DOE/EIS-0236-S1F

National Ignition Facility
Final Supplemental Environmental Impact Statement to the Stockpile Stewardship and Management Programmatic Environmental Impact Statement

Volume II: Response to Public Comments

Prepared by
U.S. Department of Energy
Oakland Operations Office
Oakland, California

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NOTATION

The following is a list of the acronyms, abbreviations, and units of measure used in this report. Notation used only in equations and tables is defined in those equations and tables.

ACRONYMS AND ABBREVIATIONS

AVLIS	atomic vapor isotope separation
Caltrans	California Department of Transportation
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
CTBT	California Test Ban Treaty
DOE	U.S. Department of Energy
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
ETC	East Traffic Circle
FOIA	Freedom of Information Act
FR	*Federal Register*
Freon 11	trichlorofluoromethane
JSO	Joint Stipulation and Order
LLNL	Lawrence Livermore National Laboratory
MOU	memorandum of understanding
NEPA	National Environmental Policy Act
NIF	National Ignition Facility
NNSA	National Nuclear Security Administration
NOI	Notice of Intent
NRDC	Natural Resources Defense Council
OEHHA	Office of Environmental Health Hazard Assessment (California)
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PEIS	Programmatic Environmental Impact Statement
PRG	preliminary remediation goal

QAPP	Quality Assurance Project Plan
R&D	research and development
ROD	Record of Decision
RPM	Remedial Project Manager
SEAB	Secretary's Energy Advisory Board
SEIS	Supplemental Environmental Impact Statement
SSM	Stockpile Stewardship and Management

Units of Measure

cm	centimeter(s)	µm	micrometer(s)
cm^3	cubic meter(s)	mm	millimeter(s)
d	day(s)	mi	mile(s)
ft	foot (feet)	mi^2	square mile(s)
g	gram(s)	MJ	megajoule(s)
µg	microgram(s)	pCi	picocurie(s)
mg	milligram(s)	ppb	part(s) per billion
gal	gallon(s)	ppm	part(s) per million
in.	inch(es)	s	second(s)
km	kilometer(s)	yd^3	cubic yard(s)
L	liter(s)	yr	year(s)
m	meter(s)		

1 INTRODUCTION

1.1 BACKGROUND

The U.S. Department of Energy (DOE) prepared this *National Ignition Facility Supplemental Environmental Impact Statement to the SSM PEIS* (DOE/EIS-0236-S1F) in accordance with the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act of 1969 (NEPA) (40 *Code of Federal Regulations* [CFR] 1502.5) and DOE's requirements for implementation of NEPA (10 CFR 1021.314). In addition, this Supplemental Environmental Impact Statement (SEIS) was prepared in accordance with a Joint Stipulation and Order (JSO) approved and entered as an order of the court on October 27, 1997, in partial settlement of the lawsuit Civ. No. 97-936 (SS) (D.D.C), *Natural Resources Defense Council (NRDC) et al. v Richardson et al.* Paragraph 7 of the JSO provides that the SEIS shall evaluate the reasonably foreseeable significant adverse environmental impact of continuing to construct and of operating the National Ignition Facility (NIF) at Lawrence Livermore National Laboratory (LLNL) with respect to any potential or confirmed contamination in the area by hazardous, toxic, and/or radioactive materials.

On September 25, 1998, DOE announced in the *Federal Register* the agency's intent to prepare a SEIS (Volume I of this SEIS) for the NIF portion (Volume III, Appendix I) of the *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) (DOE/EIS-0236, September 1996). This SEIS addresses potential and confirmed contamination in the seven site areas stipulated in the JSO; summarizes known contamination in the stipulated areas; summarizes information on the results of historical investigations, geophysical surveys, and soil and groundwater sampling to determine the potential for additional buried objects or wastes in the NIF area as defined in the JSO; and analyzes the environmental impacts of buried materials and the cleanup of any such materials, including effects on human health. DOE released the Draft SEIS to the public to obtain stakeholder comments and to consider such comments in the preparation of the final SEIS. In response to those comments, DOE prepared this Comment Response Document, which is Volume II of the SEIS.

1.2 PUBLIC PARTICIPATION

DOE issued the Draft SEIS for public review and comment by mailings to stakeholders and by announcements in the *Federal Register* (FR) on November 5, 1999, via a DOE Notice of Availability (64 FR 60430) (Attachment 4 of Volume I) and an Amended Notice of Availability on November 12, 1999 (64 FR 61635) correcting a document title (Attachment 5 of Volume I). On the same date, public notices announcing the publication of the Draft SEIS and soliciting comments were also published in the *Tri-Valley Herald* and *The Oakland Tribune*. Copies of the Draft SEIS were initially mailed to 95 individuals and organizations (Section 7, Volume I). In all, a total of 220 Draft SEISs were distributed.

The comment period extended for 45 days from November 5, 1999, to December 20, 1999. Public comment meetings were held on Wednesday, December 1, 1999, in Washington,

D.C., and on Wednesday, December 8, 1999, in Livermore, California. Eight people registered their attendance at the Washington, D.C., meeting and 34 people registered their attendance at the two Livermore, California, meetings. Spoken comments were recorded by a court reporter at the public meetings, and transcripts were produced. Written comments were received as well. The format chosen included a presentation by the DOE NEPA Document Manager followed by a question and answer period. Following the question and answer period, commenters formally presented their comments on the SEIS. The transcripts of the comment meetings, written material handed in during the comment meetings, and letters and electronic mail received in response to the Notice of Availability are included in Section 3.

Comment documents were reviewed for their content and relevance to the environmental analyses contained in the SEIS. DOE read each comment document and identified statements related to the content and conclusions of the SEIS, including any stated preference for alternatives, and other comments on DOE or nuclear weapons programs. DOE considered both oral and written comments to evaluate the accuracy and adequacy of the Draft SEIS; to determine whether the text needed to be clarified, corrected, or revised; and to prepare written responses to address the public's concerns. DOE gave equal weight to spoken or written comments and to comments received during meetings, in the mail, or electronically. Comments were marked and numbered in the margins (see Section 3) so that they could be cross-referenced with the name and organization of the person making the comment and with DOE's responses to the comments. Following completion of the response to comments and revisions to the SEIS, DOE distributed both volumes of the Final SEIS to the individuals and organizations listed in Section 7 of Volume I.

2 GENERAL ISSUES

This section describes issues that were of broad general interest to the public in their comments on the Draft NIF SEIS. These general issues are referenced or included in the responses to individual comments found in Section 4 of this volume, Volume II of the SEIS.

General Issue 1: Preference for Ceasing Construction for Environmental Reasons

Commenters expressed a preference for ceasing to construct and operate NIF on the basis of concerns that NIF operations would further contaminate the environment.

DOE has found that site contamination at LLNL is being reduced by remediation efforts and improved waste management practices. The SSM PEIS concluded that NIF would not release contaminants to soils or groundwater; therefore, the impacts would be negligible. The trend of declining contamination is expected to continue during NIF operations. This SEIS concludes that it is unlikely that there is significant contamination in the areas of NIF construction that could result in significant effects on human health or the environment. Buried capacitors containing polychlorinated biphenyls (PCBs) were discovered at the NIF site; their subsequent cleanup has eliminated a potential source of future environmental contamination.

General Issue 2: Preference for Ceasing Construction for Nonenvironmental Reasons

Many commenters expressed preferences for ceasing to construct and operate NIF for a variety of nonenvironmental reasons. Commenters provided statements on moral/ethical issues, proliferation concerns, disapproval of nuclear policy, disagreement that NIF is needed, costs of NIF, and disapproval of nuclear weapons.

DOE evaluated these statements of preference, and they are entered in the public record. Although the SEIS is limited by NEPA and its implementing regulations to an evaluation of the environmental impacts of changed circumstances or new information regarding construction and operation of NIF, all public comments will be taken into account in the development of DOE's Record of Decision (ROD). In addition, the commenters are encouraged to pursue their concerns through other avenues of public outreach within DOE.

General Issue 3: SEIS Inadequacy Because DOE Did Not Hold Public Scoping Meetings

Commenters stated that the SEIS is inadequate because there were no scoping meetings for the SEIS. Members of the public felt that they were not given the opportunity to comment on SEIS scope.

Neither the Council on Environmental Quality (CEQ) nor DOE NEPA regulations obligate the preparing agency to hold scoping meetings for a SEIS. In the case of this SEIS, the

conditions and requirements of the JSO largely determined the scope of the analysis. At the time of the Notice of Intent (NOI), DOE evaluated other issues and determined that there were no other changed circumstances or new information that should be addressed in this SEIS. The scope of the SEIS was announced in the NOI, published in the *Federal Register* on September 25, 1998. In addition, the NOI was provided to LLNL stakeholders. The NOI provided a mailing address for those wishing to provide written comments on SEIS scope.

General Issue 4: Breadth of Scope, Including Impacts of NIF Operations

Commenters expressed the opinion that the SEIS was not a NEPA document because the SEIS did not address a broad range of issues related to NIF construction and operation. Commenters stated that the SEIS should address the impacts of NIF operation beyond those identified in the JSO.

DOE has prepared this document according to the applicable regulations for implementing NEPA. The JSO directed DOE to prepare an SEIS evaluating the impacts from continuing to construct and from operating NIF with respect to any potential or confirmed buried hazardous, toxic, or radioactive materials, in accordance with DOE NEPA regulation 10 CFR 1021.314(d). The JSO defined the two-phase approach used by DOE to search for and evaluate buried hazardous, toxic, or radioactive materials in the Stipulated Areas. These phases were to (1) conduct interviews with current and former employees and review historical documents to locate potential waste burial sites and (2) conduct field investigations to locate buried objects or buried wastes. This SEIS contains the results of the two study phases and addresses the environmental impacts of NIF construction and operation associated with the capacitor find and any further known or potential site contamination.

The JSO was the source for the scope of the SEIS announced in the NOI. In addition, DOE evaluated whether there were other changed circumstances or new information that should also be addressed. DOE identified the East Traffic Circle (ETC) contamination discovered at the location of an old waste burial site as such new information. Discussions of the environmental impacts from this discovery and subsequent cleanup action were added to the SEIS.

The impacts of operating NIF — other than those potentially related to any potential or confirmed buried hazardous, toxic, or radioactive materials as analyzed in this SEIS — have already been addressed in the SSM PEIS. The ultimate design and operation of NIF have remained essentially unchanged since the preparation of the SSM PEIS, although the initial level of operations will be lower in some respects. DOE believes that the analysis in that document accurately reflects the environmental impacts of constructing and operating NIF. Therefore, DOE has determined that there were no new information or changed circumstances related to NIF operations, other than those contained in the SEIS, which would require further reevaluation of NIF operations as contained in the SSM PEIS.

General Issue 5: Additional Issues That Should Be Addressed in the SEIS

Commenters stated that certain hypothetical changes in NIF operations should be added to the scope of the NIF SEIS. These changes included:

- *Use of plutonium; uranium and lithium hydrides as targets;*
- *Damage to optics and more frequent maintenance of optics;*
- *Lower energy operations; and*
- *Reduced number of beam lines (a half-sized NIF).*

DOE examined these hypothetical operational changes and has concluded that they are not appropriate topics for the NIF SEIS.

