacts to all present and former workers at the Livermore Lab should be compiled and analyzed at regular intervals.

4-E

6-A

19-E

2. **More Information is Needed to Evaluate the Livermore Lab's Role in Plutonium Pit Production.** Along with an unacceptable increase in the plutonium levels being proposed for the Livermore Lab and the accompanying risks for Lab workers and off-site populations, the SWEIS inappropriately avoids a **programmatic** analysis of an increase in plutonium at production and non-production sites. The Livermore Lab will have a "hands on" role in plutonium pit production that carries with it extreme

1-B

Watchempino, Laura (45)
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environmental risks even if the 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. The qualification and certification processes entail a variety of performance 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 clearly outline how the plutonium operations proposed for Livermore Lab will fit into NNSA's expanded plutonium pit production plan, and address the transportation risks involved. The increased risks of transporting plutonium pits back and forth between production and non-production sites should undergo heightened analysis, with an emphasis on national security, due to the increased potential for terrorist attacks and transportation accidents.

1-B, 16-A

3. **Tritium Emissions Increase Opposed**. Site-wide **air emissions of tritium** (radioactive hydrogen) at the Lab are proposed to increase from 129.2 Curies of tritium in the 2019 baseline, to 300 Curies of tritium in the No Action Alternative, and up to 3,610 Curies of tritium could be releases in the Proposed Action Alternative. **This is almost a 28-fold increase in the amount of tritium proposed to be 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, and a **12-fold** increase in **cancer** for exposed populations. This poses an unacceptable increase in risk for non-consenting individuals and communities. One curie is a large amount of radiation, equal to 37 billion radioactive disintegrations per second. If this plan is not stopped, it will release radioactive tritium directly into the ambient air; which will travel with prevailing air currents and tumble into surrounding neighborhoods and nearby communities, recreational areas, wetlands and agricultural fields. It will fall out in the rain over homes and croplands and become organically bound in crops and vegetation. Chronic tritium exposure is linked to numerous bad health outcomes, including deadly cancers. The SWEIS should analyze all tritium exposure pathways to receptors, both long-term and short-term, in the Lab's workforce and off-site residents so that the increased risk from the proposed tritium emissions to humans and the environment can be critically assessed. In particular, vulnerable human populations, such as pregnant women, children, and immuno-compromised individuals, other endangered species, and sensitive ecosystems must be separately analyzed. An alternative that eliminates tritium releases to the ambient air, soil, or groundwater at the Lab must also be analyzed to protect human health and the environment.

4-D, 6-A, 19-A

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4. **No Advanced Hydrotest Facility.** The Proposed Action in the SWEIS includes building a 75,000 square foot "Advanced Hydrotest Facility" (AHF) at Site 300 (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 its population has skyrocketed, greatly increasing the risk of operating the AHF in a densely populated area of non-transient residents that live and work nearby. It is notable that a weapons designer at the time referred to the proposed AHF as "a nuclear weapons designer's dream," referring to the facility's capacity to help design new plutonium primaries. The SWEIS should specify all programmatic uses for the proposed AHF and analyze all potential exposure pathways to receptors off-site residents and receptors so that the increased risks to humans and the environment from this proposed alternative can be critically assessed. An advanced Hydrotest Facility should not be built and all open air burns and detonations at Site 300 should cease. 4-L, 6-B

5. **New Bio-Agent & Animal Research Lab Must Cease.** 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 bio-agents, (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 the Livermore Lab (or by this agency). This SWEIS did not conduct a separate analysis of a potential biological hazard release, but instead tiered from previous NEPA analyses performed for the current BSL-3 Facility, not a larger new BSL-3. (Appendix C, C-48) Reliance on a NEPA analysis that is over a decade old and not specifically tailored for an expanded new BSL-3 cannot be justified. The SWEIS should analyze both an accident scenario and an Intentional Destructive Act scenario specifically tailored to the new BSL-3 as outlined in the Proposed Action. The SWEIS should 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 the Lab's biological defense research to stimulate the proliferation of biological weapons in other countries. The proposed expansion of bio-warfare agent research with experiments on animals should be canceled because the risk of proliferation outweighs any perceived benefits. 1-C, 4-J, 4-K, 20-E

6. **Reduce or Cancel New Warhead Development Programs.** Livermore Lab is one of two locations 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 of provocative new warhead activities can and should be curtailed, with a shift toward new civilian missions. Instead, the SWEIS maintains a singular focus 2-B, 2-D

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on programmatic activities that increase Livermore Lab's new warhead design activities, in violation of U.S. obligations to end the production of nuclear weapons under the 1968 Nuclear Non-Proliferation Treaty. Those design activities include:

- The **W87-1**, a wholly new warhead currently being designed at Livermore Lab to sit atop a new ICBM that the Pentagon is developing, called the Sentinel missile. The W87-1 will require new plutonium bomb cores (pits) and is a major driver for NNSA's plan to expand plutonium pit production.
- The **W80-4**, a new warhead being designed at Livermore Lab for the new Long Range Stand-Off Weapon. This warhead will sit atop a new air-launched cruise missile.
- The **W80-4Modification**, a special variant of the new W80-4, designed for a new Sea-Launched Cruise Missile to be placed on ships that do not currently carry any nuclear weapons, nor are they certified for that mission.

2-B, 2-D

Alternatively, the Lab's new warhead design activities could be down-scaled or canceled altogether. New warhead design activities do not promote national security, and these activities will create an enormous amount of extremely dangerous nuclear waste that must be stored, monitored and safeguarded in perpetuity. The draft SWEIS must address the permanent storage of high level nuclear waste that will be generated proposed new warhead design activities the Livermore Lab.

18-A

Additionally, the increased accumulation of extremely dangerous nuclear material that must be stored, handled, and monitored at the Lab will greatly increase the risk of illness and human suffering for Lab employees, as well as surrounding neighborhoods and nearby communities in the event of a release(s). All potential exposure pathways to receptors in the Lab's workforce and off-site residents must be analyzed so that the increased risks to humans and the environment from the proposed alternatives can be critically assessed. The singular focus on programmatic activities that increase Livermore Lab's new warhead design activities in the draft SWEIS will promote a state of "national insecurity", due to the exponential increase in the amount of nuclear materials and waste to be maintained on-site at the Lab, and transported between production and non-production sites.

19-A

7. **Analyze Non-Proliferation Alternatives.** The Proposed Action drastically increases nuclear weapons development activities at the Livermore Lab to the exclusion of other civilian science activities. 126 new facilities are proposed to be built in furtherance of 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, is the responsibility of the NNSA to fully analyze all reasonable alternatives, including a No Action Alternative that is limited to existing programs and the

6-A

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current scope of activities at the Lab. This Draft SWEIS improperly proposes a No Action Alternative that includes 19 new expansion projects and increased levels of dangerous radioactive and hazardous materials at the Livermore Lab. A civilian science alternative should be developed in the SWEIS, in part so that the environmental impacts of the Lab's nuclear weapons work can be meaningfully compared to the impacts of other civilian science activities.

An examination of civilian science-based alternative missions for Livermore Lab should address the many pressing needs of our nation, such as minimizing and preventing infectious disease pandemics; researching climate change adaptation and mitigation; expanding nuclear nonproliferation and inspection programs; pursuing research and development of nuclear disarmament technologies that support verifiability, irreversibility, and, where appropriate, transparency; developing new environmental clean-up solutions for the nuclear waste that is accumulating at the Livermore Lab and other national laboratories, both commercial and weapons-related; environmentally friendly battery storage for renewable energy sources; energy-grid improvements for renewable energy sources; green building technologies; and other civilian science areas that deal with the many challenges facing the United States and the world in the 21st century. I further recommend that the NNSA hold public meetings to develop alternative missions for the Livermore Lab in partnership with community stakeholders and non-governmental organizations. 6-A, 6-C

Submitted by:

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Veterans For Peace
Donald and Sally-Ailce Thompson Chapter #63
Albuquerque, New Mexico

John E. Wilks, III
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January 12, 2023

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

RE: Public Comment on Draft Site-Wide Environmental Impact Statement (SWEIS) for Continued Operation of the Lawrence Livermore National Laboratory

Dear Ms. Gebeyehu-Houston:

This public comment, pursuant to the National Environmental Policy Act (NEPA), is timely filed prior to the end of the filing period on January 18, 2023.

We understand that Lawrence Livermore National Laboratory (LLNL) will be guided by the Final SWEIS for the next fifteen (15) years. Additionally, we understand that the LLNL mission statement promulgated by the US Department of Energy (DOE) and National Nuclear Security Administration (NNSA) will not change immediately upon publication of the Final SWEIS. Still, it is reasonable that the Final SWEIS could (and should) chart a pathway over the coming 15 years that will lead to more civilian science at LLNL and could support a changing mission over time. We understand that LLNL is a NNSA nuclear weapons lab with no production of whole plutonium pits being considered (unlike LANL). Nevertheless, we understand that LLNL will assist LANL in meeting its pit production goals in New Mexico. Further, our comments are largely influenced by the fact that nuclear weapons activities make up 88% of the more than $2 billion dol-

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lars LLNL receives annually from DOE and that LLNL is slated to play a key role in the modernization of the nation's nuclear arsenal for the foreseeable future.

EXPAND THE LIMITED ALTERNATIVE COURSES OF ACTION

We believe that it is inappropriate for the Draft SWEIS to present the public with one alternative that sustains current operations and in the near term significantly increases nuclear weapons activities under supposed "no action." The second alternative identified in the draft document dramatically increases new weapons activities astronomically. The "no action" alternative should be truly zero action or absence of action. The Draft SWEIS covers a huge array of existing and proposed programs and actions at the Lab. For example, the first alternative in the Draft SWEIS document describes 61 proposed projects, totaling approximately 2.9 million square feet, at the Livermore Site; and 14 proposed projects, totaling approximately 385,000 square feet, at Site 300. In addition, it proposes 20 types of modernization/upgrade/utility projects—each involving several facilities. Under the Proposed Action, NNSA would also decontaminate and demolish about 150 facilities, totaling approximately 1,170,000 square feet. The second alternative contained in the Draft SWEIS includes a shocking 75 new projects totaling 3.3 million square feet. 5-A, 6-A

The "no action" alternative should be limited to the programs and the current scope of activities that already exist at LLNL. True alternate options, like conversion of the Lab to civilian science, should be considered. Currently, both alternatives in the Draft SWEIS expand nuclear weapon activities. To recap, there should be at least three (3) alternatives: one for no action (meaning truly zero action), plus the two alternatives identified in the Draft SWEIS document.

EMPHASIZE THE SAFETY HAZARDS POSED BY ADDITIONAL RADIOACTIVE MATERIALS

The risks to lab workers, the public, and the environment posed by the proposed increase in the emissions limits of radioactive tritium from two locations—the main facility in the "Superblock" and the National Ignition Facility (NIF), slated to begin in 2023, are wholly ill advised, unacceptable, and potentially dangerous. The Draft SWEIS describes loading tritium reservoirs with up to 1,500 curies of tritium. Further, the proposal for both the main tritium facility and the NIF could release the *entire tritium load directly into the environment* without the use of a tritium recovery system. We oppose the release of any tritium into the ambient air. We understand that the Nuclear Regulatory Commission (NRC) is currently finalizing its threshold limits for tritium releases. The knowledge that the 4-D, 19-A

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Draft SWEIS will guide LLNL for the next 15 years makes the release of tritium ill advised and reckless.

The Draft SWEIS proposes to increase the administrative limit of the quantity of weapons-grade plutonium that can be in the building at any time. For weapons-grade plutonium in building 235, the current allowable limit of 8.4 grams or less would increase to a new limit of 38.2 grams.This proposal is a five-fold increase, which is not justified on a historical basis. 4-E

The Draft SWEIS also proposes to revise the administrative limits for "radioactive materials" at the NIF. The radioactive materials used at the NIF include tritium and plutonium-242. The Draft SWEIS contemplates using additional plutonium isotopes in NIF shots. 4-I

We believe that all three of these proposals, which involve extremely dangerous radioactive materials, should be cancelled based on the inordinate risk they pose. 19-A, 20-A

PROVIDE FOR THE DISPOSITION OF RADIOACTIVE, TOXIC, CHEMICAL, AND HAZARDOUS WASTE

In response to a petition signed by 1,146 New Mexicans, who had expressed their objection to the lack of transparency of plans by DOE to place down blended plutonium into the WIPP, enlarge the WIPP, and extend the life of the WIPP indefinitely, on April 8, 2022, the governor of New Mexico sent a letter to the Secretary of the US Department of Energy (DOE) in which she expressed her concerns about various aspects of the operation and the proposed operation of the Waste Isolation Pilot Project (WIPP). See Attachment A.

The state's ten-year permit for DOE to operate the WIPP expired nearly three years ago. In the interim, the WIPP has operated on a series of administrative extensions in lieu of a new permit. Permits issued by the New Mexico Environmental Department (NMED) for the WIPP can be for a period of up to ten years. Advocates continue to urge the state to limit the life of the next permit to expire on July 1, 2024, twenty-five years after the first admission to the WIPP. On December 8, 2022, NMED issued a fact sheet covering the draft renewal permit for the next operational period for the WIPP. The draft permit was released to the public on December 20, 2022, for comment until February 18, 2023. The initial response by the public to the draft permit was largely non-acceptance. 18-C

The National Nuclear Security Administration (NNSA) should realize that the historical, subservient acceptance by the state of NNSA, DOE, NRC, and

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EPA plans for New Mexico has ceased. Local governments and the voters will no longer tolerate the desecration of lands, waters, and air by the federal government.

New Mexico has served notice, with the state filing of a lawsuit in Federal District Court to block the Nuclear Regulatory Commission (NRC) from issuing a forty-year license to Holtec International LLC. Holtec hopes to construct, in increments over a twenty-year period, an above ground storage facility, capable of holding 10,000 canisters (173,600 metric tons) of high-level nuclear waste and spent-fuel at its consolidated interim storage facility (CISF) in Eddy County, NM. In the latest session of the state legislature, a bill was introduced which would prohibit NMED from issuing the CISF permits for groundwater discharge, liquid waste, and state water certification. The New Mexico governor's November 16, 2022, letter to the President of the United States objects to the NRC's failure to consult with the state in licensing matters. See Attachment B. Similarly, the attorney general for the state of Texas in 2021 filed a suit in the Federal District Court to invalidate the NRC's license granted to Interim Storage Partners, LLC, for a CISF in Andrews, Texas, which is located less than one mile by air from the Texas/New Mexico border. 18-C

We urge that the plans for LLNL expansion or upgrade should consider that New Mexico is no longer willing to serve as the National Nuclear Sacrifice Zone for either the federal government, other states, extractive industries, public electrical facilities, or multi-national corporations. Texas and New Mexico will not accept high-level or spent fuel nuclear waste. Further, it is highly unlikely that New Mexico will accept much, if any, transuranic (TRU) waste from Livermore Lab, under various WIPP permit conditions and proposals now under consideration by the New Mexico governor. Exemplifying the seriousness which the state legislature *finally* demonstrated in its latest session, New Mexico is currently inventorying the more than 1,150 abandoned uranium mines (528 of which are located on Navajo Lands) and has allocated $50 million for completing an initial inventory and planning clean-up efforts.

THE DRAFT SWEIS FOR LLNL IS PREMATURE

A national Site-Wide Environmental Impact Study for all plants, labs, and facilities participating in the modernization of the nation's nuclear arsenal should be completed prior to the Draft SWEIS for LLNL. 3-D

The 2020 lawsuit filed in Federal District Court by Tri-Valley CAREs, Nuclear Watch New Mexico, and Savannah River Site Watch, all members of the Alliance for Nuclear Accountability, seeks to enjoin the DOE and NNSA from pro-

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ceeding with the "modernization" of the nation's nuclear arsenal at many sites across the nation, without benefit of a comprehensive, all location, Programmatic Environmental Impact Statement (PEIS). The lawsuit is intended to prevent the Livermore, Sandia, and Los Alamos National Labs from implementing plans prematurely such as the alternatives identified in the subject LLNL Draft SWEIS. 3-D

CONSIDERATIONS FOR DISPOSAL OF TRU AND "DOWN BLENDED" PLUTONIUM AT WIPP

In 1973, Eddy County, a rogue county in southeast New Mexico, invited the federal government to locate the WIPP within its boundaries. The State of New Mexico agreed to host the WIPP after extensive and prolonged discussions, negotiations, and consultations throughout the 1970s and 1980s. The Agreement for Consultation and Cooperation of July 12, 1981, was amended by modification in November 1984, August 1987, and March 1988. It was clearly understood, agreed upon by the parties, and communicated to the residents of New Mexico that the disposal phases of WIPP operations would run for 25 years beginning with the first admission of waste. The first shipment was placed in the WIPP in late June 1999, making the end of the disposal phase in late June 2024.

The Waste Isolation Pilot Plant Land Withdrawal Act (approved 10/30/93, amended 09/23/96) provided for the storage of transuranic waste and *not* high-level radioactive waste, generated by atomic energy defense activities. Spent nuclear fuel was ineligible for placement in the WIPP. The capacity of the WIPP was set at 6.2 million cubic feet of transuranic waste. 18-C

New Mexico is *finally* willing to enforce the provisions of the Land Withdrawal Act. Additionally, it has declared that all future permits will be conditioned. One of the proposed conditions is to prioritize all legacy transuranic waste shipments from the Los Alamos National Laboratory (LANL) for admission to the WIPP. The WIPP is now 41% full. There is enough waste at LANL in Areas G & C to completely fill the WIPP. At issue is the DOE's Environmental Management office's definition of "legacy waste". We contend that *all* waste at LANL generated and accumulated since 1943 meets the definition; DOE seeks to limit the scope of the definition of all waste generated since the WIPP opened in June 1999.

On March 23, 2022, Nuclear Watch New Mexico announced the successful settlement of a lawsuit it brought against the Department of Energy (DOE) six years ago over its slow cleanup of the 1943 footprint of the LANL. Two of four provisions of the settlement agreement may directly impact LLNL plans for the storage of demolished structures and that contaminated or remediated waste. DOE is now required to: (1) Investigate, characterize and, if necessary, clean up

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a total of 290 specific contamination sites listed in the settlement. These 290 sites are almost 40% of the approximately 780 areas remaining at LANL that still need investigation and possible remediation. DOE shall conduct these investigations and initiate any remediations of these 290 sites no later than October 1, 2024, and (2) Perform a feasibility study of comprehensive cleanup at one of the major waste pits at Area G. This will include feasibility analyses of radioactive and toxic wastes characterization, retrieval and shipment of TRU wastes to WIPP, and reburial of low-level radioactive wastes in a modern landfill with liners and a leachate collection system. DOE's current plan for its so-called cleanup is to "cap and cover" Area G, leaving some 900,000 cubic yards of radioactive and toxic wastes permanently buried in unlined pits and trenches, a permanent threat to our shared regional groundwater aquifer.

Since the WIPP opened in 1999, as of September 3, 2022, LLNL has only shipped 38 shipments for storage. The announced demolition of sub-standard buildings plus removal of contaminated materials and soil at LLNL, to include Site 300, will pose an overwhelming challenge to DOE, because the WIPP may not be able to accept any TRU waste. Bottom line: because LANL will be prioritized, none of the other twelve contributors to the WIPP will be allowed to emplace during any fiscal year more waste than LANL deposits. Planners at Livermore should not assume that any LLNL TRU waste will be admitted after the new WIPP operational permit is issued by NMED. 18-C

If alternative #2 in the Draft SWEIS is selected, NNSA plans to demolish 150 structures and decontaminate the footprints of those facilities. Consideration should be taken that it should be assumed that *none* of the TRU waste contained in those efforts may be allowed into the WIPP!

The draft permit renewal proposals released by the New Mexico Environmental Department on December 2022 contain conditions as follows:

An end date must be set for the WIPP,

The waste in WIPP (kind, amount, and origin) must be accounted for,

Waste not meant for WIPP (to include surplus plutonium) will not be allowed or the license for DOE will be revoked,

Weapons waste in New Mexico must be first to go to WIPP to protect New Mexicans,

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Repositories in other states must be built to relieve New Mexico of the sole burden of disposing of the nation's nuclear waste.

For planning purposes the Draft SWEIS should consider that all shipments arriving at the WIPP are subject to regulation by the state. Whether the shipment is TRU waste, mixed waste, or down blended plutonium, it is under the regulation of the state. As such, under the original terms of the agreement to accept siting of the WIPP in the state, down blended plutonium is ineligible for admission to the WIPP!

PIT PRODUCTION AT LOS ALAMOS NATIONAL LABORATORY AND SAVANNAH RIVER SITE WILL IMPACT THE FUTURE OF LAWRENCE LIVERMORE NATIONAL LABORATORY

Livermore Lab will have a hands-on role in NNSA's plans for expanded plutonium pit production at Los Alamos. Historically, advocates in New Mexico and elsewhere have been successful in beating back four successive attempts by the federal government to expand pit production at LANL. With the continued delay in the completion of production facilities at the Savannah River Site (SRS), Los Alamos is tasked with producing no less than 30+50=80 pits annually beginning in 2030. The field observations of the Defense Nuclear Facilities Safety Board's inspection of LANL in November 2022 were publicly briefed at its public board meeting on November 16, 2022, in Santa Fe. It was clear at the board meeting that LANL can not currently safely produce any meaningful quantity of pits and it is highly doubtful, based on the need to cure serious safety deficiencies and production plant defects, that LANL will meet even its modest production target for 2024. Further production delays might adversely impact LLNL and could nullify the justification for immediate implementation of the buildout plans and financial expenditures contained in the Draft SWEIS for LLNL. 1-B

THE DRAFT SWEIS IS OUT OF COMPLIANCE WITH INTERNATIONAL LAW

The Draft SWEIS states that the proposed action is in compliance with international law. The Draft SWEIS says, "NNSA missions are conducted fully consistent with current treaty obligations."

Livermore Lab is playing a central role in driving a new and dangerous global arms race. The US weapons budget throws fuel on the fire of potential nuclear war. This is fundamentally in contradiction with our obligations under the nuclear Non-Proliferation Treaty (NPT). LLNL's objectives of maintaining the ar- 2-A, 2-B

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senal include Life Extension Programs that are unnecessary, expensive, environmentally polluting, and promote the nuclear arms race worldwide.

Sandia National Laboratory (SNL) heads up the nuclear weapons surveillance program for the national stockpile. SNL, LANL, and LLNL have a role in certifying the country's current stockpile of more than 5,000 nuclear weapons. After extensive testing, the weapons have been certified viable for decades to come. The escalating cost of maintaining the stockpile is not due to the difficulty of the task or effects of aging warheads. It is caused increasingly by elective changes introduced into the stockpile as part of the Life Extension Program.

The desire to modify warheads or develop new warheads is a primary factor in the push to upgrade other parts of the nuclear enterprise. The cost of modernizing the stockpile, including infrastructure and delivery systems, is estimated to be $1.7 trillion over 30 years with a modest rate of inflation.

Some of the programs that need to be analyzed in the Draft SWEIS are:

> Whether the development of the W80-4 "Long-Range Stand Off" weapons is in compliance with our treaty obligations under the NPT, and
>
> Whether the development of the W87-1 is in compliance with our treaty obligations under the NPT.

2-A, 2-B

These new warhead designs do not comply with the treaty obligations. The US has an obligation under Article VI of the nuclear Non-Proliferation Treaty "to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament . . . ."

The International Court of Justice further clarified in 1996, "There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control."

The US government is not working in good faith toward nuclear disarmament when LLNL is creating new weapons designs.

