

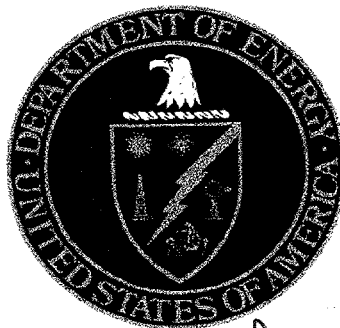


SUPPLEMENT ANALYSIS

for

Continued Operation of
Lawrence Livermore National Laboratory and
Sandia National Laboratories, Livermore

Volume II: Comment Response Document



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March 1999

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DOE/EIS-0157-SA-01-Vol. 2

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**Continued Operation of
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Sandia National Laboratories, Livermore**

Volume II: Comment Response Document

March 1999

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ABBREVIATIONS AND ACRONYMS

ADAPT	Advanced Design and Production Technology
ARIES	Advanced Recovery Integrated Extraction System
AVLIS	Atomic Vapor Laser Isotope Separation
°C	Degrees Celsius
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CTBT	Comprehensive Test Ban Treaty
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
EPC	Engineered Plume Collapse
ES&H	Environment, Safety and Health
°F	Degrees Fahrenheit
FONSI	Finding of No Significant Impact
g	Gram
HEPA	High Efficiency Particulate Air (filter)
IPD	Integrated Process Demonstration
JON	Judgements of Needs
kg	Kilogram
LLNL	Lawrence Livermore National Laboratory
LLMW	Low-Level Mixed Waste
LLW	Low-Level Radioactive Waste
MOX	Mixed Oxide (fuel)
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazards Air Pollutants
NIF	National Ignition Facility
NOD	Notices of Deficiency
NOV	Notice of Violation
NTS	Nevada Test Site
OAK	DOE Oakland Operations Office
ORPS	Occurrence Reporting and Processing System
PEIS	Programmatic Environmental Impact Statement
Pu	Plutonium
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
SA	Supplement Analysis
SAER	Site Annual Environmental Report
SAR	Safety Analysis Report
SNL-L	Sandia National Laboratories, Livermore

START	Strategic Arms Reduction Treaty
TSF	Terascale Simulation Facility
U	Uranium
USEC	U.S. Enrichment Corporation
VOC	Volatile Organic Compound
WIPP	Waste Isolation Pilot Plant
WM	Waste Management (PEIS)

1 INTRODUCTION

1.1 BACKGROUND

The U.S. Department of Energy (DOE), prepared a draft Supplement Analysis (SA) for Continued Operation of Lawrence Livermore National Laboratory (LLNL) and Sandia National Laboratories, Livermore (SNL-L), in accordance with DOE's requirements for implementation of the National Environmental Policy Act of 1969 (NEPA) (10 Code of Federal Regulations [CFR] Part 1021.314). It considers whether the Final Environmental Impact Statement and Environmental Impact Report for Continued Operation of Lawrence Livermore National Laboratory and Sandia National Laboratories, Livermore (1992 EIS/EIR) should be supplemented, whether a new environmental impact statement (EIS) should be prepared, or no further NEPA documentation is required.

The SA examines the current project and program plans and proposals for LLNL and SNL-L, operations to identify new or modified projects or operations or new information for the period from 1998 to 2002 that was not considered in the 1992 EIS/EIR. When such changes, modifications, and information are identified, they are examined to determine whether they could be considered substantial or significant in reference to the 1992 proposed action and the 1993 Record of Decision (ROD). DOE released the draft SA to the public to obtain stakeholder comments and to consider those comments in the preparation of the final SA. DOE distributed copies of the draft SA to those who were known to have an interest in LLNL or SNL-L activities in addition to those who requested a copy. In response to comments received, DOE prepared this Comment Response Document.

1.2 PUBLIC PARTICIPATION

DOE issued and distributed the draft SA for public review and comment on January 26, 1999. The public comment period extended to February 25, 1999. DOE held two public briefings on the draft SA on February 11, 1999, in Livermore, California. The public briefings were held to receive oral and written comments and to provide information on the SA to the public. Spoken comments given during the public briefings were recorded by a court reporter and a transcript produced. The briefings on the SA were conducted using an informal format with a facilitator. The format chosen allowed for a two-way interaction between DOE and the public. The facilitator helped to direct and clarify discussions and comments, allowing every commentor the chance to formally present comments.

DOE considered all comments to evaluate the accuracy and adequacy of the draft SA and to determine whether its text needed to be corrected, clarified, or otherwise revised. DOE gave equal weight to spoken and written comments, to comments received at the public briefings, and

to comments received in other ways during the response period. Comments were reviewed for content and relevance to the environmental analysis contained in the draft SA.

2 COMMON ISSUES

Several topics were considered by DOE to need further explanation or clarification. These topics, called common issues, relate to comments received on the draft SA or are topics not related to the environmental review but are considered by DOE to be of broad interest or concern to stakeholders. The common issues include the following topics:

- Supplement Analysis Process
- Proposed Changes in Administrative Limits
- Opposition to Nuclear Activities
- Concerns With HEPA filters

2.1 SUPPLEMENT ANALYSIS PROCESS

DOE issued the Final Environmental Impact Statement and Environmental Impact Report (EIS/EIR) for Continued Operation of Lawrence Livermore National Laboratory and Sandia National Laboratories, Livermore in 1992, to meet the requirements of the National Environmental Policy Act and the California Environmental Quality Act. The 1992 EIS/EIR evaluated the impacts on the environment of existing and proposed operations at LLNL and SNL-L for the period 1992 through 2002. On January 21, 1993, DOE issued a ROD to continue operation of LLNL and SNL-L, including projects proposed for the near term (next 5 to 10 years). The preferred alternative included current operations, programmatic enhancements, and facility modifications in support of research and development missions established by the President and Congress.

DOE prepares site-wide EISs for certain large, multiple-facility DOE sites to assess the environmental impacts of operations at these sites. DOE's regulations require the evaluation of site-wide EISs at least every five years by means of a supplement analysis to determine whether the existing EIS remains adequate, whether to prepare a new site-wide EIS, or supplement the existing EIS. DOE issued the *Draft Supplement Analysis for the Lawrence Livermore National Laboratory and Sandia National Laboratories, Livermore Site-wide Environmental Impact Statement* for public review and comment on January 26, 1999.

The Council on Environmental Quality regulations for implementing NEPA state that a supplemental EIS "shall be prepared if there are substantial changes to the proposal or significant new circumstances or information relevant to environmental concerns." In preparing this SA, DOE examined the current project and program plans and proposals for LLNL and SNL-L to

identify new or modified projects or operations or new information for the period from now to 2002 that was not available for consideration in the 1992 EIS/EIR. When such elements were found, they were examined to determine if they resulted in environmental impacts that exceeded the bounds of the impacts of LLNL and SNL-L operations presented in the 1992 EIS/EIR analysis; and if the bounds were exceeded, whether the incremental environmental impacts were significant. A *bounding analysis* is an analysis designed to overestimate or determine an upper limit to potential impacts or risks.

The SA determined that SNL-L continues to operate within the levels described in 1992. No significant new programs or projects have been proposed since 1992 or are planned for SNL-L for the near future. The SNL-L evaluation revealed that the impacts were within the bounds of the 1992 EIS/EIR analysis or the incremental differences in impacts were not significant. No supplementation of the 1992 EIS/EIR is needed on the basis of SNL-L activities.

LLNL continues to operate within the general statement of action described in 1992 EIS/EIR and its associated ROD; however, some projects and proposals have been cancelled or modified and some new ones have been developed. In addition, some new information is available on the site environment. A number of key projects or proposals were identified that would be implemented between 1998 and 2002. Also identified were proposed changes in administrative limits for certain radioactive materials and changes in waste generation and management. Administrative limits are the total quantities of certain materials allowed in LLNL facilities.

When environmental impact areas were screened to determine whether it was clear that impacts of LLNL operations, considering this new information, would remain within the envelope of environmental consequences analyzed in the 1992 EIS/EIR, DOE found that further evaluation was required for seven impact areas. These areas included sensitive species, wetlands, paleontological resources, radiological consequences of accidents, waste generation and management, environmental justice, and cumulative impacts. The SA presents the results of these evaluations, and concludes that either the projected impacts are within the bounds of the 1992 EIS/EIR analysis, or that the incremental differences are not significant. The overall picture of site-wide LLNL operations remains very similar to that presented in the 1992 EIS/EIR, and supplementation is not needed.

2.2 PROPOSED CHANGES IN ADMINISTRATIVE LIMITS

In response to its research and development mission and programmatic needs to the year 2002, DOE is proposing changes in administrative limits for certain radioactive materials in some of the LLNL buildings that carry out these activities.

Administrative limits are controls on the maximum amounts of material that can be processed at one time or kept in storage. As the name implies, these limits are administrative

rather than regulatory. Administrative limits are set only at the level that is needed to meet programmatic activities and take into account safety and material accountability restrictions. Administrative limits may be established for a group of buildings, a single building or room, a storage vault, a glovebox, or even a container. DOE analyzes the associated environmental impacts of the administrative limits in NEPA documents for nuclear and hazardous facilities. Administrative limits for plutonium, uranium, and tritium are within the capacity and infrastructure capabilities analyzed by the safety analysis report (SAR) process. The enhanced programs that require higher material inventories are listed in the SA. The safety implications of proposed changes to the administrative limits that were analyzed in the 1992 EIS/EIR and its ROD are reviewed in this SA.

DOE is proposing to change the administrative limit for uranium in Buildings 332 and 334 from 300 kilograms to 3500 kilograms. This would consist of 500 kilograms of enriched uranium (greater than 1% in the U-235 isotope), and 3,000 kilograms of depleted or natural uranium (less than 1% in U-235). The isotope U-235 is capable of fission, that is, when collocated in sufficient quantity (called a critical mass), it can be the source of criticality accidents, and can serve as a fuel in reactors and nuclear weapons. The 3,000 kilograms of uranium with less than 1% U-235, while radioactive at a low level and toxic to humans, is not capable of a sustained nuclear reaction under current facility conditions. This latter form is the uranium found naturally in soils and rocks throughout much of the world.

Although the proposed administrative limits for uranium would increase the total amount in the building complex, controls would continue to limit the material in a glovebox or at a work station well below that of a critical mass. In other words, the amount of material in storage would increase, but the amount of material being worked on at any one time would not increase. Nevertheless, a criticality accident of low probability is possible with uranium. The 1992 EIS/EIR identified as possible an inadvertent plutonium criticality accident for Building 332 with a dose of 2.0 rem at the LLNL fenceline as the bounding criticality accident for the Building. Subsequent analysis in the 1995 SAR indicated a uranium criticality accident could result in a dose of 3.8 rem at the fenceline. To put this in perspective, this dose is within the range (1 to 5 rem) at which some protective action is recommended by the U.S. Environmental Protection Agency (EPA), and is not unlike the 2.0 rem dose from a plutonium criticality accident in the 1992 EIS/EIR. The offsite population dose is still conservatively estimated to result in less than one fatal cancer among the public, as discussed in both the SA and in the 1992 EIS/EIR.

DOE is proposing to raise the administrative limit for tritium in Building 331 to 30 grams. The increase is necessary to enable LLNL to support programs associated with decommissioning and decontamination of DOE's Mound site, the expansion of the U.S. Army Tritium Recovery and Recycle Project, and the target fills for the National Ignition Facility (NIF). Before 1992, the tritium limit for Building 331 was 300 grams. The 1992 EIS/EIR set an administrative limit of 5 grams of tritium in any one facility, with no more than 10 grams to be divided among Buildings 298, 391 and 331. While the current proposal is to increase the administrative limit to 30 grams, the total quantity of tritium material that would ever be at risk during operations would remain the same as analyzed in the 1992 EIS/EIR. The administrative

control enforced in 1992 has not changed and still limits the inventory stored in any one vessel or connecting process (the "at risk" inventory) to 3.5 grams. Accidents with potential for releasing the additional tritium from its stored configuration are not considered credible. Major improvements in facility systems and operations since 1992 have significantly reduced the expected frequency of accidents leading to tritium release. While tritium facility activities are expected to increase if the proposed 30 grams inventory limit is approved, they would not approach the level upon which the 1992 EIS/EIR analysis was based.

DOE proposes to raise the limits for Building 239 from 4.5 to 6 kilograms for plutonium and from 18.5 to 25 kilograms for uranium, as discussed in section 6.2.3 of the SA. Components are brought into Building 239 for radiographic inspection; all of the plutonium and uranium in the components is sealed in doubly contained packaging that is not removed during radiographic operations, and the sealed containers are returned to storage in Building 332.

The current Building 239 SAR evaluates the consequences of a seismic event or accidental dropping of a component, compromising the containment barriers, based on an inventory of 4.5 kilograms of plutonium or 18.5 kilograms of uranium. The SAR analysis was scaled linearly to provide an estimate of the doses that would result from an accident with the proposed larger amounts of radioactive material. These projected doses are much lower than the whole-body dose range at which the EPA recommends protective action for accident releases and are well within the 1992 EIS/EIR bounding accidents involving operations with plutonium or uranium at LLNL.

The SA demonstrates that while the calculated consequences to the exposed populations and to a maximally exposed individual from an accident would increase in some cases over those published in the 1992 EIS/EIR, these impacts still are not significantly different from those established by the 1992 EIS/EIR. The accident analysis presented in the 1992 EIS/EIR still adequately characterizes the potential impacts of such accidents that may occur at LLNL, even under the proposed increased limits for radioactive materials in inventory.

2.3 OPPOSITION TO NUCLEAR ACTIVITIES

DOE acknowledges that many people are opposed to the development and testing of nuclear weapons. Since the 1940's, Congress has directed DOE and its predecessor agencies to develop and produce the nation's nuclear weapons, and to ensure the reliability and safety of the nuclear weapons stockpile. With the end of the Cold War, DOE has been developing strategies for appropriate adjustments to DOE site missions and activities consistent with current national security policies that reflect post-Cold War impacts, including a smaller enduring stockpile. However, even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be a cornerstone of U.S. national security policy for the foreseeable future.

In 1992, the United States declared a moratorium on underground nuclear testing. In 1995, the President extended the moratorium and pursued a Comprehensive Test Ban Treaty (CTBT). Before the extension of the moratorium, Congress passed the *National Defense Authorization Act of 1994* (Public Law 103-160) which directs DOE to maintain a high level of confidence in the safety, reliability and performance of the nuclear weapons stockpile, and to maintain the ability to design, develop, manufacture, and test nuclear weapons.

DOE has developed a comprehensive program of stockpile stewardship and management that maintains essential capabilities for stockpile safety and reliability, while meeting other legal and policy directives. Stockpile stewardship capabilities are currently viewed by the United States as a means to further U.S. nonproliferation objectives in seeking a zero-yield CTBT. It is also reasonable to assume that U.S. confidence in its stewardship capabilities would remain as important, if not become more important, in future arms control negotiations to further reduce its stockpile.

LLNL is one of several national laboratories that support DOE's responsibilities for national security. DOE assigns mission elements to LLNL based on the facilities and expertise of the staff located there. Such assignments are made within the context of national security needs as expressed, for example, in Presidential Decision Directives; the National Defense Authorization Act for Fiscal Year 1994 (Public Law 103-160) and other congressional actions; the U.S. Department of Defense Nuclear Posture Review; treaties in force, such as the Nuclear Nonproliferation Treaty and the Strategic Arms Reduction Treaty (START I), and treaties signed but not yet entered into force, such as the START II and the CTBT.

2.4 CONCERNS WITH HEPA FILTERS

Plutonium work in Building 332 is normally done in filtered gloveboxes. If the filter on the glovebox should fail, the plutonium would be carried downstream to the confinement filters. The confinement filters are two stage filters used to prevent release of contamination to the environment. Plutonium operations at Building 332 have two stages of High Efficiency Particulate Air (HEPA) filters to prevent releases to the environment. Should airborne plutonium escape the primary containment barriers with their associated glovebox exhaust/filtration systems, the ventilation systems will carry it to exhaust plenums with two stages of confinement filters. One stage of filtration under normal conditions is adequate to prevent environmental releases. The second stage, in series with the first, provides redundancy in case the first stage leaks or fails, and also increases the total efficiency of collection for the system. *When a filter fails, it would capture less of the particles in the airstream, depending upon the size of the opening, but most of the previously filtered particles would remain with the damaged filter.* Although additional stages may be in use in some facilities elsewhere, and provide even more redundancy, they are not necessary. The confinement filters for Building 332 are of fire-resistant construction and are operable for at least 2 hours at temperatures of 120°C (248°F).

All HEPA filters that are relied on to provide confinement (final stages) of ventilation system transmitted contamination are monitored on a weekly basis for particle load as a function of differential pressure. If any single filtration stage is found to have a pressure drop greater than 4 inches WG (water gauge), filters are replaced as routine maintenance. The maximum acceptable differential pressure is 5 inches WG for all final stages of filtration. At the time of replacement, and on an annual basis, all final stage HEPA filters are in-place tested to confirm filtration efficiency and integrity of the installation with respect to gasket/frame seal. The acceptance criteria for the in-place test is in accordance with ERDA 76-21 (99.97% efficiency at a mean particle diameter of 0.7 micrometers).

To assure that the filters are not subjected to excessive pressure due to dust loading under routine operations, the pressure drop across the filters in Building 332 is monitored, and when it exceeds 4 inches WG, the filter is replaced as routine maintenance. The efficiency for filters in each stage is checked annually, and individual filters are replaced when they cannot meet 99.97% efficiency for particles ranging from 0.1 to 1.0 with an average particle size of 0.7 micrometers diameter. The Facility has recently decided to change the efficiency test criteria to a particle size of 0.3 micrometer diameter.

A concern was raised that HEPA filters are "translucent" to 0.1 micrometer diameter particles, implying that the particles have a very low capture efficiency and high penetration. The dissertation by Ronald C. Scripsick, published as LA-12797-8, *Leaks in Nuclear Grade High Efficiency Aerosol Filters*, 1994, Table IV-VI, provides the diameter of particles with the lowest capture efficiency, i.e., the ones that penetrate the most. For nine filters tested at the air speeds usually used in public protection, the particle diameter with the least efficiency ranged from 0.148 to 0.196 micrometers. For all nine filters, the collection efficiency for these particles was 99.97% or higher. This performance can be expected on all HEPA filters used by DOE, as the DOE acceptance testing standard rejects all filters with less than 99.97% efficiency at 0.3 micrometers, which is quite close to the particle size of maximum penetration.

DOE contractors are currently using the heterodisperse 0.7 micrometer average particle size aerosol (range from 0.1 to 3 micrometers) as recommended in ASME N510 to leak test their HEPA filters. The 0.3 micrometer monodisperse particle generators are too cumbersome to use in the field, as they weigh several tons.

Current laser particle counters allow in-place efficiency testing of HEPA filters to determine filter efficiency at any particle size, including 0.15 micrometer, the particle size at which HEPA filters are least efficient. Preliminary lab measurements show that the two methodologies (laser particle counter looking at 0.15 micrometer and the heterodisperse 0.7 micrometer average particle size aerosol) give essentially the same results when the leakage rate reaches 0.1%. This is the leakage rate assumed in the SAR and the 1992 EIS/EIR analyses for the final stage HEPA filters. Therefore, LLNL believes the current leakage checks are adequate to check for all particle sizes (including the 0.15 micrometer size).

DOE has promulgated HEPA filter standards: DOE-STD-3020-97, Specification for HEPA Filters Used by DOE Contractors; DOE-STD-3022-98, DOE HEPA Filter Test Program; DOE-STD-3025-99, Quality Assurance Inspection and Testing of HEPA Filters; and DOE-STD-3026-99, Filter Test Facility Quality Program. These standards are available at the internet site <http://www.explorer.doe.gov:1776>. These standards are being evaluated for incorporation into the LLNL "WorkSmart Standards" for possible inclusion in future contract modifications.

The burning of plutonium creates a substantial number of very small particles, 0.1 micrometer and smaller. However, only 0.01 % or less of the total mass of airborne plutonium formed by burning is less than 0.2 micrometers in diameter (K. Stewart, *The Particulate Material Formed by the Oxidation of Plutonium*, in Progress in Nuclear Energy Series IV, Vol. 5, 1963). The number of these particles is not as important as their total mass. To a first approximation, the potential health effect of a particle deposited in the lungs is proportional to the mass of the particle. Therefore, the particles that have the greatest penetration of tested HEPA filters are not those of the greatest health significance.

A concern was raised that many HEPA filters have been in place for a longer period of time than what experts say is appropriate and that their age has probably affected their ability to withstand a high pressure difference that could occur from loading by smoke or water in some accident scenarios. The laboratory has monitored and tested the filter performance and there have been no environmental releases of airborne plutonium except for the release in 1980. That release resulted from an incorrect changeout and sealing of HEPA filters, rather than from failure of the HEPA filter. Continuous monitoring of the facility, using methods sanctioned by the EPA, indicates that the HEPA filter systems have been operating so that emissions have not been occurring. Environmental monitoring data and assessments of public dose are discussed in the LLNL Site Annual Environmental Report (SAER).

With LLNL's continuing missions involving plutonium operations in Building 332, the priority of HEPA filter replacement has been raised. In October of 1998, detailed plans were completed to replace all confinement filters older than 8 years by October 1999. Meanwhile, the weekly surveillance of pressure drop and the annual leak testing of confinement filters will continue. These filters are not subjected to excessive cold or heating, and the ventilation design and fire protection system is intended to protect them during accidents involving fire. Analyses have been made of accidents of credible fire releases in the Building 332 SAR. An accident that loses the integrity of both banks of confinement filters was regarded as incredible (a probability of less than one in one million per year). The consequences of the credible accidents do not exceed radiological dose guidelines at the site boundary or the impacts of bounding accidents in the 1992 EIS/EIR. Nevertheless, DOE recognizes that accidents of low probability can occur.

DOE acknowledges that one type of filter in use is only partially qualified for nuclear applications. This filter is commonly referred to as a "box" or "birdcage" filter, and is used in some locations. The facility assures adequate performance in routine operations by weekly

surveillance of the pressure drop and by annual tests of filtration efficiency. Confinement filter systems served by this type are:

- Downdraft room exhaust sub-system containing 4 filters
- Increment III glovebox exhaust containing 2 trains of 4 filters each for a total of 8 filters.

After the near-term exchange is made to attain filters that are less than 8 years old, the laboratory will consider the design changes necessary to replace the box filters.

LLNL currently has policies and procedures in place for the proper management of used HEPA filters from programmatic operations. Used HEPA filters are characterized for waste acceptance criteria either through process knowledge or sampling and analysis. Depending on the results of the characterization, HEPA filters may be disposed of as low-level radioactive waste (LLW) or low-level mixed waste (LLMW). If the quantities and types of radionuclide contamination meet the definition of transuranic waste, the filters have been stored onsite or at the Nevada Test Site until they can be disposed of at the Waste Isolation Pilot Plant (WIPP). These HEPA filters are stored in metal drums or metal boxes.

A concern was raised that DOE does not have a single, central office that oversees and provides guidance in the use of HEPA filters complex-wide. DOE is a large organization whose structure does not lend itself to a separate, central office for every aspect of environment, safety and health (ES&H). Rather, DOE relates its ES&H performance expectations to its contractors, and enforces these through contractual mechanisms, changing contractors if necessary. DOE offices in the field provide oversight of the contractor ES&H programs. The Defense Nuclear Facilities Safety Board (DNFSB) provides further oversight. DOE expectations include meeting requirements in the DOE orders and Federal regulations that provide for protection of workers and public from radiation. Violations of the Federal regulations are enforced under 10 CFR 820 by an independent office in DOE.

3 COMMENT DOCUMENTS

3.1 INTRODUCTION

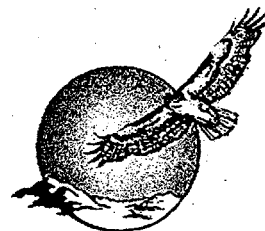
This section presents the documents submitted to the DOE during the 30-day public comment period on the draft SA and the transcripts of the two public briefings held on February 11, 1999. DOE reviewed each document and transcript and identified the public comments provided. Each comment identified is marked in the margin with a bar and the document number and sequential comment number in that document. For example, Comment 3-11 was identified in Document 3 (3) as the eleventh (11) comment within that document. DOE has responded individually to each identified comment in Section 4 of this Comment Response Document.

3.2 Document 1: Tri-Valley CAREs

Tri-Valley CAREs

Citizens Against a Radioactive Environment

5720 East Avenue #116, Livermore, CA 94550 • (510) 443-7148 • Fax (510) 443-0177



Peace Justice Environment
since 1983

February 10, 1999

U.S. Department of Energy
Oakland Operations Office
1301 Clay St.
Oakland, CA 94612

Re: DOE/EIS-0157-SA-01, January 1999 - Draft Supplement Analysis for Continued Operation of Lawrence Livermore National Laboratory and Sandia National Laboratories, Livermore, California

Dear Sirs and Madams:

This letter is Tri-Valley CAREs' (Communities Against a Radioactive Environment) response to the above-referenced Draft Supplement Analysis (DSA) on behalf of Tri-Valley CAREs' approximately 2200 family-members in the communities surrounding the Lawrence Livermore National Laboratory (LLNL) and the Sandia National Laboratories (SNL).

Tri-Valley CAREs, a 16-year-old grassroots environmental organization, is a community-based "watch dog" over LLNL's activities. Further, we hold two U.S. Environmental Protection Agency Technical Assistance Grants to monitor environmental cleanup at both LLNL's Main Site and its Site 300 weapons testing station.

Tri-Valley CAREs strongly disagrees with the DSA's conclusion that no supplementation of the 1992 EIS/EIR is needed. In fact, an entirely new EIS/EIR is needed. Our reasons are as follows:

1-1

A. Since 1992, LLNL has 1) remained a "Superfund" Site; 2) had chronic pollution problems; 3) had frequent accidents involving radioactive and toxic contaminants; 4) had chronic problems with noncompliance with safety regulations; 5) received numerous Notices of Deficiency and Notices of Violations from the State Dept. of Toxic Substances Control (DTSC); 6) continued to have groundwater contamination problems; 7) continued to have sewer system problems; and 8) continued to have problems with noncompliance with safe storage requirements.

On December 9, 1997, Tri-Valley CAREs sent a letter to the California Environmental Protection Agency Department of Toxic Substances Control, Region 2 (in Berkeley, California) as a public comment on LLNL's application for a Hazardous Waste Treatment & Storage Facility Permit (WTSF). This letter included a list of the following ongoing, chronic problems at LLNL:

1-2

1. Both LLNL's Main Site and Site 300 are on the National Priorities List as extremely contaminated "Superfund" sites. A federal regulation promulgated by past DOE Secretary Watkins requires environmental review of DOE facilities, including LLNL, every 5 years. LLNL's last full EIS/EIR was in 1992, nearly 7 years ago, and therefore out-of-date. More than a supplement analysis is needed in this instance. A new EIS/EIR is the appropriate and necessary level of environmental review.

1-3

2. LLNL has chronic pollution problems. As reported in May, 1997, the City of Livermore cited LLNL for chronic discharges of heavy metals and corrosive chemicals into the municipal sewer system. According to city officials, there had been 14 releases from LLNL

-2-

1-3
cont.

above its permit limits since January, 1996, a rate of about one violation per month. One February, '97, accident involved a discharge of silver, costing \$41,000, and another discharge in March, '97, this time of lead, cost \$8,000.

1-4

3. LLNL has a history of frequent accidents right up to the present. Examples of on-site accidents reported just for 1997 include: **February** – LLNL doctors cut a small hunk of plutonium-contaminated tissue from an employee's thumb after the worker had accidentally stuck himself with a sliver of the radioactive metal during routine cleanup. **March** – Three LLNL workers were contaminated when uranium filings caught fire. **April** – It was reported that earlier in '97, a chlorine gas leak forced about 20 workers to flee after an alarm sounded. **May** – The City of Livermore cited LLNL, again, for chronic discharges of **Heavy metals and corrosive chemicals**. Since January, 1996, LLNL has violated its permit discharge limits about once a month. **June** – It was reported that in May, '97, two workers were contaminated with tritium (radioactive hydrogen) while packaging the radioactive waste in the Tritium Facility. **July** – On July 2, workers shredding used air filters were radioactively contaminated. One worker was contaminated with curium, an alpha emitter, on his chest, face and in his nostrils. A DOE report credited inadequate safety procedures for this accident. Another July, '97, accident (a hazardous waste technician accidentally mixed nitric acid and alcohol while workers were "bulking," i.e., pouring spent chemicals into waste drums; this combination of chemicals could cause fire, explosion or fumes), resulted in fumes that triggered alarms and caused 25 workers to evacuate and LLNL to suspend "bulking" for a week.

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4. LLNL has a history of noncompliance with safety procedures. As mentioned in #3 above, on July 2, '97, an LLNL worker was radioactively contaminated with curium in an accident that DOE itself admitted was due to inadequate safety procedures. Also, in this instance, procedures that had been recently put into place with the State Department of Toxic Substances Control's (DTSC) guidance were apparently ignored by LLNL, which raises questions about whether LLNL really follows agreed-upon safety procedures. This problem is underscored by another 1997 LLNL report (titled *Incident Analysis of Criticality Safety Control Infractions in building 332*) confirming that a total of 15 criticality violations (a "criticality accident" is a runaway nuclear chain reaction) occurred over a two-month period (mid-May, '97 to mid-July, '97) in LLNL's plutonium facility (Building 332) – where, again, safety procedures were ignored. Since then, another criticality violation has occurred in Building 332, underscoring the systemic nature of this problem.

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5. LLNL has a history of receiving Notices of Deficiency and Notices of Violation from the State Department of Toxic Substances Control, raising reasonable questions as to LLNL's good faith in complying with regulations and statutes, as well as with safety procedures implemented with the assistance of agencies such as DTSC. Please see sections 6a through 6g of the above-referenced 12/9/97 letter from Tri-Valley CAREs to DTSC for details of LLNL's ongoing compliance problems.

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6. For years, LLNL's groundwater has been contaminated. Although steps have been taken to monitor, control and remedy it, this environmental threat still persists. Some examples include: 1) in 1997, LLNL's storm drains were found embedded with mercury, an extremely toxic material. The drains may have contributed mercury-laden runoff to the already-contaminated groundwater, as well as to surface water and to soil; and 2) At LLNL's Site 300 weapons testing station (located midway between Livermore and Tracy), during 1982-83 (and possibly again in 1996, 1997 and 1998), groundwater rose, saturating waste buried in disposal pits, and then receded, thus contaminating ground-water at deeper levels. At the recent January 26, 1998 Site 300 TAG (Technical

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cont.