The process for determining whether DOE will supplement the SSM PEIS to address a proposal to use plutonium, uranium, or lithium hydrides as targets was established in the Memorandum Opinion and Order issued by the U.S. District Court for the District of Columbia on August 19, 1998, in *NRDC v. Richardson*. By the terms of that Memorandum Opinion and Order, DOE, no later than January 1, 2004, will either (1) determine that experiments using plutonium, uranium (other that depleted uranium), lithium hydride and certain other materials will not be conducted in the NIF or (2) prepare a Supplemental SSM PEIS analyzing the reasonably foreseeable environmental impact of such experiments. DOE will continue to investigate the need for these experiments and will make the required determination or begin the appropriate SEIS by the specified date. However, until DOE has completed the necessary studies and determined that such experiments are needed, no proposal exists, and it would be inappropriate to begin an SEIS.

Public comment requested that the SEIS address more frequent damage to optics, more frequent maintenance of optics, and more frequent cleaning of optics. DOE has examined this issue and concluded that the impacts to workers and the public from damage to the optics in the beam lines has already been included in the impact assessments conducted as part of the SSM PEIS. The actual frequency at which optics components will have to be cleaned, adjusted, repaired, or replaced would not be determined until the facility is completed and tested. The NIF laser facility includes 192 beam lines consisting of more than 10,000 discrete optical components. The NIF target area provides confinement of tritium and activation products by providing physical barriers and controlling air flow. The facility operates in a pulsed mode; maintenance and repair of the beam lines would not occur during a pulse. The SSM PEIS evaluated risks to workers and the public and generation of wastes for an enhanced mode with a bounding yield. Normal operations are expected to be within those bounds, and normal operations include variations in scheduling of maintenance and repair of optics. For these reasons, DOE determined that this issue was not an appropriate issue or alternative for this SEIS.

Recently Congress directed the National Nuclear Security Administration (NNSA) to review options that would change the schedule for implementing the full design number of 192 beams or options that would possibly operate at a reduced number of beams to allow full demonstration of the system before proceeding with full operation (see Vol. I, Section 1.2). These changes would be modifications of the original proposal, resulting in a reduced project

scope. DOE has examined the environmental implications of implementing these modifications and has concluded that the impacts would fall within the bounds of those already evaluated for the 192-beam design in the SSM PEIS. The SSM PEIS demonstrated that the impacts of the 192-beam design are minor. Furthermore, DOE has concluded that the impacts do not vary significantly among the various options using fewer beams.

The SSM PEIS evaluated operations of NIF in an Enhanced Option Operation (SSM PEIS, Section I.3.2.2, pages I-21 to I-22) with an increased number of yield experiments per year to accommodate greater user needs to an annual total yield of 1,200 MJ/yr (maintaining the maximum design yield of 20 MJ), a maximum tritium inventory of 500 Ci, a tritium throughput of 1,750 Ci/yr, and tritium effluent of 30 Ci/yr. The maximum credible yield of 45 MJ is what the facility can withstand safely and is the same for the Conceptual Design Operations and the Enhanced Option Operations. Operations (e.g., during startup) with fewer beam lines and/or at less energy would result in less yield per shot, less tritium inventory, less tritium throughput, and less tritium effluent (see Section 2.2.2, Vol. I). The SSM PEIS analysis covers the range of impacts in the envelope from initial startup to full operation.

General Issue 6: The SEIS Is Not a Decision-Making Document Because Construction Continued

Commenters stated that the SEIS was inadequate because construction of the NIF continued during the preparation of the SEIS. Commenters stated that the SEIS was a "backward-looking" rather than "forward-looking" document. Commenters felt that the SEIS has little value as a decision-making document.

In the lawsuit Civ. No. 97-936 (SS) (D.D.C), *Natural Resources Defense Council et al. v Richardson et al.,* the plaintiffs asked that DOE be enjoined from continuing construction. However, no such injunction was ordered, so DOE continued construction activities. When the PCB-containing capacitors were found, DOE ceased construction at the NIF site until the objects and residual soil contamination were handled under an emergency removal action. Following removal, DOE restarted construction that continued during the lawsuit and subsequent preparation of the SEIS.

The SEIS would have been more "forward looking" (i.e., addressing future actions) if DOE had found additional buried objects or sources of contamination. Because the characterization studies did not locate or identify any other potential sources of contamination, the document mainly addressed past activities. DOE carefully evaluated the results of Phase I and Phase II site investigations, which were incorporated into the quarterly reports required by the JSO. If significant contamination had been found in areas of NIF construction, construction could have been halted (depending on the levels), remediation or removal procedures would have been developed, mitigation would have been recommended, assessments of consequences would have been provided in the SEIS, and results would have been incorporated into DOE's ROD. However, since sources of contamination beyond the initial NIF discovery in the area of NIF construction and residual contamination in the ETC were not found, the SEIS mainly evaluated the investigations and their results.

General Issue 7: The SEIS Improperly Characterized the No Action Alternative

Several comments were critical of the way in which the no action alternative was characterized in the SEIS. Some commenters stated that the two no action alternatives analyzed in the SEIS should have been considered as action alternatives. Others believed that the SEIS did not analyze the most reasonable impacts of the no action alternatives. Some commenters stated that the no action alternative should reflect "abandonment" of the project.

DOE believes that the characterization of no action in the SEIS is appropriate under the circumstances. The proposed action for NIF addressed in the SSM PEIS was construction and operation of the facility. The no action alternative in the SSM PEIS was to not construct and operate the NIF facility. In the 1996 ROD, DOE decided to proceed with construction and operation of NIF. Construction is now ongoing. This situation represents the "status quo" and was analyzed as one construct of no action in the draft SEIS, consistent with guidance issued by the CEQ (see Section 2 of the SEIS).

However, DOE realized that some readers could hold the position that no action should mean "no project" rather than maintenance of the status quo. Therefore, the draft SEIS also included a second construct of no action that would involve ceasing construction of NIF. As explained in Section 2.1.2 of Volume I of the SEIS, DOE does not believe that this is a reasonable alternative, since the need for NIF has not changed and the studies conducted under the JSO found no evidence of additional buried materials. However, the impacts of this second construct of no action were included in the draft SEIS.

DOE believes that both of these constructs are properly characterized as no action and that they should not be considered as action alternatives. As discussed in Section 2.2 of Volume I of the SEIS, potential action alternatives for the SEIS would have included modifying the manner is which NIF would be constructed and operated, in view of the potential for locating more buried material. Since no material was found, such alternatives were judged not to be reasonable.

In response to public comment, discussion of the possible scenarios that could result from ceasing construction of NIF, and the impacts of those scenarios, have been expanded in the final SEIS. Section 2.1.2 of Volume I of the SEIS identifies three options for ceasing construction: "mothballing," alternative use of the facility, and demolition. Ceasing construction in some cases would mean that some of the construction and operation impacts analyzed in the NIF portion of the SSM PEIS would not occur or would be different. These differences are evaluated in Section 4 of Volume I of this final SEIS.

DOE decided not to add the alternative of ceasing construction and abandonment of the facility, as suggested in public comments, to the final SEIS. As stated in Section 2.2.4 of Volume I of this SEIS, this alternative would violate various laws, regulations, and principles of good management practice. DOE believes that the three options for ceasing construction discussed above are much more realistic possible outcomes of a decision to cease construction. However, it must be emphasized that, for the reasons stated above, DOE does not consider the no action alternative of ceasing construction of NIF to be a reasonable alternative.

General Issue 8: Purpose and Need for NIF and NIF Mission Have Changed

Commenters stated that NIF was no longer needed, concluded that the purpose and need for NIF had changed with the end of the Cold War, and questioned the relationship of NIF to weapons testing. These commenters also requested that the SEIS reexamine the need for NIF and the NIF mission. Commenters also stated that NIF was just a scientific "toy" and that fusion power was not a sufficient purpose or need to justify NIF.

DOE has examined these issues and concluded that the purpose and need for NIF are still as stated in the SSM PEIS. NIF remains an important element in science-based stockpile stewardship (Gioconda et al. 2000).[1] While the NIF has scientific value beyond its role in stockpile stewardship, the stewardship mission of NIF is still primary. NIF has real practical application in nuclear weapons programs. It will allow experimental study of thermonuclear burn in the laboratory. It will extend the range of investigations of important regimes of high-energy-density sciences. Contributions to theoretical science and contributions to development of fusion power are secondary benefits of NIF. Although the end of the Cold War has resulted in major changes in global politics, nuclear weapons are still maintained by the nuclear powers.

General Issue 9: Nuclear Weapons Are Not Needed

Commenters questioned the nuclear policy of the United States. Commenters stated that nuclear weapons are not needed, are inherently dangerous, and have various negative moral and ethical implications. Commenters stated that the NIF would contribute to proliferation of nuclear weapons, because recent events could call into question the security of sensitive information.

DOE evaluated these issues and concluded that they were outside the scope of this SEIS in particular and of a NEPA analysis in general. These issues are nonenvironmental policy considerations rather than changed circumstances or new information with environmental consequences. Commenters are encouraged to pursue other avenues of DOE public outreach to have these issues addressed.

With respect to nonproliferation, DOE has studied this issue and concluded that proliferation of nuclear weapons is not an issue with regard to NIF. NIF does not present a significant nonproliferation risk. The nature of the experiments at NIF have little potential to contribute to proliferation of nuclear weapons. In spite of recent reports that could call into question the security of sensitive information, DOE has taken substantial actions to ensure that the technical proliferation concerns are acceptable. DOE has a long history of secure operations. Experiments at NIF would provide basic scientific information that is needed for the models on which stockpile stewardship is based. The results of many of the NIF experiments will be available to the scientific community at large. NIF has been planned to accommodate various

[1] Gioconda, T., C.B. Tarter, J.C. Browne, and C.P. Robinson, 2000, "The National Ignition Facility and Stockpile Stewardship," white paper, U.S. Department of Energy, Apr. 24.

national and international research and development (R&D) groups without compromising national security.

General Issue 10: Costs of NIF

Commenters were concerned with recent reports of cost overruns for NIF construction. They stated that NIF was too expensive and was badly managed, and that continued construction and operations were not justified on the basis of costs. Commenters stated that cost overruns for NIF plus the costs of operating NIF were going to change NIF operations.

On December 14, 2000, the Secretary of Energy certified and submitted to Congress a revised cost and schedule baseline for construction of NIF that increased the cost to complete the project and extended the schedule. The scope of the NIF Project has not changed. The revised baseline has the full NIF capability of 192 beams and assures that the funding needed to construct NIF does not create an imbalance in the remainder of the Stockpile Stewardship Program. For FY 2001, the Congress appropriated $199.1 million of the $209.1 million identified in the revised Congressional Project Data Sheet for NIF. The language in the fiscal year 2001 Energy and Water Development Appropriations Conference Report (H.R. 4733) requires the NNSA Administrator to study alternative paths and technologies for NIF and to certify the path forward to Congress after March 31, 2001, prior to committing the final $69.1 million (see Vol. I, Section 1.2). DOE will submit the study results and certify the path forward as requested. DOE has examined the environmental implications of implementing these modifications and has concluded that the impacts would fall within the bounds of those already evaluated for the 192-beam design in the SSM PEIS.