Further, not only is LLNL's work out of compliance with treaty obligations under the NPT, but LLNL's work is making our world more dangerous. Through this Draft SWEIS, Livermore Lab is committing to continue the nuclear arms race indefinitely. The LLNL, under the National Environmental Policy Act (NEPA) has

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an obligation to study the *potentially significant environmental impacts of its actions.* There may be no greater significant environmental impact than nuclear war. 2-A, 2-B

Respectfully submitted,

John E. Wilks, III
Vice President
Chapter #63, Albuquerque, NM
Veterans For Peace

Attachments: A. Letter, NM Governor to Sec. Granholm, dated 08/08/22
B. Letter, NM Governor to President Biden, dated 11/16/22

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State of New Mexico

Michelle Lujan Grisham
Governor

April 8, 2022

The Honorable Jennifer M. Granholm
Secretary
U.S. Department of Energy
1000 Independence Ave. SW
Washington, D.C. 20585

Dear Secretary Granholm,

On March 1, 2022, a petition with 1,146 signatures expressing concerns with the expanding mission of the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico by the U.S. Department of Energy (DOE) was delivered to my office. I have attached the cover page of this petition for your reference.

Specifically, the New Mexicans who signed the petition raised concerns about the transportation of the surplus plutonium waste stream between the DOE's Savannah River Site in South Carolina and the WIPP. They also raised concerns that the disposal of this waste stream will exceed the volume limits set in place by the federal Land Withdrawal Act. The petitioners would like to see the DOE develop a new disposal site in a state other than New Mexico.

The petition reflects ongoing frustration among New Mexicans regarding the lack of meaningful and transparent public engagement from the DOE on waste clean-up, shipments, and long-term plans for the WIPP. Because the issues raised in the petition can only be addressed by DOE, I am passing this petition along to you. As Governor, I take these concerns seriously and request that the Department of Energy take action to address the issues raised by New Mexicans.

I thank you for your consideration and look forward to your reply.

Sincerely,

Michelle Lujan Grisham

Michelle Lujan Grisham
Governor

State Capitol • Room 400 • Santa Fe, New Mexico 87501 • 505-476-2200

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State of New Mexico

Michelle Lujan Grisham
Governor

November 16, 2022

Joseph R. Biden
The President of the United States
The White House
1600 Pennsylvania Ave, NW
Washington, DC 20500

Dear President Biden,

I write to ask for your action in relation to the proposed storage of spent nuclear fuel and high-level nuclear waste by a private company within the state of New Mexico. The U.S. Nuclear Regulatory Commission (NRC) recommended approval in its July 2022 final environmental impact statement (FEIS) of the Holtec International (Holtec) license application to construct and operate a consolidated interim storage facility for spent nuclear fuel and Greater-Than-Class C waste at a site located between the cities of Carlsbad and Hobbs, in Lea County, New Mexico. As governor of a state that is working closely with your administration on a range of energy issues, I ask that you direct the Department of Energy (DOE) and the NRC to suspend consideration of the Holtec license application and to directly engage with the State of New Mexico within a consent-based framework on the many unaddressed issues related to nuclear waste disposal at this and related facilities that we have been raising for years.

New Mexico has grave concerns for the risk this proposed storage site would pose to our citizens and communities, our first responders, our environment, and to New Mexico's agriculture and natural resource industries. Despite our strong objections and concerns over public health, economic, scientific, natural resource issues and environmental justice – and those of tribal leaders, local governments, and the people of New Mexico – the NRC has failed to address, or even acknowledge, the issues we have raised multiple times - effectively choosing to allow private financial interests to override a state partner's lack of consent.

New Mexico has consistently and strongly opposed this nonconsensual private proposal for many years. I wrote the Secretary of the DOE and the Chairman of the NRC in June 2019 of the significant and unacceptable risks to New Mexicans, our environment and our economy related to this project. I wrote to your predecessor in July 2020, expressing New Mexico's opposition to the Nuclear Regulatory Commission's consideration of a license for this proposal. With members of our New Mexico congressional delegation, I wrote again to the NRC in July 2021, raising these same issues. Most recently, in March 2022, New Mexico submitted comments to DOE insisting that the siting of any interim storage facility in a state, irrespective of whether it manages federal

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or commercial nuclear waste, must require concurrence from the current governor prior to issuing its license or permit to operate. In addition, the Western Governors Association, a bipartisan organization representing the governors of 22 states, passed a policy resolution in June of this year reaffirming that "no radioactive waste storage or disposal facility should be located within the geographic boundaries of a western state or U.S. territory without the written consent of the current Governor.[1]" Yet, the NRC continues to ignore this expressed opposition, as well as the significant and substantial issues the state, tribes, and many other stakeholders have raised, and has now recommended licensure of the Holtec facility.

The NRC and the DOE have also failed in any meaningful way to comply with your Executive Order 14008 on Climate and Environmental Justice in the evaluation of this nuclear waste storage proposal: the draft and final EIS have done nothing to identify and evaluate the cumulative history of adverse human health and environmental effects on New Mexico's vulnerable populations. The failure to quantify specific impacts and health consequences to vulnerable populations in New Mexico that might occur from the various potential accidents and release scenarios considered in the FEIS are two examples of the insufficiency of the evaluation of environmental justice.

New Mexico is already home to contaminated former uranium mining and milling sites on and near tribal lands and legacy contamination at a national laboratory, which has long created risks to public health and the environment in the State of New Mexico. In addition, we are the only state in the country to have taken on the risk associated with disposal of nuclear waste, hosting the Waste Isolation Pilot Plant (WIPP) in southern New Mexico for disposal of transuranic waste. The proposed action threatens minority and low-income populations in New Mexico that have already suffered disproportionally high adverse human health and environment effects from nuclear energy and weapons programs of the United States. Yet, nowhere in the NRC process has this been recognized, let alone analyzed.

New Mexico has been doing more than its fair share to address the nation's nuclear waste at WIPP and Los Alamos National Laboratory and will continue to do so. However, the federal government has a moral and legal responsibility to address storage and disposal of nuclear waste equitably and on the basis of consent. Until this private proposal is evaluated in consent-based framework, I urge you to order the NRC to suspend consideration of this license for Holtec to store nuclear waste in a state which has not consented and whose significant and substantial concerns have consistently been ignored.

Sincerely,

Michelle Lujan Grisham

Governor of New Mexico

cc: The Hon. Jennifer Granholm, U.S. Department of Energy Secretary
The Hon. Christopher Hanson, Nuclear Regulatory Commission Chair

[1] https://westgov.org/resolutions/article/policy-resolution-2022-09-radioactive-materials-management

State Capitol • Room 400 • Santa Fe, New Mexico 87501 • 505-476-2200

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[redacted]

From: Lukasz Wojtaszek <lukasz.wojtaszek@gmail.com>
Sent: Tuesday, December 13, 2022 9:51 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Livermore Lab Draft SWEIS Comments

Hello,

I would like to submit a comment regarding the Livermore Lab Draft SWEIS.

I am asking for a 30 day extension and one more virtual public hearing after the New Year.

First, as someone who is a community member that is trying to understand the content of the SWEIS, it takes a significant amount of time to review the 1,400 page document. The amount of time currently given isn't enough considering I have to balance this with my job and rest of my responsibilities. On top of that the comment period falls during major holidays. I am currently travelling with family and will be until the end of the year. The timing of this comment period feels like it was purposefully chosen to make it hard for community members to be able to comment. A fair process would actually account for how much time community members need to review the SWEIS and make comments. For these reasons, the comment period should be extended by 30 days and there should be one more public hearing in January after the new year. 3-A

Please correct this bad faith process and extend the comment period by 30 days and have another public hearing after the New Year.

Thank you

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[redacted]

From: Scott Yundt <sjyundt@gmail.com>
Sent: Wednesday, January 18, 2023 9:10 PM
To: LLNLSWEIS
Subject: [EXTERNAL] Comment on LLNL SWEIS
Attachments: TVC and WILPF Comment on LLNL SWEIS 2023.pdf

Please find the attached comment from Tri-Valley CAREs and Women's International League for Peace and Freedom, San Francisco and East Bay Branches. Confirmation of receipt would be appreciated.

--
Scott Yundt
Staff Attorney

Tri-Valley CAREs
4049 First St., Suite 243
Livermore, CA, USA 94551

Ph: (925) 443-7148
Cell: (415) 990-2070

Web: www.trivalleycares.org
Email: scott@trivalleycares.org

"Stopping nuclear weapons where they start..."

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Tri-Valley CAREs

Communities Against a Radioactive Environment

4049 First St., Suite 243, Livermore, CA 94551 • (925) 443-7148 • www.trivalleycares.org



Peace Justice Environment since 1983

Tri-Valley CAREs and Women's International League for Peace and Freedom, San Francisco and East Bay Branches, Comments on the Draft Site-Wide Environmental Impact Statement for Continued Operations of Livermore Lab

By email to: LLNLSWEIS@nnsa.doe.gov

Date: January 18, 2023

Ms. Fana Gebeyehu-Houston, NEPA Document Manager
National Nuclear Security Administration (NNSA),
Lawrence Livermore National Laboratory (LLNL)
P.O. Box 808, L-293
Livermore, CA 94551-0808

Dear Ms. Fana Gebeyehu-Houston:

Tri-Valley CAREs ("TVC") is a non-profit organization founded in 1983 by Livermore, California area residents to conduct research, analysis, public education and advocacy regarding the potential environmental, health and proliferation impacts of the U.S. nuclear weapons complex, including but not limited to its Lawrence Livermore National Laboratory. Tri-Valley CAREs is the only organization that focuses its research, public education and advocacy on the potential environmental, health, and proliferation impacts of the Livermore Lab. TVC submits this comment on behalf of its board, staff and 6000 members 5,600, who reside mostly in the Bay Area, but with many around the country and beyond.

In its capacity as a nuclear weapons complex "watchdog" organization, Tri-Valley CAREs has commented during the public participation process for many National Environmental Impact Statements released by the DOE and NNSA. Tri-Valley CAREs has been involved in every SWEIS process for LLNL to date (not to mention many other environmental review processes at the Lab). The organization has mobilized hundreds of concerned citizens to voice opinions and opposition at public hearings and via written comment to some potentially dangerous future plans that were identified by previous Draft SWIES documents. Tri-Valley CAREs is submitting this comment on the Draft Site-Wide Environmental Impact Statement for Continued Operations of Livermore Lab.

In addition, this comment is being submitted by TVC's colleague organization, Women's International League for Peace and Freedom, San Francisco and East Bay Branches. WILPF's vision is a world of permanent peace built on feminist foundations of freedom, justice, nonviolence, human rights, and equality for all, where people, the planet, and all its other inhabitants coexist and flourish in harmony.

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The Draft SWEIS Lacks Historical Context

There is a history of accidents, leaks and spills, at the Lab's Main Site and Site 300, which have resulted in toxic and radioactive releases and contamination to workers and the environment, i.e. the air, water and the land on and around the sites. Specifically, contamination from both sites has polluted the groundwater underneath to the extent that the sites were both listed as a "Superfund" cleanup sites by the US EPA. Cleanup of contaminated soil and groundwater is ongoing at both sites and expected to take generations to complete, until 2080 in some areas.

TVC has documented from LLNL and DOE sources that more than one million curies of radiation have been released up the stacks at Livermore Lab, including airborne releases of tritium and plutonium. The history shows, for example, that an increase in activities with tritium, results in higher emissions (both "routine" and accidental). The history shows accidents with plutonium that have created emissions as well, including globe box and other weapons-related accidents that sent plutonium out into our air. These are not mere stories from the past; these are trends that have direct relevance to reasonably foreseeable risks due to the planned increases of these deadly materials. The Draft SWEIS should include information and data about these historical releases, accidents, and spills. It should explain the lessons learned from these past incidents, and show the trends between the amount of hazardous and radioactive material on site at both sites and the frequency of incidents. The SWEIS should also analyze the relationship between increase in work volumes (like the increase in the Proposed Alternative) and the frequency of incidents. 20-G

The Draft SWEIS Contains a Faulty Alternatives Analysis

The Draft SWEIS fails to provide any real alternatives, which is contrary to the intent of the National Environmental Policy Act that lays out the requirements for an EIS. Instead, the document only contains a broad brush "no action" alternative and a "proposed action" alternative. 6-A

Furthermore, the **"no action" alternative** should be limited to the programs and the current scope of activities that already exist at Livermore Lab. Yet, in this Draft SWEIS, the NNSA has shoveled in **19 new projects** (totaling 416,300 square feet) and called them part of the "no action" alternative.

To offer one example, included in the 19 new projects is 25,000 square feet of new plutonium infrastructure in the main plutonium facility in the Livermore Lab's "Superblock" (page S-26 plus the map that precedes it). 5-A

To offer some context, the term Superblock at the Livermore Lab Main Site designates a collection of core nuclear weapons facilities including the main plutonium facility (building 332) with plutonium globe box lines, furnaces and a huge plethora of experimental and fabrication areas, the main tritium facility (building 331) with tritium glove boxes, high pressure fill operations (and even actinide [plutonium] operations located in the tritium facility's segment 2), and the hardened engineering test facility (building 334) where plutonium bomb cores or parts

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are shocked, shaken and heated to demonstrate how the radioactive metal will perform from launch to detonation (yes, this means nuclear war). The Livermore Lab contains many, many other nuclear weapons buildings, but those in the Superblock are considered the Lab's nuclear materials centerpiece. Many hazardous activities, accidents, spills and releases have occurred here. 5-A

The "proposed action" alternative (meaning what the Lab wants) in the Draft SWEIS includes 75 new projects totaling 3.3 million square feet (see page S-42 and the table). Many of these buildings will be conducting dangerous, internationally provocative nuclear weapons activities that should be analyzed in more depth and parsed out into separate alternatives that allow the agency to opt out of some of these dangerous proposals when coming to a Record of Decision on the SWEIS. For example, 6-A

1. The proposed action in the Draft SWEIS includes a new, 60,000 square foot, "Next Generation Life Extension Program Research & Development Fabrication Building." It is clear from the Draft SWEIS that facility is work on new nuclear warheads, including the fabrication (production) of new-design weapons components in order to test them out (see page S-38 and surrounding pages). The Draft SWEIS makes clear that the work in this facility will be to create "next generation" technology but it fails to analyze the potential risk associate with pushing the envelope. TVC and WILPF request an analysis of the proliferation risks of this research be included in the SWEIS. The Draft SWEIS contains very little explanation of the activities that will occur inside the facility. The public needs more explanation in the SWEIS so that it can understand, analyze and discuss its potential impacts and risks. In addition, an alternative that excludes this facility should be included in the SWEIS. 4-P

2. The proposed action in the Draft SWEIS includes building a 75,000 square foot "Advanced Hydrotest Facility" (AHF) at Site 300 (see page S-40). Tri-Valley CAREs members were upset to see the resurgence of this facility. In the mid-1990s, Livermore Lab pushed for a new AHF at Site 300. However, at the time 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. The Draft SWEIS contains very little explanation of the activities that will occur inside the AHF. The public needs more explanation in the SWEIS so that it can understand, analyze and discuss the potential impacts and risks of the AHF. In addition, an alternative that excludes this facility should be included in the SWEIS. 4-L

3. Other new projects at the Lab's Main Site include a new Engineering Shop support facility, a new Nuclear Science Center, a new High Bay, a new "Classified Lab" *(why not disclose at least its name, which is done with other classified facilities?)*, and more. These are all directly related to new weapons activities, assuming the "Classified Lab" is in that grouping (see Pages S-38 to S-40). The Draft SWEIS contains very little explanation of the activities that will occur inside these facilities. The public needs more explanation in the SWEIS so that it can understand, analyze and discuss the potential impacts and risks these facility pose. In addition, an alternative that excludes these facilities should be included in the SWEIS. 4-O

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4. Specific to NIF and related weapons research, the proposed action includes a new "High Energy Density" support facility and a "Future NIF Laser Expansion". The Draft SWEIS contains very little explanation of the activities that will occur inside these facilities. The public needs more explanation in the SWEIS so that it can understand, analyze and discuss the potential impacts and risks these facility pose. In addition, an alternative that excludes these facilities should be included in the SWEIS. 4-I

5. At Site 300, additional facilities in the proposed action alternative include a new "Weapons Test Facility," and a new "Accelerator Bay and Support Bunker" expansion, among others. The Draft SWEIS contains very little explanation of the activities that will occur inside these facilities. The public needs more explanation in the SWEIS so that it can understand, analyze and discuss the potential impacts and risks these facility pose. In addition, an alternative that excludes these facilities should be included in the SWEIS. 4-Q

Nuclear weapons activities already make up about 88% of the more than $2 billion dollars the Lab receives annually from the Dept. of Energy. It is not in compliance with NEPA for this Draft SWEIS to present the public with one alternative that increases nuclear weapons activities under supposed "no action" and a second alternative that puts new weapons activities on steroids. 6-A

In sum, TVC and WILPF outright oppose this huge expansion of new nuclear weapons development activities at the Lab. If this goes forward the way it is outlined in the Draft SWEIS, it will enable a whole generation of new warhead development. 1-A

In order to comply with NEPA and give the public a range of reasonable alternatives to analyze, the agency should provide additional alternatives that include some of the proposed actions and/or some of the proposed operational changes. The public should demand that the "no action" alternative be truly "no action" and that the 19 new projects be removed. Furthermore, the public should comment on true alternatives (like conversion of the Lab to civilian science) and not limit themselves to the two generic alternatives proposed in the Draft SWEIS that both expand nuclear weapons activities. 5-A, 6-A

The agency must revise the draft and re-release it for public comment with a broader range of alternatives. Some suggested reasonable alternatives include, but are not limited to:

1. An alternative in which the BSL-3 is not replaced. If the current BSL-3 is reaching the end of its useful life, an alternative that closes down the Biological defense research at the Lab. This research was funded following the Anthrax attacks of 2001 in which congress pushed for increased bio defense in response very quickly. This work could logically be done at other defense sites in the country. The SWEIS does not indicate that any investigation as to the redundancy or duplicative nature of the LLNL Biodefense program with other existing government sponsored bio defense labs operated by other agencies. It is mission drift for the DOE and NNSA to engage in Biodefense and rather than double down on that mission drift, the SWEIS should examine closing the facility. Nothing in the Nuclear Posture Review or other DOE 1-C, 6-B

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mission includes directives for ongoing Bioresearch at LLNL. An alternative that closes the biodefense research down at LLNL is reasonable and must be analyzed. 1-C, 6-B

2. An alternative that examines abandoning the increased bomb blasts, or any outdoor bomb blasts, at Site 300 is reasonable. It is possible that the Lab will not ever receive an air permit from Valley Air. An alternative that abandons these blasts should be analyzed. 4-G, 6-B

3. The SWEIS states that "The Complex Transformation SPEIS also considered and evaluated the transfer of missions/operations to and/or from LLNL, and NNSA has implemented, as appropriate, decisions that followed preparation of that document." (SWEIS 3-64) That was in 2005- nearly 20 years ago. It goes on to state that "NNSA has not identified any new proposals for current missions/operations that are reasonable for transfer to and/or from LLNL." It does not state that any evaluation of whether any current missions of operations were examined for transfer to another site as part of this Draft SWEIS analysis as was requested by commenters during scoping. An alternative should analyze whether any current LLNL missions or operations could be consolidated or moved to another agency site and/or done away with entirely. Additionally, this alternative could determine if any existing or proposed activities are redundant or duplicative of operations or programs being conducted at other agency facilities. 6-A

Opposition to Proposed NIF Expansion in the Draft SWEIS

The Draft SWEIS also proposes to "revise the administrative limits for radioactive materials" at the NIF. The Draft SWEIS contains very little explanation of the experiments planned in NIF in the next 15 years that require increased radioactive materials. The public needs more explanation in the SWEIS so that it can understand, analyze and discuss the potential impacts and risks these experiments pose. In addition, an alternative that excludes these new experiments and keeps NIF at its current level of operation should be analyzed in the SWEIS.

The Draft SWEIS is clear that NIF will continue to experiment with tritium; however, the Draft SWEIS needs to be explicit as to whether plutonium-242 and other plutonium isotopes will also be used in NIF experiments in the future and it what quantities. 4-I

The Draft SWEIS explains that the proposed alternative includes taking steps "towards doing direct drive experiments in NIF." (pg. 3-35) These "polar direct drive" experiments "with smooth laser beam to target (as opposed to current indirect drive experiments where the laser beam shines inside of the hohlraum to create x-rays)" and other experiments will contaminate the inside of the NIF chamber with radionuclides (will these include plutonium- 242?). The SWEIS should include analysis of how the target chamber at NIF will be decontaminated from these direct drive and other experiments, including the frequency of decontamination, the number of workers potentially exposed and the cost.

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The SWEIS should include an explanation of how the rate of experiments in NIF will increase from 400 shots per year to 600 shots per year in the proposed action alternative, but there will not be a corresponding change in NIF limits as described in the operational changes under the Proposed Action. This is difficult for the public to understand in conjunction with the Draft SWEIS' acknowledgment that an increase in the number of shots would increase LLW by two transportainers per year. Additionally, the SWEIS should provide information, analysis and data to explain its assertion that with an increase in the number of NIF shots by 50%, that the skyshine estimates from the 2005 SWEIS/2011 SA would not increase. 4-I

The SWEIS should also provide more details and analysis about the plan at NIF to introduce new materials for targets like Plutonium 242 and or other plutonium isotopes. This analysis should also include the proliferation risks posed by NIF with these new materials being used as targets.

Opposition to Proposed Increase in Plutonium Administrative Limit in the Draft SWEIS

NNSA is also proposing to increase the administrative limits for plutonium mixtures at Building 235 from less than 8.4 grams plutonium-239 under the No-Action Alternative to less than 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 extremely high-energy rays (alpha particles) that tear through tissue as the plutonium radioactively disintegrates within the body.

The Draft SWEIS goes on to say that much of this would be used at other sites after preparation at LLNL. (SWEIS 3-54) If it is being shipped to NNSS or LANL, has the alternative of it being produced at other sites for experiments been examined? An alternative should be analyzed that removes all special nuclear material from the Lab. 4-E, 6-A

The Draft SWEIS states that, "The increased limits in B235 would lead to expanding the laboratory space dedicated to the preparation of plutonium samples for experimental work conducted outside of B235. This would enable the preparation of experimental samples for critical high-pressure experiments at NIF, JASPER facility at Nevada Nuclear Security Site, HPCAT and DCS facilities at Argonne National Laboratory, Z Pulsed Power Facility at Sandia National Laboratories, and other facilities." (SWEIS 3-54) The SWEIS must make clear in relation to this proposal what the corresponding increase in shipments of plutonium would be back and forth between these sites. An Alternative should be analyzed that reduces and ultimately removes all special material from the Lab.