Assistance Grant) meeting with LLNL cleanup staff and representatives from various regulating agencies, Tri-Valley CAREs learned that, indeed, **Site 300 has a current, serious problem with elevated levels of tritium in the groundwater which has contaminated an aquifer** and which has formed a **tritium plume** nearly 2 miles long which must be dealt with before it reaches beyond the boundary of Site 300. The current elevated levels of tritium are, again, exacerbated by heavy rainfall which caused the groundwater to rise into tritium-contaminated disposal pits and then recede, taking tritium back into the groundwater at lower levels.

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7. **LLNL has a history of sewer system problems.** LLNL's current "Interim Status" (from DTSC) liquid waste treatment process discharges treated wastewater (WW) directly into the Livermore municipal sewer. Theoretically, treated WW is safe for discharge into the sewer, but, in view of 1) **LLNL's repeated violations** of its sewer discharge permit (see #2 above), 2) **past sewer leaks** into the adjacent soil and groundwater, 3) **the highly contaminated groundwater** at both the Main Site and Site 300 (see above), and 4) **the close proximity of the surrounding communities** (Livermore and Tracy for the Main Site and Site 300, respectively), it is reasonable to question the safety of this practice.

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8. **LLNL has a history of being out of compliance with safe storage requirements** (see # 5 & 6 above, also). Examples of this include: 1) **"Old" waste** — LLNL has had many violations in how long it stores hazardous waste, e.g., in 1989-90, a DTSC inspector inspected 21 of LLNL's 100 hazardous waste site areas and found that 11 had waste stored for more than 1 year (1 year is the maximum allowed under California's Health & Safety Codes before such waste must be treated and/or disposed). 2) **Undocumented satellite accumulation areas** — LLNL has never provided DTSC of these areas (where waste is kept "temporarily"), making inspection difficult to carry out. In the past DTSC Notices of Deficiency have been issued to LLNL for waste stored over 90 days. 3) **Problems with mixed waste** — DTSC has had difficulty in determining just how LLNL treats its mixed waste (i.e., hazardous waste combined with radioactive waste) in order to evaluate, among other things, whether a) **an incompatible wastes** are combined, and b) **cross-contamination** occurs between these two types of waste. One unanswered question is: Does LLNL ever label mixed waste as "radioactive?" In the past, Nevada Test Site, which accepts only radioactive waste, has returned waste shipments to LLNL because mixed wastes were included in the shipments, but were not labeled as such.

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B. LLNL's Plutonium Facility (Building 332) has a history of problems with its High Efficiency Particulate Air (HEPA) filters and with ongoing criticality violations.

Tri-Valley-CAREs has recently received DOE documents in response to an April, 1998, Freedom of Information Act request for information concerning the maintenance of Building 332's HEPA filters. These responsive documents indicate that a **history of chronic safety problems** exists where these HEPA filters are involved. Tri-Valley CAREs' areas of concern include: 1) the use of at least one type of HEPA filter that is **only partially qualified for nuclear applications**; 2) the fragility of these filters — e.g., **they may fail when wet, hot, cold, or have too much air pressure applied**; 3) the use of filters beyond the recommended length of time for on-line service (in some cases, they have been in service for **20-30 years**, despite warnings by at least one LLNL Hazard Control Specialist that, for instance, filters should be retired at 8 years maximum); 4) **DOE may not have a centralized division that oversees the use of HEPA filters complex-wide**, leaving each facility on its own to cope with the problem of protecting employees and the public from plutonium contamination; and 5) **LLNL may have problems with storage and disposal** of old HEPA filters, thus encouraging the use of filters beyond recommended time periods, and also creating yet another area of concern re: radioactive waste at LLNL. (At least one document shows that used, off-line filters are considered to be TRU waste. If so, does this mean, for instance, that used filters have been accumulating for years at LLNL awaiting the opening of WIPP?).

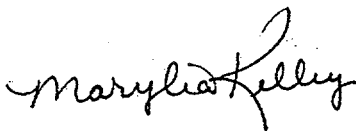
- 1-10 cont. As mentioned above in section A.4, a series of criticality violations occurred in LLNL's Plutonium Facility during 1997-98. These violations resulted in the Defense Nuclear Facilities Safety Board recommending shut-down of the Plutonium Facility while investigations were being made as to inadequate adherence to safety regulations and guidelines. The Plutonium Facility has since been operating on a limited status, "restart" mode. Even then, an additional criticality safety violation has occurred (on August 7, 1998).
- 1-11 In view of these concerns, among others, Tri-Valley CAREs strongly advocates that the above problems in Building 332 are clearly "significant new circumstances or information relevant to environmental concerns..." (40 CFR Parts 1500-1508, 10 CFR Part 1021) since the 1992 EIS/EIR for LLNL, thus requiring a new EIS/EIR.
- 1-12 A further plutonium issue surfacing since the 1992 EIS/EIR is the discovery of plutonium up to 1,000 times "background" found in Big Trees Park, Livermore.
- 1-13 C. DOE proposes significantly increased administrative limits for the amounts of plutonium and uranium to be on-site at LLNL, yet does not consider this major change important enough to require a new EIS.
- DOE wants administrative limits to be increased for both plutonium and uranium as follows:
- 1-14 1) The 1992 EIS/EIR goal for the amount of plutonium to be in Buildings 332 & 334 of the Superblock was to reduce it from 700 kg to 200 kg. DOE claims that this goal has not been achieved because only ½ of LLNL's inventory was relocated off-site, and other DOE facilities cannot take any more LLNL plutonium until after the year 2000. Therefore, DOE now asks that the total amount at LLNL be kept at 700 kg, with the eventual goal of reducing it. Tri-Valley CAREs considers this new goal a major change from the 1992 EIS/EIR which requires analysis per a new EIS.
- 1-15 2) The 1992 EIS/EIR limit for uranium in the same buildings was 300 kg. DOE now wants to increase the limit for enriched uranium to 500 kg and for natural uranium to 3,000 kg, an enormous increase! Again, these new suggested goals are a major change from the 1992 EIS/EIR, which requires analysis per a supplemental EIS. If, as the DSA claims, these changes are to support RD&D (research, development and demonstration) of 1) plutonium immobilization and 2) technologies for uranium conversion, reuse, waste management and disposal, Tri-Valley CAREs then requests they be analyzed per a new EIS as major changes from the 1992 EIS/EIR.
- 1-16 Since Tri-Valley CAREs knows, by virtue of DOE's own "Green Book," which describes DOE's intent to carry out new nuclear weapons R&D, and, since LLNL is a primary nuclear weapons design facility, Tri-Valley CAREs seriously questions DOE's given justifications for requesting these weapons-related materials' significant increases. Tri-Valley CAREs humbly reminds DOE that the "cold war" is supposedly over.
- 1-17 Further, to answer Tri-Valley CAREs' questions about why DOE wants increased administrative limits for uranium (e.g., is it for the U-AVLIS?), Tri-Valley CAREs requests that DOE lay out in detail the programmatic elements required under NEPA.
- 1-18 D. New and/or changed programs at LLNL since 1992.
- There are a plethora of new and/or significantly changed programs at LLNL since 1992, including the National Ignition Facility, the afore-mentioned U-AVLIS program, subcritical nuclear tests and the ADAPT work on plutonium at LLNL.

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Tri-Valley CAREs, for all the foregoing reasons, among others, demands that the DOE's conclusion (i.e., that no supplemental EIS is required for LLNL and SNL) be put aside, and that, in its place, the conclusion be reached that, due to clearly "significant new circumstances or information relevant to environmental concerns..." (40 CFR Parts 1500-1508, 10 CFR Part 1021) a new or, at a minimum, a supplemental EIS is required.

Sincerely,



Marylia Kelley
Executive Director
Tri-Valley CAREs



Sally Light
Nuclear Program Analyst
Tri-Valley CAREs


mk for

Rene Steinhauer
Community Organizer
Tri-Valley CAREs

ATTACHMENT A

Tri-Valley CAREs

Citizens Against a Radioactive Environment

5720 East Avenue #116, Livermore, CA 94550 • (510) 443-7148 • Fax (510) 443-0177



Peace Justice Environment
since 1983

December 9, 1997

Cal/EPA
Dept. of Toxic Substances Control, Region 2
700 Heinz Avenue, Suite 300
Berkeley, CA 94710
Attn: Sheila Alfonso, Project Manager

Re: Lawrence Livermore National Laboratory's (LLNL) Application for a Hazardous Waste Treatment & Storage Facility Permit (WTSF).

Dear Ms. Alfonso,

This letter is Tri-Valley CAREs' (Citizens Against a Radioactive Environment) response to LLNL's application for the above-referenced WTSF permit on behalf of Tri-Valley CAREs' approximately 1900 family-members in the communities surrounding the Lawrence Livermore National Laboratory (LLNL). Our letter is part of the public comment mandated by the California Environmental Quality Act (CEQA) pursuant to this permitting process. Additionally, we submit this response on behalf of other interested organizations listed as signatories at the end of this letter.

Tri-Valley CAREs is a grassroots environmental organization that is a community-based "watch dog" over LLNL's activities. We also hold two U.S. Environmental Protection Agency Technical Assistance Grants to monitor environmental cleanup at both LLNL's Main Site and its Site 300 weapons testing station.

Tri-Valley CAREs was present at both Dept. of Toxic Substances Control's (DTSC) Sept. 23, 1997 Public Workshop (at which our Executive Director, Marylia Kelley, was a panelist representing the community viewpoint, giving a 15-minute presentation) and the Oct. 9, 1997 Formal Public Hearing. A number of our members spoke at these two events, and at least one member handed over a written comment to DTSC at the Hearing. We mention this to underscore Tri-Valley CAREs' members' ongoing participation as to their serious concerns re: risks to public health and to the environment created by LLNL's programs, most of which are related to the research and design of nuclear weapons, and which involve numerous toxic and nuclear substances.

Tri-Valley CAREs strongly advocates that the DTSC not issue LLNL a permit to

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operate its own on-site Hazardous Waste Treatment & Storage Facility at this time for the following reasons:

1. **An Environmental Impact Report (EIR) should be done at LLNL's Main Site and Site 300.** For 45 years (since 1952), LLNL has generated a wide variety of nuclear and toxic wastes resulting from its work on nuclear weapons, fusion, lasers, etc. In 1987, LLNL's Main Site was placed on the National Priorities List as an **extremely contaminated "Superfund" site**. LLNL's Site 300 was added to the "Superfund" list in 1990. Since LLNL is already a "Superfund" site, rather than issuing a WTSF permit, which would allow LLNL to continue "business as usual," DTSC should carry out an EIR of LLNL's Main Site and Site 300, pursuant to **CEQA**. Further, a federal regulation promulgated by past DOE Secretary Watkins requires environmental review of DOE facilities, including LLNL, every 5 years (LLNL's last full EIS/EIR was in 1992, nearly 6 years ago, and therefore is out-of-date).

2. **Recent excavation at LLNL's National Ignition Facility (NIF) construction site has uncovered unauthorized toxic waste dumping.** In Sept., 1997, construction crews excavating earth at LLNL's NIF construction site ran into what appears to be an unauthorized "dumping ground." Excavated to-date are over 100 capacitors (reportedly from earlier fusion programs), with many leaking highly toxic PCBs, 75 crushed waste drums marked "radioactive," and contaminated soil (37 truckloads have already been sent to a Utah disposal site). **This discovery raises serious questions about LLNL's past hazardous waste practices.** Under the federal Resource Conservation and Recovery Act, which DTSC is authorized to implement in California, DTSC should require a comprehensive **RCRA Facility Assessment (RFA)** to identify the NIF "burial" site's areas of concern before proceeding any further with the WTSF permitting process. This RFA should augment other applicable state and federal regulations, and, we believe could be incorporated into the EIR on the overall site. Additionally, we are concerned that the proposed site for WTSF may also sit on top of unauthorized buried waste because it abuts the north side of the NIF construction site.

3. **LLNL has chronic pollution problems.** Under CEQA, DTSC, as the permitting agency, **must** take note of existing problems of on-site and off-site pollution at LLNL. As reported in May, 1997, the City of Livermore cited LLNL for chronic discharges of heavy metals and corrosive chemicals into the municipal sewer system. According to city officials, there had been **14 releases from LLNL above its permit limits since January, 1996, A rate of about one violation per month.** A February, '97, accident involved a discharge of silver, costing \$41,000. Another discharge, in March, '97, this time of lead, cost \$8,000.

4. **LLNL has a history of frequent accidents right up to the present.** This history includes a 1990 accident when tritium (radioactive hydrogen) spilled out of a tank at LLNL's Building 292, resulting in soil and groundwater contamination.

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Examples of on-site accidents reported just for 1997 include: **February** -- LLNL doctors cut a small hunk of **plutonium-contaminated** tissue out of an employee's thumb after the worker had accidentally stuck himself with a sliver of the radioactive metal during routing cleanup. **March** -- Three LLNL workers were contaminated recently when **uranium** filings caught fire. **April** -- It was reported that earlier this year, a **chlorine** gas leak forced about 20 workers to flee after an alarm sounded. **May** -- The City of Livermore cited LLNL, again, for chronic discharges of **heavy metals and corrosive chemicals**. Since January, 1996, LLNL has violated its permit discharge limits about once a month. **June** -- It was reported that in May, '97, two workers were contaminated with **tritium** (radioactive hydrogen) while packaging the radioactive waste in the Tritium Facility. **July** -- On July 2, workers shredding used air filters were **radioactively contaminated**. One worker was contaminated with **curium**, an alpha emitter, on his chest, face and in his nostrils. A DOE report credited **inadequate safety procedures** for this accident. Another July, '97 accident (a hazardous waste technician accidentally mixed nitric acid and alcohol while workers were "bulking," i.e., pouring spent chemicals into waste drums; this combination of chemicals could cause fire, explosion or fumes), resulted in fumes that triggered alarms and caused 25 workers to evacuate and LLNL to suspend "bulking" for a week. Certainly, it is reasonable that LLNL should not be issued a permit without DTSC's thorough investigation into LLNL's accidents and safety procedures, and, again, the appropriate vehicle is an EIR.

5. LLNL has a history of noncompliance with safety procedures. As mentioned in issue #4 above, on July 2, 1997, a worker at LLNL was radioactively contaminated with **curium** in an accident that DOE itself admitted was due to inadequate safety procedures. Also, in this instance, procedures that had been recently put into place with DTSC's guidance were apparently ignored by LLNL, which raises questions about whether LLNL really follows agreed-upon safety procedures. This is underscored by another recent LLNL report (see attached report, *"Incident Analysis of Criticality Safety Control Infractions in Building 332"*) confirming that a total of **15 criticality violations** (a "criticality accident" is a runaway nuclear chain reaction) occurred over a two-month period (**mid-May, '97 to mid-July, '97**) in LLNL's plutonium building (Building 332) -- where, again, **safety procedures were ignored**. This internal LLNL report reveals deep, pervasive, systemic deficiencies in management, worker understanding and employee attitudes, citing 1) **inadequate training**, with workers unaware of rules and some even stating that there is nothing wrong with violating rules to get a job done; and 2) **ineffective management**, with supervisors not recognizing the problem. It is therefore reasonable that DTSC should not rely on informally advising LLNL re: safety procedures, but should use formal processes (such as an EIR) to ensure LLNL's compliance with safety procedures. Moreover, Tri-Valley CAREs has an information request into DOE regarding a subsequent criticality violation. We have been told that report is in draft, and is not yet publicly available. Again, this underscores the systemic nature of the problem.

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6. LLNL has a history of receiving Notices of Deficiency and Notices of Violations from DTSC, right up to the present, as seen in the following:

a. A May 21, 1997 letter from Rick Robison, Unit Chief of DTSC's Statewide Compliance Division to Harry Galles, Head of LLNL's Environmental Protection Dept., cites the following **combined waste (CW) violations**: 1) possible hazardous & radioactive constituents of CW remaining on-site weren't identified; 2) waste generating processes for wastes inspected were not identified; 3) accumulation start dates of CW were not listed at Satellite Accumulation Areas; 4) the treatment process description, as well as the reason for the treatment, for CW that was treated and then sewered was not provided, nor was information provided regarding the disposition of the sludge produced by the treatment process; 5) a date of treatment was not provided; 6) no information was provided for attempts to find available treatment and/or disposal options for CW; 7) no manifest number was given for CW shipped off-site.

b. A May 23, 1997 Inspection Report by Barbara Barry, Hazardous Substances Scientist with DTSC's Statewide Compliance Division, refers to the **May 23, 1993 Stipulation and Order #HWCA 93/94-047 signed by DTSC and LLNL for the latter's violations of the Hazardous Waste Control Law from 1989 until 1992.**

c. Ms. Barry's May 23, 1997 Inspection Report also cites later violations by LLNL, including: 1) **DTSC's 8-14-92 Compliance Evaluation Inspection (CEI) report's findings of 11 violations** including storage of incompatible wastes, failure to certify a repaired tank before returning it to service, having an open waste container, and failure to complete employee training; 2) **DTSC's 8-6-93 CEI report's findings of 17 violations**, including improper storage of incompatible wastes, incomplete inspection logs, inadequate aisle space in waste storage area, improper labeling of hazardous wastes, inadequate employee training, failure to do tank certification, storage of waste over 90 days without authorization, failure to maintain land ban notification/certification records, and falsification of records; and 3) **DTSC's 6-1-94 field-issued CEI report's findings of 7 violations**, including storage of hazardous waste over 90 days without authorization or permit, failure to properly label hazardous wastes, failure to meet treatment standards, notification failures, failure to maintain inspection logs with required information, failure to inspect hazardous waste tankers each operating day, and failure to provide annual refresher employee training.

d. Ms. Barry's May 23, 1997 Inspection Report also describes how **LLNL's Total Waste Management System (TWMS)**, a method of tracking waste sitewide (e.g., waste source, treatment method, treatment results, storage, discharge, movement throughout the site, ultimate destination, shipping date and manifest number) using computer and waste drum bar codes, was **inoperable** at the time of her

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inspection.

e. Ms. Barry's May 23, 1997 Inspection Report also cited LLNL for violating 1) 22 California Code of Regulations section 6626.23(a) (1-3); (b) and (e) for **shipping CW off-site without a manifest**; 2) 22 CCR 66265.71(a)(1-6) for **receiving CW from Site 300 without a manifest**; (3) 22 CCR 66262.34 (f) (1-3) for **storing CW labeled "Radioactive Waste Only,"** instead of using the required hazardous waste label (the statute requires hazardous waste labels for all Resource Conservation and Recovery Act (RCRA) wastes, all mixed wastes, all California wastes and all combined wastes, in addition to any labeling required by the AEC (sic) for the radioactive portion of the waste); 4) California Health and Safety Code (CH & SC) sections 25200.5(b)(1-2) and (c), and 25201(a) for **storing and treating CW's not listed** on the DTSC-approved Part A permit as well as **treating CW with processes not listed** on the DTSC-approved Part A permit, and also for **storing CW for more than 1 year** without DTSC's written authorization (this latter also violates CH&SC section II part 1(a) and the Interim Status Document issued by DTSC); 5) 22 CCR 66265.13(a)(1) and (b)(1-2) for **excluding from its Waste Analysis Plan (WAP) the appropriate methodology and parameters for making analyses** of California hazardous wastes as well as RCRA hazardous wastes; and 6) 22 CCR 66265.16(a)(1-2) and (3)(A-F); (c) and (d)(3) for **inadequate training procedures**, in that a) LLNL's Training Plan for employees in the Hazardous Waste Management Dept. (HWMD) was below minimum requirements, and b) the WAP requires extensive lectures and practical training in sampling procedures and the handling of samples, yet none of the HWMD training descriptions referred to any practical training other than first aid and fire/earthquake training.

f. DTSC's 3-7-97 Notice of Deficiency re: LLNL's Part B Application for the WTSF permit now under consideration signed by Pauline Batarseh, Unit Chief of DTSC's Northern California Permitting Branch, found 160 deficiencies.

g. As of this writing, DTSC is carrying out an investigation of the July 2, 1997 curium-contamination accident (see issue #4 above) in view of LLNL's having ignored safety regulations recently implemented with DTSC's guidance.

The above samples of ongoing compliance problems at LLNL raise reasonable questions as to LLNL's good faith in complying with regulations and statutes, as well as with safety procedures recently implemented with DTSC's assistance. Further, if LLNL has not been complying with its Part A permit, or its "Interim Status" authorization, can it now be trusted to comply with a Part B permit even if that permit has mitigation measures? Again, we ask that DTSC carry out an EIR before making its decision whether to issue a Part B WTSF permit.

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7. **For years, LLNL's groundwater has been contaminated.** Although steps have been taken to monitor, control and remedy it, this environmental threat still persists. Some examples include: 1) earlier this year, LLNL found its storm drains embedded with large amounts of mercury -- an extremely toxic material. **The drains may have contributed mercury-laden runoff to the already-contaminated groundwater, as well as to surface water and to soil;** 2) LLNL has acknowledged that there's a possibility that they will run into contaminated groundwater while excavating the NIF site (they've applied for a dewatering permit to pump the area dry, if necessary); and 3) at LLNL's Site 300 weapons testing station (located midway between Livermore and Tracy), during 1982-83 (and possibly again in 1996), groundwater rose, saturating waste buried in disposal pits, and then receded, thus contaminating groundwater at deeper levels.

8. **LLNL has a history of sewer system problems.** LLNL's current "Interim Status" liquid waste treatment process discharges treated wastewater (WW) **directly** into the Livermore municipal sewer, and the WTSF permit as written would allow this practice to continue. Theoretically, treated WW is safe for discharge into the sewer, but, in view of 1) LLNL's repeated violations of its sewer discharge permit (see above), 2) past sewer leaks into the adjacent soil and groundwater, 3) the highly contaminated groundwater at LLNL (see above), and 4) the close proximity of the surrounding community, it is reasonable to question the safety of this practice.

9. **LLNL has a history of being out of compliance with safe storage requirements (see issue #6 above for additional discussion).** Examples of this include: 1) **"Old" waste** -- LLNL has had violations in how long it stores hazardous waste, e.g., in 1989-90, a DTSC inspector inspected 21 of LLNL's 100 hazardous waste areas and found that 11 had waste stored for more than 1 year (1 year is the maximum storage period allowed under California's Health & Safety Codes before such waste must be treated and/or disposed). 2) **Undocumented satellite accumulation areas** -- LLNL has never provided DTSC with lists of its satellite accumulation areas (where waste is kept "temporarily"), making inspection difficult to carry out. In the past, **Notices of Deficiency** have been issued to LLNL by DTSC for waste stored beyond the 90-day limit. 3) **Problems with mixed waste** -- DTSC has had difficulty in determining just how LLNL treats its mixed waste (i.e., hazardous waste combined with radioactive waste) in order to evaluate, among other things, whether a) any **incompatible wastes** are combined, and b) **cross-contamination** occurs between these two types of waste. One unanswered question is: Does LLNL ever label mixed waste as "radioactive?" In the past, Nevada Test Site, which accepts only radioactive waste, has returned waste shipments to LLNL because mixed wastes were included in the shipments, but were not labeled as such.

10. **Problems with LLNL's Application (see issue #6 f above for additional discussion).** DTSC has accepted LLNL's underlying 11-volume WTSF permit application as the permit's basic "game plan." However, LLNL's application

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has inadequacies. One example is: **Wastewater (WW) analysis and discharge** -- As mentioned above, all of LLNL's WW is first combined and then discharged from a single point within LLNL. It then flows directly to the **Livermore Water Reclamation Plant (LWRP)**. Per an agreement between LLNL and LWRP, a DTSC-certified lab is not required to verify WW analyses prior to discharge into the sewer. The given rationale is that verification by LLNL facilities shortens the turn-around time for sample collection and analysis. However, this contrasts with **other** LLNL waste analyses, which **are** required to be done by DTSC -certified labs. In view of LLNL's history of accidents and discharge violations (see above), and to ensure public health & safety and the environment, it is reasonable that **DTSC, as a condition of either LLNL's "Interim Status" authorization, OR a WSTF permit, should require some sort of oversight by DTSC-certified labs of** such verification prior to WW discharge into the sewer (assuming that a completed CEQA EIR has examined all issues and alternatives and points toward an "all-clear" for a permit to be issued -- see discussion above).

11. Problems with DTSC's Initial Study (IS) and Draft Negative Declaration (Neg Dec). Pursuant to CEQA, before issuing a WSTF permit, DTSC must complete an IS based on LLNL's application and then draft either 1) a Neg Dec (a statement that there will be no significant impacts to the environment), or 2) a Mitigated Neg Dec (a statement that there will be impacts which will be remedied by conditioning the permit on LLNL's carrying out mitigation measures), or 3) require an Environmental Impact Report (EIR) be done if DTSC has found the facility **could have** a significant effect on the environment. **In this case, although we recommend an EIR be done (since it is patently obvious to us that, in view of the problems already discussed, LLNL's proposed facility has a great likelihood of causing significant environmental impacts), DTSC has chosen to draft a Neg Dec based on its completed IS. Both the IS and the Neg Dec have inadequacies, including:**

a. Offsite transportation of waste. The IS fails to describe the routes and destinations for transporting hazardous waste from LLNL to dumpsites. Only LLNL's peripheral streets and on-site roads are described. **When it leaves LLNL, where does the waste go and how does it get there?** These are major questions because of waste transport's potentially adverse impacts on public health and safety, as well as on the environment.

b. The IS fails to address waste streams. The IS should describe where waste streams are generated, name hazardous substances involved, as well as their amounts, and indicate the movements of waste streams within LLNL. The IS fails to do this.

c. Seismic Issues. The IS states that all buildings at LLNL either meet or exceed the 1994 Uniform Building Code seismic requirements for concrete and steel

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structures, implying that the buildings could withstand seismic activity. Yet, LLNL's permit application has a letter to LLNL from Geomatrix Consultants that concludes "...evidence ... **could** provide documentation for compliance with the seismic location standard. **However, it is recognized that after reviewing the same evidence other reasonable people may disagree with these conclusions.**" (emphasis added) That is, such compliance is disputable and uncertain by reasonable seismic consulting industry standards. Another report, from Public Geotechnical Engineering, conditions satisfactory seismic standards compliance on 1) high foundation capacities, 2) replacement of silty-clay soils with well-compacted soil fill, and 3) **reviews every three years**. This may indicate a need for constant scrutiny of a chronic problem. Additionally, there is no real analysis of earthquake risk based on 1) the crack opened in LLNL's southeast corner (near where waste is stored), that may have been caused by a 1980 quake, or on 2) other past seismic events (the area is very active seismically).

d. Small Scale Treatment Laboratory. According to the IS and LLNL's application, there would be a "small scale" treatment lab within the larger WTSF complex, purportedly to process small amounts of waste. There appear to be at least four major problems with this: 1) the "small scale" lab's waste processing limits would be up to **250 kg per day**, a large amount of waste, not "small scale;" 2) LLNL would be able to process these wastes without much more than **slim bureaucratic oversight** by DTSC (LLNL would be allowed to work up individual plans for this lab); 3) DTSC could **waive the 250 kg per day limit case-by-case**, depending upon the specific plan submitted by LLNL; and 4) there are **no provisions for public notice and participation**. Altogether, this section seems to be a "loophole" potentially allowing LLNL to conduct hazardous waste processing without adequate regulation and public participation.

e. Future On-Site Land Use. The IS does not adequately deal with possible future increases in hazardous waste production amounts and whether the facility would be able to handle them. This issue also relates to cumulative impacts (see below).

f. Cumulative Impacts. The IS inadequately addresses the question of how the hazardous waste processes would interface with LLNL's other activities, i.e., how **all** LLNL's activities would impact the environment, as well as human health and safety.

g. The IS concludes that the proposed project COULD NOT have a significant impact on the environment. This is a challengeable conclusion, since, as discussed previously, LLNL is a highly-contaminated Superfund site with an ongoing history of accidents, pollution and unauthorized dumping of hazardous waste (done under DTSC's "Interim Status" authorization), raising reasonable questions about the proposed project's future impacts to the environment.

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h. The Draft Negative Declaration is Ambiguous. Despite its title of "Draft Negative Declaration," DTSC's Neg Dec contains language that makes it unclear whether DTSC is drafting a straightforward Neg Dec (i.e., without required mitigative measures) or a Mitigated Neg Dec (i.e., with required mitigative measures). Further, only small projects normally receive a Neg Dec without mitigated measures, while LLNL is a **major nuclear facility** producing a wide range of hazardous and mixed (as well as radioactive wastes). Under the circumstances, it's reasonable that the DTSC, even if it believes there are no risks to health, safety & environment (which is a challengeable conclusion), explore **some sort** of mitigation measures such as waste reduction or pollution prevention.

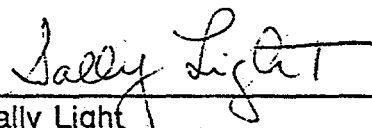
In conclusion, Tri-Valley CAREs requests that DTSC not issue LLNL a WTSF permit at this time. For all the reasons discussed above, we ask that DTSC require a thorough environmental investigation (i.e., an EIR, as detailed above) of both LLNL's Main Site and Site 300 to determine whether, in light of LLNL's "Superfund" site status and in view of LLNL's lengthy history of hazardous waste accidents, spills, releases and violations, a WTSF permit should be issued. Tri-Valley CAREs would be happy to provide "scoping" and other comments regarding the EIR. First, however, DTSC must determine that one will be done.

We look forward to your response to this public comment.