General Issue 11: Characterization Studies

Commenters stated concerns with the thoroughness of the characterization studies and disagreed with the conclusion of the SEIS that there is a "low likelihood that significant quantities of additional previously unidentified buried hazardous, toxic, or radioactive objects remain in the stipulated areas." Commenters stated that more sampling would have discovered additional objects or contamination.

DOE based the conclusion of a "low likelihood" on the results from Phase I interviews and examination of records and photographs, Phase II geophysical surveys for buried objects in areas suspected of prior disturbance or waste management activities, and Phase II soil borings.

It was technically unjustified and financially unfeasible to increase sampling intensity in regions of the stipulated area where there was no indication from the geophysical studies that buried objects were present. This is a relatively large area with substantial previous investigations. There are more than 450 groundwater monitoring wells and more than 1,000 soil borings on the LLNL site. In order to most efficiently search for unknown buried materials, DOE followed a two-phase screening approach set forth in the JSO. That approach was based on a review of site records to identify potential old burial sites and geophysical surveys to direct

detailed sampling of soil. DOE conducted four magnetometer surveys, two electrical conductivity studies, and one ground penetrating radar survey. Where these surveys detected anomalies that might represent objects or materials, DOE dug 31 soil boreholes and made 11 test excavations. To determine if any unknown buried materials were causing groundwater contamination, DOE installed six new groundwater monitoring wells. Soil borings and groundwater wells were placed in the locations where detection of any migration of contaminants from possible buried wastes was most likely. None of these borings or wells indicated contamination of soils by unknown buried wastes.

General Issue 12: PCB Contaminants in the East Traffic Circle Area and NIF Footprint

Commenters wondered why the characterization studies did not identify the PCB contamination later discovered in the ETC Area.

This is because the ETC was known to be an old waste disposal site that had already been remediated. Geophysical surveys in the area did not identify any further buried objects or other unknown sources of contamination. None of the methods employed for the site investigations could locate isolated, small points of residual contamination at the surface. Samples were taken during ETC construction activities to ensure that residual contamination was below acceptable levels. When samples showed PCB concentrations above initial regulatory action levels, additional cleanup actions were taken in consultation with the appropriate regulatory agencies.

Commenters wondered if geophysical studies and soil sampling were performed in the NIF construction footprint. DOE performed additional geophysical investigations and soil testing adjacent to the NIF excavation but not in the excavation itself. In the excavation, soils had already been removed to below the level where waste burial could have occurred. Buried wastes are expected to be within 1 to 3 meters of the surface. The NIF excavation is much deeper than that (greater than 10 meters), reaching soils that have been buried since prehistoric times. These levels include depths where mammoth and other fossils were discovered. Remains from waste disposal activities in the mid-20th century are not expected to be buried at those depths.

3 COMMENT DOCUMENTS

This section presents the documents submitted to the DOE during the 45-day public comment period on the Draft SEIS and the transcripts of the public meetings held on December 1 and 8, 1999. DOE reviewed each document and transcript and identified the public comments provided. Each comment was marked with a bar and the comment number. For example, Comment 1-3 is the third comment in Document 1. An index of commenters and comment numbers is provided below. DOE has responded individually to each comment in the next section, Section 4.

Rene Steinhauer, Tri-Valley CAREs: Comments 3-6 and 3-40 to 3-43

Dennis Thomas: Comments 12-1 to 12-2

Andreas Tupadocus: Comments 3-88 to 3-92

Janice Turner, Sierra Club-Bay Chapter, Tri-Valley CAREs: Comments 4-22 to 4-23 and 15-1

Ken Zahn: Comment 3-5

Hisham Zerriffi, Institute for Energy and Environmental Research, Tacoma Park, Maryland: Comments 1-1 to 1-8 and 1-18 to 1-23

Unidentified Speaker: Comments 3-10 to 3-12

DOCUMENT 1: Meeting Transcript, Washington D.C., December 1, 1999, 2:00 p.m.

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TRANSCRIPT OF PROCEEDINGS

IN RE:)
)
DRAFT NIF SEIS)
PUBLIC MEETING)

Pages: 1 through 39

Place: Washington, D.C.

Date: December 1, 1999

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UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF DEFENSE PROGRAMS

DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
FOR THE NATIONAL IGNITION FACILITY
(Draft NIF SEIS)

IN RE:)
)
PUBLIC MEETING)
)

Room 6069
James Forrestal Building
1000 Independence Avenue, S.W.
Washington, D.C.

Wednesday
December 1, 1999

The meeting in the above-entitled matter commenced, pursuant to notice, at 2:00 p.m.

BEFORE: HOLMES BROWN, Facilitator
Afton & Associates

APPEARANCES:

DAVID H. CRANDALL, Director,
Office of Defense Science
Office of Defense Programs

RICHARD SCOTT
Document Manager for the NIF SEIS
ES&H Program Manager for NIF
Oakland Operations Office

STEVE FERGUSON, Attorney,
Office of General Counsel

ANNA AURILLIO, Staff Scientist
U.S. PIRG

APPEARANCES (continued):

ALSO PRESENT:

HISHAM ZERRIFFI, Project Scientist
Institute for Energy and
Environmental Research

MAUREEN ELDREDGE
Alliance for Nuclear Accountability

P R O C E E D I N G S

(2:06 p.m.)

MR. BROWN: Good afternoon. We are formally convening the meeting on the supplemental draft environmental impact statement for the National Ignition Facility. Let the record show that at this point it is 2:07 in the afternoon, that no member of the public is present, so we will recess this meeting until the point at which a member of the public attends the meeting. So we will now recess. Thank you.

(Whereupon, at 2:07 p.m., a brief recess was taken.)

MR. BROWN: Good afternoon. We will reconvene this meeting on the draft supplemental environmental impact statement on the National Ignition Facility at 2:16. We have members of the public present.

Good afternoon and welcome to this first of three meetings on the draft supplemental environmental impact statement. My name is Holmes Brown. I will serve as the facilitator for this meeting. I am not an employee of the Department of Energy, and I'm not an advocate for any particular party or position. My role is to assure that this meeting proceeds as scheduled and that all persons have an opportunity to speak.

The agenda for this afternoon's meeting is as

follows. We will begin with a presentation by DOE staff summarizing the content of the supplemental EIS. Next, a panel of three DOE staff will be available to respond to questions. After that, we will begin the formal comment period. The entire meeting beginning now will be transcribed by our court reporter, Ted Fambro.

Let me remind you that the question-and-answer period is to clarify points relating to the presentation and to the supplemental EIS. Comments should be offered during the formal comment period rather than during the question period.

If there are no questions on the agenda or procedures, we will now turn to our presentation. I'd like to introduce Richard Scott, who is the document manager for NIF, with the DOE's Oakland Operations Office.

MR. SCOTT: Thank you. As he said, I'm Richard Scott. I'm the document manager from DOE. I'm actually a chemical engineer in the State of California, with a P.E. in chemical engineering.

The purpose of this meeting is to provide the public an opportunity to comment on the NIF draft supplemental environmental impact statement to the stockpile, stewardship, and management program, and that's the EIS number.

The reason we're here is the PEIS lawsuit resulted

in a joint stipulation and order whereby DOE agreed to evaluate the reasonably foreseeable significant environmental impacts of continuing to construct and operate the NIF with respect to contamination in the area by hazardous toxic and/or radioactive materials.

To reiterate the agenda, there will be a DOE presentation, an opportunity for elected officials, which we have none, and then there is a signup sheet for public comments, and a transcript will be made.

Just to summarize, the SEIS NEPA process, comments will be accepted until December 20th, and all comments will be considered in the final SEIS. The comment response portion will be in the appendix to the final SEIS. A Record of the decision will be published in the Federal Register at the end of that, and the process is scheduled to be completed in the spring of 2000.

The background to this is the environmental consequences of siting and construction and operations of the NIF were addressed in the SSM PEIS, and that was the strategic PEIS. The ROD was published on December 26, '96, and it was the decision to construct and operate the NIF at Lawrence Livermore. Ground breaking took place in May of '97.

This is the current construction status of where the construction is right now. It's about 82 percent

complete of the conventional facilities where the laser equipment will be sited. During the early construction the site-removal activities of the construction project we discovered capacitors and removed the capacitors and related contaminated soil, the excavation activities, and there were 112 capacitors and a number of tons of PCB-contaminated soil.

The capacitor and soil cleanup was conducted with the oversight by the federal and state remedial project managers, and it was done under the CERCLA process. The RPNs included the U.S. EPA, the State of California Department of Toxic Substances Control, and the San Francisco Bay Regional Water Control Board.

The joint stipulation and order require the characterization of various areas in and around the NIF site. The characterization was done to determine if the areas contained hazardous toxics and/or radioactive buried objects. During that characterization process the progress was reported to the court through the quarterly reports that were accomplished. Following characterization, this draft supplemental EIS was prepared.

The areas for evaluation in the joint stipulation and order were the helipad area, the east traffic circle, the northern boundary area, the Building 571 area, the East Gate Drive area, Building 490, and the NIF construction

site. This is a map of those areas. This is the NIF construction site, and this is where the PCB capacitors were discovered in there. These green areas are the seven areas, and it's about the top northwest quadrant of the laboratory. The larger picture is on the wall there. This is the east traffic circle area for future reference.

The investigation under the JSO required that we look at past records and photos, and past employees were interviewed who were working there prior to 1984, and all retirees who were working at that time were sent letters requesting if they had any information on this issue. Geophysical surveys were conducted throughout the areas that were evaluated. Ground water wells and soil borings and excavations were made and, again, quarterly reports were given to the court with details of all of these studies, and now we have prepared a supplemental EIS.

The actual characterization activities included a review of all historical records we had, examination of aerial photographs, interviews with current employees and past retirees. We conducted magnetometer surveys, electromagnet-induction surveys, and ground-penetrating radar surveys, and that was basically state-of-the-art geophysical techniques were used in this set of surveys.

We drilled bore holes and analyzed soil samples, we drilled monitoring wells and analyzed ground water

samples, and we had a tremendous number of existing ground water wells that we analyzed, and we looked at all of those samples and responses. We made exploratory excavations based on any geophysical results that implied that we needed to look in that area in more detail.

The results of the work to date is that sediment samples have found really no contaminants above levels or regulatory concern. Only construction debris was uncovered during the drilling of these bore holes and excavation based on the geophysical results. Ground water sampling at the NIF site has found ongoing cleanup had continued to reduce the contamination levels, and at the specific NIF site were below the maximum contaminant level that required results. No PCBs have been detected in the ground water anywhere on the site.