Opposition to the Proposed HEAF Expansion in the SWEIS

The Draft SWEIS mentions that the new High Explosives Application Facility (HEAF) Laboratory Capability Expansion (HEX) will generate "hazardous waste contaminated with HE and non-hazardous waste and managed in accordance with DTSC permit requirements. The facility could double the existing waste stream from HEAF." (SWEIS 3-30) The hazardous waste permit from the DTSC for the main site was recently finalized and will last for 10 years, but the Draft SWEIS does not explain whether the increase in hazardous HE waste will require an expansion of the current permit limits. The SWEIS should provide detail about how the increase 4-R

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in HE and hazardous waste generally will impact and coordinate with the existing hazardous waste permit issued by the State of California for both the main site and Site 300. The SWEIS should explicitly address whether the proposed action is consistent with the DTSC hazardous waste permit as issued. The lab should analyze an alternative in which all high explosives research is ended at the Lab. 4-R

SWEIS Analysis of Cleanup is Inadequate

The Livermore Lab Main Site was placed on the Environmental Protection Agency's Superfund list of most contaminates sites in the nation in 1987. The Livermore Lab Site 300 high explosives testing range was placed on the EPA Superfund list in 1990. Both locations have multiple chemical and radioactive contaminants that have leaked into soils and groundwater aquifers, as well as some surface waters at Site 300. Both locations have on-site and off-site contamination that is being cleaned up under the Superfund law. Both locations have cleanup activities that will need to continue for the next 40 years or more. This past contamination must be fully considered in the Draft SWEIS. Additionally, the Draft SWEIS does not state whether any program activities considered in the Proposed Alternative complicate or delay any of the ongoing or planned Superfund monitoring or cleanup, despite the fact that many of the proposed activities occur near clean up areas. The Draft SWEIS states that the Proposed Action alternative does not alter the timeline, technologies used, or thoroughness of the CERCLA environmental cleanup of the contamination at either LLNL site with no direct analysis or explanation. For the public to understand the interaction of the many proposed actions and the cleanup, the SWEIS needs to provide much more detail. Additionally, an alternative that analyzes using new cleanup technologies, provides more staff dedicated to the cleanup and hastens the cleanup schedule should be included in the SWEIS. 6-A, 21-A

The Proposed Action Proposes a Risky and Unacceptable Increase to Transportation Risk

According to the Draft SWEIS, the Proposed Action increases the accident risk to the public from radiological and hazardous materials transportation by nearly 35%. (Table 5-32. Summary of Transportation Impacts for the Alternatives- SWEIS 5-94). This is an unacceptable level of risk. The Draft SWEIS does not adequately describe this risk in detail that allows the public to understand the type, location, potential severity, or the precautions taken that could mitigate this risk. The SWEIS needs to provide significantly more detail about this transportation risk in the SWEIS. It should also analyze an alternative where less radiological and hazardous materials are transported to and from the Lab. 16-C

The Proposed Action Proposes Risky and Unacceptable Increases to Radioactive Wastes

The preferred alternative Proposed Action proposes a very large increase in all types (LLW, MLLW, TRU/mixed TRU wastes) of radioactive waste production. And the SWEIS calls this waste "an unavoidable result of normal operations." (SWEIS 5-180) The disposal sites often have spills, accidents and releases into the environment. They pollute areas all over the country. These waste streams are a huge problem for our future on this planet. The Draft SWEIS reflects a cavalier attitude of this Lab and NNSA take toward hazardous and radioactive wastes and their associated dangers. The Draft SWEIS should analyze an alternative in which the radioactive waste generation of the Lab is minimized even beyond current operations. It does not indicate 18-A, 18-B

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that the agency tries to limit the proposed programmatic uses of hazardous chemicals, substances or radioactive materials to the bare minimum in any of the alternatives. The SWEIS needs to analyze how the Lab could minimize the use of these chemicals and radioactive materials, by limiting or not initiating programs, using less harmful substances, or finding cutting edge alternatives for each alternative analyzed. 18-A, 18-B

The SWEIS Needs Further Analysis of the Proposed Bomb Blasts Increase at Site 300

The Draft SWEIS is unclear about the status of the Lab's proposed increase in the weight of explosives detonated at Site 300. The Draft SWEIS fails to mention that the lab has not received a permit to conduct these blasts from the San Joaquin County Air Resources Control Board (Valley Air) for these blasts, and may never. These proposed much larger blasts (than what was previously allowed) will produce noise levels up to 126 dB in nearby residential neighborhoods. The Draft SWEIS also fails to mention that the US CDC states that "**Loud noise above 120 dB can cause immediate harm to your ears.**" (SWEIS 4-104) The SWEIS should be accurate in its presentation of the impact of noise that could result from these blasts to the nearby homes at Tracy Hills. Due to the years that have passed since the NEPA public hearings on these increased blasts, and the increased nearby population, the SWEIS should include a new analysis of the proposal and allow for a public participation process that allows the new residents of Tracy Hills to participate and have their voices heard as affected individuals. 4-G, 12-A

These planned high explosives detonations involve more than 100 chemically hazardous contaminants. A future alternative that foregoes these outdoor detonations with hazardous materials at Site 300 must be analyzed in the SWEIS. 6-B

Part of the concern about the Lab conducting these high explosive blasts stems from the September 9, 2020 U.S. Department of Energy's Inspector General (DOE IG) Inspection Report on "The Department of Energy's Management of Explosive Materials at Lawrence Livermore National Laboratory." It disclosed that serious problems persist in the Lab's management of dangerous high explosives. First, the inspectors discovered multiple ways in which Livermore Lab ignores required regulations governing the management of these high-risk substances.

For example the report notes that, "We interviewed eight officials responsible for explosives management at HEAF [High Explosives Application Facility] and Site 300, and upon our request none provided us with detailed inventory procedures." So these officials acknowledged that the Lab is not following any particular set of regulations. The report goes on the note that in fact there are eight different high explosives management systems being used between the Lab's Site 300 high explosives testing range and the Main Site, where HEAF is located. 4-S

Additionally, the inspectors found that the "custodians" of the high explosives were doing their own inventorying of the materials in violation of the requirement that explicitly states, "Physical inventories shall be performed by the use of personnel other than the custodians of the property." These regulations are in place to create efficiency and prevent this material from going missing. The inspectors found several inventory errors that resulted from these various management systems and could lead to a loss (or theft) of explosive material.

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Also alarming were the physical problems with high explosives storage that the inspectors found on site. For example, the report says that "we observed two damaged storage containers, one having a broken handle, and the other partially damaged, unsealed, and infested with insects." The report notes that the Lab was not following its own protocols for pest abatement. "In response to our observations, LLNL officials immediately replaced the insect-infested container with an approved onsite container."

In addition the report, "observed that some of LLNL's explosives storage facilities showed signs of physical deterioration at Site 300. For example, 14 storage facilities at Site 300 had peeling interior paint, and another had a severe mice infestation that prevented us from entering the magazine until it was decontaminated. The mice-infested magazine also had wide gaps around the doorway, which may have been a contributing factor to rodent infestation. As previously mentioned, we also identified an insect infestation inside an explosives container stored within a magazine at Site 300." Despite the Lab's $2 billion dollar per year budget, they are unable to prevent rodents from entering buildings housing High Explosives. This underscores that Lab continues to prioritize new warhead development over site maintenance and safety.

Finally, an enduring problem, given the Lab's rapid expansion and ramping up of nuclear weapons work, is that it is running out of space to house High Explosives. The report notes that "During our inspection, we identified older and legacy materials that programs do not plan to use in the future. Officials stated that physical storage space is crowded and one official stated that more storage space may be necessary for new work on life extension programs." 4-S

"In response to the limited availability of space, Lab officials stated that they do not have a formal plan to manage the space in the future, but actively attempt to mitigate the situation through the disposition of older material and the use of the older material in training and cleaning shots. However, there are a number of limitations that slow the disposition and use of older material.

Due to California air quality restrictions, Site 300 is only permitted to expend 1,000 pounds of explosives each year in the open air and must follow specific guidance based on environmental concerns. An official stated that Livermore Lab shipped some explosives off-site for disposition in the past 2 years, but due to security concerns there are limitations for the remaining materials. If the Lab "continues to work on [warhead] life extension programs in the near future, then it is necessary that the explosive managers actively manage the stockpile now to provide room for future material," he said according to the DOE IG report.

Tri-Valley CAREs objects to the ever increasing amount of High Explosives stored and used in experiments at Livermore Lab's Main Site and Site 300 and believes it is essential for the SWEIS to evaluate the risks posed by an accident or intentional act due to this material being housed in such close proximity to workers and the public. 20-A

Additionally, the SWEIS should include an analysis of the utility, cost, and environmental impacts of maintaining the High Explosives mission at Site 300 when other NNSA sites perform much of the same function farther away from population centers. Site 300 has been identified by previous administrations as an excess DOE site that has potential as a green energy production site (wind farms). This and other potential uses of Site 300 (return to wild park land for example) 4-S, 6-A

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should be examined in the SWEIS. At the very least, the SWEIS needs to make clear the status of the proposed blasts.

Opposition to the New Highbay B131 Proposed in the Draft SWEIS

The preferred alternative in the Draft SWEIS includes the removal of the hold High Bay (B131) and the construction of a replacement High Bay, which would be "a 100,000-square-foot industrial shop-type building that would provide workshop, machine shop, and storage capabilities for experiments and operations in engineering evaluations, primarily in support of the Stockpile Stewardship and Management Program, although other programs are supported as well. It would be classified as a low-hazard radiological facility (LLNL 2021c)." (SWEIS 3-29) While the Draft SWEIS mentions, "(beryllium and lithium hydride/lithium deuteride), non-dispersible radioactive material (DU), and toxic chemicals, previous plans have included plutonium pit material in the type of environmental testing the facility will conduct.

The Draft SWEIS does not indicate the whether future plans for this facility will include plutonium pit material. There is very little explanation of the activities that will occur inside the New Highbay B131. The public needs more explanation in the SWEIS so that it can understand, analyze and discuss the potential impacts and risks of the new Highbay B131, including: 1) Whether the High Bay be authorized to use plutonium pit material; 2) What the types of experiments and operations that will take place in the High Bay will be; and, 3) What material be shipped from LANL (or other NNSA sites) to LLNL for experiments in the High Bay. In addition, an alternative that excludes building a new Highbay B131 should be included in the SWEIS. 4-T

Opposing to the Increase to the Proposed Tritium Emissions Limit in the SWEIS

The Draft SWEIS proposes to raise the allowable limits on **tritium** (radioactive hydrogen) and **weapons-grade plutonium** at Livermore Lab. The proposed increase in the **emissions limit** for radioactive tritium will come from two locations - the main tritium facility in the "Superblock" and the National Ignition Facility (NIF). The larger releases are slated to begin in 2023 (see page S-40).

The Draft SWEIS includes a chart that details about the "Inventory and Administrative Limits and Emissions of the No Action Alternative versus the Proposed Action Alternative." [1] It shows the emissions of tritium from the Tritium Facility going from 210 Ci/yr. in the No Action Alternative to an allowable limit of 2,000 Ci/yr in the Proposed Action. [2] 4-D

In the context of these planned increases, the Draft SWEIS describes loading tritium reservoirs with up to 1,500 curies of tritium at time. It then states that both the main tritium facility and the NIF could release ***the entire tritium load directly into the environment*** without having it go through any tritium "recovery system" (see section 3.3.3). Thus the Proposed Action seeks to

[1] Table 4-39 Facilities Managing Radionuclides at Livermore Site and Site 300 (at pages 396-401)
[2] Table 4-39 Facilities Managing Radionuclides at Livermore Site and Site 300 (at pages 396-401)

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allow emissions of tritium from NIF to go from 80 Ci/yr. to 1,600 Ci/yr. (B298's Target Fabrication work for NIF will emit another 10 Ci/yr.) [3]

The site-wide air emission of tritium will increase from 129.2 Ci tritium in the 2019 baseline, to 300 Ci tritium in the No Action Alternative, all the way to 3,610 Ci tritium for the Proposed Alternative. This is almost a 28-fold increase in the amount of tritium emitted from the Lab.[4] 4-D

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 the air we breathe; it will travel with the wind and tumble into our neighborhoods as it goes, fall out over our homes in the rain, and become organically bound in our plants. Tritium exposure is related to numerous bad health outcomes, including deadly cancers.

The Draft SWEIS acknowledges the corresponding increase in Population Dose (person-rem/yr) for offsite population from the increase in tritium emissions going from 0.26 person-rem/yr in the 2019 baseline, to 0.6 person-rem /yr for the No Action Alternative, to 7.1 person-rem/yr for the Proposed Action Alternative. An increase of 27 times the person –rem/yr of dose from the 2019 baseline to the Proposed Action Alternative.[5] This increase is unacceptable!

The Draft SWEIS also calculates the Population Latent Cancer Fatalities Risk from the increase in tritium emissions. It shows a corresponding increase in the chart, going from 1.6x10-4 in the 2019 baseline, to 3.6x10-4 in the No Action Alternative to 4.3x10-3 in the Proposed Action alternative. 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. 19-A

The analyses of the impacts of the Proposed Action alternative's increased tritium work are ambiguous. The SWEIS needs to provide more details of the proposed tritium work in each facility it is proposed to occur. For example, the Draft SWEIS does not detail how many tritium loading operations are expected per year. The SWEIS should explain what its policy for what will happen if/when one of the tritium loading operations results in a full 1500 Ci release. Would the lab then cease the tritium loading operations for the next 12 months? If the lab releases 3600 curies in a period of less than 12 months will it cease to do any more tritium work at both NIF and the Tritium Facility? Would the public be notified of the administrative limit being reached? Will staff in nearby buildings be notified? All questions the SWEIS must answer. The SWEIS should analyze an alternative in which the experiments that require the tritium loading operations are not done on site, if at all. 4-D

Opposition to the Proposed Increased in Radiological Work in the SWEIS

In Appendix C, (Tables C-12 & C-13 on pages C-22& C-23) the SWEIS analyzes the "collective annual dose to radiological workers" and indicates it will increase from 8.45 person/rem at the baseline 2019 level to 106.7 person/rem under the proposed action alternative. This 12-fold increase in radiation exposure to radiological workers is extreme and will result in additional 19-E

[3] Table 4-39 Facilities Managing Radionuclides at Livermore Site and Site 300 (at pages 396-401)
[4] Table 5-17. Potential Air Quality Impacts for the Alternatives (pg. 498)
[5] Table 5-17. Potential Air Quality Impacts for the Alternatives (pg. 498)

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illnesses to worker and additional claims under the Energy Employee Occupational Illness Compensation Act (EEOICPA).

To date 2,873 unique individual Livermore Lab workers have made claims with the Department of Labor under EEOICPA believing they were made ill by on the job exposures at the Lab. Out of those 2107 claims have been approved and paid (Some claimants have multiple claims for multiple illnesses), resulting in $485,688,770 taxpayer dollars being paid out as compensation and medical reimbursements for affected workers. These affected workers have been acknowledged to have received exposures to radiation and toxic chemicals at the Lab that likely caused or contributed to an illness. Many of these illnesses are radiogenic cancers, but there are many other illnesses that result from exposures at the Lab. Many of the illnesses are fatal. The SWEIS must include an analysis of how many additional claims the Department of Labor shall expect to pay out under the alternatives analyzed. 19-E

Appendix C fails to consider the synergistic health effects of radiological workers also being exposed to toxic chemicals and substances in the course of their work at the Lab. The document notes the use of corrosives (liquids, solids, and gases); toxic substances (including gases); flammables and combustibles (including solids, liquids, and gases); nonflammable gases; water reactives/pyrophories/spontaneously combustibles; oxidizing substances; organic peroxides; and explosives, all known to have health effects from various levels of exposure and all potentially have synergistic effects with each other and/or with radioactive elements. The document should include an analysis of any available medical science that shows synergistic health effects of any mixture of chemicals used at the Lab, of radiation and toxic chemical together, and of multiple types of radiation (Alpha, Beta & Gamma) on workers.

Opposition to BSL-3 Replacement Facility Proposed in the SWEIS

The Draft SWEIS proposed action alternative includes a replacement Animal/Biosafety Level-3 Facility that is nearly twice the size of the existing facility. (SWEIS 3-38) Tri-Valley CAREs continues to oppose the colocation of biological defense work inside of DOE NNSA Classified nuclear weapons laboratories. The SWEIS should analyze the need for this facility and whether its work is redundant and/or duplicative of other BSL-3 labs at other agencies. There is no mandate for DOE to do bio defense research. 1-C

The Draft SWEIS contains very little explanation of the activities that will occur inside the proposed BSL-3 Replacement Facility. The public needs more explanation in the SWEIS so that it can understand, analyze and discuss the potential impacts and risks of the Replacement BSL-3 facility.

This SWEIS did not conduct a separate analysis of 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 documented 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 proposed in the proposed action. In addition, an alternative that excludes this facility should be included in the SWEIS. 20-E

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Opposition to the New Animal Care Facility Proposed in the Draft SWEIS

The Draft SWEIS contains very little explanation of the activities that will occur inside the New Animal Care Facility that is part of the Proposed Action. It states that it would involve construction of a modern 20,000-square-foot replacement Animal Care Facility which will, "humanely use (the animals) in these research protocols and tissues are harvested for molecular analysis." (SWEIS 3-38) The Draft SWEIS further notes that "Other chemicals and some radionuclides are also used in this research." The public needs more explanation in the SWEIS so that it can understand, analyze and discuss the potential impacts and risks these facility pose. For example, the SWEIS needs to include an explanation of the "humane" practices so that the public can better understand and analyze these practices.

Additionally, the SWEIS needs to provide an explanation of why 20,000 sq. ft. is necessary for this facility and it should analyze an alternative of a smaller facility. Further, the SWEIS needs to provide an estimate of how many animals per month and year will be killed in this facility so that the public can understand and analyze the impact of this proposal. The SWEIS should also provide a clear purpose and need for the NNSA/DOE to do this type of biological research. The SWEIS should explain why radionuclides are used in the research and whether there experiments with animals involving the use of bioagents and radionuclides together. Finally, an alternative that excludes this facility should be included in the SWEIS. 4-K

The SWEIS Should Analyze the Lab's Role in Plutonium Pit Production

The Draft SWEIS discloses that there will new plutonium activities at Livermore Lab; however the "mission" has been vague and opaque. TVC has documented through other sources that Livermore Lab will have a "hands on" role in NNSA's plans for expanded plutonium pit production.

The production of the 80 or more new pits per year will take place at the Los Alamos Lab in New Mexico and the Savannah River Site in South Carolina according to current NEPA documents. However the federal budget contains money for new plutonium glove boxes at Livermore Lab that are expressly to support "expanded plutonium pit production." And, a Los Alamos National Lab NEPA document states that LANL will ship plutonium to Livermore for "materials testing" in support of "expanded plutonium pit production." 1-B

We know there is a connection between Livermore Lab's ramp-up of its plutonium activities and infrastructure and expanded pit production. The public has a right to be able to do the see clearly which activities are related to the very controversial plan to expand plutonium pit production – and to comment specifically on Livermore Lab's role.

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,

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engineering certification testing, physics certification testing, and the replacement of some equipment" (GAO-23-104661, January 2023).

In sum, the SWEIS should do a crosswalk that would enable those public comments. TVC and WILPF demand that a dedicated section in the SWEIS provide details and analysis of Livermore Lab's role in expanded plutonium pit production. Additionally, the SWEIS should analyze an alternative in which Livermore Lab does not have a role in expanded plutonium pit production. 1-B, 6-A

The Earthquake Analysis in the Draft SWEIS is Lacking

There is a startling admission in the Draft SWEIS about the dangers of the release of toxic and radioactive materials in a "design basis" earthquake (see pages S-32 and S-33). First, we know that the next Bay Area earthquake may exceed "design basis." The map lists a dozen building with "seismic deficiencies" including building 235, which is the building discussed above in which the SWEIS would increase the administrative limit for weapons-grade plutonium nearly 5x! 20-F

The SWEIS needs to include an analysis of the release of toxic and radioactive materials in a "design basis" earthquake as well as an analysis of those impacts from an earthquake that exceeds "design basis." The analyses should include the Proposed BSL- 3.

Opposition to the Proposed Laser Isotope Pilot Program in the Draft SWEIS

The Draft SWEIS describes a new Livermore Lab laser isotope pilot program to enrich uranium on site. Long time Lab workers and TVC members alike probably recall the fiasco at Livermore Lab called Uranium Atomic Vapor Laser Isotope Separation. The facility cost billions of dollars and never worked. What it did do was release hazardous materials into the environment, some of which ended up in groundwater near the building. It was finally canceled. 4-B

The Draft SWEIS contains very little explanation of the activities that will occur inside the proposed facility, or the history of the previous failed attempt. The public needs more explanation in the SWEIS so that it can understand, analyze and discuss the potential impacts and risks of a new Laser Isotope Pilot Program. In addition, an alternative that excludes this facility should be included in the SWEIS. On its face, TVC and WILPF oppose Son-of-Uranium-Atomic-Vapor-Laser-Isotope-Separation and believe it should not be built.

The Proposed Action in the Draft SWEIS is out of Compliance with International Law

The Draft SWEIS summarily states that the proposed action is in compliance with international law, stating, *"NNSA missions are conducted fully consistent with current treaty obligations."* TVC and WILPF vociferously disagree.

Livermore Lab has been working to modernize the arsenal and push the envelope on weapons capabilities, essentially turning them into new weapon designs. This not only promotes nuclear development worldwide (everyone wants to keep up with the Jones not just for their credibility but also for their survival.) Livermore Lab is playing a central role in driving a new and dangerous global arms race. With the war in Ukraine and Russian nuclear saber-rattling, the U.S. 2-A

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nuclear weapons budget throws fuel on the fire of potential nuclear war. This is fundamentally in contradiction with our obligations under the Non-Proliferation Treaty (NPT).

The Draft SWEIS states *"[t]he NPT does not provide any specific date for achieving the ultimate goal of nuclear disarmament, nor does it preclude the maintenance of nuclear weapons until their disposition. Continued operations at LLNL enable NNSA to maintain the safety, reliability, and performance of the U.S. nuclear weapons stockpile until the ultimate goals of the NPT are attained [disarmament] and are consistent with the NPT."* 2-A

This is manifestly incorrect. The Lab's objectives to maintain the arsenal include Life Extension Programs that are unnecessary, expensive, environmentally polluting and promote the nuclear arms race worldwide.

The country's current stockpile of more than 5,000 nuclear weapons has been extensively tested and certified reliable and will be for decades to come. The escalating cost of maintaining the stockpile is not due to the difficulty of the task or the effects of aging warheads. It is caused by increasingly elective changes introduced into the stockpile as part of the Life Extension Program (LEP). *(Note: the U.S. has 5,428 nuclear weapons according to the Federation of American Scientists, 2022.)*

The desire to modify warheads or develop new warheads is a primary factor in the push to upgrade other parts of the nuclear enterprise. The cost of modernizing the stockpile, including infrastructure and delivery systems, is estimated to be $1.7 trillion over 30 years with a modest rate of inflation.

Some of the programs that need to be analyzed for international treaty compliance (as well as for local environmental impacts) in the SWEIS are:

- Whether the development of the W80-4 "Long-Range Stand Off" weapon is in compliance with our treaty obligations under the NPT. (This weapon is intended for pilots to be able to "stand off" a target by thousands of miles and launch a precisely guided, radar evading nuclear weapon.) By any measure Livermore's new warhead for this LRSO (Long Range Stand Off capability) is an offensive first-use weapon that is completely out of compliance with our treaty obligations and with our commitment to stockpile stewardship. Livermore Lab is also planning to develop that new warhead (the W80-4) into a version that would be placed on small attack subs that do not now have any nuclear weapons on them. These new nuclear weapons would not be distinguishable from the conventional weapons currently on board these ships. That means that a country under attack might not be certain if the warhead heading toward it was conventional or nuclear – this is one scenario whereby a nuclear war could start by miscalculation. 2-B, 2-D

- The SWEIS should also analyze whether the development of the W87-1 is in compliance with our treaty obligations under the NPT. The W87-1 is the first wholly new warhead design since the end of the cold war. The W87-1 is slated to sit atop a new intercontinental ballistic missile, called the Sentinel Missile. The Lab is looking into 126 new technologies for this warhead design. This includes a new-design plutonium bomb

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core, called a "pit," significantly different from anything in the U.S. stockpile. Livermore's W87-1 warhead is a central reason the U.S. is planning to expand plutonium pit production at 2 locations - the Los Alamos Lab in NM and the Savannah River Site in SC. In fact, every plutonium pit that will be produced for at least 12-years will go inside a W87-1 warhead.