Sincerely,



Marylia Kelley
Executive Director
Tri-Valley CAREs



Sally Light
Nuclear Program Analyst
Tri-Valley CAREs

Additional Signatories:

1. Ban Waste -- Phil Klasky, Director
2. Bay Area Action -- Susan Stansbury, Director
3. Buddhist Peace Fellowship -- Alan Senauke, Director
4. Center for Economic Conversion -- Michael Closson, Executive Director
5. Citizens Opposing a Polluted Environment (COPE) -- Jami Caseber, Director
6. Committee to Minimize Toxic Waste -- Gene Bernardi & Pamela Sihvola, Co-Chairs
7. Earth Island Institute -- John Knox, Executive Director
8. Mount Diablo Peace Center -- Dennis Thomas, Administrator
9. Nuclear Democracy Network -- Mary Beth Branagan, Co-Director
10. Planning and Conservation League -- Gary Patton, General Counsel
11. Physicians for Social Responsibility, Greater San Francisco Bay Area Chapter -- Dr. Robert Gould, President

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12. San Jose Peace Center -- Joni Thissen, Coordinator
13. San Mateo County Peace Action -- Max Bollock, President
14. Sierra Club California -- Bonnie Holmes-Gen, Senior Lobbyist
15. St. Joseph the Worker -- Father Bill O'Donnell, Social Justice Committee
16. Sonoma County Center for Peace and Justice -- Elisabeth Anderson, Executive Director
17. Toxics Assessment Group -- Thomas C. Sparks, CEO
18. Western States Legal Foundation -- Mike Veiluva, Foundation Counsel

cc: Secretary Federico Pena, DOE Headquarters, Washington D.C.
Assistant Secretary Al Alm, DOE Headquarters, Washington D.C.
Jim Turner, DOE, Oakland, California
Jim Davis, DOE, Oakland, California
Bruce Tarter, Lawrence Livermore National Laboratory
Mike Gill, U.S. Environmental Protection Agency, San Francisco, California
Kathy Setian, U.S. Environmental Protection Agency, San Francisco, California
U.S. Senator Dianne Feinstein
U.S. Senator Barbara Boxer
U.S. Representative Ellen Tauscher
U.S. Representative Pete Stark
U.S. Representative George Miller
U.S. Representative Nancy Pelosi
U.S. Representative Lynn Woolsey
U.S. Representative Richard Pombo

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Sources - Tri-Valley CAREs requests that the following sources, along with the organization's comments, be made part of the Administrative Record:

Incident Reports/Occurrence Reports/Other Reports:

Incident Analysis of Criticality Safety Control Infractions in Building 332,
IA 0485, August 15, 1997, Lawrence Livermore National Laboratory

"Lawrence Livermore National Laboratory -- Building Evacuated," Daily Operations Report, May 2, 1997, DOE Oakland Operations Office.

"Lab's staff was found lacking in radiation safety training," *The Valley Times*, February 11, 1997.

"Uranium called risk to lab staff, not public," *The Valley Times*, January 16, 1997.

Violations:

"Violations curtail lab plutonium operations," *The Valley Times*, October 30, 1997.

"Lab violations," *Tri-Valley Herald*, October 18, 1997.

"Lab Exceeds Sewer Limits," *The Independent*, May 14, 1997.

"Livermore cites lab for sewer discharge," *The Valley Times*, May 10, 1997.

"Lab violations," *Tri-Valley Herald*, May 10, 1997.

Accidents:

Type B Accident Investigation Board Report of the July 2, 1997 Curium Intake by Shredder Operator at Building 513 Lawrence Livermore National Laboratory, Livermore, California, DOE/OAK-504, Rev. 0, U.S. Dept. of Energy, Oakland Operations Office.

"Lab accident a result of poor safety," *The Valley Times*, September 13, 1997.

"Lab technician exposed to radiation, report says," *Tri-Valley Herald*, September 13, 1997.

-12-

"Livermore lab looks into odd radiation exposure of worker," *The Valley Times*, July 4, 1997.

"Worker exposed to radiation at Lab," *Tri-Valley Herald*, July 4, 1997.

"25 Livermore lab workers evacuate after accident," *The Valley Times*, July 25, 1997.

"Plutonium spills on 3 lab workers," *Tri-Valley Herald*, August 7, 1987.

"Lab chlorine leak forced evacuation," *The Valley Times*, April 9, 1997.

"Site 300 blaze," *Tri-Valley Herald*, May 9, 1997.

"Mishap wrecks a dozen lasers," *The Valley Times*, May 3, 1997.

"Lab evacuation," *Tri-Valley Herald*, May 3, 1997.

"3 lab workers contaminated with uranium traces," *The Valley Times*, February 11, 1997.

"Radioactive material put out shortly after catching fire," *Tri-Valley Herald*, February 11, 1997.

"Lab worker contaminates finger," *The Valley Times*, February 9, 1997.

"Plutonium exposure," *Tri-Valley Herald*, February 8, 1997.

"Lab tracks exposure to metals," *Tri-Valley Herald*, June 29, 1994.

National Ignition Facility (NIF):

Discovery of Leaking Buried Capacitors (NIF Constr Site). Lawrence Livermore National Laboratory, Daily Field Management Report, DOE, September 9, 1997.

"Investigators check lab for additional toxic waste," *Tri-Valley Herald*, September 11, 1997.

"Lab discovers 112 capacitors with PCBs at superlaser site," *The Valley Times*, September 11, 1997.

"Toxic waste discovery rattles EPA, scientists," *Tri-Valley Herald*, September 16, 1997.

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Monthly report dated June 20, 1997, from James Littlejohn (Project Leader, Environmental Restoration Division, DOE/OAK) and Albert L. Lamarre (Livermore Site Project Leader, Environmental Restoration

Division, UC/LLNL) to Robert Feather (DTSC), Michael Gill (U.S. EPA - San Francisco Office) and Michael Rochette (Regional Water Quality Control Board - San Francisco Bay Region) re: LLNL Livermore Site may 14, 1997 Remedial Project Managers' Telephone Conference Summary.

"NIF foes move to stop project, citing toxic find," *The Valley Times*, September 23, 1997.

"laboratory staff faces toxic waste charges," *The Valley Times*, September 23, 1997.

"Judge orders Livermore Lab to search for buried wastes," *The Valley Times*, October 28, 1997.

"Livermore Lab to expand search for toxic waste," *Tri-Valley Herald*, October 28, 1997.

Public Meetings:

" "Volatile" reaction at lab meeting," *Tri-Valley Herald*, July 20, 1997.

"Lab's Site 300 cleanup on tap," *Tri-Valley Herald*, June 22, 1997.

"Citizen's Watch" Newsletters:

Each 1997 edition of Tri-Valley CARES' monthly newsletter (except for February, 1997), *Citizen's Watch*, contains coverage of issues that are relevant to Tri-Valley CARES' comment on LLNL's application for the WTSF permit. Therefore, to conserve space, we refer to them collectively here.

Federal Statutes

Resource Conservation and Recovery Act (RCRA).

California Statutes and Regulations:

California Environmental Quality Act (CEQA).

Title 22 California Code of Regulations sections 6626.23(a) (1-3), (b) and (e); 66265.71 (a)(1-6); and 66262.34(f)(1-3). (CCR)

3.3 Document 2: U.S. Enrichment Corporation (USEC)



February 25, 1999

Ms. Lois Marik
U.S. Department of Energy
Lawrence Livermore National Laboratory
7000 east Avenue
Livermore, California 94550

RE: Comments on Draft Supplement Analysis for Continued Operation of Lawrence Livermore National Laboratory and Sandia National Laboratory, Livermore DOE/EIS-0157-SA-01

Dear Ms. Marik:

The United States Enrichment Corporation (USEC) has reviewed the Draft Supplement Analysis for the Environmental Impact Statement (EIS) for the Lawrence Livermore National Laboratory (LLNL). We would like to supply comments addressing the adequacy of the document in general, and a specific comment we believe will add clarity.

2-1

The analysis appears to be both comprehensive and thorough. All areas of potential impact were reviewed and adequately addressed. The Supplement Analysis meets the intent of the National Environmental Policy Act in that, as a planning document, it identifies areas of the environment that need to be protected in future activities.

2-2

One change we suggest to add clarity to the document is to revise an entry in Table 1.1. Specifically, the wording under "Discussion" to "Follow-ons to U-AVLIS" would indicate that only USEC performed NEPA review for this activity. The environmental review for this activity was done as a joint effort. Under an interagency agreement between USEC and DOE, USEC did have the lead in preparing the Environmental Assessment document. However, the analysis was performed jointly by USEC and the LLNL staff, with close involvement by DOE. The Finding of No Significant Impact was issued jointly by DOE and USEC. We suggest you change the entry under "Discussion" to read "Joint NEPA review by U.S. Enrichment Corporation (USEC) and DOE".

Sincerely,

T. Michael Taimi
Manager, Environmental Assurance and Policy

6903 Rockledge Drive, Bethesda, MD 20817-1818
Telephone 301-564-3200 Fax 301-564-3201 <http://www.usec.com>
Offices in Livermore, CA Paducah, KY Portsmouth, OH Washington, DC

3.4 Document 3: Briefing Transcript, Livermore, February 11, 1999, 2:00 p.m.

1
2
3 TRANSCRIPT OF COMMENT AND QUESTION PORTION
4 OF PUBLIC BRIEFING
5
6 Regarding:
7 DRAFT SUPPLEMENT ANALYSIS
8 FOR
9 CONTINUED OPERATION OF
10 LAWRENCE LIVERMORE NATIONAL LABORATORY AND
11 SANDIA NATIONAL LABORATORIES, LIVERMORE
12
13 Proceedings before: BARRY LAWSON, Facilitator
14
15 Thursday, February 11, 1999
16 2:00 p.m. session
17
18
19 Taken by LETICIA A. RALLS,
20 a Certified Shorthand Reporter,
21 in and for the State of California
22 CSR No. 10070
23
24
25

1

1 PROCEEDINGS
2
3 BE IT REMEMBERED, on Thursday, the 11th
4 day of February 1999, commencing at the hour of
5 2:09 p.m. of said day, at the LAWRENCE LIVERMORE
6 NATIONAL LABORATORY, EAST GATE VISITOR'S CENTER,
7 Trailer No. 6525, Greenville Road, Livermore,
8 California, before me, LETICIA A. RALLS, a
9 Certified Shorthand Reporter in the State of
10 California, the said briefing proceedings were
11 had.
12
13
14 APPEARANCES
15 BARRY LAWSON, of BARRY LAWSON ASSOCIATES,
16 Mountain Road, P.O. Box 26, Peacham, Vermont
17 05862, appeared as the Facilitator.
18 LOIS MARIK, of the DEPARTMENT OF ENERGY,
19 Deputy Director for Livermore Operations Division,
20 appeared as the presenter and as a panel member.
21 CHUCK TAYLOR, of PAI CORPORATION,
22 appeared as a panel member.
23 MICHAEL LAZARO, of ARGONNE NATIONAL
24 LABORATORY, Chicago, Illinois, appeared as a
25 panel member.

2

1 APPEARANCES (continued)
2 KENNETH ZAHN, Group Leader, Environmental
3 Evaluations Group of LAWRENCE LIVERMORE NATIONAL
4 LABORATORY, appeared as a panel member.
5 KATIE MYERS and CAROL KIELUSIAK of
6 LAWRENCE LIVERMORE NATIONAL LABORATORY, appeared
7 as notetakers.
8 LIBBY STULL of ARGONNE NATIONAL
9 LABORATORY, appeared as a notetaker.
10
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3

1 (Whereupon, subsequent to Ms. Marik's
2 presentation, the following comment and
3 question period began at 2:27 p.m.)
4
5 PROCEEDINGS
6 THE FACILITATOR: Thank you very much.
7 Okay. Let's start our comment period. I
8 invite you to go one at a time for an initial
9 period of a maximum of five minutes or thereabouts,
10 whether asking questions or making comments
11 regarding the Supplement Analysis.
12 I would ask you to introduce yourself and
13 your affiliation, if you like, and indicate before
14 you start whether you're offering a question or a
15 comment so that the people who are taking notes
16 will be primed for either one.
17 Now, I don't know how many people plan to
18 make comments, and I don't want to be -- and I
19 don't feel like being in the mood to be a harsh
20 timekeeper here, but I do want to make sure that
21 with the number of people in the room, most of whom
22 I don't know, that we go at least through one round
23 of five minutes, and then there will be plenty of
24 time for more questions, if you have any.
25 If you are coming near within that five
minutes, I'll ask you to complete your first round
as gracefully and graciously as possible. Okay.

4

1 Also, if you have written comments with you
 2 today, you're certainly welcome to submit those.
 3 As I said before, oral comments and written
 4 comments are given the same amount of credence.
 5 Okay. Is there anybody here who would like
 6 to speak after all that?
 7 THE COMMENTOR: I'll go.
 8 THE FACILITATOR: Please.
 9 THE COMMENTOR: Could I talk here?
 10 THE FACILITATOR: If you could at least
 11 stand, if it would make it easier. If you'd like
 12 to come up here?
 13 THE COMMENTOR: Yeah. It's easier.
 14 THE FACILITATOR: Sure. Come on up.
 15 THE COMMENTOR: My name is Sally Light. I'm
 16 from Tri-Valley CAREs, Communities Against
 17 Radioactive Environment. We did prepare a written
 18 comment, and I'm just going to briefly use that as
 19 a consulting kind of note that I can look at as I'm
 20 talking.
 21 And I'm going to only do part of this, and
 22 then I'll share it with my colleague, our Executive
 23 Director, Marylia Kelley, who will finish it out.
 24 Just to briefly mention that most people
 25 here probably know who we are, but we've been

5

1 around for 16 years, right here in Livermore.
 2 We're a watchdog group, grassroots environmental
 3 organization that watchdogs the Lab here. And
 4 we've been intimately involved in the history of
 5 the Lab in a way and in the community, and we
 6 continue to do so.
 7 Just basically, we really are very
 8 concerned -- I mean, as I'm looking at the actual
 9 analysis and the presentation today, it just seems
 10 to be a very perfunctory kind of presentation that
 11 everything is just fine and hunky-dory at the Lab
 12 here; there's no need for any kind of an EIS/EIR
 13 again. And we very much oppose that view.
 14 We feel at Tri-Valley CAREs that an EIS/EIR,
 15 a new one, needs to be done. And I'll just break
 16 it down to why, some of the reasons.
 17 For one thing, since 1992, the Lab has
 18 remained a Superfund Site; both Main Site and Site
 19 300 still are on the national priorities list.
 20 That, in itself, says to me that there are still
 21 problems that need to be -- big problems that need
 22 to be resolved here and that there are I believe --
 23 ex-Secretary of DOE Watkins, actually during his
 24 time, there was a regulation that came up that
 25 these DOE facilities really are required to go

6

1 through some sort of environmental analysis again
 2 every five years.
 3-3 cont. 3 And I know that maybe that doesn't
 4 specifically lay out the fact that it should be an
 5 EIS/EIR every five years, but we feel in this case
 6 that it does merit that.
 3-4 7 So the Lab here continues to have chronic
 3-5 8 pollution problems. It's had frequent accidents
 9 involving radioactive and toxic contaminants.
 10 These problems are also chronic with non-compliance
 11 of safety regulations. The Lab has received
 3-6 12 numerous notices of deficiency and notices of
 13 violations from the State Department of Toxic
 14 Substances Control which is indicative of problems
 15 ongoing since 1992.
 3-7 16 It's continued to have groundwater
 17 contamination problems both here and at Site 300.
 3-8 18 There are also sewer system problems in terms of
 19 releases into the municipal sewer system from Main
 3-9 20 Site. And the Lab continues to have problems with
 21 non-compliance with safe storage requirements.
 22 All of this we have documented on, and I
 23 have attached to our report our comment, a previous
 24 letter that we worked up for -- as a response to --
 25 as a comment, a public comment to the Part B Permit

7

1 Application that the DTSC right now is considering
 2 for the Lab.
 3 And so a lot of this draws on material that
 4 I developed in 1997. And this is all documented,
 5 and I have it here. So I'm just summarizing from
 6 that.
 7 I really don't want to take a lot of time to
 8 go into the details, unless people ask questions,
 9 but to go on to the other thing that I wanted to
 10 mention is that in terms of the increased
 11 administrative limits for plutonium and uranium in
 12 the Super Block buildings that were presented here,
 13 it's interesting that it seems that in some cases
 14 these are very significant increases, and yet the
 15 DOE doesn't consider these major enough to require
 3-10 16 a new EIS.
 17 And under the CFR sections that have to do
 18 with when you do need some kind of a new
 19 environmental analysis, it says, you know,
 20 significant new circumstances or information
 21 relevant to environmental concerns.
 22 And I do feel that when you're dealing with
 23 such deadly materials as uranium and plutonium,
 3-11 24 that certainly does come into environmental
 25 concerns both for the employees here and for the

8

1 community outside who are relying on the Lab's HEPA
 2 filtration system to actually try to protect them
 3 against releases and so forth.
 4 I think that these major changes do warrant
 5 a new EIS/EIR just on that basis alone as far as
 6 that section of it.
 7 And also there are other issues here. I
 8 mean, we are not -- we wonder why you really -- I
 9 mean, I understand that the report is saying that
 10 in terms of the uranium that they are to support
 11 the RD&D, the Research Development & Demonstration,
 12 of plutonium immobilization and technologies for
 13 uranium conversion, reuse, waste management and
 14 disposal, but that just doesn't seem to fit it
 15 because, for one thing, we know from the DOE's
 16 "Green Book" that the DOE intends to carry out new
 17 nuclear weapons research and development, and the
 18 Lab here is a primary nuclear weapons laboratory.
 19 So we are seriously questioning the given
 20 justifications in this report for having
 21 significant increases of these weapons-related
 22 materials. And we are humbly reminding you that
 23 the Cold War is supposedly over.
 24 And then also we would like to know
 25 specifically NEPA programmatic element analysis

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1 which is required for such a large change in such a
 2 significant increase in terms of the uranium
 3 amounts, is it going to be specifically for the
 4 U-AVLIS? I mean, can we have some information? It
 5 is just very -- I just don't know from looking at
 6 this report what they're really talking about.
 7 Those are some of my major concerns. And,
 8 as I say, we have copies of our comments, and I
 9 have attached the comments before to the DTSC on
 10 which a lot of this is based. And so we are very
 11 interested in passing out this information, and we
 12 do have a few copies with us today.
 13 Thanks.
 14 THE FACILITATOR: Very well done. Thank
 15 you.
 16 Is there somebody else who would like to
 17 speak? Please.
 18 THE COMMENTOR: And I'm too chicken to step
 19 over this chair.
 20 THE FACILITATOR: Yes, please.
 21 THE COMMENTOR: Hi. I'm Marylia Kelley, and
 22 I'm Executive Director at Tri-Valley CAREs, and I
 23 also live on East Avenue right between Vasco and
 24 Charlotte.
 25 So I'm speaking today, as well, as a very

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1 close neighbor of the Livermore Laboratory and as
 2 someone who has raised a child and lived in this
 3 community since 1976.
 4 And again, I want to reiterate that
 5 Tri-Valley CAREs has looked at the Supplement
 6 Analysis and looked at the daily sort of operations
 7 of the Lab and the proposed operations of the Lab
 8 and believe beyond a shadow of a doubt that a new
 9 environmental impact statement is required in this
 10 instance.
 11 I'll just talk again about a couple of
 12 things, since I have five minutes, and invite
 13 people to ask us for copies of our comment if they
 14 would like the details, and also out on the table
 15 is a sign-up sheet if folks want to get our
 16 newsletter and any other information that we have.
 17 We've been doing some research on the
 18 Plutonium Facility, that's the Building 332
 19 discussed, and the history of problems with the
 20 HEPA filters in that building.
 21 And again, there has been burning of
 22 plutonium to oxidize the chips, and that's an
 23 extremely dirty enterprise. And we need more
 24 information on that and the projected plans for the
 25 future.

11

1 In addition, just to digress a little bit,
 2 uranium chips are also burned. And that's equally
 3 dirty, and we equally need information on how much
 4 of that is going on at present and how much of that
 5 is projected into the future.
 6 Also, Sally, you didn't have time to really
 7 cover the documents we got back from the HEPA
 8 Information Act request, right?
 9 PREVIOUS COMMENTOR: No.
 10 THE COMMENTOR: Okay. We have a lawsuit in
 11 under the Freedom of Information Act for documents
 12 that the Department of Energy and the Lab have not
 13 given us in a timely manner, and, after filing the
 14 lawsuit, they have begun showing up.
 15 So thank you for what's come, and we expect
 16 another batch soon.
 17 The documents that we have so far indicate a
 18 history of chronic safety problems. There's one
 19 type of HEPA filter that's discussed that's only
 20 partially qualified for nuclear applications.
 21 The filters we know theoretically but now we
 22 know from internal documents that this is a
 23 problem. They are very fragile. They fail when
 24 wet, hot, cold, or just plain have too much
 25 pressure applied. And all of those things have

12

1 been a problem in the Plutonium Facility here at
2 Livermore.

3 The use of filters has gone on here way
4 beyond the recommended length of time in service.
5 What that means is somebody, maybe even here --
6 but Lab folk have said eight years is about what
7 they should stay in and then they should be changed
8 out.

9 There are filters that were in for 20 to 30
10 years. That means that they're building up gunk.
11 That means that a little rip, and all the gunk
12 that's in them gets out, you know, just to put it
13 in real plain language.

14 And it also means they're getting
15 increasingly fragile so that there are increasing
16 opportunities for those kinds of leaks into the
17 air. There have been numerous documents regarding
18 problems inside the facility, including having rips
19 in the duct where the plutonium dust has fallen
20 out.

21 So this is a safety issue for workers and
22 for the public. And these are things that were not
23 really part of the 1992 EIS. Information has come
24 to light since then, and they're also not problems
25 that were solved back then.

3-18
cont.

13

1 So these are current and ongoing problems
2 which need to be analyzed in a full NEPA, that's
3 National Environmental Policy Act, kind of
4 document.

5 DOE may not have a centralized division that
6 oversees the use of HEPA filters complex-wide. The
7 documents we have suggested each facility is kind
8 of on its own to develop some of these things and
9 that they are in many cases inadequately tested.

10 And also, Livermore Lab appears to have
11 problems with storage and disposal of the filters
12 and that -- the fact that they don't have a
13 disposal available, as discussed in the documents
14 we have, may be one of the reasons why they're left
15 in so long.

16 And you just heard, "We don't need to do an
17 EIS because we think we're going to reduce our
18 transuranic waste by 75 percent."

19 Well, does that mean leaving HEPA filters in
20 the Plutonium Facility for decades and decades?
21 What if those filters were changed out and
22 regularly, which they need to be as a safety
23 measure? What does that do to the waste stream?

24 These things are all things that should be
25 analyzed in a full EIS.

3-18
cont.

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1 And also, are we assuming -- what kind of
2 assumptions are being made about whip opening and
3 other things that may or may not happen? And what
4 kind of contingencies exist? All of that needs to
5 be part of an EIR/EIS.

6 Also, the plutonium was discovered in Big
7 Trees Park, right across the street and down the
8 road from me where my son grew up playing. Again,
9 discovered since 1992, the Lab has gone out
10 three -- well, there have been three samples: one
11 by EPA, two by the Lab.

12 Every time anybody's gone out there to take
13 a sample, they have found plutonium above the level
14 that can be attributed to global fallout, up to
15 1,000 times, in fact. So this may -- there are
16 three hypotheses. This is maybe airborne. This
17 may be related to some of the filter issues we're
18 talking about on Building 332.

19 All of those things deserve a full EIS. And
20 all of those things deserve to really, really be
21 looked at seriously and some proposals put forward
22 as to how to better safeguard the workers and the
23 community.

24 Also, there have been plutonium criticality
25 violations there regularly. As probably most of

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1 you know, but I'll say it for the record, the
2 Plutonium Facility was shut down because of a
3 recommendation by the Defense Nuclear Facility
4 Safety Board after there were 15 violations, when
5 you guys were getting ready a subcritical test.

6 And then that shutdown really wasn't as
7 complete as it was supposed to be. And there were
8 an additional -- about ten criticality safety
9 violations.

10 The facility was shut down. Then it was
11 allowed to operate in a restart mode, which is a
12 very limited, carefully controlled, supposedly,
13 mode. And then last August there was another
14 criticality violation even while it was in restart
15 mode.

16 Again, this does not look like a facility
17 that doesn't have problems. These things need to
18 be analyzed in an EIS and not in a little
19 book-report size Supplement Analysis that doesn't
20 even talk about them and goes on to say, "We don't
21 need to do an EIS."

22 There are a whole lot of programs at
23 Livermore Lab that are new or have changed
24 substantially since 1992. And I was one of the
25 people who commented on the 1992 EIS. And, if

3-21
cont.

3-22

16

1 you'll remember, I'm one of the people who told you
2 that even in 1992 your EIS was way behind the curve
3 of coming events.
4 And the fact that the document was almost
5 obsolete by the time the record and decision was
6 signed in 1993 really doesn't sort of help things
7 now that we're another six years down the road. It
8 is incredibly obsolete.
9 You may recall there were just a couple of
10 paragraphs about something called the NOVA upgrade.
11 There wasn't even a National Ignition Facility that
12 was being proposed.
13 The SSM/PEIS looked at siting and issues
14 like that. It doesn't take the place of a
15 site-wide. It needs to be considered. It will
16 have an environmental footprint here at Livermore
17 Lab and in our community.
18 It will mean more tritium in our air. It
19 will mean more waste. And what does that mean
20 with -- given that we already have a burden of
21 tritium -- that's radioactive hydrogen -- in our
22 air from other Laboratory operations?
23 That's the kind of thing that only a
24 site-wide EIS really looks at. And the cumulative
25 effects of that has to be looked at now not

3-23 17

3-24 1 beginning maybe in 2002.
cont. 2 THE FACILITATOR: Under the assumption that
3 there are other people, do you want to finish up
4 and then come back? Because it looks like you've
5 got some more there.
6 THE COMMENTOR: Right. Why don't I give you
7 a short laundry list and perhaps come back?
8 THE FACILITATOR: Okay.
9 THE COMMENTOR: Other new programs are big
10 changes in the Uranium Atomic Vapor Laser Isotope
11 Separations. And let me -- well, let me just --
12 subcritical nuclear testing, the ADAPT program,
13 which means that there's work going on right now on
14 new ways to make plutonium pits in the Plutonium
3-25 15 Facility, and also ASCI, the Accelerated Strategic
16 Computing Initiative, may have a bigger
17 environmental footprint than had been considered.
18 And the new building, the last time I spoke
19 to DOE and the Lab, they were deciding whether or
20 not they needed a whole new bank of cooling towers
21 for it. And I've been promised a conceptual design
22 report as soon as it's ready, and as soon as I look
23 at it, I'll let you guys know if they are.
24 But all of these things are different; they
3-26 25 have environmental impact, and they deserve to have

18

3-26 1 a full environmental impact statement.
cont. 2 Thanks.
3 THE FACILITATOR: Thank you.
4 Is there anyone else who would like to
5 speak? Yes, please.
6 THE COMMENTOR: Oh, hi. I'm Jackie Babasso.
7 I'm Executive Director of the Western States Legal
8 Foundation in Oakland.
9 And I would like to remind everybody here
10 that the 1992 site-wide EIR/EIS was prepared as the
11 result of a settlement negotiated by Western States
12 on behalf of Tri-Valley CAREs with the University
13 of California Regents. So we have a very long and
14 deep interest in this issue.
15 We have done a partial review of the Draft
16 Supplement Analysis, and we plan to submit written
17 comments later. So I'm just going to make a few
18 points now.
19 First, I want to start with a quote from the
20 1992 Livermore Lab Final EIR/EIS. And this quote
21 was included despite many requests for the -- for
22 review of possible re-configuration, facts that
23 affects the re-configuration proposals on Lawrence
24 Livermore as well as a variety of disarmament
25 alternatives.

19

1 Here's what it said. Quote,
2 "Nevertheless, DOE is considering
3 what activities necessary to
4 support DOE's nuclear weapons
5 mission should be carried out at
6 Lawrence Livermore and Sandia
7 National Laboratories, Livermore."
8 "The Secretary of Energy has
9 proposed to re-configure the
10 nuclear weapons complex to be
11 smaller, less diverse, and more
12 economical to operate. As part of
13 this proposal, DOE is examining
14 whether certain weapons research,
15 development, and testing activities
16 now taking place at the national
17 laboratories should be
18 consolidated."
19 "DOE is preparing a programmatic
20 EIS on this re-configuration
21 proposal. The re-configuration
22 PEIS will address the long-term
23 mission of Lawrence Livermore and
24 Sandia National Labs in Livermore."
25 "This EIS/EIR addresses the

20

1 near-term continued operation of
 2 Lawrence Livermore and Sandia
 3 National Laboratories, Livermore.
 4 The focus of possible new long-term
 5 missions cannot be addressed until
 6 after completion of the
 7 re-configuration FEIS; therefore,
 8 identification and description of
 9 new missions for Lawrence Livermore
 10 and Sandia and analysis of
 11 associated environmental effects
 12 would be highly speculative and
 13 beyond the scope of this EIS/EIR."
 14 "However, this document is expected
 15 to facilitate the environmental
 16 assessment of future changes in
 17 missions or activities. Such
 18 changes would be reviewed against
 19 this EIS/EIR and further NEPA
 20 and/or CEQA review effort efforts
 21 undertaken if appropriate. This
 22 could include the preparation of a
 23 supplemental EIS/EIR."
 24 End of quote.
 25 So here we have the Livermore Lab 1992 EIS

3-27 cont.

21

1 telling us that it has to be re-evaluated after the
 2 re-configuration FEIS has been completed. Well,
 3 now re-configurations has come and gone and has
 4 been replaced by the Stockpile Stewardship and
 5 Management program, complete with a FEIS with an
 6 entirely new set of alternatives.
 7 We believe that the Livermore site-wide EIS
 8 should be redone to reflect those changes. And in
 9 terms of thinking about those changes, I was
 10 reminded sitting here that the 1992 EIS was
 11 completed before a nuclear testing moratorium was
 12 in place, before the comprehensive test ban treaty
 13 was signed, before the President had committed the
 14 United States to the Stockpile Stewardship program.
 15 And there have been very major changes in
 16 laboratory operations since then. These include
 17 the National Ignition Facility, as well as possible
 18 future NIF applications.
 19 NIF was not in the 1992 EIS, and future
 20 possible applications need to be covered. Weapons
 21 effects testing, use of fissile materials if these
 22 applications are now foreseeable.
 23 At the very least, we should know the
 24 existing state of planning and when decision points
 25 will be for these applications which could have

3-27 cont.

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22

1 serious effects on the environmental impacts.
 2 Now, I also want to remind you that
 3 disarmament alternatives remain highly relevant.
 4 In 1996, four years after the 1992 EIS/EIR,
 5 the International Court of Justice, which is the
 6 highest court in the world on questions of
 7 international law, the judicial branch of the
 8 United Nations, unanimously found that there exists
 9 an obligation on the part of all states to conclude
 10 negotiations on the elimination of nuclear weapons.
 11 That is the authoritative interpretation of
 12 Article VI of the Nuclear Nonproliferation Treaty
 13 which was extended indefinitely in 1995 due largely
 14 to very strenuous international efforts by the
 15 United States. Article VI requires the elimination
 16 of nuclear weapons.
 17 The International Court of Justice closed a
 18 loophole in Article VI by saying there exists an
 19 obligation on the part of all states to conclude
 20 negotiations, to finish the process, of nuclear
 21 disarmament. That alternative is not reflected in
 22 the 1992 EIS or in the Supplement Analysis.
 23 Now, a couple of other specific points and
 24 questions that I'd like to raise. Plutonium in the
 25 park was mentioned. Western States Legal

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3-30 cont.