Results of the other areas outside of the NIF construction site itself where the geophysical surveys were evaluated, bore holes and/or excavations on significant geophysical anomalies found only construction debris. The ground water sampling has found ongoing cleanup has continued to reduce the contamination levels in these other areas.

Again, this is a picture of all of the ground water-monitoring wells we have on the site. There's approximately 450 ground water monitoring wells that are

currently evaluated. After much of this work has been accomplished we did find some PCB contamination in the east traffic circle area during routine maintenance, and this is outside the NIF construction area. Again, I can show you on the viewgraph if you would like to see where that was, but that's the east traffic circle area I showed on the first one. That was during routine maintenance away from the construction project at the surface level. Approximately 110 cubic yards of contaminated soil were removed to a regulatory approved level.

The environmental impacts of the studies have shown that there is a low likelihood that buried hazardous toxic or radioactive objects remain in the stipulated areas. The soil and ground water sampling have indicated that there is a low likelihood of finding additional buried waste. The continued construction and operation of NIF will not result in a release of hazardous toxic or radioactive material to the ground water.

The cumulative impacts of this process have been that the cleanup of the contaminated soil, removal of buried capacitors, and the continued reduction in ground water contamination, and the low probability of finding additional buried hazardous toxic and or radioactive material will cumulatively have a positive overall impact to the environment.

For the SEIS the proposed action and the alternatives were to continue to construct and operate the NIF as indicated in the SSN PEIS, which is the preferred alternative. There is another construct of that no-action alternative, and that would be to cease construction of the NIF and construct and operate at another site or possibly cancel the project entirely. In this case, because of the low level of hazard and the low level of materials found during the investigations, we do not consider that required to be analyzed beyond the first level of looking at it, which we did just generally in the document.

An additional action alternative would have been environmental mitigation if we had found significant contamination. And, again, the characterization activities indicate that there is no action that's required under that process.

The draft SEIS finding is that the results of the analysis indicate that the concentrations of the contaminants are below the applicability level of regulatory concern and that the impacts from the buried material on human health and environment are very low.

The rest of the SEIS process is to -- well, this is the SEIS process. We are going to reissue the Federal Register notice. We are holding this public meeting. We will hold two additional public meetings at Livermore.

Public comments are due to DOE in writing by the 20th, or we'll take them here in any statements. We will issue then a final SEIS in the spring of 2000 and publish a record of decision in the Federal Register, and, again, it's scheduled in the spring of 2000.

That's an overview of the SEIS, and we'll open for any questions now.

MR. BROWN: Thanks very much. It's now time for the question-and-answer period. I'd like to introduce the other members of the panel. Dave Crandall is the director of the Office of Defense Science. He is in the middle. And Steve Ferguson is an attorney with DOE's Office of General Counsel, and Richard Scott will also be available to respond to questions.

I'll remind you, we will have a formal comment period following this, so if you just want to ask questions at this point, they often lead to comments, but if you can just ask questions now, we are open for questions. If you want to identify yourself, that's fine.

MR. ZERRIFFI: Yeah. My name is Hisham Zerriffi. I'm with the Institute for Energy and Environmental Research in Takoma Park, Maryland. My first question, you mentioned that NIF is now 82 percent constructed. What was the level of construction at the time that the joint stipulation and order was entered into? **1-1**

MR. CRANDALL: Be corrected, the NIF conventional facility, 82 percent constructed. The overall NIF is of order 50 percent, depending on how we get it rebaselined. In October '97, at the time of the joint stipulation and order, the excavation was approximately complete, and a few other things had been done, so that was probably -- the conventional facility was probably of order 10 percent maybe. Allen can shake his head or not, depending on whether that's about right.

MR. ZERRIFFI: Okay.

MR. CRANDALL: But we could be more precise if --

MR. ZERRIFFI: No. I just wanted to get a rough idea of where it was. Basically you had excavated, but you really hadn't started pouring much concrete essentially.

MR. CRANDALL: That's correct. We had to pour probably some. I know we had to pour footings in some cases, but not extensive.

MR. ZERRIFFI: But not extensive. Okay.

MR. SCOTT: If I could just add, that where the PCBs were is just a small little area, and that construction continued in all of the surrounding areas.

MR. ZERRIFFI: Right. And then you didn't start characterization activities, what, I guess, is Phase 2 under the joint stipulation, until, what, about a year? I'm just trying to get some of these dates. **1-2**

MR. SCOTT: No. Characterization activities started essentially immediately.

MR. ZERRIFFI: Started immediately.

MR. SCOTT: That really was the Phase 1, the interviews and review of photographs, and all that kind of initial looking at what is a potential area. I'm not sure -- probably the first geophysical work started in January following the October stipulation.

MR. ZERRIFFI: Okay. So a few months later.

MR. SCOTT: A few months after --

MR. ZERRIFFI: So still not much construction had occurred at that point. Okay. And then in the SEIS you discussed characterization, it appears to me -- you can correct me if I'm wrong here -- that you essentially did what we call Phase 2 or some of the actual physical characterization work, at the edges of the construction site, sort of all around the construction site but not necessarily right on the construction site. Is that -- **1-3**

MR. SCOTT: No. The geophysical work went through the construction site area.

MR. ZERRIFFI: Through the whole construction site. Okay. And that's perhaps -- it says around the perimeter of the NIF construction area and in the area of the capacitor landfill discovery.

MR. CRANDALL: The main base area of the site had

been excavated down to its level and was not excavated further except in very selected locations.

MR. ZERRIFFI: But did you do any of the geophysical measurements any of the ground-tracking radar measurements, or any of those types of things? **1-4**

MR. CRANDALL: With a zero expectation of finding any buried treasure at that depth.

MR. ZERRIFFI: I'm just trying to figure out what exactly was happening at the time.

MR. CRANDALL: The geophysical characterization was primarily around that perimeter.

MR. ZERRIFFI: Around the area --

MR. CRANDALL: Not exclusively so. There was some within the site, but it was not extensive.

MR. ZERRIFFI: Okay. Fine. Okay. My next question relates to -- I just wanted to make sure I understand something. Would you consider this a NEPA document? **1-5**

MR. FERGUSON: Yes, it is.

MR. ZERRIFFI: It is a NEPA document?

MR. FERGUSON: Yes.

MR. ZERRIFFI: Okay. That's what I kind of thought, considering it looks like a NEPA document. You continued construction of the National Ignition Facility at the time that this document was being prepared.

MR. FERGUSON: That's correct.

MR. ZERRIFFI: Okay. What's the point of this document?

MR. FERGUSON: It's to fulfill the requirements of the joint stipulation. **1-6**

MR. ZERRIFFI: I see. So I'm a little confused here, because for me a NEPA document means that you were going to do an environmental impact analysis, make a decision, and then proceed with your action.

MR. FERGUSON: There has already been an environmental document prepared for this facility.

MR. ZERRIFFI: Right.

MR. FERGUSON: This had a very narrow focus, and it had to do with the potential for finding additional contamination at the site. The court chose not to restrain or limit the activities of the department during that period, and the department assumed responsibility for what it might find, and depending on what it found, it had various ways to go. As it turned out, there was nothing found, and it proceeded to continue to construct.

MR. ZERRIFFI: Okay. I have two more questions, I think.

There has been in all of this documentation that's been produced on the National Ignition Facility, there has been at times discussion of using materials like lithium **1-7**

hydride, plutonium, and uranium at the facility. My understanding is that currently this is not planned for experimentation at the facility. I could be wrong. My question, though, is, is use of those materials within the plan, and is it possible to use those materials within the facility, even if they are not planned to do those experiments at the time?

1-7 (cont.)

MR. CRANDALL: It depends on the material.

MR. ZERRIFFI: Specifically plutonium, uranium, and lithium hydrides.

MR. CRANDALL: Plutonium, we will make a decision before January 1, 2004 whether or not to do any experiments with plutonium, and if we decide to propose experiments with plutonium, we will then enter into a NEPA consideration of that.

MR. ZERRIFFI: Okay.

MR. CRANDALL: With respect to uranium, we did a supplemental analysis and determined that there was no impact from using uranium in the specific experiments considered, and in the case of lithium hydride, there is an expectation we might do small quantities of lithium hydride that fit within the present time but no substantial quantities which was what was the question.

MR. FERGUSON: Again, that could be part of a decision to do in the future, but it would be subject to the

NEPA consideration.

MR. ZERRIFFI: Okay. So there will be a separate NEPA analysis done if those decisions are made.

MR. CRANDALL: Yes.

MR. ZERRIFFI: Okay. That's what I wanted to know. And in my last question is -- this is going to be a really stupid question. It's going to seem like a real stupid question, but it sort of struck me when I was reading this thing, and that is if you finish construction, operate the facility for its period that you are supposed to operate it for, what do you plan to do with it at the end? **1-8**

MR. CRANDALL: There has been a little study of the decommissioning, but not any substantial study.

MR. ZERRIFFI: Okay.

MR. CRANDALL: That facility, given the nature of its construction, it will be there for a very long time. It will be hard to remove. So decommissioning might mean any number of alternative uses or manners of closing the facility, but that has not been studied in any detail. The anticipated life of the facility is 30 years.

MR. ZERRIFFI: All right. That's it.

MR. BROWN: Thanks very much. Are there other questions?

MS. ELDREDGE: I'm Maureen Eldredge with the Alliance for Nuclear Accountability. A couple of questions.

One regarding the characterization. How much of it was completed when the eastern traffic circle contamination was found? I assume you had completed most of Phase 1 and were well into Phase 2. **1-9**

MR. SCOTT: Yeah. We had done some geophysical work there, had done soil, some soil borings, and a water-monitoring well. I think it was actually three water-monitoring wells that is specifically in the EIS. I can't remember exactly, but there had been some substantial work done at depth. That was a previously excavated area in a landfill closure from the 1984-1986 period.

So they had done a lot of work there, and they had a lot of reports there from that previous soil work and excavation area. So when we searched there what we did was typically go around where that old excavation had been because that had all been pulled out, been done, and put monitoring wells in. They did some soil sampling. They did some geophysical work.

MS. ELDREDGE: So the contamination there; was that found because of the characterization? I was under the impression from the EIS it was from some auxiliary work that was going on. **1-10**

MR. SCOTT: No. It was found from some routine maintenance at the surface, some ground regrading in that area. They typically capture all that soil and collect it,

and then test it at some later date. So that was on the surface in an area that had been previously excavated in the old landfill closure.

MS. ELDREDGE: So the geophysical work that you had done at that site up to that point did not find this contamination. **1-11**

MR. SCOTT: You couldn't expect it to. That geophysical work was looking for things like capacitors or large construction debris or things like that. That's what you look for in geophysical testing. You don't really test every inch, every square meter of the soil, although we have done a lot of soil testing and wells.

MR. CRANDALL: I think the direct answer is yes.

MS. ELDREDGE: Had there been soil testing at that site prior to finding the contamination? **1-12**

MR. SCOTT: There had been some soil testing, but it had been mainly in the area that had not been previously excavated, and that was where we had the issue of the soil testing not coming up with that -- that area there because, again, that was a relatively small area in a relatively large area, and we didn't go around the entire site and test samples from all areas. We tested where there was some suspicion that there might be some contamination.