These new warhead designs do not comply with our treaty obligations. The US has an obligation under Article VI of the Nuclear Nonproliferation Treaty 'to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament…'

The International Court of Justice further clarified "There exists an obligation to pursue in good faith and bring to a conclusion, negotiations leading to nuclear disarmament in all its aspects under strict and effective international control." *Advisory opinion on the Legality of the Threat or Use of Nuclear Weapons, July 8, 1996.*

The United States is not working in good faith toward nuclear disarmament when we are creating new weapons designs. 2-B, 2-D

Not only is the Lab's work out of compliance with our treaty obligations under the NPT but the Lab's work is making our world more dangerous. Because the US does not take a leadership role in stopping the nuclear arms race, we just fan the flames of nuclear proliferation everywhere. And it is a dangerous time to do so. Internationally the world is on the brink of the use of nuclear weapons. Russia is continually threatening their use. North Korea is parading their new missiles as a show of force. China is revamping their nuclear infrastructure. Through this SWEIS, Livermore Lab is committing to continue the nuclear arms race indefinitely. How long will the human race survive if we don't take decisive action and play a leadership role in eliminating nuclear weapons collectively?

To frame this in terms of the SWEIS, the Lab, under the National Environmental Policy Act has an obligation to study and analyze the potentially significant environmental impacts of their actions. There may be no greater significant environmental impact than nuclear war. Just living under the threat of nuclear war affects the psychology of our nation and the world.

Conclusion

As detailed above, TVC and WILPF believe the Draft SWEIS as released is significantly inadequate. Simply responding to all of the issues brought up in just this comment in a Final SWEIS "responses to comments" document would deprive the public of their opportunity to analyze and respond to many of the important issues not addressed in the current Draft SWEIS. Thus, TVC and WILPF request that the Draft SWEIS be revised in response to these and other comments and recirculated for further public comment. 1-A

TVC further notes that its comments here were hamstrung by; 1) The NNSA's failure to respond to eight outstanding Freedom of Information Act requests from TVC that are now the subject of litigation and to which the responses to may contain information pertinent to TVC's understanding of the Draft SWEIS; and, 2) The fact that the Draft SWEIS, which at the time of 3-A

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scoping was expected to be released in the Summer of 2022, was instead released on November 4th, at the beginning of the holiday season with a 60-day comment period that was later extended just 15 days from January 3, 2023 to January 18, 2023 (despite many requests for a 30 day extension). This comment overlapped Thanksgiving major religious holidays, the New Year holiday all during what is the busiest time of year for many of our members. Given the huge complexity and large volume of the document, it was very difficult for many interested parties to review and comment on during this time of year. 3-A

Sincerely,

Tri-Valley CAREs, and Women's International League for Peace and Freedom, San Francisco and East Bay Branches

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By email to: LLNLSWEIS@nnsa.doe.gov

Postal mail: Ms. Fana Gebeyehu-Houston,
LLNL SWEIS Document Manager,
1000 Independence Ave., SW, Washington, DC 20585

Dear Ms. Fana Gebeyehu-Houston:

These are my comments 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 (Livermore Lab) Main Site in Livermore, CA and Site 300 high explosives testing range near Tracy, CA.

1. **Plutonium Increase Opposed**. According to the 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 5x.** Plutonium can be deadly in microscopic amounts; it emits extremely high-energy rays (alpha particles) that tear through tissue as the plutonium radioactively disintegrates 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. 4-E, 6-A

2. **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. Further, these operations should be canceled. 1-B, 2-B

3. **Tritium Emissions Increase Opposed**. The site-wide **air emission of tritium** (radioactive 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 4-D, 6-A, 19-A

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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 the air we breathe; it will travel with the wind and tumble into our neighborhoods as it goes, fall out over our homes in the rain, and become organically bound in our plants. 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. 4-D, 6-A, 19-A

4. **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. 4-L, 7-A

5. **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 bio-agents, (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 Livermore Lab creates the optics bio-weapons may be created. Further, 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. 1-C, 4-J, 4-K, 20-E

6. **Reduce or Cancel New Warhead Development Programs.** Livermore Lab is one of two locations 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. Livermore Lab is developing several new warheads and variants. Reasonably, the designs could be down-scoped to eliminate novel features or canceled altogether. They include: 2-B, 2-D

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

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- The **W80-4Modification**, a special variant of the new W80-4, designed for a new Sea-Launched Cruise Missile to will be placed on ships that do not currently carry any nuclear weapons and are not certified for that mission. 2-B, 2-D

7. **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, 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 infections 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 21st century. The NNSA could hold pubic meetings specifically to develop these ideas in partnership with the community and non-governmental organizations. 6-A, 6-C

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LAWRENCE LIVERMORE NATIONAL LABORATORY (LLNL)

SITE-WIDE ENVIRONMENTAL IMPACT STATEMENT (SWEIS)

PUBLIC HEARING ON THE DRAFT SWEIS

Wednesday, December 7, 2022

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Livermore, California

Wednesday, December 7, 2022

MS. CRAIG: So we will move on to the public comment period. I'm going to go over just a few short ground rules. First of all, once again, comments are super important. Lots of ways to comment, right. So you can e-mail, you can snail mail, you can verbally comment tonight. And I'll go through that in a moment. And then once again, we have a meeting tomorrow night in Tracy and virtual meeting Tuesday the 13th so next Tuesday link to that it's kneel into to come back up here and comment again. We've ear perfectly happy with that. With all the comments weekend early as well okay.

So the first person -- oh, and let me just say. So you can go ahead comment over there.

(Audio distortion.)

MS. CRAIG: So the first person -- I'll just stand over here to the right -- is Tony Green -- Green, I believe. Is that correct?

Do you want to be here --

MR. GREEN: Can you hear me?

MS. CRAIG: Yes, I can.

MR. GREEN: I was a speaker. It's been a long time since I've spoken at a microphone thanks to

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COVID, so give me a few seconds here to kind of compose myself here. I know I'm on a clock.

My comment is really just one comment. One of the things I do outside of work is -- I'm an inroads climate global ambassador, and what that entails is using a model to see the impacts of the things we can do to really affect climate change meaning reverse the increase in greenhouse gases.

What my thought is with all these actions that we do right now, greenhouse gases are still increasing and they're probably not going to really decrease until maybe 2050, 2060. And so the idea is even in that time, thanks to the Superfund, they would still be cleaning up the chemicals that are in Site 300 and Livermore Lab. 21-A

So my thought is there's a comment in there that says we expect that there will no more increased radiation from the activities, and so my thought was, was there another statement back before when they started this whole lab thing before it became a Superfund site. And so that's kind of the idea that comes to mind, and I'd like you guys to really think about that. 2060, 2070, let's just say if we start now and really start researching (audio distortion) climate change, they'll still be cleaning 11-A

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up that lab at that time. And so I just kind of want everyone to really think about that before we sign up to say -- even though I understand that the maximum may not be what they expected, the engineer in my brain says there has to be some logic reason that you would establish a region to dump radiation in the air, in the water, so I -- that's my comment. 11-A, 4-D

I'd like everyone just kind of think about that: Why would they try to increase the limit if there wasn't some design purpose, even though there's little expectation of it actually happening.

Thank you.

MS. CRAIG: Thank you.

Number two. All right. Next up is Mary.

Sorry. I didn't quite understand that.

Next up is Mary Perner.

MS. PERNER: Sorry. Short.

I have lot of to say about tritium. I was bending some ears back there earlier, and it's a concern of mine. I know that tritium bonds inextricably with water. And here in Livermore Valley, we're a very big agricultural area.

Now the folks I was chatting with said, Oh, it's just going to rise up because their -- the desired plan is to have increased tritium. And the 19-A

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gentleman was saying, "Oh, it will rise up."

I often look at the winds in our area. Typically during the summer, they go from west to east. However, this morning, we had quite a thick fog, and the winds were blowing from northeast and east, which would blow into Livermore. With a thick fog, if there were -- or any fog -- if they -- or rain or precipitation, if they're released, what would happen with that to the city of Livermore. Conversely, if there's a release, Tracy is on the other side. What will happen to them if there's a breeze? If there's a wind? In the summer afternoons, there can be strong winds. 19-A

And I've lost my place here.

Economically, we get our water from Zone 7 water, and I get mine from Cal Water. I attended a workshop series in Livermore called "Key to the City," which allowed us to go to all the different departments of the city to see how the city was run. And in the process of that, I went to the water -- water facility over on Isabel Avenue, and I talked with a chemist there. And she volunteered that the testing so far is negative. Well, that implies that there has to be testing. 10-B

If there are changes in our tritium level

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and if it bonds with -- with water, I am guessing that there will need to be updates or changes in water testing for city water.

What will that cost us in Livermore? Have considerations for finances for that kind of a change been taken into consideration for this plan? 10-B

Then, I remember -- well, I was actually swimming in a pool next to the tritium facility back in the early days when there might have been releases. I would do a mile and a half a day in that swimming pool next to the tritium facility, so maybe that's why I have a bee in my bonnet about this.

But I remember early in the 2000s, hearing a conversation and reading a little bit of an article about our vineyards, and that there were measurable amounts of tritium that was -- were uptaken by the grapevines in our vineyards. Right now we have, I think, approximately 50 wineries or vineyards, and they sell to other wineries; they sell the grapes. 13-A

What will happen if there is a release and it somehow gets into our water?

At the time that I read this article and heard this conversation, it was a joking kind of thing. They were joking that Napa-Sonoma, the

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wine -- growing area there, and friends were saying, Oh, don't buy Livermore grapes because they're, you know, radioactive. Don't buy our wines because they're affected by radioactive releases. 13-A

So that is my rant about tritium, and it includes my questions about tritium.

I have a lot of other questions, but it looks like I have only a minute left.

MS. CRAIG: I think we can continue. Let's just read fast.

MS. PERNER: Okay.

Plutonium. Years ago, Livermore Lab dramatically failed an intense security check. As a result, I know that there have been reductions in plutonium use at the lab, and I am wondering if those reductions were a direct result of a really dramatic failure of security there. Do we really want to increase plutonium again? And -- yeah, the plutonium was removed from the site. 20-D

Various measures from that time faded away because there were trucks with guns running around, and that's a whole other bad issue.

And now NNSA proposes to -- would like to increase plutonium by an order of five. Will security measures now be increased by an order of

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five? How will that affect us? How can they be trusted after the previous dismal failure. 20-D

Onward.

How will increased plutonium and other nuclear materials be transported to Livermore? We have 20,000 more people than we did in 2005. Tracy does. We all know what the freeways are in terms of the Altamont Pass.

I live on East Avenue, and I've been there for, what, is it 16 years, and the traffic has increased considerably. Now, we're talking about nine to ten and a half thousand more employees. Even if there is a north gate, what is going to happen to city traffic? 11-A, 16-A, 16-B, 16-C, 16-E

And, again, I think you did say that -- you did say that there was a consideration for the emissions in the city. The city has planners in a commission that look at emissions and that are calculating emissions.

I am concerned about a couple of their emissions, and I hope that you have consulted with the city planners about this because they would have to be a part of it. See what's needed, not needed.

I just was listening to a webinar the other day that said other weapon-holding countries 23-A

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are roughly ten years behind us across the boards, and it would take ten years for other weapon-holding countries and, you know, I can't cite the accuracy of this, but ten years of other countries to catch up with us. And so I am wondering about that in terms of lab and the designs at the lab of bomb cores, which is where a lot of plutonium would go.

What's needed, in my opinion, instead of saber-rattling, and that's what we get when we increase or update the weapon systems, and stimulating the development of more weapons worldwide because that's what will happen, we need solutions to vital problems troubling humanity such as climate crisis, prevention and cure of pandemic-type disease like COVID, and vaccines for other diseases. For example, cancer vaccine is being proposed. 23-A

Right now about 12 percent of the lab budget is going to other things besides nuclear-related issue, and I'd love to see that percentage reversed and changed backwards.

Recently in North Carolina, there were two -- I think just -- what is it three days ago, four days ago -- two attacks on power facilities that shut down the grid. Security experts have been warning of the dangers to the US grid as it is 17-A

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currently constituted. Why not apply lab science and technology to that issue, possibly a more likely issue than some others we might be facing. 17-A 23-A

The Nuclear Non-Proliferation Treaty, also NPT for short. Current lab problems do much more than safely maintain existing weapons. There have been designs for new bomb cores. That's not maintenance. That's development. And it's not in accord with this treaty, Nuclear Non-Proliferation Treaty. New bomb core designs have been ongoing here at the lab. 2-A

It's -- okay. I'm repeating myself.

So proposals to expand nuclear development at Livermore Lab, to go beyond the new designs and more, seems to me, like a violation of our treaty. And that's it.

MS. CRAIG: Thank you.

And then next up, we have Pamela Richard.

MS. RICHARD: Also short.

The Site-Wide Environmental Impact Statement, does that consider any alternatives such as more unclassified civilian science and less work on new and modified nuclear warheads? There would be a lot fewer negative potentially lethal impacts on people in the environment. We could work on cleanup 6-A

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and clean energy technologies and expand those existing programs with only 12 percent of the lab budget is spent on. 6-A

I'm wondering about these new facility construction projects. Are they for new nuclear weapons? Is this to develop the W87-1 or other new nuclear weapons? 4-A

I'm disturbed about the plan for the expansion of tritium releases. Why is there a plan to enrich uranium on-site? Isn't that redundant? There are other uranium enrichment places in the United States. 4-B, 4-D

I am for deconstructing and decommissioning. I'd just like to encourage ways to minimize the risk to the workers and the public. And I'm wondering about what are the timetables for the high-risk excess facilities. What are the mitigation measures being taken for dust and contaminants going into the environment when they're being deconstructed? 21-C, 4-C, 21-C

And where will the radioactive waste be de -- disposed of? Will it be on a Native American Indian reservation where they don't have real actual consent because they're poor and told to -- that this is a good way for them to have jobs and money. I'm 18-A

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opposed to that.

And how many buildings are going be decommissioned and deconstructed? What are the completion dates? And how many are currently being deconstructed? 4-C

About the ongoing cleanup: Are the milestones for completion being reached and will they be delayed or altered by these new programs? Will there be more contamination and hazardous waste that will also have to be cleaned up in addition to the legacy contamination? 21-A 21-B

It's already -- both sites are Superfund sites that will take until 2060 to clean up. This is putting a burden on the residents of the area.

I'm a little bit concerned about worker health and safety with increased plutonium and tritium on site. I think this could be very detrimental to their health. 19-A

And raising the plutonium limits in 2023. This is very soon to have this happen. We haven't really had a chance to respond to this plan.

How will the Lab prevent any more major releases of tritium? There've already been a couple of major releases into the surrounding neighborhoods, and this should be reduced and curtailed. We don't 19-B 4-D

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want the tritium emission amount increased. 4-D

I'm concerned about the proposed tritium increases in the NIF, and we'd like to not have that happen.

The NIF hasn't reached its goals, and I just don't see any profit in increasing those NIF increases in plutonium -- in tritium. 20-B, 4-I

And I don't -- I'd like to object to raising plutonium or highly enriched uranium limits. They would have potential impacts on security that Mary was talking about. 20-D

To increase the plutonium limit five times, not only the security, but the health effects of that would be detrimental. 19-A

Now, I know that a lot of this plutonium is going to be for pit production support work and -- because that's a number one priority of NNSA to expand plutonium bomb core production, but this -- what are the risks to the public safety from a potential accident or maybe there's an environmental disaster such as an earthquake? What could happen? 20-A, 20-F

How would the lab store and use the plutonium to insure our safety? 19-B

And on the transportation, the plutonium from Los Alamos to our area? How is that going to be 16-A

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secured? Will the lab be using variances for materials testing of plutonium or some other administrative change? — 16-A

Does the planned testing comply with the materials at risk? What about the force-on-force drill that was failed? Mary already has addressed that. — 19-A, 20-D

And I'm concerned about this plan to increase the Site 300 bomb blasts. There is a plan for the lab to increase these blasts by seven times more blasts and more -- ten times more. So what are the alternatives and what are the radioactive materials? — 4-G

How are they being inventoried to prevent theft? — 20-C

And are materials being safely stored? What are -- what is the need for new storage space for the new life extension program work?

Exploding older contaminated material is not acceptable. How will officials address the lack of storage space? — 20-D

And what are the securities concerns? How are they being addressed for the risk of such hazardous material next to fenceline communities?

How are the workers being protected?

Why aren't pollution controls technologies used in all testing? — 11-B

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And I have some more, but my voice is kind of giving out so I will continue tomorrow.

Thank you.

MS. CRAIG: I would actually -- I would encourage you -- I noticed that you wrote that very beautifully. I would encourage you to scan that and turn that in as well. Okay.

And then our last person that signed up is Marylia Kelley. I said that correctly; right?

Would you like me to bring you the microphone or are you comfortable?

MS. KELLEY: I'm Marylia Kelley. I'm executive director at Tri-Valley CAREs. I live in Livermore, California. And like the speakers before me, we're all residents of Livemore in the Tri-Valley.

I'm going to try to speak quickly and short and turn in some additional detail later.

To speak to two things that you, Fana, offered in your initial presentation. What I wrote down is that you said the SWEIS will not look at alternatives to the current emission. And I do believe that's out of compliance with the law for alternatives analysis in a SWEIS. 6-A

The documents that you talked about that

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guide the SWEIS are policy documents, not laws. And most of them listed change with each administration. So when you're considering 15-plus years into the future, you have to consider that things may change and that the SWEIS, in order not to be stale immediately, needs to have a much wider view of the alternatives that it will consider. 6-A

You also said the SWEIS will not deal with the fact that there's a proposal to increase the size and yield of outdoor explosions at Site 300. And that is something that there have been many, many hundreds and even thousands of written and oral comments to oppose. It's incredibly controversial. 4-G

And Tracy -- Tracy administrative and city and county bodies have opposed this plan. And I believe both because of its potential impact and also because of the controversial nature of it, the SWEIS must include it.

To say some things really quickly here.

The SWEIS proposes an increase in the emissions limit for radioactive tritium at two locations: the main tritium facility in the superblock and the National Ignition Facility.

And in that context, the SWEIS describes loading tritium reservoirs with up to 1500 curies of

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tritium at a time.

One question I have is about the word "reservoirs" because there are tritium reservoirs in nuclear weapons, but also a pellet or target can be considered a reservoir. So that needs to be defined. 4-I

And it also states right in this SWEIS, in the summary, that both the main site tritium facility and the NIF could release the entire tritium load directly into the environment without having it go through any tritium recovery on system in Section 3.3.3. 4-D

So I object to this increase in radioactive materials, and specifically tritium here that I'm talking about, and any plans to increase the emission limit.

Additionally, the SWEIS proposes to increase the administrative limit for weapons grade plutonium in Building 235 from its current allowable limit of 8.4 grams or less, to a new limit of 38.2 grams. And that is an increase roundly of approximately of five times. 19-A

This is a very serious increase. And plutonium can be deadly in microscopic amounts. It emits extremely high energy rays, i.e., alpha particles that tear through tissue as the plutonium

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radioactively disintegrates within a body.

I also have a great deal of information and scientific studies about tritium. I'm just remembering that Mary said somebody said tritium just goes up in the air. That is not true.

There are studies that show how it goes end over end, and it does enter the environment. In a rain event, it will immediately pull it out and rain it down. And a certain percentage of that tritium will become organically bound in our plants. And that is actually more rad toxic than tritium gas. So these are very, very serious changes. And I oppose them. And they should be opposed, and they should not move forward. 4-D

Also, the revision of the administrative limits for radioactive materials, quote, unquote, of the NIF. So obviously those radioactive materials include tritium; however Plutonium-242 is used in NIF experiments as are various isotopes of uranium. These things should not go forward. They should not be in the SWEIS. 4-I, 20-B

I want to say a couple of words about the no-action alternative.

It's supposed to be -- it's, as Fana said, what's going on today at the lab. However,

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there are 19 new projects, as she pointed out, totaling 416,300 square feet. The no-action alternative should be truly a no-action alternative, not include new projects that, in fact, may not be built this year or next year. 5-A

And, in addition, I will repeat again quickly that the SWEIS should consider a wider variety of alternatives including the very real possibility that it could attract more unclassified civilian science, become a world-class center for unclassified science. It can definitely attract more climate change or -- these things that are now almost ghettoized, the very edge of the lab in terms of the funding, they could be brought into the center of the lab. This would benefit the lab. This would benefit the community, and this will benefit the world. 6-A

Tri Valley CARES is very science positive, but science should not become a euphemism for nuclear weapons development.

Now I want to say a few words about the proposed alternative, and that's a shocking 75 new projects totaling 3.3 million square feet. And if -- that's huge. That shocked me. I've been doing this 40 years, and this shocked me. 4-A

But to look at what that means, not just

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square feet, it -- the proposed action includes a 6,000 -- I'm sorry -- a 60,000-square-foot "next generation," next generation. No. Military modified nuclear weapon. 4-A

Next generation. Life extension program and developmental fabrication building. This is about new design nuclear weapons and fabrication -- notice that Fana very carefully said they don't manufacture here. They don't manufacture at a manufacturing scale. 4-H

Here they are talking about actually fabricating components of nuclear weapons and testing them because there'll be new designs. This should not go forward.

The proposal in the SWEIS also includes a 75,000-square-foot Advanced Hydro-Test Facility at Livermore Labs, Site 300.

Yes, some of you old-timers from the lab here from NNSA, as well as Tri-Valley CAREs, remember that in the mid-1990s, Livermore Lab pushed for a new Advanced Hydro-Test Facility at Site 300. And Site 300 was determined to be an inappropriate location -- sorry, I'll move back -- for the Advanced Hydro-Test Facility, in part, as I recall, due to the associated hazards of that facility and the proximity of the 4-L

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public.

That was the mid-1990s. Trust me. In the last 25 years, there are not fewer people in Tracy and around Site 300. There are many more. 4-L

I want to -- well, I can go through a lot things. There's a new nuclear science center, a new high bay, which does very hazardous work on occasion, and new classified lab that isn't even named what it is. This is all about new nuclear weapons research, which is 88 percent of the Department of Energy's annual budget for Livermore Lab. 1-A

Let's take that little percentage that's not nuclear weapons activities and bring it to the center.

So I oppose this expansion of nuclear weapons development activities of the lab.

I want to also say that the way that the SWEIS -- and I've read the summary, and I plan to read the rest, but it's been the holidays -- discloses that there will be new plutonium activities. The mission is left incredibly vague and incredibly opaque. 1-B

Now Tri-Valley CAREs has documented through other sources that Livermore Lab will have a hands-on role in NNSA's plans to expand plutonium pit

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production doing support work for the production work that will be at Los Alamos and the Savannah River Site.

And, in fact, a Los Alamos Lab NEPA document said they're sending plutonium to Livemore to do materials testing in support of their mission for expanding plutonium pit production. There needs to be a section, a dedicated section in the Site-Wide Environmental Impact Statement that is really transparent and details what plutonium activities -- including what increases and what new infrastructure, et cetera, is going to be to support expanded plutonium pit production emission. 1-B

We should do -- be able to do a crosswalk, and we can't with this document -- everything that I've read so far.