23

1 Foundation, like Tri-Valley CAREs, participates in
 2 the ATSDR/CHDS site team, and so we also have a
 3 great deal of interest in that issue and some
 4 familiarity with it.
 5 The new information that has emerged about
 6 the plutonium findings off site need more analysis.
 7 And this analysis needs to be combined with other
 8 problems and changes in plutonium operations like
 9 the ones Marylia mentioned -- criticality
 10 violations, the ADAPT pit production program and so
 11 on.
 12 This suggests to us the need to re-evaluate
 13 the purpose and need of plutonium operations at the
 14 Lab, risks and alternatives of plutonium operations
 15 in a densely-populated suburban area which this
 16 area has become even more so since 1992.
 17 On another point, in its response to the
 18 Western States' comments in the 1992 EIS, DOE also
 19 pushed off substantive discussion of waste
 20 management alternatives in the waste management
 21 FEIS which also is now complete. This information
 22 needs to be integrated into a new site-wide EIS to
 23 inform the public, state regulators, local
 24 decision-makers, emergency services and so on.
 25 Again, the whole NEPA approach in our view

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cont.

1 has been like a shell game, just pushing off
2 decisions, pushing off alternatives, pushing off
3 analyses into different kinds of speculative PEISes
4 and then never coming back to re-integrate them.

5 Along these lines, as a result of the recent
6 settlement in our lawsuit against DOE challenging
7 the adequacy of the stockpile stewardship PEIS and
8 the failure of DOE to prepare an environmental
9 restoration PEIS, we have established a database
10 which is going to include new information available
11 for the first time at least to the public about
12 waste -- waste streams including waste streams from
13 defense programs.

14 So this new information will be coming out,
15 will be available, and this is the time to inform
16 the public about the cause and effect, the
17 relationship between the waste streams and the
18 programs at this Laboratory, possibly for the first
19 time.

20 A couple of other specific points and
21 questions. In the table 1-7, the line item
22 regarding the Accelerated Strategic Computing
23 Initiative, we know from looking at the ASCI
24 program at Los Alamos that supra computing requires
25 large amounts of water for cooling.

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25

1 So we're wondering what the requirements are
2 for Lawrence Livermore in the near future for the
3 ASCI program, and this becomes immediately
4 important because, for example, we just read in the
5 paper yesterday that the Del Valle Reservoir will
6 be drawing more water for the development in the
7 near future. This is Zone 7, the water district.

8 And given the tremendous demand for water in
9 the Valley, you know, have -- there needs to be a
10 thorough evaluation for the water demand for ASCI
11 including its cumulative impact. And we don't see
12 that in here.

13 Also, we wonder about the additional
14 electrical power draw. Will there be new utility
15 lines or power upgrades for ASCI? What will the
16 cumulative impacts be?

17 Regarding AVLIS -- and again, we're involved
18 in a lawsuit trying to force environmental review
19 of AVLIS, so we have a long-standing interest in
20 that issue. And I have to say we have been able to
21 get very little information about the status of
22 this program.

23 This says that USEC is doing NEPA review of
24 AVLIS. This is news to us. Does USEC do NEPA
25 reviews? We'd like an answer to that question. We

3-35
cont.

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26

1 don't think so.

2 In any event, for site-wide total impacts,
3 AVLIS must be analyzed. And just because something
4 will have project-specific review doesn't mean it
5 can be omitted from NEPA analysis site-wide which
6 would defeat the entire purpose of having site-wide
7 EISes. And at the very least a cumulative impact
8 has to be evaluated.

9 How am I doing on time?

10 THE FACILITATOR: Over a little bit.

11 THE COMMENTOR: I'm over a little bit. I
12 have just a couple more questions, but they're
13 relatively quick.

14 THE FACILITATOR: Is there anyone else who
15 is going to be at this podium to ask questions?

16 Go ahead.

17 THE COMMENTOR: Okay. So here's another
18 question: Is the AVLIS pilot project up and
19 running, and more generally, what is the status of
20 the AVLIS program which has essentially gone
21 underground since USEC took over?

22 A couple -- another specific point, in table
23 1-8 regarding MOX fuels. It seems to us that the
24 HEU and uranium numbers represent major increases.
25 And we think that if this was a free-standing

3-37
cont.

3-37
cont.

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1 issue, it would represent a very significant level.

2 And we don't think there's adequate -- I
3 mentioned about the waste streams and accident
4 risks from the MOX fuels program. Similarly, we
5 have questions about the tritium.

6 Building 331, Army Tritium Recycle, 30 gram
7 limit, we haven't had a chance to check this, but
8 we thought that the '92 EIS set a 5 gram limit.
9 This also seems to represent a significant
10 increase. And if it's not for that building, it
11 should be used for -- as a standard of comparison.

12 Almost finally, we read -- it was reported,
13 I believe, in the "Albuquerque Journal" that the
14 DOE was considering establishing a biohazard three
15 facility at Lawrence Livermore National Laboratory.

16 This was certainly not analyzed in 1992. Is
17 it true? Is it going to happen in the foreseeable
18 future? Is it going to happen at some point in the
19 future? That could have very significant
20 environmental impacts.

21 And finally, two related questions. Are
22 there classified annexes to the 1992 site-wide EIS,
23 and are there classified annexes to this Supplement
24 Analysis?

25 Thank you.

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cont.

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1 THE FACILITATOR: Is there anyone in a
2 position to answer any of those questions at the
3 meeting?
4 MS. MARIK: I think the best thing to do --
5 because there is such an extensive list of
6 comments, I would prefer to have the formal
7 comments. If you'd like us to answer some of those
8 questions right now, though, we'd be more than
9 willing to do that.
10 THE COMMENTOR: Yeah. Any of them.
11 THE FACILITATOR: There's a question about
12 the biohazard facilities.
13 MS. MARIK: The biohazard facility. In that
14 circumstance, there are no plans to have a
15 biohazard three facility at this site at this time.
16 Should such a facility be determined to be
17 necessary here, we would have to follow the NEPA
18 process.
19 And, as you know, that's a DOE process. And
20 until DOE decides that that facility is going to be
21 placed at the Livermore site, it will not be placed
22 at the Livermore site. And there are no plans to
23 do that at this time.
24 THE FACILITATOR: You had two questions at
25 the end.

29

3-41
cont. 1 THE COMMENTOR: Have you talked about
2 annexes?
3 MS. MARIK: No, there's not.
3-41
cont. 4 THE COMMENTOR: Have you talked about
5 annexes in the 1992 site-wide?
6 MR. MARIK: No, there is not.
7 MR. ZAHN: Not that I know of.
8 THE FACILITATOR: Is there -- before you go
9 any further, I just want to -- is there anybody
10 else who has questions or comments along that?
11 Yes, sir? Please.
12 THE COMMENTOR: I assume this is an
13 official, approved thing I just picked up out here.
14 MS. MARIK: The fact sheets?
15 THE FACILITATOR: What is it?
16 MS. MARIK: Is it the fact sheets?
17 THE COMMENTOR: No. It's just an article;
18 promotes your stuff.
19 MS. MARIK: Okay.
20 THE COMMENTOR: Andrea.
21 MS. MARIK: Widener.
22 THE COMMENTOR: Something.
23 Now, I doubt that she makes these things up,
24 so someone had to tell her this. I doubt that she
25 knows enough -- if you're present, excuse me.

30

1 MR. TAYLOR: She may be here.
2 THE COMMENTOR: I just doubt that you know
3 enough to do a civilized calculation in a specific
4 activity.
5 But let me take up what you put down. It
6 was handed out out here. Some 6,000 pounds of
7 depleted uranium which has less than 1 percent
8 radioactive material.
9 Now, do you agree with that?
10 MS. MARIK: No. We were -- I think that
11 she's referring to uranium 235 content of that
12 material.
13 THE COMMENTOR: Depleted uranium is all
14 radioactive.
15 MS. MARIK: Yes, it is. But --
16 THE COMMENTOR: Okay. Now that thought said
17 here.
18 Now next, in case you misunderstood,
19 about -- it was a statement requiring a statement
20 of rate. Now, in case you misunderstood, it's
21 still not a factor of 100 difference. If you look
22 up the half lives, I doubt that they're a factor of
23 100 difference.
24 And that's the only factor that occurs in a
25 specific activity calculation. And the specific

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3-42
cont. 1 activity, I doubt, is 100 times different between
2 those two isotopes.
3 MS. MARIK: I'm sorry. I'm missing -- I'm
4 missing the question.
5 THE COMMENTOR: I'm sure he didn't; some of
6 these other people didn't. You talk to them.
7 MS. MARIK: Uh-huh.
8 THE COMMENTOR: So that's a misinformation
9 or misleading thing.
10 Now, that's somewhat better than the fact
11 that they've been -- the newspaper people have been
12 told that depleted uranium is non-radioactive which
13 has occurred on two separate occasions. I hope the
14 newspaper people here learn to get the statements
15 and use them as a quotation when they're told those
16 dumb things.
17 THE FACILITATOR: Would you give us your
18 name and also the citation for that article?
19 THE COMMENTOR: You've got it out there.
20 THE FACILITATOR: I know. I want to get it
21 for the stenographer.
22 THE COMMENTOR: Oh, okay. It's not her
23 fault.
24 THE FACILITATOR: I understand. I just want
25 to make sure for the record it's down.

32

1 THE COMMENTOR: All right.
 2 If they give you these things and you doubt
 3 it -- you should be careful about things that PR
 4 people tell you. I will show you the calculations.
 5 Let me go to one more thing.
 6 THE FACILITATOR: Okay. Forget it.
 7 THE COMMENTOR: The filters in the plutonium
 8 building were over-aged when I retired 15 years
 9 ago. Now, I know that they have probably all lost
 10 at least half of their potential strength, and
 11 their hydrophobic ability is -- starts severely
 12 downhill after five years.
 13 Now, all these things the internal filter
 14 people know. And we've got some of the best filter
 15 people in the world here and in Los Alamos. You
 16 should talk to them; see what should be done with
 17 that damn plutonium building which is a risk to the
 18 public. And I'm a part of the public because I
 19 live right over here.
 20 Those filters are a serious threat to this
 21 community. And you pump 13 -- 10 to 15 inches of
 22 water pressure through those things. I'll bet you
 23 they won't stand the cyclone test that they're
 24 supposed to take right now.
 25 If you don't know what that means, you talk

33

1 to the filter people here. You've got some good
 2 filter people here who are knowledgeable; some of
 3 the best in the world. And if they won't talk to
 4 you, talk to the people in Los Alamos so they won't
 5 get fired here or put in a dark room with no
 6 windows.
 7 I'm not kidding; I'm serious.
 8 MS. MARIK: I understand.
 9 THE COMMENTOR: Because this is to your
 10 discredit to allow these things to continue.
 11 MR. TAYLOR: We'll definitely include a
 12 response to the filter issue in our comment
 13 response document.
 14 THE COMMENTOR: I don't know whether they're
 15 right or not. I talk to people about it, and
 16 nothing ever happens.
 17 MR. TAYLOR: I think we have enough with
 18 Marylia. It will definitely be included.
 19 MS. MARIK: We'll be responding.
 20 THE COMMENTOR: Okay. Good.
 21 THE FACILITATOR: Is there any other
 22 questions before we go on?
 23 PREVIOUS COMMENTOR: Give them your name
 24 now. For the stenographer, they need to know your
 25 name.

34

1 THE COMMENTOR: I'm sorry?
 2 PREVIOUS COMMENTOR: There's a stenographer
 3 who wants your name.
 4 THE COMMENTOR: Oh. I'm Marion Falk.
 5 Sorry. M.M. Falk is the best way to put it down.
 6 THE FACILITATOR: Take a time out.
 7 (Pause for the reporter.)
 8 THE COMMENTOR: I have a question that I
 9 didn't get to. As I'm looking at the
 10 administrative limit here of projected change to
 11 500 kilograms of highly-enriched uranium and I'm
 12 remembering -- and I'm doing this by memory, but
 13 I'm pretty sure that when Secretary O'Leary did the
 14 declassification initiative, that allowed for the
 15 public to know how much plutonium and uranium --
 16 highly-enriched uranium were here at that time,
 17 which was only a few years ago and it's still the
 18 most recent numbers we have. It was 880 pounds of
 19 plutonium and 440 pounds of highly-enriched
 20 uranium.
 21 So if I'm doing my math right, you're
 22 talking about going from 440 pounds of
 23 highly-enriched uranium to 1,100 pounds of
 24 highly-enriched uranium.
 25 Now, under the National Environmental Policy

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3-45 cont. 1 Act, don't you think that's a significant change?
 2 MS. MARIK: Well, part of the answer to that
 3 is that we're dealing with administrative limits,
 4 and so what we were talking about in that
 5 particular circumstance is that the -- the amount
 6 of material that can come into the building is
 7 going to increase, but the amount of material that
 8 we actually have operations being performed out
 9 of -- at any single time is not going to increase.
 10 So what we are saying is that although we
 11 have increased the administrative limits on the
 12 building, the actual material that will be at risk
 13 at any one time is going to remain the same.
 14 THE COMMENTOR: Well, two things. One is:
 15 I think you're using the word "administrative
 16 limit" to be the same thing as the amount of
 17 uranium on hand site-wide.
 18 MS. MARIK: Yes.
 19 THE COMMENTOR: Okay.
 20 MS. MARIK: Within that particular building,
 21 yes.
 22 THE COMMENTOR: So the amount of uranium on
 23 hand may, under this, be increasing more than 100
 24 percent -- way more.
 25 MR. TAYLOR: Uh-uh.

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1 MS. MARIK: For that particular building.
 2 It's going from 300 kilograms to 500 kilograms
 3 enriched.
 4 Now if -- but if you take into account the
 5 depleted and the natural, yeah, we are increasing
 6 it. But originally the 300 kilogram number was all
 7 types. So it was enriched, depleted, and the
 8 natural.
 9 THE COMMENTOR: My point is that at a
 10 point -- at a particular point in time only a
 11 couple years ago -- and if you guys want to jump up
 12 and say that the Department of Energy was wrong,
 13 you know, then set me straight.
 14 The Department of Energy said there were 440
 15 pounds of highly-enriched uranium at Lawrence
 16 Livermore National Laboratory. And that's a set
 17 number. Okay. Now we're talking about we want to
 18 have 1,100 pounds of highly-enriched uranium at
 19 Lawrence Livermore National Laboratory.
 20 And I understand you're talking about,
 21 "Well, we won't play with more of it at one place
 22 at one time." But nonetheless, when you do hazards
 23 analysis, oftentimes you look at the total amount
 24 that you have on hand. And that's going to more
 25 than double.

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cont.

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1 I think that requires, particularly in light
 2 of all the other changes we've talked about, a
 3 significant analysis which is beyond what's
 4 contained in that.
 5 MR. TAYLOR: You know, I don't think we know
 6 the answer -- that's very possible. We could
 7 have -- at one specific time in history, we could
 8 have had 440 pounds --
 9 MS. MARIK: Of enriched.
 10 MR. TAYLOR: -- at that specific time, but
 11 it has varied.
 12 THE COMMENTOR: Well, you have the date
 13 exactly.
 14 MR. TAYLOR: I don't know that we can give
 15 that answer.
 16 THE COMMENTOR: I have a question on
 17 environmental justice. I know that since 1992, the
 18 presidential directive on environmental justice
 19 came forward with this issue. And my question has
 20 to do with Site 300 and the nearby town of Tracy
 21 because I know that since we have tag grounds and
 22 we have tag meetings of clean up of those same
 23 type, we're kept up to speed on pretty much, as I
 24 guess we can be, on some of the ongoing problems
 25 out at Site 300.

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cont.

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cont.

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1 And what's on my mind right now is the
 2 two-mile long tritium plume headed toward the
 3 boundary. And I'm thinking that there was no
 4 analysis of -- in the 1992 EIS/EIR and certainly
 5 not in any depth here about the relationship of the
 6 tritium contamination problems which are on the
 7 rise there because of the increased amount of
 8 tritium that's been released to the groundwater
 9 because of the problems with the rising of the
 10 groundwater levels during the high -- you know,
 11 heavy rainfall seasons and then receding back down
 12 and then heading it -- taking it with it to the
 13 groundwater. And obviously this threatens the
 14 aperture below. And that could be a major problem
 15 in addition to plume.
 16 So I was hoping to see somewhere mentioned
 17 of the relationship of that problem to the people
 18 in Tracy because the populations closest to it are
 19 basically Spanish-speaking people who do not speak
 20 English.
 21 They do not know -- I can guarantee that
 22 they don't know any of this information. They
 23 don't get anything in English or Spanish that are
 24 directed to them as a community.
 25 And I do feel that there's an environmental

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cont.

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3-47
cont.

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1 justice issue, if not in fact, potentially there.
 2 So, I mean, it was not addressed here, and I think
 3 that in terms of Site 300 it needs to certainly be
 4 addressed. It's a very serious problem.
 5 There probably are other ways that I could
 6 describe the environmental justice issues in terms
 7 of the safety between 1992 and now. The increased
 8 population around the Main Site as well, and that
 9 includes some of the lowest housing areas, in terms
 10 of income-related people. That is also something
 11 that also should be addressed since the 1992
 12 EIS/EIR.
 13 And I do think that both of these things
 14 merit a full-out review, not just a supplemental
 15 analysis or a supplement to an EIS but an actual
 16 new one.
 17 Some of them are new issues -- are old
 18 issues that have never been addressed, and some of
 19 them should be re-addressed.
 20 THE FACILITATOR: You started off saying it
 21 was a question; it seemed like a comment. Do you
 22 still want an answer on your --
 23 THE COMMENTOR: I want an answer whether or
 24 not they would intend to -- based on my question
 25 now, to do something and do some kind of

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cont.

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cont.

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3-47
cont. 1 environmental justice review that's worthy of the
2 name.
3 MS. MARIK: Mike, would you like to address
4 that?
5 MR. LAZARO: All I can say about the
6 environmental justice chapter that's included in
7 here is that we tried to look at something similar
8 to what was done in the Stockpile Stewardship and
9 Management program in drawing these circles of
10 low-income populations in 20- to 50-kilometer
11 radiuses of the Site, and then looking at
12 environmental justice for various pockets of
13 minorities and low-income people that might be
14 associated with the routine releases from the Lab
15 site.
16 In examining that and in looking back at
17 what we've done in the Stockpile Stewardship and
18 Management program, we really couldn't say that
19 there was any projected impacts from -- from the
20 proposed action for these new projects and for part
21 of the programs at the Livermore site since 1992
22 that would adversely impact these minority
23 populations.
3-47
cont. 24 THE COMMENTOR: How about Site 300?
25 MR. LAZARO: Site 300 was -- 41

1 MS. MARIK: It looks like it's a good point,
2 and we'll have to --
3-47
cont. 3 THE COMMENTOR: My question is: Can I
4 expect to see some good analysis done?
5 MS. MARIK: Yes, we will address it.
6 THE COMMENTOR: And I would add one thing
7 about the Main Site, since you come from Argonne.
8 As you go down East Avenue, the very closest
9 neighbor to the Lab is a new apartment complex;
3-47
cont. 10 it's red and yellow. It's a low-income complex.
11 And the complex next door to it has a high
12 proportion of low-income including some Section 8.
13 MR. LAZARO: That's right down East Avenue?
14 THE COMMENTOR: Yeah. The first two. The
15 first two you come to are -- one is a HUD, I think
16 it is, Housing and Urban Development, and the other
17 one is not. But I think it has a high proportion
18 of low-income and Section 8.
3-47
cont. 19 So we're not talking about the 20- and
20 40-kilometer; we're talking about the nearest
21 neighbors.
22 MR. LAZARO: Thank you for that.
23 THE FACILITATOR: Yes, ma'am?
24 THE COMMENTOR: I have a question. In the
3-49 25 Draft Supplement Analysis it mentioned the species 42

3-49
cont. 1 of special concern like white -- a pair of nesting
2 white-tailed kites were observed.
3 I was wondering: Where were they observed,
4 and what -- it says, "Mitigation measures will be
5 implemented" -- what those mitigation measures are?
6 Can you identify them?
7 MS. MARIK: We've actually had successful
8 nestings on-site.
9 And, Ken, would you like to expand on that?
10 MR. ZARN: Yes, I would like to address
11 that.
12 The white-tailed kite is not a
13 federally-protected species that is threatened or
14 endangered. It is a protected species. And we
15 have been watching for raptors here at the site,
16 as most wildlife biologists are prone to do.
17 And we have -- about four years ago began
18 picking up sightings of the white-tailed kite. And
19 each year we seem to be increasing in the number of
20 white-tailed kites who have chosen the Livermore
21 site for their primary nesting site.
22 First year, we had one pair, and they nested
23 in the eucalyptus tree right here at the main
24 intersection which is outside this trailer
25 building. Last -- and that has increased each 43

1 year; sometimes double nestings.
2 And last year we had four completely
3 successful nesting pairs and two follow-on nest
4 sites, one right here behind this trailer, right at
5 the base of the stoplight, if you can imagine that.
6 For some reason they seem to prefer the Livermore
7 site peripheral area's pine trees.
8 And what we do there, since we are seeing
9 these birds pop up now at the Main Site, is we
10 develop each year -- as soon as we can understand
11 where they're going to nest and they start nesting
12 activity, we actually build separate exclusion
13 areas or restriction zones around those trees with
14 precautions to certain clients that we know will be
15 operating in those areas.
16 And we coordinate that with Fish and
17 Wildlife Service and let the clients know, and we
18 follow them during their entire life cycle to
19 fledgling and independence so we can keep track of
20 how it's going.
21 So this is actually a success story. In a
22 sense we're actually trying to watch for them to
23 study them. And even though they're not federally
24 protected under the Endangered Species Act, just in
25 the interest of improving the potential for their 44

1 continued recovery, we're supporting that here on
2 site.
3 THE COMMENTOR: I may have forgotten in my
4 little diatribe against the filters that I am in
5 favor of a new environmental review. So this --
6 new, open, and total review again so that you've
7 got to talk to your filter experts and get it
8 aboveboard.
9 As a matter of fact, I checked with some
10 classified that there are only two filters in
11 series in that building. It's been that way for
12 many years. Only two HEPA filters in series.
13 That's the lowest number in any part of the
14 Department of Energy complex.
15 Two filters. That's just enough to get the
16 orientation of the translucent spot fixed up to go
17 through the second one. Now, if you don't know
18 what I'm talking about talk to your filter people.
19 Now, he's laughing. But I bet he knows.
20 This is the point. I think it should be brought --
21 told to the people what the threat is in those
22 filters in that plutonium building, especially if
23 you're going to up the metal material.
24 Is it going to be metal, or is it going to
25 be metal off site, these new additions?

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cont.

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cont.

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1 MR. TAYLOR: We can address that.
2 THE COMMENTOR: Huh?
3 MR. TAYLOR: We can address that.
4 THE COMMENTOR: What is it? Can you tell
5 me?
6 MR. TAYLOR: No. I don't know.
7 THE COMMENTOR: Well, it makes a difference.
8 Also, if they get around to having that new
9 committee re-can them, then that scares me again,
10 like the re-can of the plutonium that will start to
11 blow up.
12 THE FACILITATOR: Ma'am?
13 THE COMMENTOR: Yeah. I had asked a
14 question that wasn't answered about AVLIS. Can you
15 tell me if the AVLIS pilot is up and running or
16 anything else about the status of the AVLIS
17 program?
18 MR. ZAHN: I might be able to respond
19 partially to that. I'm not an AVLIS program
20 representative. I'll tell you what I know or what
21 I think I know about that.
22 You did ask a question about a NEPA
23 documentation for the follow-on to the AVLIS
24 project that was outlined in 1990 EA on AVLIS
25 activities.

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1 The follow-on IPD project had -- did go
2 underway, and it began after an EA was prepared.
3 The EA was, in fact, prepared by USEC. And in that
4 particular case the USEC was a quasi-governmental
5 agency which had its own NEPA guidelines. And I
6 don't know whether there were guidelines or
7 regulations, but they did have their own NEPA
8 process.
9 DUE and USEC came to an agreement as to
10 which agency would provide documentation of that
11 project, and USEC was given -- given preponderancy for
12 NEPA review for that follow-up project.
13 So there was an EA --
14 THE COMMENTOR: When was that?
15 MR. ZAHN: This is a guess on my part.
16 Probably 1993, perhaps 1994.
17 It is -- but it is a federal EA under NEPA,
18 so it's available. There was a funding issued by
19 USEC. And as far as I know, that project is
20 underway and is covered by that USEC environmental
21 assessment.
22 THE COMMENTOR: We have a letter just about
23 that same year that says, "We don't need to do
24 that."
25 PREVIOUS COMMENTOR: You represented to us

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1 over and over and over again orally and in writing
2 that they did not have to comply with NEPA and that
3 they weren't doing --
4 THE COMMENTOR: Is this an unclassified EA?
5 MR. ZAHN: Yes, it is.
6 And I believe -- again, I can't speak to
7 USEC's process, per se, but that's my understanding
8 of it. And again, I'm guessing on the date. So I
9 can't tell you whether or not that's correlatable
10 with your letter from USEC.
11 But USEC did have a NEPA process, and did
12 with DUE -- through an agreement DUE -- I'm
13 sorry -- USEC did provide the environment
14 assessment for that work.
15 And I don't know, again, whether or not
16 that -- the project that you have in mind
17 characterized by your -- your topical title for it
18 is exactly the same as in the EA, but I certainly
19 would invite you to see if you can get a copy of
20 the EA. You'd be able to compare what you think
21 the project was and what's in there.
22 THE COMMENTOR: Well, actually, just to
23 follow on, because I was going to ask for a copy of
24 that, and there were a couple of other things that
25 were mentioned that I would like to get a copy of

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1 to help do an analysis.

2 MR. ZAHN: I wouldn't be able to provide you

3 a copy of the USEC EA, but there may be an

4 opportunity either through DUE or through one of

5 the programs it can be made available.

6 THE COMMENTOR: One of the reasons that

7 we're appealing to you is because that's not always

8 a timely process, and you have a short comment

9 period.

10 MR. ZAHN: That's true.

11 THE COMMENTOR: If you could get me the 1995

12 Safety Analysis Report for Building 332? And I do

13 have the unclassified version -- the declassified

14 version of the older one, but I do not have the

15 1995 one. And also the 1998 Updated Safety

16 Analysis Report for Building 331?

17 And my point in saying that I had the

18 earlier declassified one is if it's classified,

19 declassify it.

20 MS. MARIK: It has to go through that

21 process.

22 THE COMMENTOR: I'd just like to make a

23 comment about this surprising news of this EA

24 prepared by USEC.

25 Whenever we had asked the Laboratory, right 49

1 up to Ted Garberson, the head of Public Affairs,

2 for updated information on AVLIS, we have been --

3 after months of waiting around, we have gotten

4 things like the 1990 EA in response.

3-53 5 And we've tried to track this down both

6 through USEC and through the Lab numerous times.

7 So this is actually very surprising information,

8 and I don't know exactly who to be asking for

9 assistance at this point, but that's just not

10 acceptable.

11 MR. ZAHN: Okay. I will say on the

12 Laboratory's behalf that although I'm involved in

13 the Laboratory's assistance to DUE in its NEPA

14 mission, I hadn't received a request, but I

15 wouldn't -- I -- in any case, I'm sure there is

16 one.

17 THE COMMENTOR: Just imagine being given a

18 runaround. Just imagine that you're us and that

19 we've sent a letter asking, "Is there anything new

20 that happened," and what you eventually get back

21 months later is the 1990 EA that your organization

22 sued over so that they know that they're giving you

23 something you had.

24 MR. ZAHN: I can't tell you again the time

25 correlation, but I -- but I have seen the EA. I 50

1 was not involved nor was the Lab involved in any

2 way. It's public --

3 THE COMMENTOR: We'll take it. Thank you.

4 MR. ZAHN: But I'm sure there is one. I'm

5 confident that there is one.

6 THE COMMENTOR: Could I get one of those

7 reports so I don't have to go to the library and

8 work on it?

9 MR. ZAHN: Which is that?

10 MR. TAYLOR: Would you grab one out of that

11 box, please?

12 THE COMMENTOR: Just going to the library

13 and sitting in those uncomfortable chairs. I want

14 to read what I want to read not what somebody

15 else --

16 THE FACILITATOR: Anybody else?

17 THE COMMENTOR: I'll take an extra if you

18 have it. Give everybody else first because I have

19 one.

20 MR. ZAHN: I might interject also for you

21 that the follow-on -- I don't know the extent to

22 which the follow-on program, the pilot program that

23 you may be speaking of, as far as what was actually

24 being followed on.

25 And I would just encourage you once you get 51

1 the EA to compare that with what is being proposed

2 there with what your concept of the follow-on is

3 because I'm not sure that they might be exactly the

4 same.

5 The follow-on, larger-scale programs may

6 not, in fact, be going on or be assessable or

7 assessed. So what level of activity after the

8 AVLIS of the 1990 has been done, I believe has been

9 covered by Assembly A.

10 THE COMMENTOR: Okay. But I don't want to

3-54 11 lose the point that the cumulative impacts for the

12 site need to be addressed.

13 THE FACILITATOR: Okay. Anybody else?

14 Well, thank you all. I appreciate it.

15 Thank you, too.

16 THE COMMENTOR: Excuse me. I'm sorry.

17 THE FACILITATOR: Sure.

18 THE COMMENTOR: Since I'm not going to get

19 up to speak, I would like to hear some more of

20 Marylia Kelley, what she -- it seemed to me that

21 she didn't quite get out what she wanted. I was

22 wondering if I could donate my time so that she

23 could speak?