MS. ELDREDGE: Going to employment levels, how many current Lawrence Livermore employees are expected to be **1-13**

employed at the NIF that are currently working in some other capacity, perhaps NOVA folks who are going to transfer? **1-13 (cont.)**

MR. CRANDALL: Well, NOVA has been closed.

MS. ELDREDGE: Right. I'm assuming they are doing something else.

MR. CRANDALL: There are a number of people working in laser development and in inertial fusion, and there was a study done that said what the anticipated employment was in the long term associated with operations at the NIF, and it was, I think, a number like 350, but I would have to go back and check that document.

MS. ELDREDGE: I remember 230 or something in that range. Were those new employees in addition to the current Lawrence Livermore employees, or that would be the total? **1-14**

MR. CRANDALL: No. That was the total number, and it assumed, I think, some small growth from the present base operations set, but not a huge growth.

MS. ELDREDGE: Do you have any idea how many new employees would be employed at NIF in that level? Would those be senior scientists? **1-15**

MR. CRANDALL: In them long term, you're talking?

MS. ELDREDGE: Yeah. Once it's finished and running. **1-15 (cont.)**

MR. CRANDALL: I don't know that number. I know the number -- I think I know the number that was on the

total.

MS. ELDREDGE: Which is the total, and it includes current employees. **1-15 (cont.)**

MR. CRANDALL: But it is in the economic impact as part of the original EIS.

MS. ELDREDGE: But it seems like all of those numbers were total numbers and not new employee numbers, which is what I'm trying to get at. **1-15 (cont.)**

MR. CRANDALL: Right. That may be true, and so you would have to do some analysis, but it could be determined.

MS. ELDREDGE: In regards to the white-tailed kite, which was mentioned as a possible victim of additional truck traffic, has there been evidence of disturbance to that species with the NIF construction? **1-16**

MR. SCOTT: In fact, there is no evidence of disturbance to the white-tailed kite. They are expanding. We probably have one of higher concentrations of the white-tailed kite because it's such a protected site. We meet probably biweekly on endangered species, and I know there's been four sets of hatchings over the past year, and some of them were double clutches, so we've had six to seven new sets of white-tailed kites coming up.

MS. ELDREDGE: So construction to this day has not disturbed -- **1-16 (cont.)**

MR. SCOTT: There has really been no impact that we can tell.

MR. CRANDALL: Unless it was positive.

MS. ELDREDGE: And my last question: Is the anticipated life of the facility, the 30-year number, due to expectations that the facility will become structurally problematic or just that that's the experiments that you expect to take that much time, and then you will be done? **1-17**

MR. SCOTT: I think it's because we can't really predict anything beyond a 30-year life. We just can't predict beyond 30 years. We just set an arbitrary cut-off point and say we have to be ready for -- assume a life cycle of 30 years.

MS. ELDREDGE: That's just an arbitrary number. **1-17 (cont.)**

MR. SCOTT: Pretty much.

MR. CRANDALL: Yes. The permanent equipment that doesn't get changed out on any kind of service basis could last longer. It's an arbitrary choice based on programmatic vision.

MS. ELDREDGE: And what's the vision beyond that? Is there going to be no more need for ignition work or fusion work? **1-17 (cont.)**

MR. CRANDALL: If I had a programmatic vision beyond that, I could give it to you, but I don't.

MS. ELDREDGE: There's no additional facilities

expected.

MR. CRANDALL: Right.

MS. ELDREDGE: Okay. That's all my questions. Thanks.

MR. BROWN: Are there any other questions?

(No response.)

MR. BROWN: Okay. We are now prepared to take formal comments. Again, if anybody is prepared to do that, I will ask them again to step to the mike and identify themselves and offer an organizational affiliation, if that's in order. Okay. Welcome. Welcome once again.

MR. ZERRIFFI: Again, I'm Hisham Zerriffi, Institute for Energy and Environmental Research, Takoma Park, Maryland. These are sort of what scattered comments, since I haven't prepared anything formal.

I'd like to start by saying that those of us who were not involved in the lawsuit or joint stipulation do see this as a NEPA document, and I'll speak only for myself -- I'm sure those who were involved in the lawsuit also see it as an NEPA document, but speaking as somebody who was not involved in the lawsuit who sees it as a NEPA document, I don't find this is very much of a document that follows in the spirit of NEPA in that you have activities ongoing before an environmental analysis is completed and before a decision is made.

1-18

To me, that violates the fundamental idea of NEPA. You have a facility now -- if your purpose was to evaluate the environmental impacts in the area of the construction of NIF, you started when you had almost no construction, and you put out an EIS, draft EIS, when you're 82 percent complete, something is wrong.

And I understand there is a court -- the courts skew things to a certain degree when you have this as part of a lawsuit, but this is just not NEPA. This is not a NEPA document. It looks like a NEPA document, it reads likes a NEPA document, but it is not a NEPA document in any common-sense of that.

1-18 (cont.)

My next comment is something relatively minor, but I think it deserves at least a little bit of comment, which is that you have on -- I don't remember what page it's on -- you have a discussion of the fact that if you demolish NIF under an action alternative because you decide that it's not going to work, you have all kinds of horrible environmental impacts demolishing it. My God, this is going to be terrible.

1-19

I know I'm being sarcastic, but my point is, quite simply, goes back to my question I had earlier: What are you going to do with it if you operate it? Either it's going to get demolished then or you don't have to demolish it now. That's really a straw man that you have in there.

That's a false comparison to make, to say if we stop now we're going to demolish it, we're going to have dust, we're going to have truck trash, we're going to have all of these things.

Well, you know, if you demolish it after 30 years you're going to have dust, truck traffic, and your dust is not going to be simply dust. It's going to have other things in it because your decontamination is not going to be a hundred percent. If you can moth ball it at that point in time, you can moth ball it now and just leave it. **1-19 (cont.)**

It's a false argument. It detracts from the document. I would really suggest changing that in the final document. Either compare the consequences of destruction now and destruction then or quite explicitly state that you can moth ball the facility with a minor amount of work, I'm sure, and walk away from it. It's been done before in the DOE. I know. There's plenty of facilities sitting all over the complex that have never opened their doors.

My next point is related to my questions about plutonium, uranium, lithium hydride. My comment is simply this. If you construct a facility that is designed to have certain operations or can have certain operations, those environmental impacts need to be addressed at that time so that commenters like myself, when commenting on the facility and the environmental impacts of the facility, way back in **1-20**

the SSN PEIS, can know the full range of activities and the full range of environmental impacts that they may have.

I don't think that it is valid to say we're going to defer judgment on whether we're going to use plutonium and then conduct a NEPA analysis at that time. That NEPA analysis should have been done as part of the SSN PEIS. It could even have been done as part of this EIS, considering that you had the EPA say, look at the environmental hazards of operating the National Ignition Facility. **1-21**

Use of plutonium and lithium hydride and uranium is going to have environmental impacts. And so you could have done that as part of the first one. You could have done it as part of this one. It's got to be done because it is a fundamental part of the facility that it can operate with those materials and there have been actually -- the idea to use those materials has been presented. It's got to be evaluated then as part of a whole.

Let me see. Essentially, that's it. I just want to reiterate that you have essentially precluded any real action in this EIS. It's really -- you know, you said it perfectly. You did it to comply with an order. You didn't do it in order to follow NEPA. **1-22**

And so personally, you know, this document, I'm sorry that there has been this money spent on this document. I'm sorry that you have this number of people sitting in

this room at I don't know how many dollars an hour our taxpayers' money is going to for a document that is completely and utterly useless as a decision-making document under NEPA. It was a waste of time.

I'm glad you went around and you looked and you did the geophysical measurements and you checked and you did all of those other things. Excellent. It should have been done ahead of time, but it's good you finally did it. This, a waste of paper, a waste of time, and a waste of money. **1-23**

MR. FERGUSON: Could I just add for the record, since you weren't involved with the litigation, I wouldn't expect you to know this, but that was exactly what the department offered to do, and the plaintiffs would not settle on that basis? They insisted on an EIS. Therefore, the document you see is in the form it's in because of the nature of the settlement.

MR. BROWN: But we have your comments on the record. I appreciate it. Thank you. You're commenting as well?

MR. SCOTT: Could I ask, are you going to provide written comments of this or kind of articulate?

MR. ZERRIFFI: No. I mean, unless you see something -- I think basically what I had to say is in the transcript. I don't see how it's anything much differently.

MR. BROWN: Thanks.

MS. ELDREDGE: Maureen Eldredge with the Alliance for Nuclear Accountability. We are an umbrella organization for 30 groups who work around DOE's nuclear weapons sites, and a large number of them were party to the lawsuit, and I have to say that one of the reasons they insisted on an EIS was to get a real EIS, and this is not that document.

To echo what Hisham said, this is in no way a tool for decision-making. It has a preordained outcome. All of the evidence is slanted to the preferred alternative, and it is the most narrow interpretation of the joint order in terms of the scope. This was an opportunity to do a more thorough evaluation of the NIF and its consequences, an opportunity that seems even more valuable right now because of the changes to some of the NIF construction horizons, given its budgetary and technical problems, and that opportunity was wasted. **1-24**

As I said, it was overly narrow in scope, and there were no scoping hearings, which are not required as part of NEPA but certainly are a valuable way for the department to get a better sense of what the picture they should be looking at is. And I think the absence of scoping hearings was just one of the flaws of this document.

In terms of specific problems, the failure to analyze action alternatives at any depth is ridiculous. The heart of NEPA is alternatives. You can scarcely say you **1-25**

have a NEPA document when you say at the beginning there weren't any other reasonable alternatives, so we didn't look at any. I think already one has been mentioned: Rather than demolishing the building, moth balling it right now. That is a perfectly reasonable alternative, in fact, one that would be much cheaper than any of the other alternatives, and that was not considered in any way. The original lawsuit was precisely based on the inadequacy of the EISs, and this NEPA document repeats that problem. **1-25 (cont.)**

Second, you cannot assume the probability of finding new contamination at the site is zero, as is stated in the document. The problems at the east traffic circle were found. I thought they were found just after Phase 1 evaluation. That they were found after some additional characterization under Phase 2 is a little bit shocking, and that they weren't found from any of that characterization work but from some unrelated routine-maintenance work speaks to the fact that I doubt we can say with the kind of certainty that is said in this document that all of the contamination problems have been found. Given the history of the area, given the shoddy record keeping of the past, I think continued characterization is warranted. **1-26**

Looking at the job situation, the NEPA document states quite dramatically that there will be socio-economic impacts due to job loss if the facility is not constructed **1-27**

and demolished. However, there seems to be really no basis in fact for any of those statements.

If a new alternative use of the facility was put in place, there might be more jobs than for what the NIF facility right now is calculated to offer. I don't know that any analysis of what level of employment would happen if some other alternative use of that facility came into play.