I also want to point out that this is really a shocking math that -- in the SWEIS, in the summary, that talks about the dangers of the release of toxic and maybe radioactive materials in a designed-basis earthquake, and there are dozen of facilities listed as having seismic deficiencies. A couple of them are slated for D&D, (decontamination, decommissioning), but most aren't. 9-A, 20-F

And shockingly one of those was seismic

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deficiencies is Building 235, which is the building discussed for the increase in the administrative limit for weapons grade plutonium nearly five times. I think that needs to be much better analyzed. 9-A

And the lab -- the SWEIS also describes a new Livermore Lab Laser Isotope Pilot Program to enrich uranium on the site.

Here again, longtime lab and NNSA workers as well as Tri-Valley CAREs remember the fiasco that was uranium atomic vapor laser isotope separation. It costs billions of dollars. It cost DOE more than a billion. It cost USEP 2 billion, and it never worked. 4-B

What it did was release some hazardous materials into the environment, including some that ended up in groundwater near the building, and it was finally canceled. So some of uranium atomic vapor laser isotopes separation should not be built.

Also, I want to appreciate the extension of two weeks of the public comment period, but reiterate that this is a 1,400-page, 3-volume document that is very technical and difficult and dense to read. 3-A

And that the public comment period is entirely bounded by the holiday period by

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Thanksgiving, by Christmas, by a period that has the highest holiday and the most important family time for every culture and religion prominent in the United States.

People have told me, Tri-Valley CAREs members and others, have written to me saying we really need at least a 30-day extension. We have travel plans, long planned. We have vacations, long planned. We have obligations. We have children. 3-A

And so I really want to ask that it would be extended for a minimum of 30 days. That would put the end of the public comment period on February 2nd, which barely gives people enough time after the holidays to really dig in deep.

And I think the Site-Wide Environmental Impact Statement deserves deep and detailed and thoughtful comment, and I think the public deserves to have the time they need to make those comments.

And I didn't put this in Tri-Valley CAREs' letters, Pana. But now that the public hearings are upon us -- and by the way, thank you for having two in-person and one virtual. And you couldn't have known that we were going to have a spike in and increase in COVID and flu and everything else, but I've heard from people who are sick or who

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do not feel they can come. And so my proposal is that there be a virtual hearing in January after the holidays. And I'd be happy to talk to you more about the how to operationalize that in a manner that works for NNSA and will work for the public, and it's fairly simple to do. 3-B

And you've heard a little bit about how Site-Wide Environmental Impact Statement is out of compliance with international law. I just want to say that it references the Non-Proliferation Treaty in a way that's disingenuous at best and technically wrong at most.

And any reference to the Non-Proliferation Treaty in Article VI in this SWEIS needs to include the 1996 Decision of the International Court of Justice, the highest court in the land, on treaties in these kinds of international law, the highest court in the world. And they determined that Article VI of the Non-Proliferation Treaty -- and I'll paraphrase -- not only obligates the countries to negotiate disarmament in good faith, but to actually achieve it. 2-A

And that's what the basis is for determining the compliance with international law in the SWEIS. And it does not meet that standard. But

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with a greater alternatives analysis and 15 years to move in that decision, I look forward to coming to a public hearing in 15 years and saying that you do meet that standard. 2-A

I will produce a more detailed written comment. And thank you.

MS. CRAIG: That ends the speakers that have signed up, so I'm wondering if there's anybody that didn't sign up that would like to speak during the formal public comment. And if so, would you please raise your hand.

Would you like to speak again?

UNIDENTIFIED SPEAKER: I don't need a microphone for this.

MS. CRAIG: Actually you do because we're recording.

UNIDENTIFIED SPEAKER: Brid -- I forgot in my comments to -- to also add, and -- but Marylia said, and I concur completely, that I hope there is a 30-day rather than a two-week extension of the comment period going to the -- going into February for all of the reasons that she stated. Thank you. 3-A

MS. CRAIG: Thank you.

So would anybody else -- I'm going to ask you to change the slide to the public comment slide.

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Anybody else like to comment? I'm going to give you just a moment to think about it.

I'm assuming that's a no.

I want to remind you there is a meeting tomorrow night in Tracy. You can comment there. Oh.

Yes. Forgive me. I didn't see you.

You need to come up to the microphone.

UNIDENTIFIED SPEAKER: This is sort of in that space between a question and a comment. And that is, in the Site-Wide Environmental Impact Statement, the parts I've been able to read to date, when it discusses the decrease in fuel-grade plutonium in Building 332, it compares it to the limit in the 2005 Site-Wide Environmental Impact Statement for Livermore Lab. But as you've heard, plutonium was deinventoried at Livermore Lab in 2012, and those limits changed substantially. So that section needs to be much more forthcoming about the inventories of each separate isotope, not how you calculate it to how much fuel grade it will be, and also compare it to the 2014 or 2012 limits. And if they're not at all affected, then that needs to be made very clear.

In other words, if those limits didn't affect "any" any of the isotopes that you calculate

4-F

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in terms of what is the fuel-grade equivalent, then that should be clearly stated.

But it's my understanding that there are a variety of isotopes that you then help do a calculation and get what the fuel-grade equivalent is. Some of those may have been impacted by that change in 2012. And so comparing it to 2005 isn't appropriate. We need to know: Is it a decrease compared to 2012? 4-F

Thank you.

MS. CRAIG: Okay. Thank you.

Would anyone else like to comment?

Okay. I am going to just wrap things up then. I'd like to remind you there's a meeting tomorrow night in Tracy. There's a virtual meeting on the 13th, that's next Tuesday. And you can comment also using the comment cards that are over here.

Off the record.

(End of public comments at 7:45 p.m.)

--oOo--

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CERTIFICATE

I, Joyce Holbrook, a Certified Shorthand Reporter, do hereby certify that said foregoing proceedings were taken down by me in shorthand at the time and place therein named and thereafter reduced to computerized transcription under my direction.

Dated this 29 day of December, 2022.

Joyce Holbrook, CSR #9041

Joyce Holbrook, RPR, CSR #9041

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LAWRENCE LIVERMORE NATIONAL LABORATORY (LLNL)

SITE-WIDE ENVIRONMENTAL IMPACT STATEMENT (SWEIS)

PUBLIC HEARING ON THE DRAFT SWEIS

Thursday, December 8, 2022

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Tracy, California
Thursday, December 8, 2022

MS. JIMENEZ: Good evening. My name is Linda Jimenez. My mailing address is P.O. Box , Tracy, 95378.

First I want to thank representatives from the Lab being here, for having the meeting here in Tracy. I appreciate that because there's no way I could get to a meeting off-site. I also want to thank the moderator who's been doing an excellent job. When she heard I had a problem with the bus, she immediately came to help me, and I appreciate her kindness.

So let me give you my comments.

First, I want to identify that I retired from the CSU. I worked in the College of Science. Go science! I recognize how important science is, and thank you for what you do.

My daughter, when she was in college, she was hired by the EPA, and -- for a summer internship. Her first summer internship, she worked for the Department of Forest. They liked her; they brought her back. Second year, she worked for the EPA, and her project was to: Nationwide review, analyze, and

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prepare data on sites that had toxic waste. Site 300 was at the top of that list. It's still -- has issues and we're at that list.

My daughter was 22 when she prepared this information for the government. She is now 48 years old, and we're still having issues with the Site 300.

Having Tracy Hills 1.3 miles away from Site 300 is ridiculous. That's an endangerment for that community. That's an endangerment for those of us that live here. 7-A, 19-A

Tracy -- when she did some projections saying, We project this, We project that, what if your projections are wrong. I didn't hear any solutions, too.

Should the projections be wrong -- and I know you're not going to say that, but should the projections not come to what we anticipate, here's what we're going to do. I don't hear that in your presentation, and that's a concern.

We all know here in Tracy we have strong winds. And any explosions, any of that radioactive material, you're saying it's going to be below the limits. It's going to be carried over into Tracy; and that's a concern, not only for the community but for our wildlife. 19-C

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Obviously, my daughter is an environmental graduate. She graduated from Humboldt State, environmental studies. And we recognized -- our family recognizes the importance of taking care of nature and our environment.

You're talk -- in your presentation, you said you were going to double the tritium emissions, that you were increasing plutonium emissions; that is a great concern to me. I don't want to hear that. 4-D

There are other alternative places to do this testing. There are lands throughout this country where there are no population where it is inhabit -- not inhabited; it's just desert area. Why aren't you doing it there? Why do you insist on setting off these explosive devices, explosive materials within 1.3 miles of the population? 6-A

I don't see any changes being done since my daughter was in college. I have grandchildren now, and their health is of my concern. My two granddaughters have extreme asthma. And I would state that it is in part of what's happening over at the Lab. 19-A

So I would appreciate you reconsidering what you're doing here. Think of the population. Think of our wildlife. It's important that the

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community remain safe, healthy, and that -- I just don't see the reason for these explosions/testing that close to the population. There's other places the Lab can do this, and it wouldn't impact the community. 6-A

Thank you.

MS. CRAIG: Next. Gail Rieger.

Again, just state your name up there, and who you represent, and that would be perfect. Thank you.

MS. RIEGER: My name is Gail Rieger. I live in Tracy. I'm also --

MS. CRAIG: You can take your mask off.

MS. RIEGER: Okay. I'm also on the board secretary of the Tri-Valley CAREs.

Sorry.

I have a few points I'd like to make, although I had to scribble really quickly because I've been very, very busy.

First of all, my question is: Why would you plan public hearing in the middle of December, the busiest time of year for the families? You know, nobody has time to read through 800 pages or more of this during this time. 3-B

The ads for the hearing in the

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Tracy Press were printed in the tiniest print, so I'm sure most people would have skipped over the announcement. Now that the word is out, please extend the comment period an extra 30 days. I don't think 15 days is enough time to go through the material that's very scientific. For those of us who are not scientists, it's really hard to comment and to, you know, figure out what to say. 3-B 3-A

Four years ago in these very chambers, a public hearing was held by the San Joaquin Valley Air Pollution Control District in response to a request by the Lab to increase the size of their outdoor bomb blast tests from 100 pounds to 1,000 pounds per test. We still have no decision from the board. And in the draft SWEIS, it talks about that -- that NNSA determined that sound pressure levels with the potential to generate public concerns would extend off-site into unpopulated areas. 4-G

This decision -- this was determined way before Tracy Hills started to be built. And so I believe that you need to redo this testing.

It says in your SWEIS that the proposed increase in detonation weights has not yet been implemented, and Building 851 will continue to -- continue already experiments of less than a

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thousand -- 100 pounds. And we really should ask the people of Tracy, you know, if they felt and heard the explosions from the 100-pound limit. We know what the response would be for 1,000 pounds, and we need to reassess the impact of the -- the local population. I think we should take the whole thing off the table anyway. 4-G

But we also need to accelerate the cleanup of Site 300 as Linda said that -- that it's been going on for years.

My understanding that -- is that you're going to build -- in the SWEIS, that you're going to build buildings on top of areas that should be cleaned up. 21-A

There's so much to comment on, but one thing that is not mentioned in the SWEIS, but Tri-Valley CAREs had requested Freedom of Information Act about the details of why plutonium was flown from Los Alamos to Livermore Lab, and my understanding is that it is illegal. And it would be really nice if the Lab had responded to the FOIA request so that we could, you know, figure out what's going on. 16-A

I was absolutely shocked to hear that plutonium was flown, you know, over populations. And that's putting the population in grave, grave

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concern.

There's so much more to do, but I -- you know, and to comment on, and I really think we need to extend that -- that timeline for 30 days instead of 15. 3-A

MS. CRAIG: Thank you. And I would encourage you to put your comments in writing and submit them.

Next I have Mary.

MS. PERNER: Okay.

MS. CRAIG: Okay.

MS. PERNER: Hi. Good evening. So my name is Mary Perner. I'm actually a Livermore resident, but I spent quite a lot of time here in Tracy, and I did so as a volunteer with a friend. We would come out once a month to do canvassing for political candidates out here -- who won, by the way, and I wish they had representatives here tonight. They should have. And I will let them know about that or maybe a Tracy resident should let our -- our local political people know about that.

So I'm a board member for Tri-Valley CAREs for many, many years, and I'm a retiring president of CAREs as well as the current vice president for Tri-Valley CAREs. We work for peace

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and environmental justice and just to take care of the environment in Livermore and in the areas where nuclear weapons work is done in this country, in this state, and around the world.

We have -- in nine -- was it in 2019, we were part of a collective of groups that one shared the Nobel Prize. So Nobel Prize, we have done a lot of work. I think it's going on 40 years now.

He's nodding his head.

So my presentation -- my actual presentation this evening, does that cover what your --

MS. CRAIG: That's perfect. I'll start your time over again.

MS. PERNER: Okay. Thank you.

So I was looking over -- I was looking for some data on Tracy, and we were driving -- as we were driving through the city this evening with all the stop lights and the ice cream stands and lots of businesses and everything, I was trying to imagine what it looked like in 1955 when Site 300 was established, and I think it would have been very different at that time. It was a rural agricultural community with a very, very low population.

Now, according to what I just looked up

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this afternoon, in 2022, the population of this city was 95,387. It has a 1.7 percent annual growth rate, and it is now the seventy-ninth most populated city in California out of the 1,500 plus cities in this state, so -- and growing. There is development all over. Thanks to construction, most of that development is housing.

Tracy Hills, which has been mentioned a couple of times this evening, is -- what is it? 1.3 miles northeast of the Site 300. It's one of those developments. It sits on 1,850 acres and has 5,980 homesites. So that's going on 6,000 homesites in Tracy Hills that are potentially -- have the potential to be affected by what happens at Site 300. 7-A

So one of the concerns over the years that I've heard was that if there are explosions, there would have -- there would be multiple impacts.

But let me just go back a little bit, backtrack, and I will revisit that at the end of my presentation.

As I mentioned, I did canvassing for two years before the pandemic with a friend, and we were gathering information from people in the city, and funneling that back to candidates. And when election time came around, we would ask them to vote for these

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candidates, who were listening to their ideas to up -- to what -- we were listening to them.

And in -- once a month -- once a month, it would be down here in the valley, and the winds would come up, usually in the afternoon. And they're powerful. And it was my habit to look up at Site 300 and feel the winds coming over that, down to Tracy where my friend and I were canvassing, and I was thinking what would happen if there was some type of testing up there now or at some point with particulate matter, radioactive or not, up in the air, in the hills above us at a time of winds. Then I checked the weather, and I learned that it confirmed my suspicions that Tracy gets winds from the west, from early February -- at least February 2nd to November 24th, which is what I found online. 19-A, 19-C

And they also get tule fog. So tule fog pulls matter in it and it contains the matter. So if we sometimes have winds here, sometimes have fog here, it's going to contain any type of particulate matter that comes from testing at Site 300.

Let's see. Now, just -- I don't know what I meant by this, but the SWEIS report should analyze completely the Superfund cleanup, the 21-A

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potential for winds here, the increase in population in this area. Is this an appropriate area for any type of testing, and in particular, open-air testing.

Then I had another question that I may not be able to find. No, can't find it. Later.

MS. CRAIG: Okay. No problem.

MS. PERNER: Thank you.

MS. CRAIG: Thank you.

Okay. The next person is Pamela Richard also represented...

MS. RICHARD: Okay. I have a few different things. One is about the high-risk buildings that are abandoned and then used. They've been contaminated, and I think they should be handled differently in the SWEIS because -- you know, they may still be leaking radiation. They should be higher priority and just delineated differently out of those 130 buildings for -- for demolition, so that's just one comment that I'd like to put in there.

And also, it's my time with my grandchildren, the holidays, and we really need to have an extension.

Thanks.

I'm on my tiptoes.

19A, 15-A, 7-A, 4-C, 21-C, 3-A

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MS. CRAIG: On your tiptoes clearly.

MS. RICHARD: We need an extension of time until February. It's just going to be really difficult to have some quality time with the family. 3-A

So one thing that I'd like to talk about is if the SWEIS says the accident risks are low, but I wonder what -- compared to what statistics? Are they possible accidents or compared to previous accidents, because there have been accidents at large at Livermore Lab. That's one question. 20-A

And another thing I want to know is about the mission to maintain the nuclear stockpile; so why are huge increases in funding necessary for maintenance? The money being spent on modernization has increased by 50 percent since 2016. And just maintaining weapons and testing for the existing stocks, why is there such an increase in infrastructure for modernization? 23-A

Haven't the current facilities been upgraded over time to test these weapons? What has happened to all this past funding? And why are so many facilities being demolished now? Is it to make room for the -- in the one spot -- square-mile area of the Lab for research on next generation life extension program research and fabrication?

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And the other 70 other new buildings plan, are these to create the test new nuclear bomb components? 4-A

As we said before, this is against the Non-Proliferation Treaty. And what would be the significant impacts on the environment and workers and community health from all this increased activity? 2-A

There is a lack of transparency in the mission of the Nuclear Science Center. Why isn't there an alternative for a climate change science center and appropriate infrastructure as the proposed action tentative? 4-O, 6-A

We only have two action alternatives, which state at most basically the same. And why does the Lab need to research 126 new technologies for nuclear warhead design? Is this to develop a new nuclear warhead, the W87-1 for the new Sentinel ICBMs for the new Sentinel ICBMs? And how will this warhead be tested for reliability? Will it be solely by computer or will it be mock-up tested at Site 300? 2-B, 2-D

Is this the reason to increase the size and weight of open-air bomb blasts by ten times? And what air pollution control technologies could be used at Site 300 to deal with this amount of radioactive 4-G, 6-B, 11-B

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and hazardous material going into our environment?
And I toured Site 300. There's uranium scattered all around Site 300. Exploding more materials is only going to disperse uranium into our environment in a highly densely populated area. 11-B
And I have more, but that's all I want to say now. -- anytime I have to stop.
MS. CRAIG: Okay. And you wanted to submit that --
MS. RICHARD: Right.
MS. CRAIG: Perfect. You can take a picture with your iPhone.
MS. RICHARD: I have it.
MS. CRAIG: Okay. All right. Next up is to Scott Yundt.
MR. YUNDT: I'm Scott Yundt. I'm the staff attorney at Tri-Valley CAREs. Tri-Valley CAREs was started in 1983 by concerned citizens living around Livermore Lab, specifically during the time that at the EPA was investigating pollution caused by the Lab. And people -- the EPA was noting that it was likely contaminated; and, in fact, it was, so Tri-Valley CAREs received a grant from the EPA Region 9 for years to do technical assistance on the cleanup. And as the organization grew, we also

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teamed up with similar organizations around the country through an alliance called The Alliance for Nuclear Accountability, so there're -- each site in the DOE has a corresponding community group in the community nearby. There's three dozen organizations in ANA, and Tri-Valley CAREs is one. So while I'm here speaking on behalf of Tri-Valley CAREs, I'm kind of also here speaking on behalf of ANA, although some of those organizations will likely be commenting on the SWEIS as well.

I appreciate the opportunity to comment. I echo the comments asking for an extension of the comment period. 3-A

I also want the point out that the comment period is kind of front-loaded with the public hearings. Even I feel somewhat unprepared for this public hearing, and we'd like more time for -- to give a public comment in which I had more time to review the SWEIS first. So I'm going to not only echo the extension request, but request that additional virtual hearing be added near the end of the public comment period when people have had an opportunity to review the SWEIS in more depth. 3-B

So I wanted to start by talking about the alteratives analyzed in the SWEIS. They kind of feel 6-A

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like an all-or-nothing option, and I don't believe they present a real reasonable range of alternatives as NEPA requires or envisions when doing this kind of document. 6-A

First off, the "no action," quote, unquote, no-action alternative is not even really a no-action alternative. It continues Lab operations at the current level with 19 already-approved projects that don't actually exist in the world yet. So to act as though they are inevitable is not true because actually often the Lab doesn't move forward with projects that it goes through NEPA analyses on for many reasons: cost, emission change, new elected officials who have a different vision, new nuclear posture views which come out at every administration. So I would just argue that that no-action alternative might instead be called a low-action alternative or something similar, and that a true no-action alternative which is about the current operations only and not the 19 planned, but unbuilt, facilities be examined. 5-A

In addition, in an extreme way, the proposed action alternative, which is also the preferred alternative of the agency, includes hundreds of proposed actions coving both sites and 6-A

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including major operational changes, that I would argue that in order to comply with NEPA and give the public a range of reasonable alteratives to analyze, the agency should provide additional alteratives, that includes some of the proposed actions and not others: middle ground. 6-A

So I would ask that the document be revised to include more alteratives, then I'm going to make some suggestions what those might be.

For example, a document mentions that in the Lab's perspective, NIF is reaching the end of its useful life, or at least is in need of major upgrades according to the proposed alternative. So an alternative to expanding NIF could be scaling back NIF to the minimum operations necessary for stockpile maintenance and actually abandoning the goal of ignition. 6-B

This would limit the waste and the radioactive dose to the public that NIF expansion proposes and give it a true alternative.

Another one might be to -- in which unalaternative in which the BSL-3 is not replaced. If the current BLS-3 is reaching the end of its useful life, why not examine the closing down biological defense research at the Lab?

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The Lab was funded -- or the BSL-3 was funded following the anthrax attacks of 2001 in which Congress pushed for increased biodefense in a very rapid and broad way. This work could logically be done and it's, in fact, being done by many other defense sites in the country, and also by private labs and other things.

Anyway, the SWEIS does not indicate that any investigation as to the redundancy or duplicative nature of the bioresearch facilities at the Lab has been done. In my opinion, it's a mission drift that the DOE, Department of Energy, and National Nuclear Security Administrative are engaging in biodefense rather than doubling down on this mission drift. The SWEIS should examine closing the facility, and nothing in the nuclear posture review or other DOE documents requires bioresearch at Livermore Lab. 6-B

I know I'm running out of time.

MS. CRAIG: Yeah, we will give you more time.

MR. YUNDT: Okay. An alternative -- another alternative might be one that examines abandoning the increased bomb blasts or any outdoor bomb blasts at Site 300.

It's possible that the Lab will never

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receive an air permit from Valley Air, and it's not even mentioned that in the SWEIS that there is not yet to be a permit from Valley Air, which is somewhat misleading. I would ask that fact be put into the SWEIS. 4-G

The agencies could and should examine creating capacity for bigger -- for these bomb blasts at another site like Nevada National Security Site where it can be done farther from the population center. 6-A

And I might remind the agency also that as recently as when Steven Chu was director of -- or Secretary of Energy, there was a review that called Site 300 an excess facility and examined making it an alternative energy site rather than using it for explosions.

Seeing as much of -- I'm moving on.

I will suggest other alternatives to be examined in my written comment, and I urge other people to think of alteratives that might be examined in the SWEIS as well.

I wanted to just mention real quickly -- there's talk of the 2021 Livermore Lab Site Development Plan as being a basis in which the -- many of the projects in the SWEIS were thought about. 3-C

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However, that document was not included in the SWEIS packet. I couldn't find it online. I don't know if there's an unclassified version. So if there is, I would appreciate if it was included in the SWEIS packet online or at least sent to me personally. 3-C

Talking about NIF real quickly. The proposed work on NIF includes taking steps towards doing direct-drive experiments in NIF. These have been proposed before. And without getting into too much detail, I'm curious if they will have these types of experiments will contaminate the inside of the NIF chamber with radionuclides, seeing as the beam will not be shot into the hall rom, in which I've been told contains the contamination to some extent. And if these direct-drive experiments require that the chamber be contaminated by workers, as I've been told they will, what will the frequency of that be and what will the effect be on the workers? Will the major increase in shots -- with a major increase in shots being proposed also, how often will workers have to decontaminate the chamber? 4-I

The increase in shots from 400 to 600 per eros proposed does not seem to have a corresponding change in NIF emissions limits in the operational changes under the proposed action --

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I'm sorry -- not the emissions, the operational changes under the proposed action.