24 THE FACILITATOR: Do you have more that

25 you'd like to say? 52

1 PREVIOUS COMMENTOR: That's fine.
 2 THE COMMENTOR: I thought she was on a roll.
 3 THE FACILITATOR: She was on a roll.
 4 MS. MARIK: Come on up.
 5 THE COMMENTOR: And it seemed to me she had
 6 a lot more to say, and I would really like to hear
 7 it.
 8 MS. MARIK: You're more than welcome to come
 9 up, Marylia.
 10 THE COMMENTOR: Well, basically what I was
 11 sort of wrapping up with are the fact that all of
 12 these programs -- the Accelerated Strategic
 13 Computing Initiative, we know may be, as was
 14 briefly mentioned, a huge user of water at the same
 15 time -- and that wasn't conceived of in 1992 -- at
 16 the same time the National Ignition Facility is
 17 slated to be a huge user of water, and that wasn't
 18 conceived of in 1992.
 19 At the same time, there is new contamination
 20 in the groundwater that has been discovered since
 21 1992, and other contamination in these areas that,
 22 in fact, the construction of these facilities could
 23 have an impact on.
 24 And all of these related impacts
 25 individually and cumulatively -- meaning looking at

3-55
cont.

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1 them all together and how each one affects the
 2 other -- hasn't happened. And you have really a
 3 whole different -- in some ways, a whole different
 4 site here than you had in 1992.
 5 Subcritical nuclear tests may, in fact,
 6 involve operations in the Plutonium Facility that
 7 may be different than some of the prior operations.
 8 I mean, certainly I doubt if they would use
 9 more plutonium; they probably use less. But when
 10 you're looking at issues like dust and how much
 11 lathe work is done and that kind of thing, it
 12 brings up some questions which this document
 13 doesn't answer and some document should.
 14 When you're talking about AVLIS that has
 15 been mentioned. I know "Newsline" has talked about
 16 hundred-hour runs where you're using -- basically a
 17 system where you use toxic-size lasers and copper
 18 lasers to enrich uranium.
 19 And the EA -- the 1990 EA talked about
 20 putting a gram of uranium annually into our air in
 21 finely divided particles, 13 tons of freon and an
 22 undisclosed but large amount of TCE.
 23 And so, you know, how many hundred-hour runs
 24 are run, what the impacts are, what the proposals
 25 are, whether those were integrated-pod runs, you

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1 know, how much uranium.
 2 All of those kinds of things need to be
 3 analyzed, and these are all new since 1992.
 4 And the National Ignition Facility, again,
 5 is going to add tritium, other radioactive wastes,
 6 other contaminants, even during routine operations.
 7 And that needs to be looked at carefully with
 8 respect to other Lab operations, not just sort of
 9 on its own, the way that it's been analyzed before.
 10 Livermore Valley wines, according to the
 11 Livermore Lab's annual environmental monitoring
 12 reports, routinely show elevated levels of tritium.
 13 And these are Livermore Valley wines that the Lab
 14 takes off the shelf in the supermarket.
 15 So this may certainly be less tritium than
 16 the grapes right across the street where I live on
 17 East Avenue because, you know, you mix grapes
 18 together when you make wine.
 19 And in 1989 Livermore Valley wines taken off
 20 the shelf had four times the tritium of other
 21 California wines. It's not like a 10 percent kind
 22 of an increase.
 23 And we've taken a look at the DOE's own
 24 figures. We have a DOE document where they look at
 25 the annual releases that they know about from

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cont.

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1 Livermore Lab for tritium, for the radioactive
 2 hydrogen, and you can take that document and you
 3 can correlate it directly with how much tritium is
 4 on site and being used.
 5 There's a direct correlation between the
 6 amount of tritium being released in a year and the
 7 operations that go on at the Lab, so that the more
 8 tritium is used at the Lab the more gets into the
 9 environment because it's gaseous; it becomes
 10 tritiated water so quickly; it diffuses through
 11 everything that exists just about, and it's just
 12 flat true that you cannot contain it and control it
 13 here.
 14 So when the National Ignition Facility gets
 15 going, there's going to be incrementally some
 16 additional tritium. And that should be looked at.
 17 And as Jackie alluded to, there are
 18 proposals, very serious proposals that we have with
 19 DOE logos on them and what was then the Defense
 20 Nuclear Agency logos on them and Livermore Lab
 21 logos on these reports which we'll be happy to
 22 share which say that they may use fissile and
 23 fissionable materials in the National Ignition
 24 Facility.
 25 Plutonium 239, uranium, and, in fact, the

3-60
cont.

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1 Lab has come forward and said, "Yes, we at least
2 plan to use uranium 238," but potentially uranium
3 235, if they make that decision, and also lithium
4 hydride -- large amounts potentially of lithium
5 hydride.

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cont. 6 And while a final decision hasn't been made,
7 under NEPA in terms of site-wide analysis, is it a
8 plan -- is it a proposal that might happen in the
9 foreseeable future?

10 And, as Jackie said, if that question isn't
11 answered in an EIS, it should at least lay out a
12 time frame for when that question is going to be
13 answered and what those impacts might be.

14 So we're looking at huge new facilities that
15 didn't exist before -- and different kinds of
16 operations that didn't exist before that could have
17 a very substantial impact on the environment.
18 Everything from water, which is at a premium here,
19 to exotic contaminants like plutonium.

20 This document just -- just ain't enough.
21 MR. ZAHN: We'd like to respond on the water
22 if we can, please.

3-62 23 THE COMMENTOR: Now, if you don't know the
24 stuff is metal oxide, those two things make a big
25 difference about the threat. So you should find

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1 that out.

2 And it should be in the report because this
3 business of always saying that the risk is only one
4 in a million, that's oil on the water for public
5 consumption and misleading because everything seems
6 to be a one in a million risk that comes from this
7 place. I think somehow there's a hard-wired key
8 that's punched that they tell the newspaper people
9 that number.

10 Now, in addition, the formal structure of
11 that slope factor should be included with all the
12 assumption that goes into the slope factor that you
13 tell the people in these reports it applies to.
14 Not just tell them that the Earth is only 50
15 percent flat. You can't do that in all honesty.
16 You've got to tell them it's either flat or some
17 other thing and give the structure because more and
18 more people can read mathematics.

19 They don't have to be told the Earth is flat
20 and expect them to believe it anymore. I don't.
21 And even if it comes from the right hand of God,
22 someone tells me, "The Earth is flat," I have
23 reason to be suspicious. Even when they tell me
24 it's round, I have reason to be suspicious.

25 So, please, support these absurd statements.

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1 If they're not absurd, don't be afraid of them.

2 MS. MARIK: Thank you.

3 THE FACILITATOR: Anyone else?

4 Well, thank you very much. I appreciate it.
5 I'll just remind you there is a comment form, if
6 you want to grab one of these on the table before
7 you leave.

8 I wish to thank you everybody, including the
9 stenographer reporting and the people over here.
10 Thank you very much.

11 There's a meeting again at 6:00 tonight if
12 any of you would like to return.

13

14 (Whereupon, the briefing proceedings
15 concluded at 3:32 p.m.)

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2 STATE OF CALIFORNIA } ss.
3 }

4 I, LETICIA A. RALLS, a Certified Shorthand
5 Reporter in and for the State of California, do
6 hereby certify:

7 That said proceedings were reported by me
8 at said time and place, and were taken down in
9 shorthand by me to the best of my ability, and were
10 thereafter transcribed into typewriting, and that
11 the foregoing transcript constitutes a full, true
12 and correct report of comment and question portion
13 of the proceedings which took place.

14 I further certify that I am not of counsel
15 nor attorney for either or any of the parties
16 hereto, nor in any way interested in the outcome of
17 the said briefing.

18 IN WITNESS WHEREOF, I have hereunder
19 subscribed by hand this 15th day of February 1999.

20
21
22
23 LETICIA A. RALLS, RPR
24 CSR. NO. 10070
25

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3.5 Document 4: Briefing Transcript, Livermore, February 11, 1999, 6:00 p.m.

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2
3 TRANSCRIPT OF COMMENT AND QUESTION PORTION
4 OF PUBLIC BRIEFING
5
6 Regarding:
7 DRAFT SUPPLEMENT ANALYSIS
8 FOR
9 CONTINUED OPERATION OF
10 LAWRENCE LIVERMORE NATIONAL LABORATORY AND
11 SANDIA NATIONAL LABORATORIES, LIVERMORE
12
13 Proceedings before: BARRY LAWSON, Facilitator
14
15 Thursday, February 11, 1999
16 6:00 p.m. session
17
18
19 Taken by LETICIA A. RALLS,
20 a Certified Shorthand Reporter,
21 in and for the State of California
22 CSR No. 10070
23
24
25

1

1 PROCEEDINGS
2
3 BE IT REMEMBERED, on Thursday, the 11th
4 day of February 1999, commencing at the hour of
5 6:01 p.m. of said day, at the LAWRENCE LIVERMORE
6 NATIONAL LABORATORY, EAST GATE VISITOR CENTER,
7 Trailer No. 6525, Greenville Road, Livermore,
8 California, before me, LETICIA A. RALLS, a
9 Certified Shorthand Reporter in the State of
10 California, the said briefing proceedings were
11 had.
12
13 APPEARANCES
14
15 BARRY LAWSON, of BARRY LAWSON ASSOCIATES,
16 Mountain Road, P.O. Box 26, Peacham, Vermont
17 05862, appeared as the Facilitator.
18
19 LOIS MARIK, of the DEPARTMENT OF ENERGY,
20 Deputy Director for Livermore Operations Division,
21 appeared as the presenter and as a panel member.
22
23 CHUCK TAYLOR, of PAI CORPORATION,
24 appeared as a panel member.
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1 APPEARANCES (continued)
2
3 KENNETH ZAHN, Group Leader, Environmental
4 Evaluations Group of LAWRENCE LIVERMORE NATIONAL
5 LABORATORY, appeared as a panel member.
6
7 HANK KAHN and BRUCE CAMPBELL of LAWRENCE
8 LIVERMORE NATIONAL LABORATORY, appeared as
9 notetakers.
10
11 LIBBY STULL of ARGONNE NATIONAL
12 LABORATORY, appeared as a notetaker.
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1 (Whereupon, subsequent to Ms. Marik's
2 presentation, the following comment and
3 question period began at 6:17 p.m.)
4
5 PROCEEDINGS
6
7 THE FACILITATOR: Thanks.
8
9 Now, let's start our comment period.
10
11 I invite you to go one at a time for an
12 initial period of a maximum of about five minutes
13 either asking questions or making comments
14 regarding the Supplement Analysis.
15
16 Please introduce yourself and affiliation,
17 if you'd like, and indicate before you start
18 whether you're asking a question or making a
19 comment. That will help our notetakers.
20
21 If you're closing in on the five-minute
22 mark, I will request that you conclude your
23 comments as gracefully and graciously as possible.
24 Remember, you'll have a chance to supplement those
25 later in the evening.
26
27 Oh, yes. If you have some written comments
28 that you would like to leave with us, you're
29 certainly welcome to do it, and you don't have to
30 feel that you have to read the whole thing to which
31 you can summarize the oral comments and submit the
32 written ones for the record. Written and oral
33 comments will receive the same attention.
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1 So is there anybody who here would like to
2 ask a question or make some comments?
3 All right. Good night.
4 Yes, sir? Please, Mr. Falk.
5 THE COMMENTOR: What is Building 490
6 complex?
7 MS. MARIK: The U-AVLIS complex.
8 THE COMMENTOR: Why do you need the ability
4-1 9 to handle 80 tons of uranium?
10 MS. MARIK: That's in the 1992 EIS. Those
11 conditions have not changed.
12 THE COMMENTOR: Why do you need the ability
4-1 13 for 80 tons? I didn't read that thing, so I can't
cont. 14 tell you, or I can't answer that -- I mean, I
15 didn't read it.
16 MR. TAYLOR: What they're doing in there is
17 separating uranium --
4-1 18 THE COMMENTOR: I know. But 80 tons?
cont. 19 MR. TAYLOR: Well, that was the programmatic
20 evaluation of the amount of material they needed,
21 and that's what we evaluated in 1992 for that
22 facility.
23 THE COMMENTOR: Okay. And then in some of
4-2 24 the other questions you were talking about three
25 tons. I thought this was a research facility not a

5

4-2 1 storage depot.
cont. 2 MS. MARIK: Three tons or --
3 THE COMMENTOR: I always had the impression
4 this was mainly a research laboratory, and still
5 do. So, therefore, I'd like -- how come such a
4-2 6 mammoth amount? Is someone getting rid of it, and
cont. 7 you need to store it here or what?
8 MS. MARIK: Well, it's to support your
9 programmatic activities. And within the
10 plutonium --
11 THE COMMENTOR: Can you tell me what
4-2 12 programmatic activity needs that much?
cont. 13 MS. MARIK: Yes. Within Section 6 of the
14 document we talk about the programs that -- that
15 will be -- that are currently or planned for the
16 future. And the largest -- the largest project --
17 THE COMMENTOR: I just got that document.
18 MS. MARIK: -- is the MOX. And what that is
19 is a -- I'm drawing a blank -- it's a -- I'm
20 drawing a blank. I went blank. It's a prototype
21 for a fuel rod.
22 THE COMMENTOR: Yeah?
23 THE FACILITATOR: Is that still within the
24 research question?
25 THE COMMENTOR: Can you say any more?

6

1 MS. MARIK: Do you want to expand on it?
2 MR. TAYLOR: Do I want to expand? The
3 programs are identified on page 6-5. We can get
4 you a copy.
5 THE COMMENTOR: I just got it. I haven't
6 read that yet.
7 MR. TAYLOR: We went through and indicated
8 each of the programs that we're going to conduct
9 activities in there and why we need to expand the
10 uranium. So we've provided that.
11 We can provide a detailed -- a more detailed
12 explanation of those programs if you wish to make
13 that comment.
14 MR. LAZARO: I think what he's looking for
15 specifically is why do we need 40 tons -- it's
16 really 40 tons of uranium in Building 490? Why
17 such a large amount?
18 I think we'll give you a specific response
19 to that. What the programs need to require the 40
20 tons of uranium in Building 490? Is that
21 essentially --
22 THE COMMENTOR: Yeah, that will do.
23 MR. LAZARO: -- the question that you have?
24 THE COMMENTOR: Yeah.
25 THE FACILITATOR: Somebody else?

7

1 Yes, sir? Please.
2 THE COMMENTOR: Why here? Why Livermore?
4-3 3 Why not -- for a fuel rod, why not Brookhaven? Why
4 not down in New Mexico or Los Alamos?
5 MS. MARIK: Well, there are three national
6 laboratories that the President has mandated do
7 weapons research, and those laboratories include
8 Sandia and Livermore and Los Alamos.
9 THE COMMENTOR: There aren't many fuel rods
10 and bombs.
11 THE FACILITATOR: Sir, would you give your
12 name, please? Sir?
13 THE COMMENTOR: Ernest Terrier. I'm a
14 resident here in Livermore.
15 And it concerns me that any risk,
16 whether -- I mean, just glancing at this briefly --
4-4 17 that's all I've had a chance to do -- the risk
18 seems minor.
19 I've had worked for nuclear facilities with
20 the aircraft carrier. I'm familiar with the risks
21 involved in a nuclear environment. And as far as
22 I'm concerned, any risk is too great, and that
4-4 23 concerns me greatly.
cont. 24 And it worries me that an accident will
25 happen beyond the scope of planning and

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4-4
cont.

1 expectations. And it worries me that we're doing
2 it here, in the Bay Area. And why not somewhere
3 quite a bit removed and safer? Is there -- is it
4 because the people are here? What is the reason?
5 MS. WARIK: It's the mission of the
6 Laboratory. It's the mission of the research
7 laboratories that they -- the weapons laboratories
8 are those three laboratories. They're Sandia,
9 Los Alamos, and Lawrence Livermore.
10 THE COMMENTOR: Then my next question is:
11 Why can't the theoretical research be done here?
12 That's what I've always heard was done here, not
13 the practical research. Carrying large amounts of
14 materials here is not what everybody is led to
15 believe who lives in the area, unless you work here
16 in the labs.
17 MR. TAYLOR: Maybe I can respond to that
18 issue.
19 One of the issues that -- that is very
20 difficult for us to respond to here is what is
21 mandated by Congress when funds are appropriated to
22 the Livermore Laboratory.
23 Congress tells the Livermore Laboratory
24 within certain areas what activities are to be
25 conducted here. And we at this -- at the local

9

1 level don't really have control over that; we're
2 pretty much mandated by Congress of what programs
3 we do.
4 So what we're trying to evaluate is what
5 Congress and the President have told us to do here.
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cont.

6 THE COMMENTOR: And what say does the public
7 have in all of that?
8 MR. TAYLOR: Well, that's the purpose of
9 this.
10 THE COMMENTOR: So what is the recourse
11 to -- I don't want to say "stop it" because
12 obviously it's a very valuable thing and that's not
13 my intention, but to -- what recourse do we have as
14 residents of Livermore, I guess is the best --
15 MR. TAYLOR: I don't know if I want to say
16 that, but the -- yeah. I guess, just to be blunt,
17 the outcome of this process, we go through this
18 process and it's signed; the document is signed.
19 And then the public's recourse, if they're
20 not happy with that, is to bring suit against the
21 Department of Energy. I mean, I don't like saying
22 that, but that's --
23 THE COMMENTOR: You're a candidate.
24 THE FACILITATOR: But you do have a couple
25 of other options. One is you can talk to Congress.

10

1 The second is that, by making your comment or
2 asking a particular question -- for instance, if
3 you wanted to ask the question, "Why doesn't this
4 take place at Los Alamos," somebody will have to
5 answer that question. It may not be the right
6 answer that you want, but they probably will give
7 you an answer in writing.
8 THE COMMENTOR: I also understand that Los
9 Alamos is about as big as Livermore, and they would
10 have the same complaints that we have here.
11 THE FACILITATOR: Right.
12 THE COMMENTOR: It's just moving it from us
13 to them. I don't consider that fair, but it seems
14 like there's some wonderful places in the middle of
15 nowhere that this could be done and not bothering
16 anyone. And that concerns me.
17 THE FACILITATOR: Thank you for your
18 comment.
19 Anyone else care to go? Yes, sir.
20 THE COMMENTOR: Yes. I related to the same
21 questions that were just coming along in there.
22 Part of my question would be: When he asked, "why
23 here," is part of the answer "why here" because --
24 and I'll break it apart for a moment here.
25 I remember during the Star Wars history a

4-7

11

1 few years back that a good deal of the "why here"
2 answer was because it was very heavily advocated by
3 Mr. Teller.
4 Is the reason "why here" with regard to
5 these questions because either Mr. Teller or other
6 people here are strongly lobbying for that activity
7 here?
8 And -- well, then I'll go on with the second
9 part after I get an answer. But is the answer that
10 the Laboratory and other people here have lobbied
11 for here? Can we get an answer?
12 THE FACILITATOR: Anybody want to be on
13 record to saying that?
14 MR. TAYLOR: First of all, I think it's
15 illegal for the Laboratory to lobby Congress as
16 well as DUES. I can just say that.
17 Beyond that, I don't know what....
18 THE COMMENTOR: So when Teller was talking
19 to Congress about the Star Wars, it was illegal?
20 Is that right?
21 MR. TAYLOR: If he is invited by Congress --
22 THE COMMENTOR: It may be illegal -- excuse
23 me. Lynn Haus, Livermore Police Report.
24 It may be illegal for you to spend
25 government money to lobby Congress. It's not

4-8

12

1 illegal for you to write letters and talk on the
2 telephone.
3 MR. TAYLOR: To inform Congress when they
4 request.
5 THE COMMENTOR: Lobbying and -- the money
6 part is what makes it illegal.
7 I'm sorry. I didn't mean to interrupt you.
8 PREVIOUS COMMENTOR: That's quite all right.
9 THE FACILITATOR: May I ask you for your
10 name?
11 THE COMMENTOR: My name? Rene, R-e-n-e,
12 Steinhauer, S-t-e-i-n-h-a-u-e-r.
13 THE FACILITATOR: Do you want to continue?
14 THE COMMENTOR: Yes. Well, I was
15 questioning them about this because then what
16 you're saying is that the resolution to this thing,
17 if we wanted to change it, is then for us as
18 citizens to lobby Congress directly against this
19 ongoing procedure here.
20 THE FACILITATOR: That's one --
21 MR. TAYLOR: That's right.
22 THE FACILITATOR: That's one road that you
23 could take.
24 MR. TAYLOR: Your representatives represent
25 you and....

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1 THE FACILITATOR: Yes, sir?
2 THE COMMENTOR: Again, Lynn Haus from Police
3 Report in Livermore.
4 I would like to call on and question the
5 math of the gentleman here in the middle of the
6 table.
7 I believe he said the number here is 40
8 tons, correcting the gentleman over there who said
9 it was greater than that. Now, I happen to know
10 that a kilogram is 2.2 pounds, and you've got
11 80,000 kilograms. That's 176,000 pounds which
12 divided by 2,000 --
13 MR. LAZARO: All right.
14 THE COMMENTOR: -- comes out more like --
15 MR. LAZARO: You're correct. I thought he
16 said 80,000 pounds, so you're correct.
17 THE COMMENTOR: 80 tons. 80 tons. 80 tons
18 is set aside in the 1992 document as an acceptable
19 number.
20 So my comment is: Therefore, if you would
21 just like to bring in 8200, which is a mere four
22 tons, that makes it okay?
23 I had the opportunity to cut the article out
24 of the paper, which is a very nice piece of
25 propaganda, and I would just like to read a portion

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14

1 of it.
2 THE FACILITATOR: Could you cite it for the
3 record, please?
4 THE COMMENTOR: Pardon?
5 THE FACILITATOR: Could you cite it? What
6 date was it?
7 THE COMMENTOR: This no longer has the date.
8 Oh, it's February 4th, and it was an article
9 written by -- "Tri-Valley Herald" written by Nancy
10 Mayor, staff writer. And it says, "Lab asks to
11 raise uranium limits."
12 So I guess perhaps we're not really raising
13 the limits at all; we're working within the limits
14 of 80 tons that are already here perhaps.
15 MS. MARIK: That's an administrative limit
16 for the 490 complex.
17 What we're proposing here is that we raise
18 the administrative limit that is at Building 332
19 where the Plutonium Facility complex is.
20 THE COMMENTOR: Okay. If I read this,
21 "If the proposal is approved, the
22 limit would raise from 660 pounds
23 of uranium of any type. That's 300
24 kilograms" --
25 MS. MARIK: Of highly-enriched --

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cont.

15

1 THE COMMENTOR: -- "of uranium of any
2 type to 8200 pounds of uranium of
3 varying kinds. Of the 8200 pounds,
4 only 1100 pounds would be highly
5 radioactive. The present limit
6 compares roughly to the amount the
7 size of a basketball. The proposed
8 limit is about the size of a
9 19-inch television set."
10 Isn't that an interesting analogy? How
11 many tangerines go into a grapefruit?
12 Again, if I do a little bit of math, I
13 determine that if 660 pounds is one basketball,
14 8200 pounds is 12 basketballs. So the amount of
15 material that you want to bring on site or have
16 active on site here is 12 times greater.
17 And my neighbor asked me on the way over if
18 I would bring a basketball home for his son; he
19 likes to play basketball.
20 The propaganda sort of is there's not much
21 to this; it's just the size of a TV set. It's
22 actually a 12-fold increase in the amount of
23 material that we have to deal with.
24 And I just happen to live across the other
25 side of Vasco Road. You probably live in Chicago,

4-10
cont.

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4-10
cont.

1 and he lives over in Berkeley, and so on, and
2 there's rather little concern on your part about
3 what happens here.

4 MS. MARIK: Well, one of the things that I'd
5 like to explain to you is the administrative limits
6 issue. And what an administrative limit means is
7 that that is the maximum amount of material that
8 you can have within that facility. That doesn't
9 mean that that's the amount of material that's at
10 risk at any one time.

11 And what we're saying is: To manage the
12 materials better for the programmatic activities.
13 Most of that will be in storage; the amount of
14 material that we actually perform operations on at
15 any one time or the material at risk is not
16 changing within those facilities.

17 MR. TAYLOR: Maybe --

18 THE COMMENTOR: The actual amount or the
19 limit?

20 MS. MARIK: The administrative limit is only
21 a number that we say, "This is the maximum amount
22 of material you can have in that building."

23 But we have very -- we have procedures that
24 say, "This is the amount of material that we are
25 actually performing operations on at any one time."

17

1 That is not changing within those buildings.

2 We're saying that we need to have -- we
3 need to be able to manage our materials better.
4 Most of that material remains in storage at any one
5 time.

6 The material at risk or the -- what you
7 evaluate when you're doing the analyses documents
8 or the safety analyses and say, "This is my
9 accident scenario," that's not changing because
10 it's the same amount of material that we're always
11 going to be working on at any one time.

12 We have a fact sheet on -- on this. It's
13 not the easiest concept to explain.

14 MR. TAYLOR: If I could maybe give you my
15 concept?

16 THE COMMENTOR: Well, do it in terms of
17 basketballs. Can you help me with it in terms of
18 basketballs?

19 MR. TAYLOR: If we do the -- enriched
20 uranium is, I think, what DUE is more concerned
21 about because it's a higher hazard to the public.
22 Depleted uranium is in airplane ballasts and a lot
23 of places -- sailboats. So it's out in the
24 public.

25 So that 3,000 kilograms that we're talking

18

1 about there is depleted natural uranium that you
2 would find in nature or, like I said, in ballasts
3 and that.

4 So what we're actually saying is: We could
5 have had 300 kilograms of enriched uranium in that
6 facility; we would like to raise that from 300 to
7 500.

8 So that, in your basketball analogy, you
9 know, that's -- 300 is 1 basketball, so we're going
10 one plus one and three-quarter basketballs, or
11 something like that -- say two basketballs of
12 highly-enriched uranium. So hopefully -- rather
13 than 12 basketballs of highly-enriched uranium
14 which is much more hazardous.

15 THE COMMENTOR: May I ask a quick question?
16 You're saying highly-enriched uranium. Can you
17 define that for me, please?

18 MR. TAYLOR: It's in the 80- to 90-percent
19 enrichment, where natural and depleted is less than
20 one percent enrichment. So there's a tremendous
21 spread there. It's weapons-grade and that type of
22 materials, yeah. Weapons-grade, reactor-grade, at
23 that level.

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24 THE COMMENTOR: You made reference to some
25 of this material being stored. Where is it being

19

4-11
cont.

1 stored? Locally? Elsewhere?

2 MS. MARIK: It's being stored within the
3 building, but it's not at risk at any one time
4 because the operations aren't being performed on
5 it. It's in storage.

6 It's not considered -- it's not considered
7 feasible to have an accident scenario that covers
8 all material that's in storage. You analyze
9 accidents for the material that's being operated
10 on and that you -- is a foreseeable accident
11 scenario.

12 If anybody wants to expand?

13 MR. TAYLOR: I guess, it's -- it's stored in
14 the vault, is the answer to the question, in sealed
15 cans. And they put those in a -- like a regular --
16 like, you know, safety deposit-type vault. So
17 that's where it's stored, and it's only brought out
18 when they're going to use it.

19 THE COMMENTOR: But then it's still on
20 premises.

21 MR. TAYLOR: Yes, it is.

22 MS. MARIK: Yes, it is.

23 THE COMMENTOR: Part of the way I understood
24 your answer is, "Well, we're using some of it, but
25 the rest is somewhere else in storage. But we

20

1 still have all of this material here within the
2 confines of the Lab."
3 MS. MARIK: Yes.
4 THE COMMENTOR: I was in Harrisburg,
5 Pennsylvania, in March 1979. And all of their
6 material that was stored at Three-Mile Island was
7 in a safe way with regard to any foreseeable
8 accident.
9 MS. MARIK: That was an operating reactor
10 plant.
11 THE COMMENTOR: Yes, it was.
12 MS. MARIK: Right. It's --
13 THE COMMENTOR: And what you're suggesting
14 is that you've foreseen everything that's possible
15 in your program, and, therefore, there's no
16 possibility that any accident could ever involve
17 the material in the vault; it's only what you
18 actually have in your hands at the moment that's --
19 that's possible to have an accident.
20 Because if we do have a big accident with
21 that, what's the possibility that the stuff in the
22 vault becomes involved also? Like Reactor 2 and
23 Reactor 1 on Three-Mile Island. If Reactor 2 had
24 gone, Reactor 1 would have gone also.
25 MS. MARIK: Do you want to explain the

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21

1 analyses process?
2 MR. LAZARO: Well, I guess with respect to
3 the accidents at the facilities that we're talking
4 about at Lawrence Livermore Lab, it's not really
5 appropriate to compare the types of activities that
6 are going on in these buildings to what you would
7 have going on in a commercial nuclear reactor.
8 All the material in the core of a commercial
9 nuclear reactor would be at risk in the event of a
10 failure or a meltdown, as what happened at
11 Three-Mile Island.
12 The types of operations at these facilities
13 and in the sealed sources -- most of the material
14 is left in these sealed sources -- and the
15 possibility of the material getting into the
16 environment, for example, from an earthquake, it
17 wouldn't happen.
18 If the material was outside the sealed
19 source in the Laboratory in a glove box -- they do
20 the experiments in glove boxes -- if there was an
21 earthquake during a glove box, then you -- then
22 there's a potential that that material -- that
23 small amount of material that they're doing the
24 experiment on could be released as a result of an
25 earthquake.

22

1 And that's what was assessed in this
2 document, the release of the material during the --
3 during the experiment which could -- could be
4 released to the environment; whereas, the material
5 that's stored in these sealed sources, the
6 probability of a release to the environment would
7 be extremely small. It would be incredible for
8 that to happen.
9 So you have to look at it from a risk
10 perspective. It's a very minute risk with respect
11 to this large amount of material that's in storage
12 versus the amount that's actually being worked
13 with.
14 THE COMMENTOR: I hear, you know, a lot of
15 sensible talk coming over here from the end of the
16 table, but I also know -- and I'll follow it over
17 the years -- different problems that are related
18 with the situation.
19 And you sound like very responsible people,
20 yet both this Main Site and Site 300 are on the
21 Superfund cleanup, meaning that they're on the
22 major contaminated areas in the entire country.
23 That tells me that somebody's not doing
24 their homework; somebody's not doing their cleanup.
25 That tells me that accidents happen and that people

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23

1 get sloppy and that you're not taking the proper
2 precautions.
3 We are having plutonium ventings into the
4 atmosphere. We're getting that stuff out here in
5 the parks in the area. We're having tritium leaks.
6 You discovered PCBs out there in the area where
7 you're going to put in the NIF facility -- that's
8 redundant, but I'll let it pass at that.
9 What kind of assurances can you give us that
10 your people are any better prepared today than they
11 have been over the last 10, 15 years to cope with
12 the problems of what you're dealing with?
13 MS. MARIK: Well, one of the important
14 things to note is that the regulations have changed
15 over the years. And over the years, it's been an
16 ongoing process of getting smarter about releases
17 into the environment and the impacts that those
18 have at our sites.
19 And some of those issues are difficult to
20 deal with because I consider them to be legacy
21 issues. In the case of releases to groundwater and
22 everything, we didn't have regulations that
23 required things to be disposed of in containers, or
24 we weren't aware of the issues that, you know, were
25 happening within the environment.