There is no information on the number of new jobs, so we're not just talking about, you know, suddenly we're going to fire 300 Lawrence Livermore employees if NIF doesn't get built. Right now there are currently employees working there. Can they be reassigned? Has there been any analysis of that? What is the retirement rate? What people would be leaving anyway? **1-27 (cont.)**

It seems like that whole statement is just based on pulling things out of the sky. And it also doesn't look at current employment opportunities in the area. We're right now in an economic boom, and California is certainly in the heart of some of that economic boom, and no one has looked at what current employment opportunities are in the area if people did get laid off from that work. And there might be no socio-economic impact, and none of that analysis has been done. Analysis needs to be of new jobs, not total jobs.

Further on, it talks about worker injury, and the statement that more workers would be injured if the building was demolished than if construction continued. That statement, again, is completely without basis in fact and cannot be substantiated. You can discuss relative probability of injuries.

You cannot make a blanket statement that more workers will, in fact, be injured. You can't know that. And, in fact, demolition right now might be safer than some year 30 years or more hence when we have to do D&D on this facility because now there is no radiation contamination in the facility. So the impacts on workers might even be less. None of that analysis was done rigorously. **1-28**

The statement also says that increased traffic from demolition might disturb the white-tailed kites. This is also not substantiated. In fact, earlier questions said that the traffic from construction of NIF, which certainly must have been significant, had no impact on the bird population. So what is the basis for a statement that increased traffic from demolition would somehow impact the bird population? If it didn't impact them when they were building it, why would it impact them when they are taking it down? Using that, trying to cover up the need to continue this facility with the poor, innocent, white-tailed kite, I think, is really out of line. **1-29**

And, finally, I have to agree with Hisham regarding the analysis for using the facility for plutonium, uranium, other elements. If that is a potential use of the facility, it needs to be analyzed now. I don't think we want to wait until 2004 for yet another NEPA document that has yet another preordained outcome. I think the communities have a right to know what some of the potential impacts are now. Thank you. **1-30**

MR. BROWN: Thank you. Any other public comments?

(No response.)

MR. BROWN: Great. Right on time.

MS. AURILLIO: Hi. Good afternoon. Thank you for giving me the opportunity to testify. My name is Anna Aurillio. I'm a staff scientist with the U.S. Public Interest Research Group. We are the national lobbying office for the state PIRGs, which are nonprofit, nonpartisan, environmental, consumer, and good-government advocacy organizations active across the country.

Our motto is, when it comes to the environment is "prevent pollution," and in my background as an environmental engineer looking at different sources and problems of environmental pollution, we have definitely found that preventing pollution is cheaper and easier than cleaning up once it has occurred. And I wanted to comment on this supplemental EIS because I feel like the National **1-31**

Ignition Facility is a project that is going to make environmental problems at Lawrence Livermore National Labs worse and not better for a couple of reasons. **1-31 (cont.)**

First of all, we are part of the Green Scissors Campaign, along with Friends of the Earth and Taxpayers for Common Sense. U.S. PIRG is a leader in this campaign, which has helped to eliminate billions of dollars worth of federal spending on programs that we feel are both wasteful and environmentally harmful. In fact, many of our successes are programs that were being conducted right here in this building, and we hope to add the NIF to this list. And the reason for that is threefold.

First of all, we think the NIF is incredibly expensive, and the attachment that I have attached to the back of my statement shows that cost estimates continue to go up. In fact, someone once told me that if you look at any DOE project and you take the initial estimate and you look at the relationship between that and the final cost, there is always a factor of pi involved, and we're starting to get close to that here. **1-32**

And, in fact, we have now learned that DOE is admitting that this project is likely to cost hundreds of millions of dollars more, and there are serious technical questions as to whether or not it will actually be a national ignition facility as opposed to a national laser

facility, let's say.

So it's extremely expensive, and at the same time, while PIRG and other groups have been working to cut environmentally harmful programs from DOE's budget, we have also been working to increase funding for programs that we feel will lead this country to a more secure, affordable energy future, such as the renewable energy and the energy efficiency programs. And working under the congressional budget caps, we know that programs that are funded in the Energy and Water Bill, for example, will complete against one another and that the National Ignition Facility will create a huge funding wedge that will squeeze out programs that we think are much more likely to lead us to a sustainable energy future than laser-driven future. **1-32 (cont.)**

And I know that energy research is one reason often given as sort of a side benefit of the NIF, much like Tang was a side benefit of the Apollo moon mission, but I don't think it justifies spending $5 million on this project.

So we don't think it's going to lead to an environmentally sound energy source. Certainly the economics of it seem pretty remote as well in terms of energy policy, so you can't justify it that way. I know that folks in the arms-control community have serious concerns about that aspect of it. And, finally, I mean this **1-33** **1-34**

project is going to create and use radioactive materials so you're going to increase environmental risks, both to workers and then to whoever is left to clean up the site.

So we feel that this project should not go forward. You know, you've discovered some PCBs at the site, and the supplemental EIS talks about the steps you've taken to try to remediate that problem. Now why are you going to go and build a project that is going to use radioactive materials and put it on the site? That's not going to help, and you are going to end up spending even more hard-earned taxpayer dollars, so we urge that this project be terminated. Thanks.

1-34 (cont.)

MR. BROWN: Thank you.

MR. CRANDALL: Can I make one comment in response?

MS. AURILLIO: Sure.

MR. CRANDALL: We will respond to your comments in the document, but I couldn't help but be touched by your use of pi because I've used it since I was a research post-doc.

MS. AURILLIO: Maybe I heard it from you.

MR. CRANDALL: In evaluating all endeavors that are something that hadn't been done before. If you're really good and you have good vision and you do it well, you get pi.

MS. AURILLIO: Well, I understand that.

MR. CRANDALL: I hoped that we would be better

than that because we had sufficient background, but time will tell.

MS. AURILLIO: Uh-huh.

MR. CRANDALL: The other comment was more seriously, you commented on the probability of ignition, which, of course, can only be evaluated by judgment because it's never been accomplished. Our confidence scientifically in ignition is higher than it's ever been. Nothing has changed that --

MS. AURILLIO: I was led to believe.

MR. CRANDALL: -- except for the positive.

MS. AURILLIO: Well, I was led to believe that actually there were some problems with materials used to make the lenses and that that actually might limit the energy that you would be able to put out. Is that not the case? **1-35**

MR. CRANDALL: There are issues with what's called 3-Omega damage to the final optics components that would limit, if not ameliorate, would limit the full power shots you could do without changing out those components. But it would not curtail you from doing those. It might mean that your operational costs were higher, but you could still do the full power shots and do ignition.

MS. AURILLIO: How much higher? Is that included in the $300 million additional cost? **1-36**

MR. CRANDALL: It's being evaluated now, but the current expectation is that that problem will be eliminated or ameliorated by presently understood and being investigated mechanisms for the damage. But if it were not, it would lead to higher operational costs, and that has not been fully determined, but it's not a doubling of operational costs.

So, yes, it would be an issue. No, it doesn't really have an impact on the probability of achieving the mission.

MS. AURILLIO: Hmm. Okay. Well, that's different than other points of view I've been led to believe. Do you have any other questions or comments?

MR. CRANDALL: Yeah. It is a matter of judgment, of course.

MS. AURILLIO: Okay.

MR. BROWN: Okay. Thanks very much. Are there other comments from the public at this time?

MR. SCOTT: As the document manager, I'd like to again reiterate that we would be looking for any comments that you have to improve the quality of the document. We feel that we did a thorough, professional, and accurate job looking at the varied materials and the potential for environmental impacts from those materials and if you have something that you would like to relevant to those kinds of

issues, we would certainly like to get it in writing. We would certainly like to address it and improve the quality of the final document.

MR. BROWN: All right. If we have no other public comments at this time, we will recess the meeting rather than adjourn, in case either you have any further comments or someone shows up to make a comment. So at this point we will recess. Thanks again.

(Whereupon, at 3:10 p.m., a brief recess was taken.)

MR. BROWN: It is 4 o'clock. We are reconvening the public meeting on draft environmental impact statement, the supplemental draft environmental impact statement on the National Ignition Facility for the purpose of taking public comments. There is no member of the public wishing to make comments at this point. We have reached the conclusion of the time allotted for the meeting, and so we are formally adjourning this session. Thank you very much.

(Whereupon, at 4:00 p.m., the meeting was adjourned.)

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CERTIFICATE OF COURT REPORTER/NOTARY PUBLIC

I, Theodore Fambro, the officer before whom the foregoing testimony was taken, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was taken by me and thereafter reduced to typewriting; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto; nor am I financially or otherwise interested in the outcome of the action.

_____

Court Reporter/Notary Public

My Commission Expires:

DOCUMENT 2: Fact Sheet, U.S. Public Interest Research Group

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U.S. Public Interest Research Group

National Association of State PIRGs

TESTIMONY OF ANNA AURILIO, U.S. PIRG STAFF SCIENTIST ON THE NATIONAL IGNITION FACILITY DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

December 1, 1999

As one of the leading groups in the Green Scissors coalition with Friends of the Earth and Taxpayers for Common Sense, we have opposed the National Ignition Facility as a wasteful government program which will harm the environment. This project, as far as we can tell, is an extremely expensive make work project for weapons scientists. The NIF is too expensive and environmentally harmful to justify its existence and should be terminated. The Lawrence Livermore National Laboratory is already a Superfund site, and the NIF will worsen the problem by generating more radioactive waste.

From an energy policy perspective, the National Ignition Facility will divert increasingly scarcer research dollars from valuable renewable energy and energy efficiency programs. Instead it will squander hard-earned tax dollars on a project which is very unlikely to lead to an economically viable energy source and certainly not one which will be environmentally acceptable. Indeed, the NIF will use and generate radioactive materials, which will increase environmental risks. 2-1

Finally, this project has been mismanaged and continues to be plagued by serious technical problems. NIF's cost estimates have doubled since 1994. The attachment shows that the 1998 construction and 30 year operating costs total at least $5 billion. Now DOE has admitted that NIF is at least $300 million over budget and more than a year behind schedule. Even the Energy and Water Appropriators have demanded more accountability and have asked that termination costs be estimated if the Secretary cannot certify a new cost and schedule baseline. This project should be terminated to prevent further contamination of the environment and further waste of tax dollars.

U.S. PIRG 218 D Street, SE Washington, DC 20003 (202) 546–9707 uspirg@pirg.org www.pirg.org

Livermore Make-Work

National Ignition Facility

$5 billion

"As far as maintaining the stockpile is concerned, (NIF) is not necessary"

Ray Kidder, Livermore laser physicist, *Science*, Vol. 277, July 18, 1997

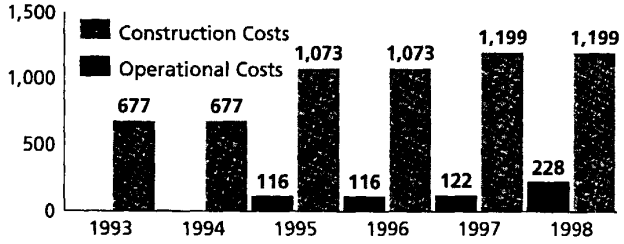
The National Ignition Facility (NIF) is a Department of Energy (DOE) nuclear weapons project being constructed at the Lawrence Livermore National Laboratory in northern California. NIF would use laser fusion technology to blast a fuel pellet of radioactive tritium and deuterium in hopes of igniting a thermonuclear explosion in a reactor vessel ignition. NIF's cost estimates have doubled since 1994 and are continuing to rise. Current expected construction estimates are $1.2 billion with another $3.8 billion in operating costs over 30 years. NIF will produce radioactive waste and threaten efforts to limit the spread of nuclear weapons.