So when the SWEIS acknowledges an increase in the number of shots and that -- there's going to be a corresponding increase in the low-level waste of two transport containers per year, with an increase in the number of shots by 50 percent, how is it possible that there's not going to be more exposure, and how is it possible that there won't be more skyshine from the additional shots? It's stated conclusively in the SWEIS that there won't be. It's just unclear how that's possible, and I would like some more explanation in the SWEIS of how that works. 4-I

In part of the plan at NIF -- is part of the plan at NIF going to be introduction of new materials for targets like Plutonium-242?

And I believe it is stated in the SWEIS that it will be, but there should be a corresponding analysis of the proliferation risks posed by NIF doing experiments on plutonium when NIF was intially proposed there was a non-proliferation review that concluded that it would be safer to not do plutonium experiments in NIF. So if they are now proposing that, how is not proliferation provacative anymore?

The SWEIS proposes to replace the DSL-3 1-C

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facility as just mentioned.

Tri-Valley CAREs continues to oppose the co-location of biodefense work inside NNSA, Classified Nuclear Weapons Laboratories. 1-C

I just wanted to say that -- trying to speed up here.

MS. CRAIG: No. No. Take your time.

MR. YUNDT: Okay. Please state to what level the storage and qualities and bio-agents will be in the BSL-3. I haven't seen that in the document. Frankly, I haven't gotten through the whole document yet, so it could be there, so forgive me if it is. But I want to make sure that we have an explanation that really shows that the quantities of bio-agents is not going to be increased as stated. Because, also, if there's a total level of bio-agents that's allowed, but the mix of bio-agents is being changed, that would be of public interest. 4-J

The animal care facilities that's being proposed is very large, 20,000 square feet to replace the existing facility. And it's summarily stated in the document that there will humanely -- humane use of the animals in these research protocols where they collect tissues for nuclear analysis; they expose the animals to chemicals, radionuclides, et cetera. 4-K

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However, there's no real detail about what it means by humane practices.

I think the public will be interested in this fact. I know that it states there's standards, but I would like the document to expressly communicate what the standards are, not just that there standards. 4-K

I'd also be curious how many animals per month and year will be killed in the facility and what types of animals as well.

NNSA is proposing an increased tritium emissions limits at NIF. And the detail of the experiments where the reservoir-handling will be -- where they're filling reservoirs -- I'm trying not to just read from the document, but -- it does sound like this will give an increase in the potential for tritium accidents.

The document says that the annual tritium emissions from the tritium facility could increase to 2,000 curies and to 1600 from NIF, so a total of 3600 curies possible, but it doesn't state how many tritium-loading operations are expected per year. 4-D

If the Lab releases 3600 curies in a period of less than 12 months, will it cease doing more tritium loading? Would the public be notified?

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Will staff in nearby buildings be notified? Will it continue to do more tritium-loading experiments but get some sort of variance? If all this could be explained, that would be helpful. 4-D

I also just would like the document to make a more -- a clearer walk from the very small proposed increased in dose, in maximum individual dose, which it explains is from 4.01 to 4.21 millirems, how that is determined based on what is actually quite a large increase in the potential curies released. And also it's not clear if it's -- if the numbers that are being given there are taken to a fact the scrubbers in the stack or are not taken into the -- taking those scrubbers into account. 19-D

So, in other words, is -- are the curies what's coming out of the stack or what's going into the stack. If that makes sense.

Let's see here. Some of this I can do in written comment.

MS. CRAIG: Okay.

MR. YUNDT: The SWEIS states about the complex transformation SPEIS, s-p-e-i-s, also considered and evaluated transfer of emission and operations to and/or from Livermore Lab. NNSA has implemented those as appropriate, but that was in

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2005, which nearly 20 years ago.

It goes on to state NNSA has not identified any new proposals for current emission operations or operations that are reasonable for transfer to or from LLNL, a very summary statement.

It doesn't state whether or what the evaluation was of whether any current emissions or operations were examined for transfer to other sites as part of the stress SWEIS analysis.

And that was a comment that, in my opinion, was made in scoping by me. So please provide specific analysis that was done regarding whether any current Livermore Lab operations could be consolidated or moved to another agency or site done away with entirely. 6-A

Please describe whether any analysis was done to determine if any existing or proposed activities are redundant or duplicative of operations of programs being conducted at other agency facilities.

Would you like me to stop now?

MS. CRAIG: I'm going to have you --

MR. YUNDT: That's fine. I can always come back after.

MS. CRAIG: Yes.

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MR. YUNDT: Okay. That's fine.
MS. CRAIG: And, also, I know you're going to be writing a letter.
Okay. Next up and thank you for your patience.
Pat Howell.
MS. HOWELL: Hi. I'm a Tracy resident. I've been here since 1991. I am also secretary -- treasurer of the Democratic Club of Tracy. I'm representing myself tonight, however, but I wanted to let everybody know that I am an officer of the club. Appreciate all those Livermore people that come over and help us.
I haven't had any time at all to look at this report. I'm not sure how anybody in Tracy would have had any time at all to even know this report existed.
I don't understand why the Lab doesn't make sure that there's some communication to the community that they have presented this SWEIS report so that we can have time to take a look at it.
I, too, noted that this conference was called in the middle of the holiday season when most families are very, very busy, and that is really annoying. It's annoying that you pick this time

3-B

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particular to have a meeting when you know people -- this is a hard time for people to come, let alone read a report. So I echo everybody's request that the extended time be added so that people can respond. That's the first thing. 3-B 3-A

Second of all, since I've been here, 1991 we had a population of a little over 30,000 people. The south end of the town was still agricultural; we didn't have the West Valley Mall, so it was a very small community. And at that time I was told that Site 300 was on the Superfund list, and it was going to get cleaned up.

Well, it's now, what? Thirty-some years later, and I'm finding that we find money to build new buildings. We find money to extend programs, but we can't seem to find the funding to clean up the messes that we make. And that's what I'm annoyed about. 21-A

I don't condemn you for wanting to do new programs or for even having the need to do new programs, but why is it that we can't clean up our mess?

And when I was here with the pollution board, the San Joaquin Pollution Control Board, we had a hearing. We notified them that there was 4-G

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concern about the air pollute -- the air being blown all over the valley. 4-G

Patterson: A lot of our communities around here have grown. Our population has grown. It's not a rural area anymore. You have to take that into consideration. It's not, you know, sparsely populated. 15-A, 19-C

It's densely populated with schoolchildren playing out on the playground breathing this air.

We have a water shortage. And Tracy sits right in the middle of where all the water gets transferred. How do I know that that water isn't going to get contaminated? 10-B

So we need -- we need -- we need the Lab to look at more than just what the Lab is being asked to do. They have to look at what's happening in the community. 10-A, 17-D

And we know that you employ a lot of our people. We understand that. But there has to be responsibility for the environment and for the community. And that's what I'm asking.

And I thank you for your time.

MS. CRAIG: Okay. Thank you. Last comment that signed up on the sheet comments. We can

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go back to anybody that wants to comment.

MS. MOORE: Hi. My name is Karen Moore. I'm with an organization in Tracy called Tracy Earth Project. We are advocates in education to make the public aware and the city officials aware of our Environmental Action Plan in Tracy.

This Environmental Action Plan was created --

Thank you. Okay.

-- was created in 2011, and in all of the development and the new housing in Tracy Hills, you see so much of that plan come to fruition.

And so as a result of being with Tracy Earth Projects, I've also just recently became an alternate on the citizens advisory group for San Joaquin Air. I'm also a member of the Sierra Club. And I attend a lot of the meetings.

I've formed a new coalition to look at smart growth for warehousing. And so as a result, I'm reading a lot of EIRs. And I can tell you that the comment letters are very helpful in someone like me.

I went to college, but I didn't go to college to become a scientist. I was an environmental engineer -- which the title I have to

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giggle at -- for Toyota. But really what I was doing was managing the ISO 14,000 program at the NUMMI plant, so I knew environmental regulations. I knew enough to be dangerous, let's put it that way. So I don't want to -- I don't want you to think that I can ingest this document.

Without the comment letters -- they really help me understand. So when you say that you don't have them, I feel like it's not helping the public, who isn't a scientist, ingest the information. And I have a problem with not seeing -- I see comment letters every day on EIRS, and I'd like to --

My comment would be to get more time and to be able to look at those comments so I could get the information, kind of let it percolate in my head. The fact that. 3-A

(In sotto voce.)

MS. MOORE: Right. Right. Correct. Thank you.

And, you know, as these comments come out from this meeting, or meetings, it just would be if there was a place to read them. I don't have to know what your response is or how it goes into the plan. I can figure that out as I look at the table. But it 3-C

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will help me -- because when the comments are written, it will say on this page, in this paragraph, dah-dah-dah. That is so helpful to someone like me, and I would think it would be helpful to a lot of people. 3-C

So, you know, a lot of people have asked for extra time. I, too, would ask for that extra time. 3-A

They've talked about the growth of the community. That's not your fault, but it is your reality.

And so our concern is as the population and, you know, construction is building -- and I don't know if you know this, but in a recent report they called Tracy the new Silicon Valley for warehousing. They're coming hard. They're coming fast. And so it's not going to stop. It's going to get more, more businesses, more warehouses, more workers, more people.

So we were hoping at some point that this would become a legacy facility, and that, you know, they would move this type of, you know, very important research -- we all agree with that -- to a place that wasn't becoming this real hot and heavy growth area. 6-A

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And so our concerns are when we see that you're asking for -- you're telling us you're going to build more buildings, have more waste, have more employees contribute to water usage, electricity usage, and traffic and greenhouse gas, you know, we want to see more in what we ask for. Other -- the warehouses, we're saying, okay, well, there's technology to reduce energy and we expect you to use that. 22-A

There are programs out there and requirements from these warehouses to put into VMT -- VMT Plans. And VMT is: How do you reduce traffic for your employees, you know. You create plans. And a lot these corporations are doing VMT plans. So we would just like to see you be good neighbors just as much we're expecting these warehouses to be good neighbors. We're not -- of course, we would like you to go to a less-populated area, but until you do, then we would like to make sure that you're not contributing or you're mitigating the increase of greenhouse gas; you're mitigating the water use; and you're mitigating the energy use. 16-B 22-A

And that's all I have. Thank you.

MS. CRAIG: Thank you. Okay.

I have a question. What is VMT? Vehicle

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management...

MS. MOORE: Vehicle miles traveled.

MS. CRAIG: Vehicle miles traveled. Okay. Thank you.

Okay. That is -- those are the folks that signed up, and we're happy -- it's 8:07. Happy to take comments from people that would like to comment again or people that have not commented thus far.

And I do see you. I just want to know if there's anybody that hasn't commented. No.

So Mary, I think, is going to come back up. She remembered the rest of what she lost.

MS. PERNER: Thanks for the extra time.

MS. CRAIG: Of course.

MS. PERNER: And so, yeah, my comments are kind of scattered through a couple of e-mails which I had trouble finding.

MS. CRAIG: Just for the record, can you state your name.

MS. PERNER: I'm sorry. Mary Perner, Livermore, California, Tri-Valley Communities Against Radioactive Environment.

And so I just just have a couple small points.

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On Site 300 in the proposed action alternative there -- it included a new weapons test facility, and a new "accelerator base support bunker expansion," among others. And so what is happening is that in the proposed section, it's proposing additional testing, additional facilities to do more testing. And we've already had plenty of discussion about the population issue, so I just wanted to express my concern about that. 7-A

One of my fans suggested that I ask about the Superfund cleanup site around firing table possibly 850 -- the number was unclear. But I believe this is an open-air firing table where -- let's see -- was it Uranium 237? Yeah -- was found basically all around, pebbles and material, uranium that you can get in your hand around that test site. And what is the proposed action to remedy that? 21-D

Now I have to shift to another e-mail so bear with me.

The proposed action in the SWEIS includes building a 7,5000 square-foot advanced hydrotest facility at Site 300, and that would be page S-40 or section S-40.

And old-timers, people who have been around for quite a while, might be surprised, a

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little shocked by this because Livermore Lab was pushing a new advanced hydrotest facility at the site a long time ago, about -- what is it? Twenty-five years ago. And it was determined to be inappropriate -- the location inappropriate -- due in part to being associated with hazards and the proximity of the public.

Now, since -- in 20 years how has that public grown? And if it was inappropriate then, why would it not be inappropriate now? It's proposed. 4-L

Finally, I wanted to add my own second to the idea of extending the comment period to the end of -- well, early -- I would say early February for all the reasons stated here. I know how busy I will be up through January 3rd. And having it go to -- was it the 8th? 3-A

MS. CRAIG: The 18th.

THE WITNESS: -- for over 1,400 pages is -- it doesn't seem like it -- it's set up for public comment in a true way. If you want to really involve the public, it has to be made accessible in every way.

Thank you.

MS. CRAIG: Anybody else want to comment?

Five minutes good?

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MR. YUNDT: Okay. Thanks. I appreciate the additional opportunity.

One thing I was --

So I'm Scott Yundt, staff attorney, Tri-Valley CAREs.

Tri-Valley CAREs loves to meet with the Defense Nuclear Facility Safety Board.

It's unclear from reading the document, if one of the newly proposed facilities will fall under DNFSB authority or oversight authority, and it would be helpful if the document expressly stated when the DNFSB would have oversights. So, in other words, what are -- I think they use the term "nuclear facilities." And just, you know, connecting the dots for us with DNFSB. 4-M

Thanks.

I wanted to mention that the weapons environmental testing replacement capability will replace what Tri-Valley CAREs lovingly refers to as the "shake, bake, and drop facilities," or "shake and bake high base," I think. 4-N

Will these new -- or will this replacement have the authority to test plutonium pits? It's not clear from the document. And if it does, will these pits be shifted back and forth from

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other complex sites like Los Alamos or another test site, or nuclear security sites or Pantext?

It would be helpful if it specifically stated in the description of this facility, those details.

Also, if there's going to be plutonium pits, how does Livermore have the ability to have full plut pits under its current hazard category?

Next. I just wanted to talk about the increase -- the SWEIS states that increased limits in Building 235 will lead to expanding the laboratory space dedicated to the preparation of plutonium samples for experimental work conducted outside of the Building 235. This would enable the preparation of experimental samples for critical high-pressure experiments at NIF, at Jasper facility at Nevada Nuclear Security Site, at HPCAT and DCS facilities at Argonne National Laboratory, and at the Z Pulsed Power facility at Sandia, and other facilities.

It would be helpful if the draft SWEIS made it clear in relation to this proposal what the corresponding increase in shipments of plutonium or other materials would be back and forth between the sites. So, in other words, what they're doing in B-235 to expand and make experimental samples, how

4-N

16-C

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does it correspond to the shipping. In general, in the document, you know, there's description of sites and then there's the shipping analysis, but it doesn't draw the con -- the lines between shipment from specific programs that are being proposed and the shipping analysis. 16-C

And then, in addition, was there any analysis of whether these experimental samples for the other sites could be prepared at those other sites rather than at Livermore? 6-A

The preferred alternative proposed action increases the accident risks to the public from radiological and hazardous material transportation by nearly 35 percent. This is an unacceptable level of risks in Tri-Valley CAREs' opinion.

The SWEIS does adequately describe this risk in detail that allows the public to understand the type, location, potential severity, or precautions taken that can mitigate the risk of transportation rather relying just on -- just summarily on transportation guidelines and packaging requirements. 16-C

The SWEIS needs to provide significantly more detail about the transportation risks in the SWEIS.

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The preferred alternative also proposes a very large increase in all types of radioactive waste production. I know it's explained how it will be disposed of; it would be helpful if it was explained more than just in terms of where it will be disposed of.

It's hard to accept that this waste is an unavoidable result of normal operations as stated in the SWEIS. 18-A

The disposal sites often have spills and accidents and releases into the environment. They pollute areas all over the country. WIPP was closed for three years because of accident inside of WIPP. These waste streams are a huge problem for the future of the planet. The cavalier attitude towards hazardous and radioactive waste is problematic.

The SWEIS does not indicate that the agency analyzes what -- whether it must do all of these programs to achieve its goals. It does not indicate that the agency tries to limit the proposed programmatic use of hazardous chemicals, substances, or radioactive materials to the bare minimum. 18-B

The SWEIS needs to analyze how the Lab could minimize the use of chemicals and radioactive materials by limiting and not initiating programs,

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using less harmful substances or finding cutting-edge alternatives. 18-B

The last thing I will mention is that -- well, I will skip it. It's just to echo the --

MS. CRAIG: It's okay.

MR. YUNDT: That's okay. It was said.

I thank you very much for the public hearing, and you will be receiving more comments from us. And thanks again. I hope to get another virtual hearing. 3-B

MS. CRAIG: All right. So that concludes, I think, our public comments.

Anybody else would like to speak?

(End of public comments at 8:18 p.m.)

--oOo--

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CERTIFICATE

I, Joyce Holbrook, a Certified Shorthand Reporter, do hereby certify that said foregoing proceedings were taken down by me in shorthand at the time and place therein named and thereafter reduced to computerized transcription under my direction.

Dated this 29th day of December, 2022.

Joyce Holbrook, CSR #9041

Joyce Holbrook, RPR, CSR #9041

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TRANSCRIPT OF LLNL DRAFT SWEIS PUBLIC HEARING

DATE OF RECORDING: December 13, 2022

PERSONS RECORDED:

Tracy Craig, Moderator
Mike Barnes
Inga Olson
Marilyn Bechtel
Regina Sneed
Dr. Ariane Eroy
Dr. Robert Gould, San Francisco Bay Area Physicians for Social Responsibility
Marylia Kelley, Tri-Valley CAREs
Joni Arends, Concerned Citizens for Nuclear Safety
Loulena Miles, Tri-Valley CAREs
John Wilks, Veterans for Peace

(continued on following page)

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PERSONS RECORDED (con't.):

Sean Arent, Nuclear Weapons Abolition Program Manager,
Washington Physicians for Social Responsibility
Raiza Marciscano
Alan Haber
Fana Gebeyehu-Houston, Document Manager
Luke
Scott Yundt, Tri-Valley CAREs
Jay Coghlan, Nuclear Watch New Mexico
Jan Boudart
Patrick Burklund

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MS. CRAIG: And I am going to move us to the public comment period. So, I have a few people that have signed up. So, Mike, if you could please switch slides.

I'd like to first of all just remind people that this is going to be one-way communication during the comment period. We aren't answering them; we're simply taking those comments and considering them. All comments will be thoroughly considered, researched, and answered in the Final Site-wide Environmental Impact Statement in a Response to Comments document. That Response to Comments document will be attached to the Final Site-wide Environmental Impact Statement, and we're accepting comments tonight.

We have -- I have eight people that have signed up and I see one hand raised. So, a few ways to comment. Mike is going to go through those with you. I think most people know how to raise their hand in Zoom, and I also have these people that have signed up. So, I would encourage you, from here on out, to go ahead and raise your hand if you would like to comment, and I will give you a number, and you're going to have to remember that number.

And we'll start with the folks that signed up first of all in the Question and Answer box, but before that, I'm just going to have Mike go through how to raise your hand just in case somebody here doesn't know how to do that or is on their telephone. I see a couple people are on the phone.

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So, Michael.

MR. BARNES: Yeah, sure. Thanks, Tracy.

So, yeah, if you hover down at the bottom of the screen, there's two ways you can ask a question or provide a comment.

One is you can raise your hand, and that will show up on Tracy and I's end, and then we will promote you to talk, to get out your question. And we'll do that in the order that they're received.

And, then, people have already been using the Q&A function, and Tracy and I have been tracking those people in order, and we will call on them and promote them to talk, to provide their comment.

If you're calling in from a smartphone, you can also look down at the bottom and you have the same two options there. If you want to raise your hand, press *9 and if you want to unmute yourself, press *6.

But I think, for the most part, everybody's using the Q&A and raising their hands.

MS. CRAIG: Perfect. Okay. And then we have two people that have raised their hands, so it's going to be -- and I'll call on you after we have the people that put their names in the Chat box -- so, Lueena -- Loulena -- I believe I said that right -- Miles and then Regina and then John Wilks, it looks like.

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And let me just check our Chat box here. Okay, so I'm going to have first of all, our first commentor is Inga Olson. Mike, if you can promote her.

MR. BARNES: Hi, Inga.

MS. OLSON: Yes. Hi.

MS. CRAIG: Hi.

MS. OLSON: I'm changing -- based on what I learned, I'm cutting out quite a few of my comments -- or some of my comments, so I'm going to be sort of editing as I go, so it may be a little choppy. But thank you for this opportunity and, first, let me say that I'm grateful for the democratic values in the USA and particularly for the National Environmental Policy Act that requires Lawrence Livermore National Lab to review their future plans and release that information to the public and receive and respond to public comments about those plans.

I find the Lab's Proposed Action Alternative legally insufficient, and the following comments will describe why and will also propose an alternative. 4-A

I'll start with some background. I had the opportunity, as a member of an NGO contingent, to attend some of the Treaty on the Non-Proliferation of Nuclear Weapons preparatory meetings. I remember in those years Russia and China had not begun the aggressive buildup of their nuclear weapons arsenal, yet the U.S. consistently raised the

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Department of Energy Nuclear Weapons budgets and allotted funds for modifying the current arsenal. It was clear then, as it is now, that the U.S. Weapons Program's Design & Development work is propelling other countries to feel the need to do the same.

Currently, Livermore Lab's work includes the design of a wholly new weapon, the W87-1. The U.S. is not allowed to design new nuclear weapons according to the language of the Non-Proliferation Treaty and the International Court of Justice's interpretation of the NPT. One hundred eighty-eight U.N. member states, including the United States, and the other four states the Treaty recognizes as nuclear weapon states, as well as two observers, are parties to the NPT. 2-A

The alternative I'm proposing is called "The Abolished Nuclear Weapons Alternative." One of the greatest tragedies in the last 50 years was President Bill Clinton's failure to seize the possible peace dividend resulting from the end of the Cold War and invite Russia, and eventually include China and other nuclear weapon states, to initiate a path to finally eliminate nuclear weapons and actualize the Nuclear Non-Proliferation Treaty. 6-C

I recommend now that the SWEIS include an Abolished Nuclear Weapons Alternative. Livermore Lab could carry out it's mandate of maintaining the current stockpile without doing work that is so provocative and dangerous. Department

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of Energy scientists and leaders are ideally positioned to carry out a true stockpile stewardship to disarmament mandate. Department of Energy and, by extension, Livermore Lab has the expertise needed to monitor a weapons drawdown. Livermore Lab has the budget and professional staff available to transition to working on a far-reaching effort of stockpile management while there is an international drawdown and disarmament. Such actions would begin to resurrect U.S. credibility as a democratic state that abides by the rule of law.

This may seem implausible when war is escalating, however, China has recently had millions of it's citizens protesting in the streets and Russia is facing serious public resistance to citizens being conscripted into the army to fight in Ukraine. 6-C

All nuclear weapon states coffers are seriously impacted by their nuclear weapons budgets, which is particularly burdensome with the extraordinary cost to address climate disasters happening all over the world.

The research, thinking, and logic involved in the Abolished Nuclear Weapons Alternative is an alternative to escalation of the nuclear arms race and could even prompt societal questions about the feasibility of war itself.