4-13
cont.

24

1 And all I can really say as a result of all
2 this is is that it's always the full intent of the
3 Department of Energy to ensure that we perform
4 operations safely both for the safety of our
5 workers as well as the safety of the public and the
6 environment.
7 And other than that, I --
8 THE COMMENTOR: Where do you live, may I
9 ask?
10 MS. MARIK: I live in Fairfield.
11 THE COMMENTOR: Well --
12 MS. MARIK: I can't afford to live in
13 Livermore.
14 THE COMMENTOR: So what you're saying is
15 that some of these things have happened because
16 they are unforeseen. And what assurance can you
17 give us that there are not new problems with the
18 work going on that have yet not been foreseen and
19 that were not -- we still have to reclaim all those
20 plumes of pollutants under the ground that have
21 gone beyond the perimeter of the Laboratory, gone
22 into private residential areas. We still have to
23 pull all that back.
24 What can you tell us -- what can you do for
25 us to really assure us? I mean, is there some sort

4-14
25

4-14
1 of outstanding liability policy that the Lab has to
2 cover all of these kinds of things? I doubt it.
3 You know, you're just talking. What do you
4 have out there to guarantee the citizens like us
5 if we lose, let's say, home equity value, that
6 you're going to pick up on it and pay us a
7 difference?
8 What can you say when the vineyards around
9 here that have four times the tritium rate -- and
10 as soon as consumers really get -- find out about
11 that, they're going to start buying -- they're
12 going to start buying something else -- what are
13 you going to do to offset the losses to those
14 people?
15 What are you going to do to the little
16 businesses that we have around here, to the
17 restaurants and other things, that when people find
18 out that we have so much pollution related to the
19 nuclear industry that we're going to start going
20 out of business and selling our homes at a loss and
21 paying the price of our children coming up with
22 these cancer clusters and other things, melanoma
23 clusters?
24 What are you going to do about that? What
25 kind of policy or funding do you have for that?

4-14
cont.
26

1 THE FACILITATOR: It seems like that's a
2 very reasonable question. It probably involves
3 some other people besides these folks to answer
4 that. But I think the questions that you asked --
5 and you would address that in your public response
6 document, would you not?
7 MS. MARIK: Yes.
8 THE FACILITATOR: I mean, I've tried this in
9 many other places. This is a tough question to
10 answer. There's no doubt about it. It's a good
11 question to raise.
12 THE COMMENTOR: Well, I don't see facilities
13 like this going up like in Beverly Hills. I don't
14 see facilities like this going up in Manhattan. I
15 don't see facilities like this going up in downtown
16 San Francisco.
17 So it seems to me that selections are being
18 made where people are maybe not as well organized
19 and don't have as much money to resist this kind of
20 operation.
21 THE FACILITATOR: Okay. Comment taken.
22 Understood.
23 Mr. Falk?
24 THE COMMENTOR: Comment about your report or
25 whatever this is, Draft Supplement Analysis.

4-15
27

1 I haven't had time to read it, but on page
2 6-1, I want to comment. Why don't you stick to a
3 given unit dimensionality so you don't confuse the
4 non-mathematical person? In two of these
5 sentences, you've changed the units.
6 MS. MARIK: What units?
7 THE COMMENTOR: And not everyone has the
8 moxie to translate it.
9 MR. TAYLOR: Could you be more specific?
10 MS. MARIK: Yeah. Could you let me know
11 what sentence?
12 THE COMMENTOR: This is on the little box
13 thing that you have on page 6-1. You're talking
14 about chances of one in a million -- one in a
15 million years. And then you get down here, talking
16 about in six-part linear.
17 Why do you change the units like that? This
18 confuses the reader, unless they're already
19 familiar with these things.
20 MS. MARIK: Well, all I can say is that your
21 comment is noted, and with that comment we'll try
22 to make it clearer to the reader what -- what
23 we're -- what the conclusions are there.
24 THE COMMENTOR: You'll try to make it
25 clearer --

4-16
cont.
28

1 THE FACILITATOR: Are you saying you'll try
2 to be consistent?
3 THE COMMENTOR: -- is that what you said?
4 MS. MARIK: I'll try to make it clearer.
5 THE COMMENTOR: Well, it's confusing to some
6 pretty well-educated readers. Reasonably well-read
7 in science, too.
8 PREVIOUS COMMENTOR: If we're going to talk
9 about powers of 10 in one paragraph, then they
10 should continue in powers of 10 in the others.
11 MR. LAZARO: Your comment is well-taken.
12 THE COMMENTOR: One in a million changes,
13 that's as the gentleman represents.
14 MS. MARIK: We will try to make that
15 clearer.
16 MR. LAZARO: That's an easy fix.
17 THE COMMENTOR: And why not -- why not also
18 put beside these curies the equivalent in
19 becquerels and tell them exactly the meaning of
20 that because I don't know how many people know what
21 a curie is.
22 It's a word related to some woman, but I
23 don't know they know the value of that. That's a
24 big, big number when you talk about 3.7 times 10 to
25 the 10th. That's a whopping -- that's comparable

4-16
cont.

4-16
cont.

4-16
cont.

29

1 to the number of stars in our galaxy. You see?
2 They don't have a feel for that kind of
3 thing. So talk about something that -- tell them
4 about the number of disintegration per second.
5 They'll catch onto that damn quick if you don't
6 confuse the issue. And that's what you should use
7 anyway, you see.
8 Those are so-called what? International
9 units? Do it.
10 MS. MARIK: Your comment is noted.
11 THE FACILITATOR: Good. Anyone else?
12 THE COMMENTOR: Well, I'd just like to say
13 that, again, over the years -- I should mention, by
14 the way, that I've lived in the community for 25
15 years. And sometimes that number, just like this
16 gentleman was saying, you know, if you don't deal
17 in the same relative conversion tables, sometimes
18 that doesn't mean anything.
19 To me, 25 years means a quarter of a
20 century. A quarter of a century. And I've lived
21 here and I've watched over the years the reports
22 coming in of all the various problems that we have
23 had with non-compliance with safety regulations,
24 non-compliance with a number of issues in here
25 that have led to these accidental leaks of

4-16
cont.

30

1 plutonium, tritium, the PCBs and other things and,
2 furthermore, very clearly -- although I didn't
3 realize that you would deny it -- the overt
4 attempt to cover up all of this until it gets out,
5 until some newspaper digs up the story, until some
6 insider, some whistleblower gives the information.
7 But I have -- for a quarter of a century, I
8 have been watching, hearing, and reading the
9 insidious way and the arrogance of the people who
10 are here that feel that they can do whatever they
11 want to do in quest of knowledge, in quest of
12 science, but they don't give a damn about how they
13 involve us, how they endanger us. They don't give
14 a damn about the democratization of the process.
15 You're all on some sort of a high-flying
16 loop about the quest of knowledge. But you're
17 endangering all of us: my life, my children's life,
18 my grandchildren's life.
19 And you don't live here, and you're not
20 part of it. And that's part of what this community
21 resentment is about.
22 And over the years, there have been
23 countless examples of accidents, of leakages, of
24 ventings. The places where our children go to
25 play, the parks and all of that, you have the

31

1 higher plutonium levels. And you don't live here,
2 and you don't pay that price, but we do.
3 And I want you to know that -- I mean,
4 we're part of a community in here that are getting
5 a little bit fed up with this, and we want to hold
6 you and we intend to hold you to a higher standard.
7 And one of you mentioned reference to, well,
8 if we're not happy with it, we can sue you. And
9 there have been suits being brought lately. And
10 there have been some very, very significant results
11 coming out of that thing.
12 And I want you to know, I mean, speaking for
13 myself but there's many other people in here, that
14 we're a little bit tired of this process. And it's
15 very easy -- I'm thinking right now -- has nothing
16 to do with us.
17 A year or so ago, the federal government
18 decided to set up a waste incinerator plant over
19 there in the Ward Valley area in an Indian
20 reservation area. Right?
21 Nobody's going to stand up to fight to that.
22 You go where the people don't have the ability to
23 organize themselves, don't have to money the resist
24 this. But the things are getting better
25 publicized, and there's a better accounting going

4-17

32

1 on.

2 And even though you live in Chicago or New

3 York or D.C., the time will come that we hold you

4 accountable to these very sensible explanations

5 that you're giving. And so when you go back home,

6 you better make sure you've got the right liability

7 insurance.

8 THE FACILITATOR: One thing that could be

9 done is to explain in the comment response document

10 just what provisions are out for letting people

11 know if there's a problem with the site. This is

12 something -- it probably is done within that

13 analysis, but it could be included.

14 Thank you.

15 MR. ZAHN: I might also invite the readers

16 and the commentators, too, to refer to our annual --

17 site-wide annual environmental report which does

18 summarize each year many of the mission histories

19 or event-type of events that do occur that you may

20 be concerned about.

21 And they're published annually, and they do

22 give trending information. And I think you'd find

23 in many cases -- most of the cases that you're

24 speaking of that we actually have a good track

25 record.

33

1 works and functions properly for the full year and

2 it is monitored and whatnot correctly and does its

3 job properly, if you take the numbers in that

4 environmental report collected from a man who's

5 been out there for the full year, he breathes --

6 only in the air now -- enough tritium in a year to

7 have beta disintegration in every cell of his body.

8 You do the arithmetic.

9 I'll tell you that the number of cells in

10 your body is approximately 10 to the 13. You pick

11 your own numbers and do it.

12 Now, that's not what I call "no health

13 threat." And that's the vocabulary that's used in

14 things that are stated around here. "Our yearly

15 report shows there is no" -- the word "no" keeps

16 showing up -- "no health threat." No means zero.

17 It's been known for 30 years there is no

18 such thing as a safe dose of ionizing radiation.

19 And, furthermore, only one cell needs to become an

20 outlaw to form cancer.

21 And cancer is only the tip of the iceberg if

22 there's any damage from this stuff. If you have

23 immune depression, you've got so many different DNA

24 damages of which cancer is only the one. And you

25 like to keep talking about cancer because you know

35

1 And I think that those site-wide annual

2 reports are a valuable asset for the public

3 readership, written to be well-understood, and they

4 do reflect the true monitoring progress here at the

5 Laboratory.

6 THE COMMENTOR: It seems to me that

7 information comes out only when it's forced.

8 For example, after the 5.5 earthquake that

4-18 9 we had here in Livermore, there were several leaks

10 that the Lab remained absolutely silent about until

11 the information began to leak out from insiders.

12 That does not give me any confidence in the reports

13 that you're citing.

14 THE FACILITATOR: Okay. Yes, sir?

15 THE COMMENTOR: Talking about the

16 environmental reports you put out, are you involved

17 in it?

18 MR. ZAHN: Am I involved in it?

19 THE COMMENTOR: Yeah, the yearly report?

20 MR. ZAHN: Yes. I have a small portion

21 that's in there that represents some of those --

22 THE COMMENTOR: Let's talk about that a

23 minute.

24 Now let's take the tritium monitor that's

25 sits out here by Zone 7 Plant. Assuming that it

34

1 damn good and well it's a multi-factorial thing

2 that takes from three to seven injuries of the same

3 cell to get the show on the road.

4 Now let's talk about immune. Why don't you

5 talk about immunity? I object to you using the

6 word "no health threat." That is a scientific

7 deception on people that don't know that -- zero.

8 "No" means zero to me. I assume it means zero to

9 everyone else.

10 Say that that is "small" not "no" threat.

11 THE FACILITATOR: Okay.

12 THE COMMENTOR: Now, you do the arithmetic

13 on tritium only in the last couple of years of the

14 environmental report. Since you're part author, do

15 it. See if I'm wrong. Call me up. My phone

16 number is in the book.

17 THE FACILITATOR: Please. Sir?

18 THE COMMENTOR: Are there -- you bring up

19 the safety issue again in the report. Are there no

20 experiments going on at this facility which are so

21 secret that were there an accident you could not

22 report it?

23 MS. MARIK: No. We would always report.

24 THE COMMENTOR: But you didn't after the

25 earthquake.

36

4-20

1 MS. MARIK: What exactly didn't we report?
 2 There was a Type B investigation done on the
 3 release from Plutonium Facility, and that report is
 4 public. I can get you a copy of that.
 5 THE COMMENTOR: The report became public
 6 after other people reported it. You did not come
 7 forward with it. And you did not come forward with
 8 some of the other accidents that have happened here
 9 until other people find out about it.
 10 That's the part that puts citizens like me
 11 at issue with an institution or an organization
 12 such as yours.
 13 MR. TAYLOR: Maybe I can -- excuse me --
 14 answer that.
 15 What we have done that actually Marion's
 16 group and -- have requested that we have what we
 17 call occurrence reports that identify each and
 18 every accident that we have at this Laboratory and
 19 every other Laboratory.
 20 And those occurrence reports are made public
 21 as soon as they're finalized. And everyone in the
 22 public has the ability to get a copy of those
 23 reports.
 24 And we -- we discuss and explain every
 25 single accident that meets a certain threshold at

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1 this Laboratory. Every single one is in the
 2 occurrence reporting process. And those are
 3 available to the public.
 4 THE COMMENTOR: "A certain threshold." What
 5 does that infer?
 6 MR. TAYLOR: If an individual cuts their
 7 finger or we have a truck accident, you know,
 8 those -- we don't report those types of things in
 9 occurrence reports. Those types of things do go
 10 in a report. They go in accident and injury
 11 reports.
 12 THE COMMENTOR: Could I ask you to give some
 13 information then, as long as this is so open, about
 14 those employees that were injured a few years back
 15 when there was a criticality accident?
 16 We've never been able to get the names of
 17 them or find out what happened to them when there
 18 was a situation with that explosion and four
 19 people? Can you give me now, for the record, the
 20 names of those four employees?
 21 MR. TAYLOR: No. We would never do that.
 22 That's a violation of their personal rights.
 23 THE COMMENTOR: Of course it is. Their
 24 personal rights?
 25 MR. TAYLOR: Yes.

4-21

38

4-21
cont.

1 THE COMMENTOR: You have no concern over
 2 what happened to them or how it might affect us or
 3 concern us, right? It's their personal rights?
 4 MR. TAYLOR: We explained the details of
 5 what happened and that it happened to a certain
 6 number of people and exactly what happened to those
 7 people, but the medical records are not --
 8 THE COMMENTOR: I don't think we even know
 9 exactly what happened to those people. We do know
 10 about the accident. What did happen to those --
 11 what was the outcome of those people? Without
 12 giving us names, what did happen to those four
 13 people that were involved, if that was -- if that
 14 was the number?
 15 MR. TAYLOR: If you could -- if you could
 16 give me the accident you're referring to? You
 17 know, I don't know if I'm talking about the same
 18 one you're talking about.
 19 THE COMMENTOR: You know perfectly well.
 20 MR. TAYLOR: If you can tell us the accident
 21 you're referring to, we could get you the report.
 22 You know, you could read that report. It explains
 23 what happened.
 24 THE COMMENTOR: I'll give you my name and
 25 card, and you can send it to me.

39

1 THE FACILITATOR: Okay. I'd like to turn
 2 the attention back a bit to the Supplement Analysis
 3 if we can. People are certainly welcome to stay
 4 afterwards and ask questions about things that are
 5 tangential to that.
 6 THE COMMENTOR: I'd like to ask the
 7 gentleman on the end who's involved with the yearly
 8 environmental report, when did they start reporting
 9 organically-bound tritium in the environmental
 10 report?
 11 MR. ZAHN: I don't know, sir. You asked if
 12 I had a part to play in the documentation
 13 preparation; I do. My areas are sensitive natural
 14 resources and some others.
 15 THE COMMENTOR: I read them all up to about
 16 this year, and I haven't found them. It's reported
 17 in the air but not the organically-bound or the
 18 free waters.
 19 And is Chris here?
 20 NEW COMMENTOR: Here.
 21 THE COMMENTOR: Did it start this year?
 22 NEW COMMENTOR: No. We haven't reported it.
 23 THE COMMENTOR: See? You're not even doing
 24 a good job in your environmental reporting.
 25 And that's where the tritium gets hunkered

40

1 in and stays and cycles in the community. The rest
 2 of it was -- gets into the air; it gets blown away;
 3 it get blown into Tracy, you see. We're rid of it,
 4 and it goes over to Tracy.

5 When are you going to start reporting the
 6 organically-bound tritium and giving an estimate of
 7 what it is that's bound up totally in this Valley?
 8 Because you've exposed people in this Valley to
 9 nearly a million curies of tritium.

10 NEW COMMENTOR: Oh, come on, Marion. We've
 11 talked about tritium and tritium releases at
 12 length. And I've invited you to contact me, to
 13 come in and talk to me and talk tritium.

14 THE COMMENTOR: Well, I'm asking this man
 15 here.

16 NEW COMMENTOR: You don't want to talk to
 17 the person who knows.

18 THE COMMENTOR: I want to talk to a person
 19 about addressing some of these things so that --

20 THE FACILITATOR: Your question and your
 21 comment is on the record. I would just say: They
 22 have to address that in the comment.

23 I'm sure Mr. Zahn can't give you an answer
 24 right now whether they're going to do what you
 25 think you'd like to have them do. But he can find

41

1 out from other people what can be done and what is
 2 being done now.

3 And I think that's as far as we're going to
 4 go with it tonight. They have some limitations
 5 here. We're talking about a Supplement Analysis.

6 THE COMMENTOR: I know, but there's a chance
 7 someone who has something to do with the
 8 environmental report diddling it out properly for
 9 the people here. That's all.

10 THE FACILITATOR: Okay. That's fair-enough.

11 THE COMMENTOR: Do the rest of it that way,
 12 see? Then you'll get the confidence of people.
 13 Once you do these things properly and explain it to
 14 them, then you'll get more confidence.

15 THE FACILITATOR: I think that's the major
 16 point, that you want to see the people have more
 17 confidence in what's going on.

18 Anyone else?

19 THE COMMENTOR: I -- just reviewing in my
 20 mind some of the information I heard earlier, I
 21 wanted to ask for a clarification.

22 Talking about the experiments that are going
 23 on and the amount of material that is here, it's
 24 going to be in storage; it's not going to be
 25 actively involved in research projects.

42

4-23
 cont.

1 Are we going to have a great many more
 2 experiments going on? Is that the reason why we
 3 need to have more material in storage?

4 MS. MARIK: At any given time, we don't
 5 expect to have more experiments going on. But the
 6 programmatic activities at the site --

7 THE COMMENTOR: What does that mean?

8 "Programmatic activities at this site"? Say that
 9 in English. Something about the programmatic
 10 activities.

11 MS. MARIK: The research and development
 12 projects. And, like I said, in this particular
 13 example, we've listed what the -- what the projects
 14 that -- the amount of material that we're proposing
 15 is on page 6-5 of the document, and those are the
 16 programs that will be supported.

17 So this is like a list of the different
 18 research and development programs.

19 THE COMMENTOR: You've said there will not
 20 be any more research going on, but there is a need
 21 for more material in storage.

22 MS. MARIK: No. You asked about an
 23 increased number of experiments. And what I'm
 24 saying is at any given time, there won't be any
 25 more material at risk. You can only have a certain

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1 amount of material out at any given time.

2 But the different -- the different programs
 3 that will be going on at that time -- I mean, these
 4 are the programs' activities -- I'm wrapping myself
 5 here --

6 THE COMMENTOR: Let me see if I can
 7 paraphrase that then and say that there will be
 8 more programs going on that are using the material
 9 than there is presently.

10 MR. LAZARO: Let me give you a concrete
 11 example. If you look at chapter 6 or Section 6.2
 12 of the document, it talks about -- about Building
 13 332 and the programs that would be driving the need
 14 for more uranium to be stored in the vault in
 15 Building 332.

16 What Lois is trying to tell you is: Okay,
 17 you have these individual experiments; the amount
 18 of material that would be at risk at any one time
 19 would not change.

20 However, your question is: Well, why do you
 21 need more material in the vaults? What it does
 22 change is the frequency. You're going to have more
 23 experiments that are going to be conducted than
 24 we've had in the past. So the frequency is going
 25 to increase.

44

4-23
cont.

1 THE COMMENTOR: So you're working 24 hours a
2 day instead of just one shift, as an example? The
3 frequency goes up per day but not per hour?
4 MR. LAZARO: It's not like a routine
5 operation at a manufacturing plant where you have
6 shifts. I mean, you're going to do experiments
7 based on a schedule that the manager of the
8 facility sets out for the projects that he's
9 working on.
10 So it's not going to be like we're going to
11 have five experiments on April 25th and five
12 experiments the next day and so forth. It's going
13 to vary throughout the year.
14 But the total number for the entire year is
15 going to go up a fractional amount because of some
16 of these programs.
17 For example, the MOX program was mentioned
18 as one of the drivers in here. So there's going to
19 be some additional experiments that would be needed
20 to conduct the MOX program, and you'll have more
21 operations in the glove box associated with that
22 program.
23 Does that answer your question?
24 THE COMMENTOR: I think it answers the
25 question. It certainly raises another one. The

45

4-24
cont.

1 number of experiments is going up a "fractional
2 amount." I think I heard you say that.
3 MR. LAZARO: It's going up more -- I can't
4 give you an exact number.
5 THE COMMENTOR: What's the fraction of 12
6 divided by 1, which is the increase in the amount
7 of material? That's hardly --
8 MR. LAZARO: It's not going to go up the
9 same proportion as the increase in the amount of
10 material. I could tell you that.
11 THE COMMENTOR: Then why increase the
12 material to that level? If you're going to
13 increase your experimental rate by 25 percent or
14 75 percent, why multiply the amount of material
15 by 12?
16 THE FACILITATOR: I suggest that you take
17 the comment and that you explain more clearly than
18 you do probably in Section 6-5 just the number of
19 experiments, how often the material is going to be
20 actively used, how often it is not going to be used
21 so that we can have a clearer understanding on
22 differentiation for the gentleman.
23 MR. TAYLOR: You're asking, "Why do we need
24 this much?" Is what you're asking?
25 THE COMMENTOR: Right.

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4-25

1 PREVIOUS COMMENTOR: And perhaps related to
2 that, I realize again that the Lab has an extensive
3 history of safety violations and other things. But
4 one thing that has come to my attention lately, for
5 example, is where you do work with plutonium.
6 And you use certain filters, and they're
7 called HEPA filters. And I have seen some
8 declassified information that was obtained under
9 the Freedom of Information Act. And while these
10 have a limited lifetime and they're subject to
11 damage by moisture and excessive heat, excessive
12 cold, that there are indications in here that some
13 of those HEPA filters have not been changed in 30
14 years. And that has lead to some of these
15 accidental plutonium ventings.
16 Now it's there; it's in the record. We have
17 requested that from the government, and we've
18 gotten it.
19 When things like this happen, how can you
20 assure people like us that you are doing a
21 sensible, responsible safety job? And I would feel
22 a lot better if all four of you said, "Okay, we
23 feel so good about it, we're going to come over
24 here, and we're going to move in, and we're going
25 to buy houses across the street."

47

4-25
cont.

1 But you're exposing us to this stuff. How
2 do you account for that? Why can't these HEPA
3 filters be exchanged or replaced? What's going on?
4 MS. MARIK: They can be replaced. But what
5 I would like to state is the last accidental
6 release of plutonium that we had at the Lawrence
7 Livermore Lab occurred in 1980. So I think that we
8 have a pretty good record.
9 And if anybody has any other information or
10 they think that there's other issues, let me know.
11 But that is the last release that we have had of
12 plutonium, and it was 1980.
13 THE COMMENTOR: Was that what got vented or
14 put into the sludge that citizens over here took
15 home and put into their gardens? That Livermore
16 Lab handed out and gave out to citizens to take
17 home to nurture their soil, and it had plutonium in
18 it?
19 MR. TAYLOR: That was in the '60s.
20 THE COMMENTOR: Yeah. That's pretty bad.
21 THE FACILITATOR: Mr. Falk?
22 THE COMMENTOR: I'll give you one. The HEPA
23 filters have a transluency built into them. You
24 can't avoid tenth-micron particles.
25 So tenth-micron particles are zipping out of

48

1 that work area and going through the filters.
 2 They're translucent to the tenth-micron particle.
 3 It's the physics of the filters.
 4 Now, tenth-micron particles can go by those
 5 ionization chambers or through them because a
 6 tenth-micron particle will disintegrate only maybe
 7 once or three times a day.
 8 The workers in that building, if they have
 9 those tenth-micron particles, they go up to these
 10 monitors and stick a foot on those and go, they
 11 haven't been really checked. So those workers are
 12 at risk because those monitors, they do not do
 13 that; they do this: Put the foot on there, and
 14 they're gone.
 15 I don't have to do the arithmetic, but they
 16 can be covered with many tenth-micron particles
 17 and get by all of those monitors. I've watched
 18 them.
 19 And your ionization chambers that monitor
 20 those things, they go through there -- those
 21 tenth-micron particles walk. You do an activity
 22 calculation yourself.
 23 One to three times a day for a tenth-micron
 24 particle. That size is going to be -- it's only
 25 from outside, if I understand.

4-25
cont.

49

1 You do the arithmetic yourself. And that
 2 means that those filters -- and there are only two
 3 of them in series -- you go check. If there's any
 4 activity that will produce tenth-micron particles,
 5 they're wandering through those filters all the
 6 time, every day. Any day that causes tenth-micron
 7 particle populations.
 8 When I say "tenth-micron," you understand
 9 it's a function of a little window right in there.
 10 Not exactly. It's a function of the speed of gas
 11 and things of this nature. But you do the
 12 arithmetic personally.
 13 MR. LAZARO: The key point or statement that
 14 you made there is if -- if there are tenth-micron
 15 particles that small that are generated during
 16 these experiments. I don't know if anyone has done
 17 an aerosol-size distribution of the particles that
 18 are generated, but I don't -- I don't -- I would be
 19 surprised that you're going to have particles that
 20 would be generated that are that small, unless you
 21 have some data to show otherwise.
 22 THE COMMENTOR: Yeah. Any time you have a
 23 burn, you produce a high population of tenth-micron
 24 particles. Any time you have metal fumes from a
 25 burning particle -- you know, hunk -- little, tiny

4-25
cont.

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1 chips from machining -- any time that burns, it
 2 produces a high population of tenth-micron
 3 particles.
 4 Burning both uranium metal now -- you
 5 understand what I'm saying. If you burn either
 6 plutonium or the uranium metal, the metal fumes
 7 from that, the metal oxides produce them.
 8 Just like when you burn a ribbon of
 9 magnesium oxide? You see that big smoke? A lot of
 10 tenth-micron particles are produced there, too.
 11 But when you burn uranium and plutonium, there's a
 12 high population of tenth-micron particles.
 13 THE FACILITATOR: Okay. Any other comments?
 14 Well, if not, I want to thank you all for
 15 your time tonight and remind you about the comment
 16 form, which I've lost. Here's one. Here it is.
 17 And I'll remind you that the end of the
 18 comment period is February 25th. And you can get
 19 your comments in either written form, or I suppose
 20 you can call them in or fax them in if you'd like.
 21 And then we'll be looking forward to the comment
 22 response document which will be done subsequent to
 23 that and then a final determination.
 24 Thank you very much. Sorry about my -- my
 25 slithering -- whatever you want to call --

4-25
cont.

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1 stuttering of my voice, but I appreciate it very
 2 much, especially those of you who were both in this
 3 afternoon and tonight.
 4 I want to thank you, Leti, for your work,
 5 and the notetakers and certainly the folks from the
 6 Lab and from Argonne.
 7 Thank you very much.
 8
 9 (Whereupon, the briefing proceedings
 10 concluded at 7:15 p.m.)
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STATE OF CALIFORNIA)
) ss.
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I, LETICIA A. RALLS, a Certified Shorthand
Reporter in and for the State of California, do
hereby certify:

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That said proceedings were reported by me
at said time and place, and were taken down in
shorthand by me to the best of my ability, and were
thereafter transcribed into typewriting, and that
the foregoing transcript constitutes a full, true
and correct report of the comment and question
portion of the proceedings which took place.

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I further certify that I am not of counsel
nor attorney for either or any of the parties
hereto, nor in any way interested in the outcome of
the said briefing.

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LETICIA A. RALLS, RPR
CSR. NO. 10070

4 RESPONSES TO COMMENTS

4.1 RESPONSE TO COMMENTS FROM DOCUMENT 1: LETTER DATED FEBRUARY 10, 1999, FROM TRI-VALLEY CARES

Comment Code 1-1

Response:

DOE disagrees that a new EIS/EIR is needed because LLNL, since 1992, has "continued to have environmental concerns." DOE's evaluation of the environmental impacts of LLNL operations, considering changes since 1992 and new projects or proposals to be implemented by 2002, indicates they would remain within the envelope of environmental consequences established in the 1992 EIS/EIR. The SA concludes that either the projected impacts are within the bounds of the 1992 EIS/EIR analysis, or that the incremental differences are not significant. See the responses to comments below and also Common Issue 2.1, Supplement Analysis Process, above, for further discussion.

Comment Code 1-2

Response:

DOE disagrees that a new EIS/EIR is needed because both the Livermore Site and Site 300 are on the National Priorities List. The Livermore Site and Site 300 were placed on the NPL in 1987 and 1990, respectively, primarily as a result of trichloroethylene contamination in the groundwater. A discussion of the level of contamination was presented in the 1992 EIS/EIR (section 4.17), as were the proposed remediation program and the status of the review and approval of the appropriate Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) documentation.

For a discussion of the NEPA process, see Common Issue 2.1, Supplement Analysis Process.

Comment Code 1-3

Response:

DOE agrees it has exceeded National Pollutant Discharge Elimination System permit values at LLNL 14 times since January 1996, with two of those exceedances resulting in Notices of Violation (NOV); no fines were assessed. In response to the releases that occurred in 1996-1997, LLNL increased its employee awareness and source control efforts. These have been effective. The last release to the sanitary sewer that exceeded LLNL's permit limits occurred in December 1997. In September 1998, LLNL completed the installation of its upstream triggers pH-monitoring station. In the past, pH releases outside of permit conditions were detected and diverted to the Sewer Diversion Facility by the Building 196 monitoring station. Building 196 generally took about two minutes after initial detection to confirm that a release was occurring

and activate this diversion. Thus, the first few hundred gallons of a release were not captured. This new station remedies that situation. It is located upstream of Building 196 and is configured to detect and divert a pH release to the Sewer Diversion Facility before any of the release can leave the site.