Green Scissors Proposal The National Ignition Facility should be canceled and construction terminated. Relying on existing facilities rather than expensive new ones would save the taxpayer more than $5 billion over the 30-year lifetime of the project.

Current Status NIF is a rapidly expanding "black hole" for tax dollars. In 1998, Congress appropriated NIF $393.2 million for FY99, including $291.2 million for construction and another $102 million drawn from a separate inertial fusion line item. The project had received $229.1 million in FY98, up from $191 million in FY97. In 1997, an unrecorded waste dump was discovered beneath the NIF construction site. DOE was subsequently ordered by Federal court to prepare a supplemental Environmental Impact Statement for NIF.

National Ignition Facility Costs

In $ millions



Note: For 1998, Operational cost estimates includes $102 million drawn from a separate Inertial Fusion Line.
Source: Alliance for Nuclear Accountability

Project Hurts Taxpayers

NIF is extremely expensive. NIF is the single most costly element of DOE's nuclear weapons program (called Stockpile Stewardship), although its value to stewardship of the U.S. nuclear arsenal is dubious at best.

Billions of taxpayer dollars are being thrown at an experimental program. Experts at DOE's own laboratories rate NIF's chances of achieving ignition at less than 10 percent.

Taxpayer dollars are being wasted as NIF offers no commercial use. The future of laser fusion as an energy source is highly speculative. A commercially viable fusion demonstration plant will not be possible for at least three to four decades, if ever.

Project Hurts the Environment

NIF will create radioactive waste. Its fuel contains radioactive tritium and even its "routine" operation creates contamination. Due to a lawsuit brought by 39 plaintiff organizations, in 1998 the government declassified formerly secret documents outlining plans to use uranium, plutonium and lithium hydride in NIF experiments. This would increase environmental risks.

The site needs cleanup, not more waste. Livermore Lab is already a Superfund site. FY99 cleanup funding for the entire site will total a mere five percent of the NIF budget.

NIF undermines efforts to prevent the spread of nuclear weapons. By providing a means for nuclear weapons designers to continue their research and development in the absence of underground testing, NIF fosters nuclear weapons advancement. Controversy exists as to whether NIF violates the Comprehensive Test Ban Treaty.

Contacts

Brad Morse, Alliance for Nuclear Accountability, (202) 833-4668; Marylia Kelley, Tri-Valley Communities Against a Radioactive Environment, (925) 443-7148; Jackie Cabasso, Western States Legal Foundation, (510) 839-5877; Bob Gould, M.D., Physicians for Social Responsibility, (510) 845-8395.

DOCUMENT 3: Meeting Transcript, Livermore, California, December 8, 1999, 3:00 p.m.

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Williams Reporting Service

UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF DEFENSE PROGRAMS
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In re:
DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE NATIONAL IGNITION FACILITY

PUBLIC MEETING

Proceedings before: HOLMES BROWN, Facilitator

Wednesday, December 8, 1999

3:00 p.m. session

Taken by LETICIA A. RALLS,
a Certified Shorthand Reporter,
in and for the State of California
CSR No. 10070

Williams Reporting Service

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PROCEEDINGS

BE IT REMEMBERED, on Wednesday, the 8th day of December 1999, commencing at the hour of 3:07 p.m. of said day, at the LAWRENCE LIVERMORE NATIONAL LABORATORY, SOUTH CAFETERIA, East Avenue, Livermore, California, before me, LETICIA A. RALLS, a Certified Shorthand Reporter in the State of California, said proceedings were had.

APPEARANCES

HOLMES BROWN, of AFTON & ASSOCIATES, appeared as the Facilitator

RICHARD SCOTT, of the DEPARTMENT OF ENERGY, Document Manager for the NIF SEIS, ES&H Program Manager for NIF, Oakland Operations Office, appeared as the presenter and as a panel member.

DAVID H. CRANDALL, of the DEPARTMENT OF ENERGY, Director, Office of Defense Science, Office of Defense Programs, appeared as a panel member.

STEVE FERGUSON, of the DEPARTMENT OF ENERGY, Attorney, Office of General Counsel, appeared as a panel member.

SCOTT SAMUELSON, of the DEPARTMENT OF ENERGY, NIF DOE Field Manager, Oakland Operations Office, appeared as a panel member.

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P R O C E E D I N G S

MR. BROWN: If you'll take your seats, we'll get started on this afternoon's session.

Thanks very much. Good afternoon. Welcome to the second of three hearings on the Draft Supplemental Environmental Impact Statement on the National Ignition Facility.

My name is Holmes Brown. I'll be the facilitator for the meeting this afternoon. I'm not an employee of the Department of Energy, and I am not an advocate of any particular position or person. My role is to assure that the meeting runs on schedule and to make sure that everybody has an opportunity to speak.

The agenda for this afternoon's meeting is as follows: We will begin with a presentation by DOE staff summarizing the content of the Supplemental EIS. Next, a panel of four DOE staff will be available to respond to the questions. And after that, we will begin the formal comment period.

The entire meeting will be transcribed by our court reporter, Leti Ralls, who is over in that corner.

Let me remind you that the question and

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answer period is to clarify points relating to the presentation and to the SEIS. Comments should be offered during the formal comment period.

If there are no questions on the agenda or procedures, we'll turn to the presentation.

I'd like to introduce Richard Scott, the Document Manager for NIF with DOE's Oakland Operations Office.

Richard, thanks.

MR. SCOTT: Thank you.

I'm Richard Scott. I'm the DOE Document Manager. I'm a chemical engineer, and I have a PE in the State of California.

The purpose of the meeting is to go through the Supplemental EIS for the Environmental Impact Statement to the Stockpile Stewardship and Management Programmatic EIS, and the EIS number is as you've seen.

This Supplemental EIS -- the Programmatic Supplemental EIS resulted -- lawsuit resulted in a Joint Stipulation and Order whereby DOE agreed to evaluate the "...reasonable foreseeable significant adverse environmental impacts of continuing to construct and operate the NIF... with respect to contamination in the area by hazardous, toxic,

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and/or radioactive materials."

The purpose of this meeting is to discuss the analytical work and the analysis of the Supplemental EIS and to take comments on it regarding its reasonable, foreseeable environmental -- these impacts.

This was a narrowly-scoped Supplemental EIS, and it was based on the supplemental agreement.

To go over the agenda again and any administrative matters, the DOE presentation is now. There will be an opportunity for elected officials or their representatives to comment. There is a sign-up sheet, plus we have a number of public commentors who called in and already signed up.

The transcripts will be made of the meeting, and the Draft Supplemental EIS is on this web site as attached.

Just to, you know, reiterate: Anyone that -- the process for the Supplemental EIS, the NEPA process, is that we're expecting comments back by the 20th of December, plus any comments from the court reporters or any oral comments or any comments you give us now. Any comments received will be considered in the final Supplemental EIS.

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If you have late comments after the December 20th, we will consider them to the extent practicable, and that's really the standard DOE process.

After all comments are received, a comment response document will be developed, and the SEIS will be published. The record -- the final SEIS comments will be considered in the final SEIS, and a Record of Decision will be published in the Federal Register. Our process is scheduled to be complete in the spring.

To go back to the background of the Supplemental EIS, the Programmatic EIS addressed the environmental consequences of siting, construction, and operations of NIF at Livermore. And the ROD was published on December 26th, 1996, to construct and operate the NIF at Livermore, and the groundbreaking took place in May of 1997.

This is the photo of the existing conventional facility. It's about 82 percent complete.

During the excavations for the facility, we came across capacitors, PCB-containing capacitors and PCB-contaminated soil. The capacitor and soil cleanup were conducted with oversight of the

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Federal, State, and remedial -- Federal and State Remedial Project Managers following the procedures set forth in CERCLA. The RPMs included the EPA, the State of California Department of Toxic Substances Control, and the San Francisco Bay Regional Water Control Board.

At the end of that, we had a lawsuit with the Programmatic -- over the Programmatic SEIS, and we went forward with a Joint Stipulation and Order agreement which required characterization of various areas in and around the NIF site.

The characterization was done to determine if the areas contained hazardous, toxic, and/or radioactive buried objects. And during characterization, progress was reported to the court through quarterly reports. And those reports are available in the reading rooms here and at Oakland.

Following characterization, a Draft Supplemental EIS was prepared, and that's this document.

The areas agreed to in the Joint Stipulation and Order were the helipad area, the East Traffic Circle Area, the Northern Boundary Area, the Building 571 Area, the East Gate Drive Area,

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Building 490, and the actual NIF construction site.

This is simply a location of all those areas. I don't really think I need to point them out, but each of the seven areas is delineated there.

The investigation under the Joint Stipulation and Order had records and photos reviewed, and pressed -- and past and present employees were interviewed. Geophysical surveys were conducted where it was felt to be appropriate or where there was some indication that they might be useful.

Groundwater wells and soil borings and excavations were drilled or made. Quarterly reports were provided to the court, and now we're, of course, preparing the Supplemental EIS.

Characterization activities included, as I said, the review of the historical records; examination of aerial photographs; interviews with current and past employees; conducting magnetometer, electromagnetic induction, and ground-penetrating radar surveys; drilling boreholes and analyzing soil samples; drilling monitoring wells and analyzing the groundwater samples. We also made a number of exploratory

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excavations based on those geophysical results.

Characterization activities actually encompassed four magnetometer surveys, two electrical conductivity surveys, one ground-penetrating radar survey, six new groundwater monitoring wells, 31 soil boreholes, 11 test excavations, and a comprehensive review of existing data and just data in general.

Just to provide you an idea of the magnitude of the number of groundwater wells we have, this is the northeast portion of the -- of the site. But throughout the site, there's about 450 active groundwater monitoring wells being reviewed. And this -- again, the data was looked at in a comprehensive manner, and this is, again, the northwest -- northeast section.