In conclusion, Livermore Lab's Proposed Action Alternative that includes the development of new nuclear 4-A

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weapons is illegal and must be modified to be made legal or be eliminated entirely. 4-A

Thank you.

MS. CRAIG: Thank you. Okay. Next, Mike, if you can find Marilyn Bechtel.

And I realize we didn't tell people how long they had to comment. So, I think given the number of people we have and the time, we can do -- let's start with four minutes. I think that -- and then we can see if we have more time at the end, and then if people want to comment a second time, if we have more time, that's fine, as well.

MR. BARNES: All right, Marilyn, go ahead.

MS. BECHTEL: Thank you very much for the presentations, as they're very informative. And I apologize if some of what I am going to say in my comment actually has already been clarified in the presentations.

As a decades-long Bay Area resident, I am very concerned about plans in the SWEIS section on Proposed Actions to increase the limit for emissions of tritium, both at the main Tritium Facility and the National Ignition Facility, with releases, you know, going into the atmosphere effective 2023. 4-D

Additionally, the administrative limits governing the amount of weapons-grade plutonium that can be at the Main Site (Building 235) at any one time is proposed to be

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increased from the current 8.4 grams to 38.2 grams, and the administrative limits for radioactive materials at the National Ignition Facility are also slated to rise. These actions could result in pollution of atmosphere and soil, potentially affecting as many as 8 million San Francisco Bay Area residents to a range of health -- serious health challenges, including lethal cancers. They are especially problematic in an area where a devastating earthquake could occur at any time. These actions should be removed from the planned Operational Changes. 4-D, 19-A 4-E, 9-A

Also included in the Proposed Actions are programs related to developing new nuclear warheads, such as the Next Generation Life Extension Program Research and Development Fabrication Building and several other facilities that are going to be supportive to amended -- to expanded pit production for the W87-4, which is the first totally new warhead in 30 years. 2-A, 2-D

A fundamental issue with the current Draft SWEIS is that so many of the elements it contains directly contradict the provisions in Article 6 of the Nuclear Non-Proliferation Treaty of 1968, whose signatories agreed to pursue negotiations in good faith with effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament. This Article clearly commits the U.S., as a signatory to the Treaty, to work together with others to

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assure timely end for nuclear weapons, not indefinite extensions of their lives and the development of completely new ones. 2-A

A positive role for the Lab going forward, which is not presented in the Draft SWEIS, would be to conduct research on how to dismantle and destroy old nuclear weapons as effectively as possible, with disposal of related waste in the safest possible way. 6-C

Another positive role could be to study effective ways to help sites in our country and around the world that have been devastated by pollution during nuclear weapons production and testing and eliminate the resulting hazards to their populations. 23-A

In my opinion, the United States, as the first country to develop and the only country, so far, to use nuclear weapons in war, has a big responsibility to lead the effort for mutually-agreed total nuclear disarmament. 6-C

And the last thing I'll say is that I appreciate the comment period being extended to January 18th, but I really wish that the full comment period could be extended for the additional 30 days to February 2nd. 3-A

Thank you very much.

MR. BARNES: Thank you, Inga [sic]. And, Tracy, if I can just jump in, I'm having technical difficulties on showing the timer on my screen. It's showing on my end, but

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I do realize that nobody's seeing it on your end. So, what I'll do is when Tracy promotes somebody to speak, I'll let you know that you have four minute -- four minutes and I'll chime in every minute to let you know how much time you have left. My apologies for the technical difficulties.

MS. CRAIG: I think -- why can't you just -- why don't you just give them a heads-up at the 30 seconds, Mike.

MR. BARNES: Sure. That sounds good.

MS. CRAIG: I don't think you need to do it every minute. Thank you.

MR. BARNES: Okay.

MS. CRAIG: Okay. And next is Regina, and Regina was having problems signing in, so she is actually on her phone right now, if you can get her and --

MR. BARNES: Okay. Which number is she calling in from? I have a 415 --

MS. CRAIG: (inaudible) -- 415-565 -- 415 -- it ends in 6090.

MR. BARNES: Got it. All right. And she's on.

MS. SNEED: Can you hear me now?

MR. BARNES: We can.

MS. SNEED: Can you hear me?

MS. CRAIG: Yes.

MS. SNEED: This is Regina Sneed. Thank you very much for the opportunity to make some public comments

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tonight. I also -- I'm 10 years retried -- retired as a federal employee. It's been quite a while since I've commented on an EIS, but I am very interested in this 15-year document, and I thank you for the presentation tonight, which gives me an opportunity to make some general comments tonight.

I also want to say that for a 15-year document, 75 days comment maybe is too short of a time period, particularly over the holidays. I wrote a couple of emails where I indicated that I had started to review the summary documents, not the 1400 pages yet, and, you know, I'm just not going to be able to get through it in time, even by January 18th. So, I'm really hoping that you'll extend the comments for another 15 days. Make it a total 90-day comment period for documents that we're only reviewing once every 15 years would be extremely helpful. 3-A

I see your colleague has a cough. Many of my friends around here are sick with COVID or the flu, unfortunately, and I think it's just going to be a bad period over the next 30 days, and that's going to prevent a lot of people from commenting.

I want to make a couple of general comments tonight that came up.

One is the comment about no impact on housing. I did a lot of work on urban housing issues over the last 30 15-A

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years and commented on a lot of EIRs in San Francisco, where I live, and in the Bay Area region about impacts -- economic impacts of housing.

The governor's declared a housing emergency; our Planning Commission looked at a new housing element just last Thursday and it's not in compliance with the State law. We cannot show how we can produce the amount of affordable housing that's needed in our city. So, I would challenge you to take another look at that in this document. I don't think it's -- it's a -- a neutral impact at all. 15-A

I will be very interested in looking at the section about wetlands. I have a lot of concerns about those types of things, as well.

And, yet again, I'm really not going to have the time to delve into all of this to -- to the extent that I would prefer to do. And, so, I'm mainly tonight urging you to extend that comment period for another two weeks, to about February 3rd. 3-A

And thank you very much for allowing me to comment tonight.

MS. CRAIG: Okay. Thank you so much. And the next commentor we have is --

(background inaudible)

MS. CRAIG: -- pardon me? The next commentor we have is Dr. Ariane Eroy. I hope I said that name right.

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DR. EROY: Close enough. Thank you for taking my comments.

So, recently, Livermore Labs released a press release in the last days announcing that the heating of tritium to 300 million Celsius could revolutionize the delivery of the world's energy systems. 23-B

I want to remark that I find this as highly cynical and strategic that you come out with a press release at this time in order to confuse, obfuscate, and silent -- silence the public protest to your plans by minimizing the facts that your projects would release radioactive waste at a time when the public is terrified by the government's under-involvement and lack of honest planning to prepare for the climate disruption and catastrophe. I protest your increase of tritium radioactive emissions, doubling your tritium inventory, and your -- decreasing your limits of plutonium enrich uranium and depleted uranium, and I think that your claims that you can decontaminate, decommission, demolish, or ship away radioactive waste is -- is highly spurious. 4-D

Nuclear radiation depresses the immune system, mutates genes, causes cancer, and is now linked to Alzheimer's disease. 18-A, 19-A

While your plans claim to des- to store, demolish, decontaminate, and ship away highly toxic waste products, we know that Plutonium-239 has a half life of 24,000 years;

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Iodine-129, which can account for the rising incidents of thyroid dysfunction and cancer, has a half life of 15.7 million years; Uranium-234 has a half life of 250,000 years; Uranium-235 has a half life of 700 million years; and Uranium-238 has a half life of 4.5 billion years. 18-A

The fossil fuels industries and nuclear armament industries control both our military and our government. It's not the other way around. They threaten our democracy, our species, all life on the earth, and our future. 11-A

You are recklessly playing with energies you fail to understand or can control. The use of teams of lawyers to delit- delegitimize the voices of your opponents and run pro forma meetings is here for us all to see. 18-A

You are not being honest, and you are playing with war, with armaments, with the lives of defenseless people all over the world for your 8,000 jobs, for your 8.2 billion -- 2.8 billion annual income while our world is on fire. Your values represent something unholy, ungodly, and threaten us all. 23-C

You are not being honest as individuals, as employees, as Americans, and as human beings, and I'm calling you out as a doctor, and I consider this pathological. You cannot say that you could demolish or ship away your waste anywhere. This is not okay, and you're destroying our planet when you make such claims. I condemn you, I condemn this

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meeting, and these actions. You do not have the right to control our future.

MS. CRAIG: Would you -- are you finished or would you like to continue?

(pause)

MS. CRAIG: Thank you.

DR. EROY: (inaudible) what your plans are and to be honest players for the American people, and I'm afraid that you are not.

MS. CRAIG: Thank you. Okay. Next up we have Dr. Robert Gould, President, San Francisco Bay Area Physicians for Social Responsibility.

DR. GOULD: Can you hear me now?

MS. CRAIG: We can. Thank you.

DR. GOULD: All right. Thank you for the opportunity to speak tonight.

I -- in addition to representing Physicians for Social Responsibility, just for the record, I'm an associate adjunct professor at UCSF, working with the Program on Reproductive Health and the Environment.

But today I'm speaking in unity with many of the comments that have been given already to really oppose the continued appalling role that the Lab is placing -- has placed with all of these various plans to continue supporting the production of nuclear weapons in violation, as others

2-A

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have spoken, of our treaty obligations under the Non-Proliferation Treaty, Article 6, and as well in violation of the overwhelming sentiment of the world's community who are supporting a treaty to prohibit nuclear weapons. 2-A

We have seen, despite the arguments of nuclear weapons, quote, unquote, "preserve the peace," in fact, our generations of building these heinous weapons have failed to stop the aggressive war in the Ukraine, and it's time for us to all wake up and support the abolition of nuclear weapons, which my organization, PSR, and other organizations I belong to -- the Nobel Prize winning International Physicians for the Prevention of Nuclear War -- are committed to. 6-C

We have many things -- and I can speak as a physician, as well -- in terms of what this money that we're spending for nuclear weapons can pay for.

So, for example, the $35 billion that we spent last year on nuclear weapons, which do not include an equivalent amount for missiles and other delivery systems, could -- in the middle of our COVID emergency -- and we may have a resurgence shortly given the international health situation thereof -- could have paid for 300,000 ICU beds, 35,000 ventilators, as well as the salaries of 150,000 nurses, 75,000 doctors, just to give some of the trade-offs that we should be thinking about the entire nuclear weapons project, including what's going on at Lawrence Livermore. 23-A

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And we have many other things that we need to pay for. There are tens of millions of people in our country who don't have health insurance or adequate health care. 23-A

And as other speakers have addressed, what this Lab should really do is stop producing nuclear weapons, but turn it's scientific talent to both cleaning up the legacy waste that it and the rest of the DOE complex have contributed to. 6-C, 6-A

And, as well, (inaudible), as opposed to the greenwashing activities that occur in the name of the Lab, really channel our scientific talent to really deal with the enormous problems posed by our climate emergency. 6-B, 6-D

I would agree with a number of the points that other people have raised, such as Inga and others, but more concretely, running out of time here, we think that under No-Action Alternatives, should mean that all new 19 projects should be removed, and we also oppose raising limits on tritium and weapons-grade plutonium. 5-A, 4-D

Finally -- and speaking personally, as well as in support of what others have raised -- we really strongly urge you to increase the time for us to be able to provide full comments until February. It's pretty outrageous that we have such a limited time to go through a document this long and be able to provide coherent testimony on all the specific issues that are involved in terms of potential increase in environmental contamination, let alone continuing the project 3-A

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to create these horrible weapons.

I have two grandchildren who should have much more of a future than living under the shadow of nuclear weapons that I and many of my generation have had, and it's time for you to use a scientific talent to benefit common humanity.

Thank you.

MS. CRAIG: Thank you so much. Okay. Next up is Marylia Kelley. I believe she's the executive director for Tri-Valley CAREs. Marylia?

Mike, can you please promote her.

MR. BARNES: She's there. Yes.

MS. KELLEY: Yes, I just got the little unmute sign. Thank you so much. And thank you for this opportunity to comment.

As you know, I did comment at the public hearing at Livermore -- in Livermore, so I'll extend a couple of remarks and add a couple, depending on the time.

First, I want to reiterate the importance of offering a public comment period that goes through January and ends February 2nd. That is the absolute minimum that is needed. And for the reasons that have been stated, for the reasons that Tri-Valley CAREs have been stated, I want to point out in your presentation that you talked about the scoping for the Site-Wide Environmental Impact Statement started in August of 2020, which I do recall. So, I want to

3-A

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talk about fairness. It's fair, you believe, to have given yourselves more than two years to produce a Draft Side-Wide Environmental Impact Statement and it's a very difficult enterprise. So is reading it. So is analyzing it. So are coming up with comments on it. So, I do believe that to extend the comment period through January is the very least that is required, and I would ask you to do that. 3-A

And I understood what you said about, sure, we can monitor the box until January 30th, but to be fair, that's not legally a parameter. As you said, the law says that you can accept, at your whim, comments to the extent practicable. So, to extend the public comment period through the end of January gives people absolute confidence that their comments will be fully considered. So, again, I would like it to be formal and not some sort of informal, yes, you can send them and maybe we'll pay attention to them.

I also want to speak a few more words about the Alternatives Analysis, which, as I stated before, is, we believe, deficient. It's not just what the Lab wants to do that should be in as an alternative, but there are Lab programs that also respond to national security in different ways. 6-A

For example, there's a small, but world-renowned climate program at Livermore Lab, and I don't find anywhere the imperative to address climate change and Livermore Labs 6-D

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ability to do it as part of any of the alternatives. It should be put together with a disarmament alternative -- and that's moving toward disarmament. It doesn't mean it happens tomorrow, and if it doesn't happen tomorrow, you don't need to analyze it. You do. This analyzes the next 15 years. A lot has changed in the last 15 years, a lot can be expected to change in the coming 15 years, and the SWEIS needs to take a much, much broader look at reasonable -- and those are reasonable -- alternatives to do more civilian science, to do more technical work toward disarmament. 6-C 6-A

For example, the question of being able to monitor disarmament in countries under treaties. That's actually an important technical question. One Livermore could spend way more resources on doing. 23-A

And I will provide a lot of detail in my written comments, which I can't imagine are going to be ready before January 30th. Just to be honest, there's illness, there's holidays, there's family time that's been put off for three years already, and I do believe that you have a moral, as well as a legal, obligation to extend the public comment period. 3-A

I'm out of time. Thank you. I'll come back if it's allowed.

MS. CRAIG: And, Marylia, as soon as we get through all the commentors, if there's time, I will absolutely

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acknowledge that and get you back. Okay? Thank you.

Next up we have Joni Arends.

MR. BARNES: All right. Joni should be there.

MS. ARENDS: Hi. Good evening.

MS. CRAIG: Hi.

MS. ARENDS: My name is Joni Arends. I am with Concerned Citizens for Nuclear Safety, a group that was formed in Santa Fe, New Mexico, almost 35 years ago, and I was a co-founder. I'm also a native Californian.

I am going to read my comments and then I'm going to make some more comments.

So, CCNS respectfully requests that the NNSA extend the comment period for the Livermore SWEIS to at least 30 days, until February 2nd, 2023. I'm going to reiterate some of the -- some of the reasons that other people have stated, but I just find it so unreasonable at this point in time for -- as Marylia described -- a -- a quasi maybe we'll accept your comments until February 2nd. It needs to be -- there needs to be a Federal Register Notice, there needs to be a formal process to say, yes, we'll accept all of your comments until February 2nd. 3-A

It's been a difficult time for the public to provide informed comments about the 1400-page Draft Livermore SWEIS. During the ongoing major religious and cultural holiday seasons, in many ways it's unconscionable for NNSA to

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request public comments during this time. Many Americans are on retreat, traveling with family, taking well-deserved vacations, and/or meeting all forms of family obligations, traditions, and celebrations.

Further, and consequentially, as Dr. Gould talked about, there are many people that are dealing with the post-Thanksgiving surges of COVID, RSV, and flu throughout this country, and there are limited hospital beds. I can't even imagine being in that situation at this point in time, while at the same time, Livermore wants to expand it's pit produc- it's nuclear weapons work. 3-A

So, CCNS respectfully asks that the comment period be formally extended until February 2nd, 2023.

Also, CCNS objects to any further open burning, open detonation at DOE sites across the country. EPA is working on a ban of open burning and open detonation. There needs to be an alternative analysis that looks at no emissions. There are confined burn -- there are alternatives. There's static explosive chambers, there's confined burn facilities, there's all sorts of alternatives that have been developed since the ban went into effect in the 1980s. And that needs to be analyzed in the -- in the SWEIS, and I don't know if that's happened or not. 6-B

Also, CCNS objects to a 15-year document. They're doing the same thing at LANL, saying a 15-year analysis, but 1-D

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they're already five years behind schedule on providing the public with a draft SWEIS here. So, we're going to -- they were supposed to be done in 2018, and we've been waiting five years while, at the same time, they've been expanding pit production. It's unacceptable, it's unconscionable, and it needs to end. 1-D

So, Ms. Houston, you have been so gracious when I've contacted you about Livermore issues, and I really appreciate your openness to be able to offer an extension, but it needs to be in a formal extension. 3-A

And I see that I'm out of time. And I support -- CCNS supports the comments that have already been submitted.

Thank you.

MS. CRAIG: Thank you. Okay. Next is Loulena Miles.

And I'd just like to acknowledge I know other people have raised their hands, and I have -- I'm keeping track of that. So, Washington Physicians, Raiza, and Luke.

MR. BARNES: Loulena should be there.

MS. MILES: Hello. Just gave me the unmute.

MS. CRAIG: Hi, Loulena.

MS. MILES: Hello.

MS. CRAIG: Hello.

MS. MILES: My name is Loulena Miles. I am an attorney and the president of the board of Tri-Valley CAREs.

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We are a non-profit organization that has been monitoring the weapons activities at Livermore Labs since 1983.

First off, I'd like to say thank you for extending the comment period. However, I would also like to request that there be another virtual hearing offered after the New Year holiday so that members of the public can have an opportunity to weigh in on the plans. 3-A

My comments today will focus on the weapons programs at Livermore Lab and compliance with the NPT, the Nuclear Non-Proliferation Treaty.

The proposals in this SWEIS are not in compliance with international law. The SWEIS states the proposed action is in compliance and the NNSA missions are conducted fully consistent with current Treaty obligations. We vociferously disagree. Livermore Lab has been working to modernize the arsenal and push the envelope on weapons capabilities, essentially turning them into new weapons designs. This not only promotes nuclear development worldwide because everyone needs to keep up with the Joneses -- not just for their credibility, but for their survival, as they see it -- and Livermore Lab is playing a central role in driving a new and dangerous global arms race. 2-A, 2-B

With the war in Ukraine and Russia's nuclear saber-rattling, the U.S. nuclear weapons budget throws fuel on the fire of potential nuclear war. This is fundamentally in

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contradiction with our obligations under the NPT.

And I know it's, you know, you've stated here tonight that Livermore Lab's not creating policy, but Livermore Lab does propose science and tries to be consistent, right, with stockpile stewardship and management. However, Livermore Lab, when pushing the envelope on design, is not in compliance with the vision or letter of the law and with what stockpile stewardship and management should be.

The SWEIS states that the NPT does not provide any specific date for achieving the ultimate goal of nuclear disarmament nor does it preclude the maintenance of nuclear weapons until their disposition. Continued operations at the Lab enable NNSA to maintain the safety, reliability, and performance of the U.S. nuclear weapons stockpile until the ultimate goal of the NPT is obtained.

2-A, 2-B

This is manifestly incorrect. The Lab's objectives to maintain the arsenal include life extension programs that are unnecessary, that are expensive, and that are environmentally polluting, and that promote the nuclear arms race worldwide. And I'm going to go into a few specifics on that.

The desire to modify warheads or develop new warheads is a primary factor and push to upgrade other parts of our nuclear enterprise and the cost of modernizing the stockpile, including the infrastructure and delivery systems,

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is estimated to be $1.7 trillion over 30 years.

So, I argue that some of the programs that need to be analyzed in the SWEIS are, one, whether the development of the W80-4, Long-Range Standoff Weapon, is in compliance with our Treaty obligations under the NPT. This is an offensive first use weapon that is completely out of compliance with our Treaty obligations, and I would like this document to look at that, specifically. And it is completely out of compliance with our commitment to stockpile stewardship.

The SWEIS should also analyze whether the development of the W87-1 is in compliance with our Treaty obligations under the NPT. This is the first wholly new warhead design since the end of the Cold War. The Lab is looking into 126 new technologies for this warhead design, including new design nuclear bomb cores called "pits" that are significantly different from anything in the U.S. stockpile. So, again, I just want to reiterate we do not want to be pushing the envelope on design.

2-A, 2-B, 2-D

I see that I'm running out of time. I would like to at least wrap up by saying that I feel that having such a short public comment period fully within the holiday period is not in good faith; that this is bad faith. And I do not want this to be considered the Department of Energy's bad faith playbook for how to hold public comments, so please extend the comment period. I know you have a little bit, but

3-A

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to extend it a bit more and have one more hearing.

Thank you for your time.

MS. CRAIG: Thank you. Okay. Next up, John Wilks.

(pause)

MR. BARNES: Give me just a second here. Where's John? There we go. Hello, John.

MR. WILKS: Can you hear me now?

MR. BARNES: We can.

MR. WILKS: Thank you. I'm John Wilks. I'm the vice president of Veterans For Peace, the Albuquerque chapter.

First thing I would like you to know is our position on the WIPP, the Waste Pilot Plant, that is in Carlsbad, New Mexico. The Land Withdrawal Acts, which established the WIPP, specifically said the WIPP would be open to accept shipments of true waste for 25 years. That means the WIPP will close in June of 2024. Our organization, which is an international organization, will do whatever it takes to peacefully not allow shipments into the WIPP after June 2024. 18-C

Now, I understand that Livermore is not a production site. Nevertheless, it will generate waste. Low-level waste, true waste, perhaps high-level waste. That I'm unaware of. But the issue is our governor, within the last four days, has found her backbone. She has put NNSA and DOE

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on notice that the permit -- the 10-year operational permit which DOE has submitted will not be approved unless certain conditions are met.

Now, the WIPP has operated for the last three years without a permit. The former permit has been administratively extended. There will be no more extensions. The governor has put in writing that no down-blended plutonium will be allowed in the WIPP; that the WIPP will not be expanded, either in time or space or volume, until certain conditions are met.

The first condition is Los Alamos will be prioritized. Sorry, Idaho. Sorry, Livermore. Sorry, every other facility of the 13 that contribute to the WIPP. It will be Los Al first. 18-C

Secondly, all but Legacy Waste at LANL will be inventoried. We're talking since 1943, all of the waste. That is our definition of Legacy Waste. And it will be removed. Now, this is a very important shift, which I understand NNSA did not realize was on the horizon. But it's here, it's in writing, it's a fact, it's reality.

So, I am asking does the SWEIS, or the long-range plan of Livermore Lab, have a contingency of what they are going to do with true waste if the WIPP is closed or if it will not accept waste from anyone except Los Alamos. Because that is the reality.

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Thank you for your time.

MS. CRAIG: Thank you. Okay, I am going to switch to -- I'm going to have to give people three minutes moving forward because we have more commentors than time. And if you go over just a little bit, that's okay, too.

So, next up is Washington Physicians for Social, and I'd like you to give us your whole name because actually it doesn't read on the screen. For Social Responsibility, there we go. Welcome.