Comment Code 1-4**Response:**

DOE disagrees that LLNL has a history of recent, frequent accidents. The Laboratory has implemented programs, policies, and procedures to manage industrial and nuclear safety. In the event of an occurrence, the Laboratory or DOE investigates the incident, determines the root-cause, develops corrective actions, monitors their implementation, and disseminates lessons learned to ensure the recurrence of similar incidents is prevented.

As an example, in January of 1997, a gas sensor detected the presence of chlorine gas in a cabinet containing a pressurized cylinder of chlorine. The sensor automatically sounded an alarm and shut off the flow of chlorine from the cylinder. No detectable gas concentration reached the inhabited portions of the building, although the building was evacuated for 15 minutes in response to the alarm. The cause of the leak was a defective commercial chlorine gas pressure regulator that had just been placed into use in the gas cabinet. The defective part was immediately fixed. Several elements of the LLNL defense-in-depth program were displayed here. An alarm notified personnel to evacuate until the level of concern could be identified. The automatic shutoff system worked and prevented further release. The location of the gas cabinet in the building gas vault prevented general release of the gas at a detectable concentration. This incident yielded no detectable chlorine concentrations within the inhabited portions of the building and was within the bounds of potential impacts from an accidental 100-pound release of chlorine gas presented in the 1992 EIS/EIR.

Another example is the July, 1997 "shredder accidental exposure" in which workers shredding used air filters were radioactively contaminated. One worker was contaminated with curium, an alpha emitter, on his chest, face, and in his nostrils. A DOE report credited inadequate safety procedures for this accident. This incident was investigated by DOE. The report, "Type B Accident Investigation Board Report of July 2, 1997 Curium Intake By Shredder Operator At Building 513 Lawrence Livermore Laboratory," dated August 1997, was the result of a detailed investigation into the events that led to the exposure. The investigation resulted in several corrective actions called Judgments of Need (JON). The JONs were designed to eliminate any future accidents of this nature. LLNL's corrective action plan, which consisted of 47 separate actions, was accepted by DOE Oakland Operations Office (DOE/OAK) and a Headquarters DOE Price Anderson Amendment Act audit panel. LLNL has demonstrated to DOE, through an assessment of its corrective action implementation, that it has met the requirements of the JONs.

Comment Code 1-5**Response:**

DOE acknowledges that in a facility with a large number of employees and operations, such as LLNL, it is possible to operate with an occasional employee failing to observe a procedure, such as inattention, miscommunication, or lack of discipline. However, DOE and LLNL take these failures seriously, recognizing that one reason for following a procedure is to prevent accidents and to protect the worker and the public. Every failure that crosses a reporting threshold is reported to laboratory management, to the DOE site/area office, and to DOE Headquarters through the formal "Occurrence Reporting and Processing System." Each report includes a root cause analysis and a corrective action to prevent it or similar recurrences. Lessons learned that could be of value elsewhere are distributed throughout DOE contractors. DOE program managers also trend these occurrence reports, and when a pattern or specific process or facility appears to be having a generic problem, formal action is taken by DOE management. Accidents that exceed certain thresholds are formally investigated by formal Accident Investigation Boards. Incidents that violate Nuclear Safety Requirements (e.g., 10 CFR 830 and 10 CFR 835, and their implementation plans) are investigated by an independent office in DOE Headquarters, and if that incident reflects a pattern or carelessness, formal enforcement actions are pursued under 10 CFR 820, which may result in fines and even imprisonment, and have resulted in fines at this laboratory. The commentor has identified two notable examples (the curium accident and the infractions in Building 332) for which DOE has launched formal investigations and enforcement actions, even extending to mentoring programs to improve the safety culture in Building 332.

When the July 1997 criticality infractions occurred in Building 332, the Laboratory management took an immediate action to place the facility into "STANDBY MODE." This decision was made without influence of the DNFSB. These criticality infractions were related to the fact that workers failed to follow approved procedures containing criticality controls. The infractions were self-reported by the facility workers and, most importantly, no radioactive materials were released and no worker contamination occurred. Furthermore, the Criticality Safety Group conducted thorough evaluations of both infractions and concluded that neither infraction, even if not identified, would have led to any criticality events, even under the most conservative of assumptions.

Work in the Plutonium Facility has been restricted since July 1997. During this time, the safety processes and procedures used in the Plutonium Facility have been extensively modified, workers re-certified, and work conducted to assess the viability of these changes. DOE and LLNL believe these changes have corrected the fundamental causes leading to the criticality infractions. In the course of the resumption process, DOE HQ, DOE/OAK, and the DNFSB have been exercising close oversight roles in enhancing Building 332's safety culture.

Comment Code 1-6**Response:**

DOE disagrees that LLNL has a history of "receiving Notices of Deficiency (NOD) and NOV's from the California Department of Toxic Substances Control (DTSC)." DOE believes that LLNL operates safe, environmentally sound, and regulatory compliant waste management facilities for all its hazardous and mixed waste activities. Specifically, there were no violations with significant impacts to human health or the environment during the 1991 through 1994 annual DTSC inspections of LLNL. All violations during this period were corrected in a timely manner. No violations of the regulations were found during the 1995 and 1996 inspections. During the 1997 inspection, DTSC cited LLNL for handling "combined waste." Combined wastes are radioactive wastes that contain California-only hazardous constituents. The citations stemmed from a disagreement between DTSC and DOE over regulatory status and DTSC's jurisdictional authority over the waste streams; the citations did not stem from unsafe handling of the wastes and did not pose a threat to human health or the environment. These waste streams are being handled as LLW under the requirements of the DOE. The DTSC and the DOE are in discussions regarding the regulatory status of these wastes and are in the process of negotiating a Memorandum of Agreement. LLNL was also inspected in 1998; however, the report of that inspection has not yet been finalized.

As part of LLNL Resource Conservation and Recovery Act (RCRA) Part B permit application, on March 1997, DTSC issued a NOD. The NOD are DTSC's comments and questions to clarify and complete the information in the LLNL application and are not considered violations of regulations. This is a routine part of the review of a Part B application by DTSC for any facility and is not specific to the LLNL Part B application.

Comment Code 1-7**Response:**

DOE agrees that there is still contamination of the groundwater at LLNL. However, significant improvements have been made over the last few years. In 1997 LLNL found hazardous levels of mercury in soils cleaned out of a single stretch of storm drain. That soil was removed as hazardous waste and the storm drain lined. Following this activity, LLNL detected mercury downstream of this location in a single storm water sample. This was the first detection of mercury in LLNL storm water runoff since 1994. Mercury has not been detected in subsequent samples.

The groundwater tritium plume at Site 300 extends about 9,500 ft from its sources at landfill Pits 3 and 5 and the Building 850 firing table. No part of the plume extends offsite and no human receptors are threatened. Maximum current groundwater tritium activities are about 475,000 pCi/L. The majority of the plume is in a laterally extensive perched water-bearing zone. Radioactive decay reduces the activity of tritium by one half every 12.3 years. Time-series plots of total tritium in groundwater have generally shown a decline in total tritium activity with time, resulting from both radioactive decay and dispersion. Until recently, the total tritium activity in the plume has generally decreased at a rate similar to or greater than the radioactive decay rate.

Despite occasional slug releases from the landfills, the horizontal extent of the Pits 3 and 5 portion of the tritium plume has not increased during the 1986-98 time period, thus supporting that natural attenuation by radioactive decay and dispersion is occurring. From 1985-98, the horizontal extent of the Building 850 portion of the tritium plume has increased only along its distal edges; the extent of the 20,000 pCi/L contour (which is the State and Federal Maximum Contaminant Level) has markedly retreated. Using conservative assumptions and hydraulic parameters, fate and transport modeling indicates that when the tritium plume reaches the northern Site 300 boundary, the tritium activities will be at background levels (100 pCi/L). Modeling indicates that tritium activities at the southern Site 300 boundary will also be low, around 1,000 pCi/L. There are no contaminant transport pathways to humans on or offsite, and thus there is no risk to humans. The issue of tritium in Site 300 groundwater in the Pits 3 and 5 areas, and at Building 850 Firing area, was discussed extensively in both the 1992 EIS/EIR (Section 4 and Volume IV). This issue has also been discussed in the Site Annual Environmental Reports.

To address the rise and fall of groundwater levels at Site 300, LLNL had installed, by April 1992, an interceptor trench system upgradient of the west firing area landfills at Site 300. The trench was constructed as part of the RCRA capping of landfill pit 7. The purpose of the interceptor trench system was to intercept shallow subsurface groundwater flow and divert it away from landfill pit 7. This trench has reduced the amount of water available to get into the pit. In addition, by the summer of 1999, LLNL will sample and calculate the inventory of tritium in landfill pits 3 and 5. Computer modeling of the tritium values will be conducted to determine if this source of tritium contamination to the groundwater could potentially present a risk to human health and the environment. Should such a potential risk be identified, then source isolation technologies would be implemented to prevent risk to human health and environment from tritium.

Comment Code 1-8

Response:

DOE believes it has managed sewer system problems at LLNL in a responsible and proactive manner. During the period of 1992-1995, LLNL investigated over 22,000 source connections (including approximately 7000 drains) and their respective destinations. Approximately 150 of these sources required some form of repair. These repairs were complete at the end of 1995. During the same interval approximately 24,000 linear feet of sewer line was relined using an in-situ form liner to endure the integrity of the sewer system. LLNL's source control effort has proven effective. There has not been a discharge from the sanitary sewer that exceeded permit conditions since December 1997.

After signing the CERCLA ROD in 1992, new innovative technologies have been employed to accelerate cleanup in a more cost-effective manner. LLNL has implemented a strategy called Engineered Plume Collapse (EPC). EPC utilizes the appropriate technologies needed to cost-effectively achieve the required remedial objectives and increase contaminant mass removal. Mass removal rates at the Livermore Site have more than tripled since the

implementation of EPC in 1997. An additional example is that rather than constructing seven permanent groundwater treatment facilities as outlined in the CERCLA ROD, LLNL has developed alternative treatment units to accomplish site cleanup. Currently, LLNL is operating 4 permanent groundwater treatment facilities, 2 vapor extraction facilities, 10 portable treatment units, 1 mini treatment unit, 1 in-situ catalytic reductive dehalogenation unit, and 1 solar powered groundwater treatment unit.

Rather than extracting groundwater from 18 initial locations, LLNL currently treats groundwater from 60 extraction wells at 16 locations in 11 separate areas, treating approximately 725,000 gallons of groundwater per day or about 22 million gallons per month. Most groundwater treatment is accomplished by air stripping, with some ion exchange where needed. Remediation of the one area at the site that contained fuel hydrocarbons was completed in 1995 and resulted in a determination of No Further Action by the regulatory agencies in 1996. Hydraulic collapse of the western offsite contaminant plumes has been dramatic, resulting in pull-back of one plume by more than 1000 feet and a decrease in volatile organic compound (VOC) concentrations by an order of magnitude. Currently, VOC concentrations offsite are generally below 50 parts per billion (ppb) and are approaching the Maximum Contaminant Level of 5 ppb. The affected groundwater is not used by the public, and therefore the risk to the public is minimal.

See also the response to comments 1-2, 1-3, and 1-7, above.

Comment Code 1-9

Response:

DOE disagrees that "LLNL has a history of being out of compliance with safe storage requirements." DOE and LLNL conduct all waste management activities in compliance with the applicable regulations. All hazardous and mixed waste are managed in accordance with the California Code of Regulations Title 22 and CFR Title 40. In addition, the treatment and storage facilities used for regulated wastes will comply with a RCRA permit that will incorporate an approved operations plan.

DOE and the State DTSC have entered into an agreement dealing with mixed waste, pursuant to the Federal Facilities Compliance Act of 1992. This agreement has resulted in a Site Treatment Plan that addresses all mixed waste streams, describes the treatment process planned for them, and gives dates for completion of treatment. Regular reports are required and have been provided by LLNL. DOE believes DTSC has a thorough understanding of how LLNL manages its mixed wastes, combines waste, and manages issues regarding cross-contamination through inspections and the permitting process.

In 1998, LLNL provided DTSC with a list of Satellite Accumulation Areas. LLNL has never refused accessibility of inspectors to areas within the laboratory or within buildings that house Satellite Accumulation Areas.

DTSC is aware of how LLNL treats its hazardous and mixed waste. The regulated waste operations during "interim status" are outlined in the interim status documents. Interim status documents for hazardous and mixed waste operations at LLNL include the approved August 1996 (revised January 1997) Part A and the interim status document dated May 16, 1983. Currently, LLNL hazardous and mixed waste operations are annually inspected by the DTSC against the hazardous waste regulations and the interim status documents. LLNL does not employ waste treatment and handling activities other than the ones authorized by the DTSC. LLNL has also explained in detail its future hazardous and mixed waste operations in the Part A and Part B permit application. The permit application has been reviewed by the DTSC and has been deemed complete. LLNL is required to label mixed waste as such. The labels for mixed waste include the words "Hazardous and radioactive mixed waste".

In 1990, there were questions concerning one shipment of waste to the Nevada Test Site (NTS). Once the waste reached NTS, the generator belatedly informed Hazardous Waste Management (HWM) that there might have been some Kimwipes (paper tissues) which may have been used in conjunction with solvents to degrease radioactive components. LLNL suspected the waste was mixed waste. LLNL representatives went to NTS and were able to verify, through the paperwork, that 12 of the containers did not contain the Kimwipes but that 18 may have contained Kimwipes. The containers could not be opened at NTS without the proper facilities; therefore, the containers were returned to LLNL for additional characterization.

Comment Code 1-10**Response:**

DOE acknowledges that there have been problems with the use of HEPA filters at LLNL. However, DOE and LLNL disagree with the comment that the nuclear safety program and the safety of the public have been compromised by LLNL operations. As safety concerns are identified, corrective actions are developed and implemented in a timely manner. As an example, the Facility is in the process of replacing aging HEPA filters, starting with systems relied on to provide confinement of nuclear materials. The Facility expects to be complete with the replacement of the confinement HEPA filters by the end of fiscal year 1999.

See also, Common Issue 2.4, Concerns With HEPA Filters.

Comment Code 1-11**Response:**

DOE does not believe that there are "significant new circumstances or information relevant to environmental concerns... since the 1992 EIS/EIR for LLNL, thus requiring a new EIS/EIR." Operations at Building 332 are included in the analysis of the 1992 EIS/EIR.

See Common Issue 2.1, Supplement Analysis Process, Common Issue 2.2, Proposed Changes in Administrative Limits, and Common Issue 2.4, Concern with HEPA Filters, above. See also the response to comments 1-1 and 1-5, above.

Comment Code 1-12**Response:**

DOE agrees that plutonium has been found in Big Trees Park at concentrations above those that can be attributed to worldwide fallout, but DOE disagrees the plutonium came from an airborne pathway or is related to the HEPA filtration issues for Building 332. After finding a sample with 1.02 pCi/g in 1995, the laboratory has taken a large number of samples in 1998 to determine the degree of and extent of the plutonium levels, and to determine the source. The data establish that the elevated plutonium is generally confined to the southeast corner of the park, and is not found outside the park or above background levels at the adjacent school. Because of the nature of atmospheric dispersion, it is not possible that such a very limited distribution could have resulted from an airborne pathway, such as from a building release or re-suspension of contaminated soil by wind or human activity. The deposition pattern from an airborne pathway would most likely be cigar- or fan-shaped, with increasing concentrations extending back nearly to its source.

The laboratory considered whether there might have been an aquatic pathway. The park contains a filled, former channel of Arroyo Seco, which in the past received runoff water from LLNL. However, sampling along that channel between LLNL and the park, as well as within the park to the depth of the former channel, did not detect plutonium above 0.043 pCi/gm, which is near the upper range of fallout background.

The soil samples with plutonium above fallout levels are nearly all within the treewells and in the immediate proximity of ornamental trees planted in the 1970s. These soil samples also had higher level of metals. The laboratory believes that the plutonium must have come to the park in sewage sludge used as an amendment or mulch during and/or after planting of the trees. The City of Livermore treats sanitary sewage from the laboratory. The levels and locations of the plutonium and its association with metals strongly suggests that past releases of plutonium to the sewer about 1967 may have become mixed with the sludge at the Livermore Water Reclamation Plant.

The 1998 samples were collected under the observation of state and federal regulatory agencies, and about 10% of the samples were separately analyzed by three different certified analytical laboratories, with good agreement. The highest concentrations found in the 1998 sampling was 0.774 pCi/g, which is less than a third of the EPA residential screening level of 2.5 pCi/g, at which further assessments of health risk are suggested. The data can be found on the web at <http://www-erd.llnl.gov/bigtrees/>, and will be included in the 1998 SAER.

The EPA, California Department of Health Services, DTSC, and the Agency for Toxic Substances and Disease Registry all agree that the levels do not present a health hazard and that cleanup is not warranted. In view of the comprehensiveness of the sampling program and the low levels observed, no further sampling expeditions are planned.

Comment Code 1-13

Response:

DOE disagrees that the proposed change in plutonium and uranium limits pose a significant increase in the operational impacts at LLNL. These changes are mostly in the allowable quantities of storage and not in the material at risk.

See Common Issue 2.2, Proposed Changes in Administrative Limits.

Comment Code 1-14

Response:

DOE is still committed to reducing the total amount of plutonium at LLNL to 200 kg when feasible. This issue was addressed in the 1992 EIS/EIR. However, DOE is still analyzing the issue of surplus plutonium disposition throughout the DOE complex.

See also the response to comment 1-13, above.

Comment Code 1-15

Response:

DOE disagrees that the proposed changes in uranium limits require the preparation of a new EIS/EIR. The need for enriched uranium (greater than 1% U-235) derives primarily from projected near-term projects involving the Dual Revalidation Program, a portion of the Fissile Materials Disposition (Immobilization) Program, and the Advanced Recovery Integrated Extraction System (ARIES) R&D work (a total of approximately 200 kg). Most of this need occurs in Fiscal Years 1999 and 2000 and most of this material will not remain at LLNL, but will be shipped to other DOE facilities prior to Fiscal Year 2002. The Dual Revalidation Program will assess the status of the LLNL and LANL stockpiled weapons. The Immobilization Program will evaluate the option for long-term disposition of surplus plutonium to immobilize it in either glass or ceramic for disposal in a geologic repository or for long-term safe storage. The ARIES project will recover plutonium from old weapons; the LLNL work will focus on pit disassembly and converting plutonium into an oxide form for disposition.

A portion of the need for additional natural or depleted uranium (less than 1% U-235) stems mainly from the Fissile Materials Disposition (Immobilization) related R&D projects which will involve approximately 700 kg of natural or depleted uranium, most of which will be shipped to other DOE facilities by Fiscal Year 2003 as the R&D progresses.

The additional portion of the need for natural or depleted uranium would derive from Mixed Oxide (MOX) Lead Test Assembly work currently being considered for implementation at LLNL in the Draft Surplus Plutonium Disposition EIS. As in the other projects, natural or depleted uranium would be brought in for the work, but would also be shipped out as work is incrementally completed, so that only an additional approximately 1000 kg would remain onsite

after Fiscal Year 2003. The MOX Lead Test Assembly project at LLNL will fabricate nuclear fuel rods for nuclear power plants by using surplus weapon plutonium (PuO_2) and vendor supplied (UO_2); this process will convert surplus plutonium for peaceful applications.

As discussed in Section 6 of the SA, administrative limits are established to administratively control maximum quantities of radioactive materials in Buildings 332 and 334. These limits reflect program needs. Postulated accident analyses associated with radioactive materials are documented in the 1992 EIS/EIR (including this SA) and the SAR for each facility.

For Buildings 332 and 334, LLNL proposes to increase the current administrative limit for uranium from 300 kg (depleted, natural, and enriched) to 500 kg of enriched uranium and 3,000 kg of natural and depleted uranium. It is known that natural and depleted uranium do not pose significant hazards as compared to enriched uranium. There is considerable natural uranium in the LLNL region; the significant consideration is the increase in the administrative limit from 300 kg to 500 kg, since the majority of current inventory in Building 332 is enriched uranium. In addition, hazards resulting from a proposed Building 332 administrative limit of 3,000 kg of uranium with less than 1% enrichment of U-235 would be bounded by that from the Building 493 administrative limits for natural and depleted uranium of 80,000 kg (Table 4.15-1 of the 1992 EIS/EIR).

The proposal to increase the administrative limit for uranium does not change the restriction on the maximum material at risk imposed on workstation or glovebox operations. As an example, the quantity of fissile material, including uranium, will still be limited to 20 kg in each of laboratory rooms with the exception of the vaults. Only the amounts in storage will be increased, not the working inventories.

Comment Code 1-16

Response:

The "Green Book" is the program plan that describes DOE's strategy to ensure high confidence in the safety and reliability of the nuclear weapons stockpile. As part of the weapons complex, LLNL continues to have a role in the stockpile stewardship program, confirmed in the ROD for the Stockpile Stewardship and Management Programmatic EIS (SSM PEIS). While DOE is charged with maintaining the *capability* for research and development of nuclear weapons, the Department of Defense has no requirements for new nuclear weapons and DOE is not developing new weapons.

Comment Code 1-17

Response:

The SA is correct in stating that the increased administrative limits for uranium are partly required to support the research and demonstration work for the MOX fuel project. This is part of DOE's program for disposition of surplus plutonium as a result of the downsizing of the nuclear weapons stockpile. Also, the R&D-related work on the projects cited above is considered within

the scope of operations and potential impacts of ongoing programs at LLNL encompassed by the 1992 EIS with the exception of the Lead Test Assembly work, which is an alternative that is being considered by DOE for assignment to LLNL through the vehicle of a DOE Programmatic EIS currently in process. If LLNL is selected to perform this activity, an appropriate project-specific NEPA review will be conducted.

The increased administrative limit for uranium in Buildings 332 and 334 is not to support the Atomic Vapor Laser Isotope Separation (AVLIS) follow-on program.

Comment Code 1-18**Response:**

DOE does not agree that there is "a plethora of new and/or significantly changed programs at LLNL since 1992." DOE considers NIF, AVLIS Integrated Process Demonstration (IPD) follow-on activities, subcritical nuclear tests, and the Advanced Design and Production Technology (ADAPT) work at LLNL to be projects that represent variations of existing programs at LLNL. AVLIS is a technology which can selectively separate the isotopes of uranium to enrich the product stream in U-235, thus generating a product that is commercially valuable for fabrication of fuel for nuclear power reactors; the IPD at LLNL is intended to support the confirmation of technical performance and validation of economic projections. The ADAPT Program is a DOE-wide effort to develop technologies for new processes and practices to enable cost-effective production of stockpile weapon components; the enduring stockpile, as well as workforce skills, will be maintained by a combination of repairs, refurbishments, and as needed replacements. Where there was a need for more project-specific impact analysis, it was provided.

Comment Code 1-19**Response:**

DOE disagrees that "a new or, at a minimum, a supplemental EIS is required" due to "clearly significant new circumstances or information relevant to environmental concerns." DOE's evaluation of the environmental impacts of LLNL operations, considering changes since 1992 and new projects or proposals to be implemented by 2002, indicate they would remain within the envelope of impacts established in the 1992 EIS/EIR.

See also the response to comments 1-1 and 1-2, above. Also, see Common Issue 2.1, Supplement Analysis Process, and Common Issue 2.2, Proposed Changes in Administrative Limits.

**4.2 RESPONSE TO COMMENTS FROM DOCUMENT 2: LETTER DATED
FEBRUARY 25, 1999, FROM U.S. ENRICHMENT CORPORATION (USEC)**

Comment Code 2-1

Response:

Comment acknowledged.

Comment Code 2-2

Response:

Comment noted. Changes were incorporated as suggested by the commentor.

**4.3 RESPONSES TO COMMENTS FROM DOCUMENT 3: PUBLIC BRIEFING,
LIVERMORE, FEBRUARY 11, 1999, 2:00 P.M.**

Comment Code 3-1

Response:

See the response to comment 1-1, above.

Comment Code 3-2

Response:

See the responses to comments 1-2 and 1-8, above.

Comment Code 3-3

Response:

See the response to comment 1-1, above. Also, see Common Issue 2.1, Supplement Analysis Process.

Comment Code 3-4

Response:

See the response to comments 1-3, 1-7, and 1-8, above.

Comment Code 3-5

Response:

See the response to comments 1-4 and 1-5, above.

Comment Code 3-6

Response:

See the response to comments 1-5, 1-6, and 1-9, above.

Comment Code 3-7

Response:

See the response to comment 1-7, above.

Comment Code 3-8

Response:

See the response to comment 1-8, above.

Comment Code 3-9

Response:

See the response to comment 1-9, above.

Comment Code 3-10

Response:

See Common Issue 2.1, Supplement Analysis Process, and Common Issue 2.2, Proposed Changes in Administrative Limits. Also, see the response to comments 1-1 and 1-19, above.

Comment Code 3-11

Response:

See Common Issue 2.3, Concerns With HEPA Filters, and Common Issue 2.2, Proposed Changes in Administrative Limits. Also, see the response to comments 1-1 and 1-19, above.

Comment Code 3-12

Response:

See the response to comments 1-15 and 1-16, above.

Comment Code 3-13

Response:

See the response to comments 1-15 and 1-16, above. Also, see Common Issue 2.3, Opposition to Nuclear Activities.

Comment Code 3-14**Response:**

See the response to comment 1-15, above. The AVLIS project is not a driver for the increased limits; see also the response to comment 3-25, below.

Comment Code 3-15**Response:**

See the response to comments 1-1 and 1-19, above. Also, see Common Issue 2.1, Supplement Analysis Process.

Comment Code 3-16**Response:**

DOE believes that the current rate of processing plutonium or uranium to their oxide forms at LLNL does not exceed the rates analyzed in the 1992 EIS/EIR.

Several programmatic operations at LLNL generate quantities of plutonium and uranium that are in the form of chips, fines, or thin layers deposited by vapor deposition. Programmatic operations that generate these materials are nuclear material machining and grinding operations, casting operations, and vapor deposition (AVLIS and other programs). Both uranium and plutonium in the form of finely divided dust or chips, or in the form of thin metal sheets are potentially pyrophoric and can spontaneously ignite and burn in the presence of air or oxygen. The pyrophoricity is highly dependent on the fineness of the material, surface condition, temperature, humidity and atmospheric composition. The equipment that generates these fines or sheets is usually enclosed in either a glovebox, hood or vacuum chamber from which air or oxygen is (usually) excluded. Once generated, potentially pyrophoric fines or other metal forms are expeditiously transported in closed containers or enclosures to designated workstations (hoods or gloveboxes depending on the material and quantity) where they are oxidized. Finely divided quantities of fissile material (plutonium or enriched uranium) are oxidized in small batch sizes due to criticality safety requirements. The oxidation process is always carried out in a manner designed to minimize dispersal of the material. In the case of plutonium, the oxidation is usually carried out in small furnaces. Once oxidation is complete, the material is in a very stable chemical form and can then be packaged for storage or other disposition depending on the nature and value of the material. In all cases, the oxidation processes for these metals are carried out in enclosures equipped with redundant HEPA filtration to prevent any dispersal of material to the environment. In addition, care is taken to minimize the handling or any other step that would lead to dispersal of the material within the enclosures. Since long-term storage of pyrophoric, unoxidized fines would create a significantly greater hazard than the above oxidation process, oxidation is routinely used to render any potentially pyrophoric uranium or plutonium safe for storage, transport, or other disposition.

Plutonium and uranium in liquid solution are also converted to oxide when the value of the material or disposition pathway requires it. This is typically accomplished through precipitation of the material from solution, filtration, and then furnace oxidation.

In addition to the oxidation of programmatically generated plutonium or uranium fines, LLNL is also processing material in storage to meet the requirements of the DNFSB's Recommendation 94-1.

See also the response to comment 3-51, below.

Comment Code 3-17

Response:

See the response to comment 3-16, above.

Comment Code 3-18

Response:

See Common Issue 2.4, Concerns With HEPA Filters. See also the response to comments 1-5 and 1-11, above.

Comment Code 3-19

Response:

DOE and LLNL will continue to manage wastes in accordance with the RODs (RODs have not yet been issued for LLW and LLMW) for the Waste Management Programmatic Environmental Impact Statement (WM PEIS) (DOE/EIS-0200-F) and the 1992 EIS/EIR. As discussed in Section 7 of this SA, LLNL has implemented a transuranic waste certification program to ensure that transuranic waste generated and packaged by LLNL can be certified for acceptance by WIPP. Transuranic waste will continue to be stored at LLNL until WIPP opens or another disposal option is identified by DOE.

Comment Code 3-20

Response:

See the response to comment 1-12, above.

Comment Code 3-21

Response:

DOE disagrees that the Plutonium Facility was shut down as a result of a recommendation by the DNFSB. In July 1997, LLNL placed Building 332 into "Standby Mode" under which programmatic operations (machining, processing, etc.) with fissile, radioactive, or hazardous materials were suspended while transfer, handling, sampling and/or storage of the

materials were allowed. Stringent compensatory measures (e.g., increased oversight and review of all activities) were imposed on any work to be performed. By October 1997, all activities associated with materials transfer were under close scrutiny; senior management approval was required before such activities could be conducted.

In February 1998, a resumption plan was developed by LLNL with concurrence by the DOE/OAK and input from the DNFSB. Upon approval of this process, Building 332 started preparation of the resumption activities. LLNL completed resumption activities by February 1999. In March 1999, the final phase of the resumption process is under review by a team of LLNL and DOE/OAK staff. Based on the assessment and recommendations from this team, LLNL senior management, with DOE/OAK concurrence, will determine whether Building 332 will resume normal operations.

Also, see the response to comments 1-5 and 1-11, above.

Comment Code 3-22

Response:

See the response to comment 1-15, above.

Comment Code 3-23

Response:

See the response to comment 3-60, below.

Comment Code 3-24

Response:

The cumulative impacts of continuing to operate LLNL and SNL-L are presented in section 9 of the SA, including the impacts of the proposed projects through 2002. Section 9 was revised to update water and electrical usage, and airborne radionuclide emissions. Based on the level of emissions of existing and planned facilities and proposals, the impacts from these operations would be below limits and guidelines and within the envelope of the 1992 EIS/EIR, and are not considered significant.