MR. ARENT: Hi. My name is Sean Arent. I'm the nuclear weapons abolition program manager for the Washington Physicians for Social Responsibility.

Speaking from Washington State, the home of the decommissioned nuclear lab at Hanford, and the home of the largest nuclear weapons stockpile at the Bangor Trident Sub Base, the legacy of Hanford proves that this testing is only achieved through the exploitation of workers and the environment. These harms are still felt today in the forms of radiation exposure and contaminated (inaudible) on the site that is dangerously close to leaking radiation into the Columbia River. We cannot continue to produce this waste until we, at the very least, figure out how to effectively contain it. The immorality of nuclear weapons aside, there are more than enough stockpiled weapons and plutonium pits stockpiled in this country. 2-B

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(inaudible) statements of folks on the ground, the public deserves more time and publicity to decide if they want both increased nuclear radiation pollution and nuclear arms escalations.

If nuclear fusion is truly around the corner, they have chosen to escalate us into a nuclear arms race, you each have a decision to make, as well. Are we going to continue to create bombs that will further divide this planet or maybe can we maybe produce renewable energy source that can potentially get us out of the climate crisis. 1-A, 2-B

With that, I think I'm going to yield the rest of my time. Thank you.

MS. CRAIG: Thank you so much. Okay, next is -- I might -- Raiza Marciscano, I believe?

MS. MARCISCANO: Yeah, hi, that's my name.

MS. CRAIG: Will you say it for me, please?

MS. MARCISCANO: Raiza.

MS. CRAIG: Raiza. Thank you.

MS. MARCISCANO: Raiza Marciscano.

MS. CRAIG: Marciscano. Thank you.

MS. MARCISCANO: Yeah. Thank you so much for letting us comment tonight.

I just want to say that with the holidays, you know, many people are just not aware of the public comments, and this is something where we're really asking for an 3-A

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extension at least to February or even 90 days.

We're concerned citizens that are worried about (inaudible) plutonium pits, (inaudible) for nuclear weapons, and the impact of such expansion to work areas, public health, equity, and the environment.

So, we know that more than 2,000 current and former Livermore Labs have applied to the Employee Occupation Act Illness Compensation because they are -- it's due to serious illnesses that they're having, including cancer. We believe that it's being caused by on the job exposure to radioactive and toxic materials in the Lab.

So, like I said, Livermore has a long history of working with tritium. These are serious problems that persist in the Lab's management and they are dangerous high explosives that are making people sick and we believe that people need to be heard.

Thank you very much.

MS. CRAIG: Thank you so much. And, then, next up is Luke. It says "Luke Oakland." So, I don't think we have your last name, but, Mike, I think you can find him on the screen there.

MR. BARNES: He should be there.

(pause)

MR. BARNES: You have to unmute, Luke.

(pause)

3-A

19-E

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MS. CRAIG: Luke, you're going to need to unmute yourself.

(pause)

MS. CRAIG: Okay. We'll give you a moment. Okay, I'm going to move on to keep us going, and then we'll come back to Luke. So, next up would be Alan Haber.

MR. HABER: Hello. And I'm glad I tuned in to this. I demonstrated many times at Livermore.

In the broader view, we're about to approach the 60th anniversary of John Kennedy making his call for peace. Not just the end of war for us, but for everyone total and complete disarmament was what he said at American University in June of 1963 several times. And the consequence was that the military determined it must seize power, which it has, and the War System has been in charge ever since.

What we need is to end the whole War System. This is an integrated system of global domination. The weapons part is one part; there are many other parts. It is a system of domination. Somehow we must put system change from domination, impunity, coercion, and violence to peace and caring and sharing, helping, and healing. From full spectrum domination -- what the Defense Department calls "vision" -- to full spectrum cooperation. 6-C

People who work in these labs are also moral human beings, and they are being allowed to see themselves as

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amoral, as though the consequences of their action have no consequence in the actual moral universe, which is now being led to ultimate destruction.

I just wanted to add that larger view. Total and complete disarmament is what we need, ending the entire War System. And putting on the workers in these labs the onus, as moral human beings, not to contribute to this War System, but to gradually see how do we shift from war to peace, from domination to cooperation, caring, sharing, helping, and from healing of the trauma of the last 5,000 years of war. 6-C

This System is not necessary. It's not built into the human psyche. What is necessary is that people take moral responsibility for shifting the course to dealing with the life system challenges that we all face on this planet. The nuclear weapons are an abomination.

Certainly, there should be more time to comment upon it, but the comment should be stop it all. Convert to a Peace System.

Thank you.

(pause)

MS. GEBEYEHU-HOUSTON: Tracy, you are muted.

MS. CRAIG: Sorry. I was going to say let's try Luke from Oakland again. And, Luke, if you can unmute yourself, that would be great.

LUKE: Thank you for the opportunity to speak. I

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really just have two -- two main comments. I'll try to keep it quick, since I know we have lots of other people.

The first one is that this is a -- this is a very long and detailed document, and it has a span of 15 years, so I'm, for example, right now traveling and it's part of the reason I had to step away from my computer, and so it's just very difficult -- basically impossible -- to actually be able to look through it and make, you know, realistically make comments in the period that we're given, especially with the holidays and, as other people said, you know, traveling and all things like that. So, I would very strongly urge you all to extend the comment period and do another public webinar in January to really be able to give people a chance to -- to kind of have more time to look at it. So, that's one main thing. 3-A

The other one is around the alternatives. I think that, as other people have already mentioned, there are a lot of alternatives that are not explored in the current document, and I think those alternatives around ways that the Lab can be used to address many of the priorities that we have as a country should be explored. And some of those are things like how can the same, you know, the same science and technology be used towards addressing and mitigating climate change; how can, you know, someone -- the things that you're already doing be used for things like monitoring disarmament; 6-A

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things that are very important and are completely in line with the work that's already happening, but are not, you know, fully explored in the document. 6-A

Yeah, I think that's -- those are my two main comments, and I'll save the rest of my time, since I know there's lots of people wanting to talk.

MS. CRAIG: Okay. Thank you. No, actually, we're -- we're caught up. People have shortened their comments, so we're back on schedule. And the next person up would be Scott Yundt.

MR. YUNDT: Hey, everybody. Thank you so much for the opportunity to comment, which I also got to do pretty extensively at the Tracy public meeting.

So, tonight, I will just give a short comment about what I'm thinking about, hearing from all the other excellent comments, which I echo.

Of course, I would like more time --

MS. CRAIG: I'm going to interrupt you for one second. I think you're with Tri-Valley CAREs. Can you just state --

MR. YUNDT: Yes, I'm the staff attorney at Tri-Valley CAREs.

MS. CRAIG: Thank you.

MR. YUNDT: Thanks for reminding me.

(laughter)

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MS. CRAIG: Make sure you don't forget.

(laughter)

MR. YUNDT: So, I -- I just wanted to echo what people have been asking for in terms of an extension to the public comment period and also that another virtual public comment opportunity be offered closer to the end of the public comment period, which I hope can be extended until early February. So, sometime in late January for another virtual hearing would be really useful so that people can make comments after they've had an opportunity to really get into the documents, which are extensive, as has been mentioned. 3-A

The specific comment I want to make that I did not make earlier is to really echo what Raiza mentioned, which is that there are 2863 former workers of Lawrence Livermore National Lab who have filed for federal compensation from the Energy Employees Occupational Illness Compensation Act, or EEOICPA, which was started in the year 2000 to help workers who have been made ill by on the job exposure get compensation for illnesses they believe were caused from those exposures. 19-E

The SWEIS proposes to increase the number of radiation workers at Livermore Lab from 123, the current number, to 615 -- a five-fold increase. I can tell you from my anecdotal experience that the bulk of the claims in this

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program are made by these radiation workers at Livermore Lab. More workers doing radiation work is going to mean more claims under this Act, not to mention more illnesses, more human suffering, and more lives shortened because of work, which is not just.

The SWEIS should include an analysis of the lost work time, of the illnesses, of the economic impact to these people, and also the economic impact of compensating, using federal tax dollars from all of us to pay for the compensation provided under EEOICPA for these increased workers who will be having to work with dangerous materials like plutonium, highly-enriched uranium, and tritium. Specifically, the increase in reservoir loading -- tritium loading -- at the tritium facility and at NIF, which was mentioned in the SWEIS, is extremely dangerous, and I am certain from reading that description that more -- that the workers doing that work will be exposed and the impact to them needs to be analyzed.

19-E

19-A

I will bring the rest of my comments to written form, and thanks again for having this tonight.

MS. CRAIG: Thank you, Scott.

Okay, I think we are done with our commentors, but I want to make sure that anybody -- I think Marylia wanted to comment again. And if you can unmute her mic, we can give her a couple minutes.

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And, then, also I just wanted to note that in the Q&A box, many requests for extending the public comment period and noting both the holidays and the size of the SWEIS that makes it hard to finish commenting by January 18th. So, I wanted to note that there were quite a few of those comments in there and rather than read them all, I thought I would just emphasize that.

So, I think -- oh, I'm sorry, I think we have two other commentors. And, forgive me, we have Jay?

MR. COGHLAN: Yeah. Good evening. This is Jay Coghlan. I work for Nuclear Watch New Mexico, based in Santa Fe, and primarily examine the sister laboratory to Livermore, Los Alamos.

What I wanted to comment primarily on is the reputed main mission of the Livermore Lab. I'm just quoting a single sentence from the summary of the Draft SWEIS that, "Livermore's primary responsibility is ensuring the safety, reliability, and performance of the nation's nuclear weapons stockpile," and I'm using that as a platform for my comments. 1-A

I would hope that the Final Livermore Site-Wide Environmental Impact Statement would critically examine that statement, and I'm questioning whether expanding nuclear weapons programs at Livermore and the other labs are actually in the nation's best interest.

And to make this a bit more specific, I am a bit of

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a budget wonk and I know that the fiscal year 2020 budget -- Congressional Budget request for the National Nuclear Security Administration explicitly called future pits to be produced. They called them, quote, "W87-dash-like," and, of course, this is immediately relevant to the 87-1 that's coming up. But "87-hyphen-like" could create lots of room for mischief. It could give room for major design changes to pits. And a lot of the people in the audience -- I use the term "audience" -- but may be aware that plutonium pits have to perfectly implode in order to reach critical mass. So, any major changes to pit design could directly adversely affect nuclear weapons performance. 2-C, 2-D

And, then, as things are now, since 1992, there has been an international moratorium on nuclear weapons testing, so these pits cannot be full-scale testing -- tested, thereby perhaps eroding confidence in the stockpile or alternatively prompt the U.S. back into testing.

So, that's why I'm calling upon this Site-Wide EIS to truly critically examine whether expanding nuclear weapons programs at Livermore and the other labs are truly in the best -- in the best interests of the nation. I believe they're not. So, that'd be great, if you all were to do that. Make that examination. 1-A

Thank you.

MS. CRAIG: Thank you. And, then, next we have Jan

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Boudart.

MS. BOUDART: Thank you. Thank you very much for giving me a chance to speak when I have raised my hand so late.

I'd like to make the basis of my talk the fact -- or the -- I'm putting forth the idea that the work at Livermore as planned is displacement activity from our imminent task of our generation, which is to deal with the climate crisis. The direct activity of producing plutonium pits, preoccupying ourselves with the nuclear arsenal, and doing out-of-the-envelope research on cracks and things in nuclear casks is all distracting us from the imminent problem. And it's a case of our being a generation that is afraid to look up at what is happening and afraid to take on our responsibility to deal with the climate crisis, which is affecting everything. 6-A, 6-D

We're ignoring the present -- I'm using the word "contamination" relative to radiation and "pollution" relative to fossil fuel pollution. So, we're ignoring the present contamination of our environment with radioactive emissions from power plants, from radioactive waste, and radioactive accidents; we're ignoring the future contamination. I do believe the Columbia River is not being contaminated in the future, it's being contaminated now, along with the Tennessee River, which is getting the outflow

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from the Watts Bar Tritium Project.

And there are so many examples of this type of displacement activity and refusal to look up at what is happening that we need to pay attention to now, that we cannot put off, and all of the resources that we are putting into this displacement activity, I agree with the -- Dr. Olson -- Inga Olson -- that this is a crime and we should be paying more attention to what we need to be doing now. 6-A

Thank you, and my time's up. I got it in. I can't believe it. Okay.

MS. CRAIG: Good job. Okay. And we have another commentor, Patrick Burklund. But actually he's under somebody else's email, Mike. I don't know if you saw that in the question box.

MR. BARNES: Let me take a look real quick.

MR. BURKLUND: Hello.

MS. CRAIG: Hi, there.

MR. BURKLUND: I'm a retired LLNL employee, and I'd just like to comment on some of the things I've been listening to.

After 35 -- almost 35 years working at Lawrence Livermore Lab in underground nuclear testing and many other things that they call "very hazardous to your health," the worst things that ever happened to me is I broke an ankle. So, I don't believe that these people are enough informed 19-F

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about what hazards that are really at the Lab. We know what the hazards are and we avoided them.

I have read the document and it was an important work for national security. I'm sorry I'm not -- I'm sorry I'm retired and I would like to be willing to come back and help if I could, but I'm probably out of my scope of being able to be that much help. But as an employee whose gone through much of the things that these folks are commenting about, what they're saying they have no experience in. And I am just unbelievably -- you know, I just can't believe that they can comment on something that they don't have any experience in. I have worked with several thousand people at the Laboratory and all of them -- we all knew where the hazards were and how to avoid them. 19-F

And what the hazards are to the -- to the public is non-existent, basically. Outside the borders of the Lab fence, you'll never find anything out there.

And I just -- I just believe that these comments are -- by these folks are just uninformed. And thank you for listening, but as an experienced former Laboratory employee, I would just like to say they just don't have any experience in what the Laboratory's really like.

Thank you.

(pause)

MR. BARNES: You're on mute, Tracy.

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MS. CRAIG: I'd like to thank everybody for commenting. We are at time, and I don't see any other comments.

Mike, if you could switch the screen, please, so you could show people how to comment --

MR. BARNES: Yeah.

MS. CRAIG: -- during the remainder of the comment period.

So, as a reminder, January 18th, taking under consideration the requests to extend the public comment period further, but right now it has been extended already to January 18th.

This was the third of three meetings -- three hearings, excuse me. You can comment by email, and Fana is monitoring that email; you can also comment by U.S. Mail, if you like to write; and the documents are available, you can see right here in the library online.

I'd also like to encourage people to put their emails in the Chat box. We had several request copies of the presentation. That isn't a problem. But if you'd like to be personally notified if the comment period gets extended or any other new information about the Draft SWEIS, that's the best way to get the information directly. So, we'll keep that Q&A box open for five minutes after the close of this meeting and you're welcome to type your email address in

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there.

And I think -- I think that is all I have right now. I would -- Fana, would you like to say something before I close?

MS. GEBBEYEHU-HOUSTON: Yeah, I just want to thank everybody again for coming and I want to -- and sharing your comments -- and I want to direct people to the NNSA Reading Room for both the presentation -- which should be posted soon, if it's not already posted -- and the -- there were -- there were fact sheets and poster sessions at the in-person, so that information's up there, too. We didn't have the benefit of doing it in this virtual forum, but we did have those posters and fact sheets at the in-person session, so they can get that information online, too.

MS. CRAIG: Perfect. Okay.

MS. GEBBEYEHU-HOUSTON: Thank you.

MS. CRAIG: So, I would encourage you, if you have your phone out, to just take a quick picture of this slide, "How to Provide Comments," and I've noted that several people have put their emails in the Q&A. As I said, I'm going to let Fana go and end the meeting, but we will keep Q&A open and I'll stay here for five more minutes to capture any more emails from people.

And, again, I would also like to thank everybody. I know you have other things that you could've been doing

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tonight. Greatly appreciate that you tapped in to this meeting and gave us such considered and informed and passionate comments.

Thank you and good night.

I'll stay on for a few minutes, Fana. And, Mike, you can end the recording now, if you would.

MR. BARNES: Okay.

[END OF RECORDING]

[END OF TRANSCRIPT]

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C E R T I F I C A T E P A G E

I, Angela P. Ferreire, Transcriptionist, do hereby certify that this transcript is a true and accurate record of the electronically recorded proceedings, transcribed under my direction this 23rd day of December, 2022.



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ANGELA P. FERREIRE

Olson, Inga (31)
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From:	Patricia Olson
To:	LLNLSWEIS
Cc:	Tri-Valley CAREs
Subject:	[EXTERNAL] DOE/EIS-0547: Site-Wide EIS for Continued Operation of the Lawrence Livermore National Laboratory; Livermore, CA
Date:	Friday, March 3, 2023 3:47:39 PM

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

Dear Ms. Fana Gebeyehu-Houston,

First, let me say that, I am grateful for the democratic values in the USA (US) and particularly for the National Environmental Policy Act that requires Lawrence Livermore National Laboratory (LLNL or the Lab) to review their future plans, release that information to the public, and receive and respond to public comments about those plans.

The following comment letter proposes an authentic Alternative to LLNL's No Action Alternative, which I find disingenuous. A No Action alternative should mean just that—no action—and should be limited to the programs and the current scope of activities that already exist at Livermore Lab. Instead this so called No Action alternative proposes 19 new projects, totaling 416,300 square feet. One project includes adding 25,000 square feet of new plutonium infrastructure in the main plutonium facility in the Livermore Lab's Superblock. The Superblock area is considered the Lab's nuclear weapons development centerpiece. Livermore Lab's No Action Alternative should be rejected. 5-A

I also find both LLNL's Proposed Action Alternative and the No Action Alternative legally insufficient. The following comments will describe why both LLNLl's Alternatives are legally insufficient and will propose an Abolish Nuclear Weapons Alternative.

I had the opportunity, as a member of an NGO contingent, to attend some of the Treaty on the Non-proliferation of Nuclear Weapons (NPT) Preparatory Meetings. I remember in those years Russia and China had not begun the aggressive buildup of their nuclear weapons arsenal. Yet, the US consistently raised the Department of Energy nuclear weapons budgets and allotted funds for modifying the current arsenal. It was clear then as it is now that the US weapons programs design and development work is propelling other countries to feel the need to do the same.

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Currently the LLNL work includes the design of a wholly new weapon, the W87-1. The US is not allowed to design new nuclear weapons according to the language of the NPT and the International Court of Justice's interpretation of the NPT. 188 UN member States, including the US and the other four states the Treaty recognizes as nuclear weapons states, as well as two observers, are parties to the NPT. 6-A

The Abolish Nuclear Weapons Alternative

One of the greatest tragedies in the last 50 years was President Bill Clinton's failure to seize the possible peace dividend resulting from the end of the cold war and invite Russia, and eventually include China and other nuclear states, to initiate a path to finally eliminate nuclear weapons and actualize the NPT. I recommend now that the SWEIS include an Abolish Nuclear Weapons Alternative. LLNL could carry out its mandate of maintaining the current stockpile without doing work that is so provocative and dangerous.

Department of Energy (DOE) scientists and leaders are ideally positioned to carry out a true stockpile stewardship to disarmament mandate. DOE, and by extension LLNL, has the expertise needed to monitor a weapons draw down. LLNL has the budget and professional staff available to transition to working on a far-reaching effort of stockpile management while there is an international draw down and disarmament. Such actions would begin to resurrect US credibility as a democratic state that abides by the rule of law. 6-C

This may seem implausible when war is escalating; however, China has recently had millions of its citizens protesting in the streets and Russia is facing serious public resistance to citizens being conscripted into the army to fight in Ukraine. All nuclear weapons States' coffers are seriously impacted by their nuclear weapons budgets, which is particularly burdensome with the extraordinary costs to address climate disasters happening all over the world. The research, thinking and logic involved in the Abolish Nuclear Weapons Alternative is an alternative to escalation of the nuclear arms race and could even prompt societal questions about the feasibility of war itself.

In conclusion, I ask you to reject LLNL's No Action Alternative and instead include The Abolish Nuclear Weapons Alternative. In addition, LLNL's Proposed Action alternative that includes the development of new nuclear weapons is illegal and must be modified to be made legal or be eliminated entirely.

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Sincerely,

Inga Olson 916-202-3705 olsoning@yahoo.com

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Yundt, Scott (48)
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From:	Scott Yundt
To:	LLNLSWEIS
Cc:	Kelley, Marylia; Loulena Miles
Subject:	[EXTERNAL] Forward of Congressional Letter Requesting Extension of Public Comment Period
Date:	Tuesday, February 14, 2023 8:27:03 PM
Attachments:	Congressional Letter to NNSA - Extension of time for Draft SWEIS Public Comment.pdf Letter to NNSA- extension of time for Draft SWEIS Public Comment.pdf

To: Ms. Fana Gebeyehu-Houston, LLNL SWEIS Document Manager

From: Tri-Valley CAREs

Date: February 14, 2023

Re: Extension of Comment Period on the Draft Site-Wide Environmental Impact Statement (SWEIS) for the Continued Operations of the Lawrence Livermore National Laboratory (LLNL) in California.

Dear Ms.Gebeyehu-Houston,

Tri-Valley CAREs wants to further bring to the Agency's attention that three local Members of Congress (Congressperson Eric Swalwell, Congressperson Mark DeSaulnier and Congressperson John Garamendi) submitted a letter dated 2/9/2023 to Jill Hruby, Administrator and Under Secretary for Nuclear Security at the NNSA, requesting an extension period for the public comment on the Draft SWEIS that ended on January 18, 2023. (The Letter is attached to the email with this letter).

Tri-Valley CAREs agrees with the Members of Congress that this important comment period should be extended. There are interested members of the public and even entire organizations that were unable to comment either to the extent that they wanted to, or at all, during the brief and poorly timed public comment period for this "voluminous and highly technical document." Tri-Valley CAREs requests at least a 30-day extension of time and suggests March 1st-31st with a full notice in the Federal Register.

25-A

We appreciate your response and timely attention to this matter.

Sincerely,

--
Scott Yundt
Staff Attorney

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"Stopping nuclear weapons where they start..."

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Congressional Representatives Mark DeSaulnier, John Garamendi, and Eric Swalwell (52)
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Congress of the United States
Washington, D.C. 20510

February 9, 2023

The Honorable Jill Hruby
Administrator and Under Secretary for Nuclear Security
National Nuclear Security Administration
1000 Independence Avenue, SW
Washington, DC 20585

Dear Administrator Hruby:

We respectfully request an additional, extended period for public comment on the Draft Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory (DOE/EIS-0547).

While we appreciate that NNSA closed the original 60-day comment period on January 18, 2023, concerned constituents and residents of communities in our Congressional districts nearby Lawrence Livermore National Laboratory have contacted our offices requesting additional time to review and comment. We trust you can appreciate that this Environmental Impact Statement is a voluminous and highly technical document, even for the most interested members of the public.

25-A

As members of Congress representing the East Bay, we strongly support the ongoing work at Lawrence Livermore National Laboratory, of which we believe Californians and all Americans should be immensely proud. Indeed, we were thrilled by the National Ignition Facility's first-ever nuclear fusion ignition on December 5, 2022. Decades in the making, this major scientific breakthrough speaks to the dedicated and cutting-edge work underway at Lawrence Livermore National Laboratory.

Again, we hope that NNSA will make every effort to provide additional opportunity for public comment on the Draft Site-Wide Environmental Impact Statement for Continued Operation of the Lawrence Livermore National Laboratory (DOE/EIS-0547). Thank you for your leadership and consideration of our request.

Sincerely,

John Garamendi
Member of Congress

Mark DeSaulnier
Member of Congress

Eric Swalwell
Member of Congress

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