Comment Code 3-25

Response:

The AVLIS program is proceeding as planned. The scope of current work for the LLNL operation of the AVLIS project is covered by the Environmental Assessment (EA) for the AVLIS IPD, USEC/EA-96001, January 1996. This document was finalized by the U.S. Enrichment Corporation (USEC) in January 1996, under an interagency cooperative agreement that

designated USEC as the lead agency and DOE as the cooperating agency for all environmental reviews at the LLNL site.

Based on the analyses in the EA, both USEC and DOE determined that the IPD scope of work was not a major action significantly affecting the quality of the human environment, and that preparation of an Environmental Impact Statement was not required. USEC and DOE jointly issued a Finding of No Significant Impact (FONSI) for the AVLIS IPD. Copies of the EA and FONSI were transmitted to all appropriate regulatory agencies and to the Western States Legal Foundation and other interested parties.

The AVLIS project is in the process of conducting the IPD phase. These demonstrations are planned to be completed by the year 2000. After IPD, AVLIS uranium operations through 2002 would continue within the scope of existing NEPA documentation. Any future AVLIS work at LLNL that is outside of the scope of the January 1996 USEC EA or the 1992 EIS/EIR would be subject to additional NEPA reviews.

A copy of the Terascale Simulation Facility (TSF) Conceptual Design Report has been placed in the LLNL public reading room for review. The potential impacts of construction and operation of the TSF at LLNL are being analyzed in an EA currently being prepared. Preliminary projections of water and electrical energy usage are included in section 2.10 and section 9 of the SA.

See also the response to comment 1-15, above.

Comment Code 3-26

Response:

See the response to comments 1-1, 1-11, and 1-18, above.

Comment Code 3-27

Response:

The 1992 EIS/EIR was issued when DOE was considering reconfiguration of the nuclear weapons complex; thus, Chapter 1 of the EIS/EIR acknowledged that potential changes in missions and activities resulting from this reconfiguration would be reviewed against the EIS/EIR. Since the issuance of the 1992 EIS/EIR, DOE has prepared the SSM PEIS, addressing the downsizing of the nuclear weapons complex. The SSM PEIS addressed the impacts of proposed actions on various DOE sites, including LLNL. Appendices to the SSM PEIS include specific NEPA analyses of two such long-term projects that were proposed for LLNL: the Contained Firing Facility and NIF.

This SA has systematically reviewed the ongoing and projected activities at LLNL through the year 2002 to identify significant changes from the 1992 EIS/EIR. This process of

identifying changes is described in Section 1.4 of the SA. The key projects identified in this process were evaluated to see if their impacts were outside the envelope of consequences established in the 1992 EIS/EIR, and whether, if exceeded, these impacts were significant. The remainder of the SA presents the results of that evaluation. As a result of this review, DOE has concluded that no supplementation of the 1992 EIS/EIR is required. As other new projects are proposed in the future, their potential impacts will also be evaluated against the analyses and bounding impacts outlined in the 1992 EIS/EIR and, if necessary, separate NEPA reviews will be undertaken.

Also, see Common Issue 2.1, Supplement Analysis Process.

Comment Code 3-28

Response:

See the response to comment 3-27, above. Also, see Common Issue 2.3, Opposition to Nuclear Activities.

Comment Code 3-29

Response:

The NIF was evaluated in the 1992 EIS/EIR in the Proposed Action and Alternatives (section 3.0). Appendix A of the 1992 EIS/EIR discussed the proposed project and discussed risks to workers and the public from routine radiological operations and waste generation. Additionally, the SSM PEIS Project Specific Analysis for the NIF, Appendix I, SSM PEIS, September 1996, DOE/EIS-0236, evaluated the siting, construction and operation of the NIF. As indicated in Appendix I, "The purpose of this project-specific analysis is to assess the environmental impacts of construction and operation of NIF. This document describes the project and its purpose and need, considers site alternatives and project design options, delineates the affected environments, assesses potential environmental impacts, and suggests mitigation measures."

As a result of the Memorandum Opinion and Order on Count II of the Second Amended Complaint issued by the U.S. District Court for the District of Columbia under Civil Action No 97-0936 (NRDC v. Peña), DOE is required, no later than January 1, 2004, (1) to determine whether any or all experiments using plutonium, other fissile materials, fissionable materials other than depleted uranium, lithium hydride, or a Neutron Multiplying assembly, shall be conducted in the NIF; or (2) prepare a Supplemental SSM PEIS, in accordance with DOE NEPA Regulation 10 CFR 1021.314, analyzing the reasonably foreseeable environmental impacts of such experiments.

Comment Code 3-30**Response:**

The United States, consistent with Article VI of the Nuclear Nonproliferation Treaty, is continuing negotiations on the elimination of nuclear weapons. The U.S. Senate voted to give its advice and consent to ratification of the START II, which awaits action by the Russian Duma and the Federation Council to enter into force. In 1997, the President and President Yeltsin reached an understanding to begin negotiations on START III immediately after START II enters into force.

Meanwhile, however, a credible nuclear deterrent remains a cornerstone of U.S. national security policy. In President Clinton's September 22, 1997 letter transmitting the CTBT to the Senate for its advice and consent to ratification, he reiterated that "I consider the maintenance of a safe and reliable nuclear stockpile to be a supreme national interest of the United States."

LLNL performs activities in support of DOE's national security mission, which is assigned to DOE through Presidential Decision Directives and congressional actions. As required in 10 CFR 1021.330(d), the SA addresses the adequacy of the 1992 EIS/EIR for ongoing and projected activities through the year 2002. These activities reflect the current mission assignments to LLNL; Section 1.4 of the SA describes the process that DOE used to identify these activities and evaluate changes from the 1992 EIS/EIR. It is not reasonable for the SA to consider alternatives that are inconsistent with current national security policy.

Also, see Common Issue 2.3, Opposition to Nuclear Activities, and Common Issue 2.1, Supplement Analysis Process.

Comment Code 3-31**Response:**

LLNL has published data on the distribution of plutonium in the local environment. These data come from the comprehensive environmental monitoring program where all potentially affected environmental media are monitored for plutonium, including air, water, soils, and individual facility potential emission points. The data are published each year in the SAER. In addition, LLNL conducts computer dispersion modeling, based on both actual and potential emissions and actual meteorological data collected from our on-site meteorological tower.

See also the response to comments 1-5 and 1-12, above, and Common Issue 2.4, Concerns With HEPA Filters.

Comment Code 3-32**Response:**

The public dose from normal operations of LLNL and SNL-L, as well as the public dose from potential accidents evaluated in this SA take into account the densely populated area surrounding LLNL and SNL-L.

Very low levels of plutonium have been found in at least one area offsite. The plutonium is part of the legacy of past operations of LLNL. Practices that might have resulted in past plutonium releases to offsite areas are no longer allowed today. Cleanup of plutonium involves remediation activities and consultation with appropriate authorities under CERCLA.

Also, see Common Issue 2.4, Concerns With HEPA Filters.

Comment Code 3-33**Response:**

See the response to comment 3-19, above.

Comment Code 3-34**Response:**

DOE believes that continued operation of LLNL and SNL-L is within the impacts analyzed in the 1992 EIS/EIR and is consistent with the analyses present in the SSM PEIS, WM PEIS, and other NEPA documents.

Comment Code 3-35**Response:**

The water use for TSF at LLNL is not as high as that projected for the Los Alamos National Laboratory. The total water use for LLNL in 2002, counting all users including NIF, is approximately the same amount projected for the year 2002 in the 1992 EIS/EIR. This projected amount can be provided with the current infrastructure and supply. Section 9 of the SA was revised to include the most recent cumulative water use projections for the TSF at LLNL.

Comment Code 3-36**Response:**

The electrical use, including NIF and part of TSF, is expected to increase beyond levels originally projected in the 1992 EIS/EIR, but these increases would not have significant impacts since infrastructure and suppliers currently have the capacity to handle the projected use and peak load.

Comment Code 3-37**Response:**

Now that the U.S. Enrichment Corporation has been privatized, DOE is responsible for NEPA reviews for new, future AVLIS operations at LLNL. However, the most recent NEPA document, Environmental Assessment for the AVLIS Integrated Process Demonstration, USEC/EA-96001, was completed by the USEC in January 1996. This EA was prepared under an interagency cooperative agreement that designated USEC as the lead agency and DOE as the cooperating agency. A FONSI was signed by USEC and DOE on January 3, 1996. As indicated in the FONSI, "On the basis of the analysis in the EA, the Proposed Action to conduct the Integrated Process Demonstration at LLNL would not constitute a major action significantly affecting the quality of the human environment. Therefore, an Environmental Impact Statement is not required." Copies of these documents were provided to the public for review and comment during the review process.

Also, see the response to comment 3-25, above.

Comment Code 3-38**Response:**

The MOX Lead Test Assembly work is currently being considered for implementation at LLNL in the Surplus Plutonium Disposition EIS. The MOX R&D work would require natural or depleted uranium which would be brought into Building 332, but would also be shipped out as work is incrementally completed, so that only an additional approximately 1000 kg would remain onsite after Fiscal Year 2003. This work would remain well within the proposed 3000 kg administrative limit for natural or depleted uranium for Building 332. The MOX program is expected to generate small quantities of transuranic waste (such as transuranic-contaminated glovebox gloves, bags, empty bottles, analytical waste, etc.) and LLW (such as wipes, gloves/shoe covers, decontamination wastewater, etc.). These wastes are not expected to significantly increase the waste streams at LLNL. The accident risk from performing the R&D activities of the MOX program will be within the envelope of accident impacts outlined within the 1992 EIS/EIR and this SA.

Comment Code 3-39**Response:**

The program drivers for the higher tritium inventory limit are the Army Tritium Recovery/Recycle Project, Mound Tritium D&D support, and NIF target development and loading capability. The Army recycle work involves accepting shipments containing several grams (5 - 10 grams) of tritium, followed by a processing period, then transfer offsite. This sequence will occur repeatedly, occasionally with new shipments arriving before shipment of previous accumulations. An inventory of up to 20 grams could occasionally develop as a result of this activity, but only for the next 2 - 3 years when the Army change-out of tritium illumination devices will be the most intense. In assisting the Mound site with ongoing D&D activities it may become necessary to accept (and process for recycle) tritium storage vessels, beds or traps. The

shipments could contain as much as 5 grams. Finally, the NIF developmental target work will require an inventory of several (2 - 5) grams. Follow-on installation of a target loading station will add an additional 5 grams or more to the maximum inventory requirement, but not for 3 - 4 years. The combined tritium requirements of these programs shows that a 30 grams inventory limit is appropriate and would provide sufficient flexibility if carefully managed.

Comment Code 3-40

Response:

A biohazard level III facility is not currently planned for LLNL. Nevertheless, if programmatic needs change, appropriate NEPA and safety reviews would be undertaken before such a facility is established at LLNL.

Comment Code 3-41

Response:

There are no classified annexes to the 1992 EIS/EIR or the SA.

Comment Code 3-42

Response:

Natural and depleted uranium consist of several isotopes, each with its own specific activity and very long half-life. The dominant isotope is U-238 (99.3%). The U-235 isotope decays about 6 times faster than U-238. Uranium with an increased proportion of U-235 (enriched) is used in reactor fuels and weapons. All uranium is toxic, as well as radioactive, although at a low level compared to many other radionuclides. The real difference in the isotopes of uranium is the ability of U-235 to fission.

DOE and LLNL make every effort to produce fact sheets and disseminate information to the public and media that is accurate.

Comment Code 3-43

Response:

See Common Issue 2.4, Concerns With HEPA Filters.

Comment Code 3-44

Response:

See Common Issue 2.4, Concerns With HEPA Filters.

Comment Code 3-45

Response:

See Common Issue 2.2, Proposed Changes in Administrative Limits.

Comment Code 3-46

Response:

DOE agrees an analysis is necessary to support the need for increased administrative limits for operations proposed in the Superblock Complex. The SA explains the results of such analyses but relies on the supporting documentation contained in SARs.

Nuclear SARs are prepared in accordance with DOE Order 5480.23. Contractors who are responsible for the design, construction, or operation of DOE nuclear facilities are required to perform safety analysis that develops and evaluates the adequacy of the safety basis for each such facility. The safety basis to be analyzed includes management, design, construction, operation and engineering characteristics necessary to protect the public, workers, and the environment from the safety and health hazards posed by the nuclear facility.

SARs have been prepared for all the nuclear facilities contained within the Superblock Complex and for the Nondestructive Test Facility, Building 239. These documents contain the analyses that support continued safe operations within the facilities.

Comment Code 3-47

Response:

The environmental justice section of the SA (section 8) has been revised to include Site 300. This site is located in a census block that is greater than the state average for minorities, but not for low income. Because impacts at Site 300 are within the bounds of 1992 EIS/EIR and are considered low or negligible, there would be no disproportionately high and adverse impacts near Site 300. The tritium-contaminated groundwater plume is within the site boundary and is receding due to ongoing remediation activities. This plume is not expected to affect offsite water users. See also the response to comment 1-7, above.

Comment Code 3-48

Response:

DOE provides information in English about Site 300 to interested stakeholders. However, no information is prepared in Spanish at this time.

Comment Code 3-49**Response:**

Mitigation measures consisted of alerting LLNL programs of exclusion zones around each nest site until the young had fledged and were independent. These mitigation measures were developed in conjunction with the U.S. Fish and Wildlife Service. There has been a steady increase in nesting activity at the Livermore Site over the last 4 years. In 1998, 6 nesting pairs of kites were successful in fledging 14 young. Additional information is provided in the LLNL SAERs.

Comment Code 3-50**Response:**

See Common Issue 2.4, Concerns With HEPA Filters.

Comment Code 3-51**Response:**

DOE proposes that the existing administrative limit of 700 kg for plutonium at Buildings 332 and 334 be retained, primarily to accommodate the plutonium already on site, which cannot be relocated to other DOE facilities, as described in section 1.4.2 of the SA. There are various physical and chemical forms in the laboratory, as expected in a research environment. In 1994 several cans containing plutonium ash residue (oxides) were found to be bulging. This resulted from internal pressure from gases slowly created by the plutonium irradiating organic materials (such as plastic bags) also in the sealed cans. This pressurization would not cause them to explode, but rather was of concern because a sudden release of pressure could have caused a puff of airborne particles. Nonetheless, building confinement filters would have prevented an environmental release. The cans were punctured to release any pressure, and they were over-packed in cans having a carbon frit-filtered vent. A program is underway to stabilize this plutonium residue so that it can be stored in sealed containers for many decades.

Comment Code 3-52**Response:**

See the response to comment 3-25, above.

Comment Code 3-53**Response:**

See the response to comment 3-25, above.

Comment Code 3-54

Response:

The cumulative impacts for site operations from 1998 to 2002 are addressed in Section 9 of this SA.

See also the response to comment 3-24, above.

Comment Code 3-55

Response:

The issue of water use by the site has been added to Section 9 on cumulative impacts, section 2.10 and section 9. Recent investigations on the effects of buried capacitors on groundwater are discussed in Section 2.4.

See Common Issue 2.1, Supplement Analysis Process. See also the response to comments 1-7 and 3-24, above.

Comment Code 3-56

Response:

LLNL work to support the subcritical testing program involves routine operations that are within the scope of its continuing mission activities as assessed in the 1992 EIS/EIR.

Comment Code 3-57

Response:

Current AVLIS activities were evaluated in Chapter 4 of the 1996 USEC EA. It was indicated that there would be releases to the environment from AVLIS operations. However, as indicated in the EA, programs have been established to minimize the amount of hazardous materials released to the environment. Regular monitoring is done as required under the Bay Area Air Quality Management District and the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations. Data are reported annually in LLNL's NESHAP report to the EPA. The AVLIS emissions are expected to be well below the threshold levels and are within conditions specified in permits.

See also the response to comment 3-25, above.

Comment Code 3-58

Response:

The AVLIS operations have been, and will continue to be, within the envelope described in the 1996 USEC EA, the 1990 DOE AVLIS EA, and the 1992 EIS/EIR.

See also the responses to comments 3-25 and 3-56, above.

Comment Code 3-59

Response:

See also the response to comment 3-29, above.

Comment Code 3-60

Response:

DOE does not believe that the level of tritium in the grapes in the local area have significantly higher levels of tritium than those used for wines in the Livermore Valley. The nature of atmospheric dispersion is such that higher concentrations are expected closer to the release point. However, four times a small number is still a small number, and it does not correlate to potential health impacts.

The information on tritium in Livermore Valley wine is discussed in the 1992 EIS/EIR. The amounts of tritium in wine are determined using highly sophisticated technology (helium-3 mass spectrometry). Such a sensitive technique allows one to detect differences between Livermore wines and others, but use of commercially available techniques would likely not be able to detect tritium in any samples, including those from Livermore. The tritium-in-wine data are published and placed in proper context each year in the SAER. That is, the data are evaluated using accepted and conservative dose models that indicate that while Livermore Valley wines do indeed contain more tritium than wines from other areas, the impacts are negligible. The dose to a consumer, assuming a relatively high 2-liter-per-day wine consumption at the highest tritium level detected in Livermore wines during 1997, would have been 0.0099 mrem. This dose is very small in comparison with the 10 mrem per year public exposure limit mandated in EPA regulations for the air pathway. That 10 mrem is conservative relative to the 100 mrem recognized internationally as providing adequate public protection from all pathways. And it is low compared to other radiological doses to persons in the vicinity of LLNL, including doses from naturally occurring radon, uranium, medical x-rays, cosmic rays, etc.

It is generally true that when tritium usage at LLNL is reduced, there are fewer operational emissions, and therefore smaller amounts detected in the environment. However, attempts to mathematically correlate annual tritium emissions with the measured concentrations of tritium in Livermore Valley wines have been unsuccessful. Although tritium rapidly diffuses in air and slowly permeates through most materials, the conversion rate of elemental gaseous tritium to a water form is relatively slow. Canadian field experiments show that the atmospheric conversion is on the order of 0.5% to 1% per hour (article by R. M. Brown, et al, in *Health Physics* 58:171-181, 1990).

While it is true that nearly a million curies of tritium have been released from LLNL over its history, it should be noted that over 700,000 of these curies were released in two events (1965 and 1970) in the form of elemental tritium gas. Tritium gas is known to have a significantly

lower dose impact than tritiated water or water vapor; in fact, the dose is 25,000 times lower from exposure to tritium gas. Much of the remainder of the releases (about 50%) were also tritium gas releases. Therefore, the dose consequences of most of the tritium releases from LLNL have been negligible. In addition, LLNL's environmental monitoring program measures tritium impacts in all affected environmental media and reports those data annually in the SAER.

The potential for tritium to be released from routine NIF operations has been assessed in its project-specific environmental analysis at Appendix I of the DOE SSM PEIS. The amount of incremental tritium emissions from NIF will be much smaller than present emissions from the Laboratory, and thus have no additional environmental or public health effect. Continuous stack monitoring will be installed at NIF.

See also, the response to comment 3-29, above.

Comment Code 3-61

Response:

See the response to comment 3-29, above.

Comment Code 3-62

Response:

The intent of the programmatic environmental document (such as the 1992 EIS/EIR) is to provide an impact analysis baseline that bounds the impacts from ongoing and future proposed projects. Most of the larger new facilities at LLNL that have been completed, are underway, or are proposed for construction by year 2002 were mentioned as proposed projects in the 1992 EIS/EIR. Although these facilities were mentioned as proposed projects, their specific, detailed design and process information were not available to conduct an environmental analysis at the time of completion of the 1992 EIS/EIR. As their design information became available, project-specific NEPA analyses were completed as committed in the 1992 EIS/EIR. The potential impacts of those new project-specific NEPA analyses (as noted in Table 1.1 of the SA) were compared with the bounding accident impact projections contained in the programmatic 1992 EIS/EIR. Completion of these projects should yield no significant unmitigated environmental effects and the 1992 EIS/EIR still remains adequate.

Comment Code 3-63

Response:

The probability of one in one million per year is a generally accepted cut-off point used in determining when an event is considered credible (i.e., higher than one in one million per year) and subject to analysis, or is considered incredible (i.e., less than one in one million per year) and typically not analyzed.

4.4 RESPONSES TO COMMENTS FROM DOCUMENT 4: PUBLIC BRIEFING, LIVERMORE, FEBRUARY 11, 1999, 6:00 P.M.

Comment Code 4-1

Response:

Eighty tons of uranium is required for the AVLIS IPD series work outlined in the 1996 USEC EA. This quantity was also the administrative limit for the facility that was analyzed in the 1992 EIS/EIR.

Comment Code 4-2

Response:

See the response to comment 1-15, above.

Comment Code 4-3

Response:

DOE, in its NEPA reviews, must consider sites that are reasonable alternatives to perform the proposed action or work. Typically, only a few sites, such as LLNL, have the infrastructure and technical expertise to carry out the proposed work. DOE selects sites based on the lack of significant environmental impacts, as well as other factors such as costs, availability of facilities, technical expertise, etc.

Also, see Common Issue 2.3, Opposition to Nuclear Activities, and Common Issue 2.4, Concern with HEPA Filters.

Comment Code 4-4

Response:

See Common Issue 2.3, Opposition to Nuclear Activities. Also, see the response to comment 4-3, above.

Comment Code 4-5

Response:

See Common Issue 2.3, Opposition to Nuclear Activities. Also, see the response to comment 4-3, above.

Comment Code 4-6

Response:

See Common Issue 2.1, Supplement Analysis Process, and Common Issue 2.3, Opposition to Nuclear Activities.

Comment Code 4-7

Response:

See Common Issue 2.3, Opposition to Nuclear Activities. Also, see the response to comment 4-3, above.

Comment Code 4-8

Response:

See Common Issue 2.3, Opposition to Nuclear Activities. Also, see the response to comment 4-3, above.

Comment Code 4-9

Response:

See Common Issue 2.3, Opposition to Nuclear Activities. Also, see the response to comment 4-3, above.

Comment Code 4-10

Response:

This SA evaluates the increase in uranium limit for Buildings 332 and 334 from 300 kg (all types) to 3,500 kg (all types). Uranium is very dense (specific gravity about 19). About 7 cubic feet of uranium metals would weigh about 3200 kg. This is larger than a basketball: about the size of a microwave oven. Less than 1% enriched uranium metal is not highly radioactive and is used in a number of applications such as boat ballast, counterweights, and shielding for tanks and other military vehicles. See also the response to comment 1-15, above.

Also, see Common Issue 2.2, Proposed Changes in Administrative Limits.

Comment Code 4-11

Response:

The increased quantities of uranium would be stored locally at LLNL.

Comment Code 4-12**Response:**

DOE analyzes all possible accident scenarios and screens out those considered incredible. For the vault, the series of events have a combined probability so low that it is considered incredible, that is, has a chance of less than one in one million per year of operations. In the case of the vault, the materials are in a sealed hardened source designed to withstand extreme events, such as a ground acceleration greater than 0.8g. There is no combustible material in the vault to feed a fire, and the vault is for all purposes impenetrable to external challenges. As a result of this, for a variety of scenarios, the probability of the material being released is calculated to be less than one in one million per year of operation. The possibility that an accident could release material from the vault to the environment is considered an incredible event or extremely improbable.

Comment Code 4-13**Response:**

LLNL conducts a comprehensive environmental monitoring program that samples all parts of the environment to determine the impacts of LLNL operations on the environment and the public. The program includes direct monitoring of both Laboratory emissions (stacks and sewer) as well as surveillance monitoring of the environment surrounding the Laboratory. State-of-the-art monitoring equipment and analytical techniques are used to measure concentrations of potential pollutants at extremely low levels. The program has been evaluated by qualified peers and found to be extremely robust and comparable to any in the country or world. The results of the environmental monitoring program are published every year in the SAER.

See the response to comments 1-2, 1-4, 1-7, 1-12, 3-31, and 3-60. Also, see Common Issue 2.4, Concerns With HEPA Filters.

Comment Code 4-14**Response:**

DOE does not believe that the continued operation of LLNL and SNL-L will pose a significant impact to the public or the environment.

See the response to comments 1-2, 1-3, 1-4, 1-5, 1-7, 1-8, and 1-12. Also, see Common Issue 2.4, Concerns With HEPA Filters.

Comment Code 4-15**Response:**

See the response to comment 4-3, above. Also, see Common Issue 2.3, Opposition to Nuclear Activities, above.

Comment Code 4-16**Response:**

The units have been changed to be consistent; the correct unit is one chance in one million per year. DOE has decided to continue the use of curies in the SA and not include the equivalent units in becquerels or disintegrations per second for ease of presentation.

Comment Code 4-17**Response:**

See Common Issue 2.1 Supplement Analysis Process.

Comment Code 4-18**Response:**

DOE has several programs for reporting incidents and accidents. The CAIRS system collects the widest range of data. CAIRS is a database used to collect and analyze DOE and DOE contractor reports of injuries, illnesses, and other accidents that occur during DOE operations in accordance with DOE Order 231.1. CAIRS reporting is managed by the Office of Occupational Safety & Health Policy (EH-51). Access to the CAIRS system is available through the internet at "www.tis.eh.doe.gov."

Another level of reporting is covered under the Occurrence Reporting and Processing System (ORPS). DOE's ORPS Program provides timely notification to the DOE complex of events that could adversely affect: public or DOE worker health and safety, the environment, national security, DOE's safeguards and security interests, functioning of DOE facilities, etc. DOE analyzes aggregate occurrence information for general implications and operational improvements. The ORPS Program and its data system are described in DOE Order 232.1A and its associated Manual, DOE Manual 232.1-1A. DOE/OAK final occurrence reports are available to the public through the Energy Information Center or the Office of Public Affairs located at 1301 Clay Street, Oakland, California. These offices can be contacted for any information pertaining to injuries, illnesses or accidents involving LLNL.

Significant occurrences or accidents are analyzed in investigations termed Type "A" and Type "B". A report is done on each of these accidents and is available to the public through the internet at "www.tis.eh.doe.gov." Specific information pertaining to DOE/OAK accidents is available through the Energy Information Center or the Office of Public Affairs.

DOE is not aware of any releases or spills to the environment associated with a 5.5 earthquake in the recent past. There was a 5.5 seismic event in 1980 at Livermore. Several upgrades were made to the Laboratory's infrastructure as a result of that event. The analysis in the 1992 EIS/EIR incorporates data and changes to facilities from the 1980 earthquake.

Comment Code 4-19**Response:**

DOE and LLNL would report any accidents with the potential to impact the public or the environment, even if it occurred as a result of classified activities.

See also the response to comment 4-18, above.

Comment Code 4-20**Response:**

See the response to comment 4-18, above.

Comment Code 4-21**Response:**

The only criticality incident in the last four decades at LLNL occurred on March 26, 1963, in Building 261, during a criticality experiment. The occurrence of an excursion of 4×10^{17} fissions was attributed to mechanical failure during the experiment. Exposure to personnel in or near the building was low and did not exceed 0.12 rem. Only small amounts of short-lived gaseous fission products were released from the experiment room.

Comment Code 4-22**Response:**

DOE acknowledges that nearly a million curies of tritium have been released from LLNL over its history. However, it should be noted that over 700,000 of these curies were released in two events (1965 and 1970) in the form of elemental tritium gas. Tritium gas is known to have a significantly lower dose impact than tritiated water or water vapor. In fact, the dose is 25,000 times lower from exposure to tritium gas. Much of the remainder of the releases (about 50%) were also tritium gas releases.

The tritium in vegetation consists of that in "free water" and that which is in an organic molecules. In the 1997 SAER, LLNL included a discussion of organically-bound tritium doses, assuming that entire plants were made up of organically-bound tritium, and showed that the doses were negligible. Although the potential damage to human tissue of an organically-bound tritium molecule may be a factor of 3 to 5 higher than for a molecule in free water form, this organic portion is so small that that it is not considered a significant contributing factor. In the calculations of public dose, the assumptions as to intake of vegetation are very conservative (overestimated) that they outweigh any organically-bound tritium that could be separately measured. The direct monitoring of organically-bound tritium is difficult and expensive, and would not enhance public protection.

Comment Code 4-23**Response:**

See the response to comment 1-15, above.

Comment Code 4-24**Response:**

The SA (Section 6) notes that the methodology for assessing accidents used in the 1992 EIS/EIR employed a consequence assessment and not a risk assessment methodology. Consequence assessment approaches assume that the triggering event (e.g., earthquake) and resulting release of hazardous material have a 100% probability of occurring. Consequences (e.g., dose, exposure, and health effects) are therefore calculated as if the event and release occurred. The frequency of handling or use of a material would not factor into an approach employing a consequence assessment.

The probability of an accident that releases material to the environment is related to a limited extent to the number of operations with the material. Accidents also occur as a result of hardware failure (e.g., valves, fans) and building fires and natural phenomena (e.g., earthquakes). These accidents are independent of the operations, and the amount released and their consequences depend greatly on the amount of "material at risk" to the accident. The amount at risk is controlled by administrative limits for the amount of material in a container, glovebox, workstation, room, etc. Because of this, neither the probability, size of the release, nor the consequences increase proportionally with the increased inventory in the facility. In the 1992 EIS/EIR, and therefore in this SA, the consequences of "bounding accidents" are presented. Although the administrative limits are proposed to be raised, the bounding accidents in the 1992 EIS/EIS have been found by this SA to still apply.

Comment Code 4-25**Response:**

There was one air plutonium release from the Plutonium Facility at LLNL in 1980 as a result of an incorrect changeout and sealing of HEPA filters. The amount released was monitored at the time. Ongoing, continuous monitoring of the plutonium facility, using methods sanctioned by the US Environmental Protection Agency, indicates that the HEPA filter systems are performing as intended.

DOE believes that worker safety and health monitoring is within established guidelines for exiting radioactive areas.

Also, see Common Issue 2.4, Concerns With HEPA Filters, above.

Comment Code 4-26**Response:**

There was a release of plutonium to the sanitary sewer in 1967 at LLNL. Both the amounts of plutonium released and the resulting concentrations in the sludge at the Livermore Water Reclamation Plant (LWRP) have been estimated and discussed in the SAERs and the 1992 EIS/EIR. Although knowledge about where the affected sludge was ultimately utilized is uncertain, experiments using the contaminated sludge to grow a vegetable garden were conducted and the results published in the early 1970s; these experiments indicated there was no cause for health concern from the plutonium in the sludge. Furthermore, gardens of Laboratory employees who received contaminated sludge from the LWRP were sampled and these data also indicate no cause for public health concern. It is likely that the same is true regardless where this material was used. The nature and magnitude of the contamination does not warrant any cause for public health concern.

Also, see the response to comment 1-12, above.