The characterization findings of the NIF construction area itself were: Sediment samples found no contaminants above levels of regulatory concern; construction debris was uncovered during drilling of boreholes and excavation based on the geophysical results, and there was a number made; groundwater sampling at the NIF site found ongoing cleanup had continued to reduce the previous contamination levels; and no PCBs have been

Page 10

detected in groundwater anywhere on the site.
The geophysical results in the other areas: Again, boreholes and/or excavations on significant geophysical anomalies were found only -- found only construction debris; groundwater sampling found ongoing cleanup had continued to reduce the prior contamination levels.
We also did come across a PCB contamination in the East Traffic Circle in about December of '98. PCB-contaminated soil was identified during routine maintenance, which is out -- and this is about an eighth of a mile from the NIF construction site. Approximately 110 cubic yards of contaminated soil have been removed through a regulatory -- regulator-approved level.
Now, removal action was taken under guidance of the CERCLA RPMs, and the cleanup level of 18 ppm was used. Clean fill was used to cover this excavation, and an action memorandum is in preparation.
We come to the environmental impacts in the Supplemental EIS. And there's a low likelihood that buried hazardous, toxic, and/or radioactive objects remain in the stipulated area. Soil and groundwater sampling indicate that there is a low

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likelihood of finding additional buried waste. Continued construction and operation of NIF would not result in a release of hazardous, toxic, or radioactive materials to the groundwater.
The cumulative impacts in the Supplemental EIS is that historical, ongoing CERCLA cleanup actions and the recently completed site characterization have cleaned up contaminated soil and removed buried objects -- buried capacitors; resulted in a continued reduction in groundwater contamination, and shown a low probability of finding any additional buried hazardous, toxic, or radioactive material.
Reduction in the cumulative impacts from the historical soil and -- reduction in cumulative impacts from historical soil and groundwater contamination at Livermore will continue to improve the environments at Livermore and its surrounding community.
The NIF SEIS alternatives under the Joint Stipulation and Order evaluated two no-action alternatives. The preferred no-action alternative is to complete the NIF project at Livermore, continue to construct in accordance with this detailed site characterization under the JSO and to

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operate the NIF under the ROD for the SSM PEIS.
The other no-action alternatives that were considered in the Supplemental EIS would be the no NIF project at Livermore, and that is to complete the construction for an alternate use and demolish the facility and return the site to an original condition.
And this is, you know, the full range that we considered of the possible no-action alternatives.
The draft SEIS finding is -- results of the analysis indicate that concentrations of the contaminants are below applicable levels of regulatory concern, and the impacts from buried material on human health and the environment are very low.
The schedule for the remaining Supplemental EIS process is, again -- well, to go back, we issued the Federal Register Notice of Availability 11-5-99; we held a public meeting in Washington, D.C.; we're holding this one now and another one tonight here; public comments are due here 12-20-99 in writing, if we can have them.
We'll issue our final Supplemental EIS based on our response to those comments in the spring of

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2000 and publish a Record of Decision in the Federal Register in spring of 2000.
Essentially, that's the DOE review of the process.
MR. BROWN: It is now time for the question and answer period.
I'd like to introduce the other members of the panel in addition to Richard. Dave Crandall is the Director of the Office of Defense Science at the DOE headquarters. Steve Ferguson is an attorney with the Offices of General Counsel in Washington. And Scott Samuelson is the DOE Field Manager for NIF.
I'd like to remind you to hold your comments until the comment period. This question and answer period is intended to clarify points about the document or the project.
And in order for everybody to have an opportunity to ask at least one question, if I can have people ask one question and perhaps one follow-up until everybody's had a chance, and then we can come back to anybody who has additional questions.
So we are open for questions. Who would like to start? Okay.

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MS. CABASSO: Hi. I'm Jackie Cabasso. Can you hear --
MR. BROWN: Yeah, that's fine.
THE REPORTER: Actually -- excuse me. I'd prefer if she comes up here. I can't hear her.
MR. BROWN: Okay. I guess with the air-conditioning on, I think we've got a little competition.
THE REPORTER: Thank you.
MR. BROWN: So if you don't mind stepping up to the mike? Thanks.
MS. CABASSO: Yeah. My name is Jackie Cabasso. I'm the executive director of Western States Legal Foundation, which was one of the plaintiffs in the lawsuit. And my question is very specific.
In the most recent Green Book, that is the DOE Defense Programs Fiscal Year 2000 Stockpile Stewardship Plan, which is one of the documents we actually obtained indirectly through the lawsuit, a Memorandum of Understanding between the DOE and the Defense Threat Reduction Agency is described, and I quote, "...to ensure the implementation of the design features required for weapons defense testing on the National Ignition Facility."

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That's at page 7-27.
"Some types of experiments discussed include ones that would use a lithium hydride atmosphere."
So my question is: In light of the recent disclosures about the possible design delays and technical problems, how would operating the NIF at lower energies affect plans for conducting weapons effects experiments including those using exotic materials? Would it make early use for weapons effects experiments more or less likely? And along the same lines, would operating the NIF at lower energies make experiments of any kind employing plutonium or uranium more or less likely?
And those, I think, are questions that go directly to potential conventional environmental impacts.
MR. CRANDALL: I guess I get tagged to respond to that one.
I would like to comment. From the beginning, you mentioned lithium hydride I think in terms of the neutron scatterer. There are no plans for that application that have been proposed by some scientists, but there are no plans for that application at NIF, and we never did have any plans

3-1

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for that application at NIF other than the proposals from the scientists.
The change that may occur in NIF as a consequence to the present cost and schedule difficulties are not well-defined yet. Certainly there's an expectation that we will operate the facility, and it could be operated for some time at less than the full original power.
Many of the materials kinds of experiments, including weapons effects, could be pursued under the reduced power but not all. And that has not been considered in detail because we don't have a baseline plan that we're working toward.
But there's no change in the nature or quantity of experiments that's been identified yet associated with the present change in the cost and schedule.
You specifically addressed, also, plutonium and enriched uranium. We do not have any plans for experiments with plutonium and enriched uranium, but we have discussed them briefly in the PEIS -- not the Supplemental because it didn't deal with that. But there's been no change in that situation.
We will -- according to the statements we

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made in association with the Stipulation and Order, we will, before -- before January 1st of 2004, decide whether or not we should propose to do any experiments with plutonium or enriched uranium. And if we decide we will propose to do that, we would immediately start environmental action. But we have no plan for doing anything specific at this point.
MR. BROWN: Thanks. Other questions?
Yes. If you could step up to the mike because this is being transcribed. Thanks a lot.
MS. KELLEY: This is a question of a different sort. There's an awkward balance between the fact that a question and answer period is not on the record and a comment is. And my comment has some questions in it.
So what I would like to propose, if the panel is willing, is I will go ahead and ask them in the public comment period -- I'll provide you with a copy -- and then if there's time left over -- the other thing is I want to make sure everybody who wants to comment gets time. And if there's time left over, can we have a discussion of some of those questions then?
MR. FERGUSON: I think there may be some

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misunderstanding. The question and answer period is on the record. It's being transcribed.

MS. KELLEY: Yeah. But in a -- if a lawsuit were to result regarding the adequacy of this, it would be arguable, and it would be probably argued by DOE, that it wasn't -- that the questions asked during this period were not necessarily part of the administrative record.

So I just want to not get into that by asking them during the official comment period, and then I'd love to have some back and forth in a discussion and see what can be answered informally as well -- as well as what can be answered formally.

MR. BROWN: I think our -- our format is to pose questions now, and then once it seems that we've had all the questions answered -- if, as a result of the questions, you have a comment, I don't know if you've signed up to speak --

MS. KELLEY: Yeah. I have about ten questions, though, so, I mean --

MR. BROWN: Okay. Well, why don't you pose, say, two of them now, and then we'll go on to the next people and then try and get back to your further questions?

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MS. KELLEY: Am I being unclear, or is it just not okay to go back to question and answers after you hear public comments?

MR. SCOTT: For purposes of the public hearing and the need for process, we typically try to use the question and answer period to explain or to -- something actually in the Supplemental EIS or the presentation to kind of make that clearer and not really to engage in question and answers and debate on any of the issues.

MS. KELLEY: Right. I don't want to debate, but I do want to give you folks who are here an opportunity to take any of the questions that I present during comments that I think should be discussed and analyzed in the final document and -- and -- and respond or engage or whatever. So I just --

MR. CRANDALL: Well, in terms of your point of order, I don't think there's any difference in the way we would treat your questions versus your comments.

MS. KELLEY: And so what is your pleasure?

MR. CRANDALL: They will both be on the record, and we will respond to both of them.

MR. BROWN: Why don't you pose two questions?

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MS. KELLEY: All right.

MR. BROWN: We'll see how our time goes.

MS. KELLEY: Okay. Some of the operational procedures under consideration for the National Ignition Facility might have new, heretofore unanalyzed environmental consequences. For example, the technical problem of damage propagation at NIF's final optics package where the beams converted to ultraviolet, referred to as the third harmonic, it's been disclosed that this may cause lenses to shatter more often than had been anticipated or desired, and therefore this could engender a vastly scaled-up change-out schedule. **3-2**

Are there potential radiological risks that may result from employees having to change out the final optics more frequently? For example, the debris shield which is part of this optics package is intended to protect the lens from fragments resulting from the experiments, but what about neutron flux? Will there be any or could there be any neutron activation products?

MR. CRANDALL: Am I the target, or can I defer that to Scott?

We have no expectation that there are going

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to be any shattering of lenses beyond what has been analyzed from the beginning in the project. And the damage issues don't change that. The --

MS. KELLEY: Well, the damage issues mean that you have a choice to run it at half energy right now if you can't resolve the problems otherwise, or to go for some of the high-gain shots or risk-damage propagation and shatter more lenses. **3-2 (cont.)**

MR. CRANDALL: There is no expectation of shattered lenses. They will be replaced long before they've shattered.

MS. KELLEY: Okay.

MR. CRANDALL: So that's a very strange question that I don't really know quite how to respond to. In addition --

MS. KELLEY: So the increased change-out schedule -- **3-2 (cont.)**

MR. CRANDALL: The increased change-out schedule would not have any known or quantified radiological hazards associated with it. It has very standard hands-on kind of work.

MS. KELLEY: Right. So the neutron flux doesn't reach the shield? There aren't any neutron activation products? Is that what I'm hearing? **3-2 (cont.)**

MR. CRANDALL: What neutron activation

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products could be expected at that point are extremely low under any circumstances. So you're assuming that we have successful ignition many times over before we have any neutron activation. And that's a problem we'd love to have but I don't expect.

MS. KELLEY: Well, you have -- you have fusion neutrons at NOVA. I mean, you even get into the neighborhood. And you have neutrons in some alphas Is this going to be analyzed? **3-2 (cont.)**

MR. CRANDALL: Of course. This has been analyzed. There's no measurable neutron activation product associated with that change-out.

MS. KELLEY: Same question about chemical risks that could be increased due to more frequent change-outs. **3-3**

MR. CRANDALL: You'd have to be more specific. I don't know what chemical risks would be induced. There's no significant chemistry involved in the change-out other than washing --

MS. KELLEY: Volatiles, et cetera? **3-3 (cont.)**

MR. CRANDALL: No.

MS. KELLEY: There wouldn't?

MR. CRANDALL: No.

MS. KELLEY: And how about NIF's waste

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stream? Has that been analyzed in terms of how that might be impacted by more frequent change-out? **3-4** I mean, we're talking potentially substantially more frequent.

MR. CRANDALL: I doubt that, actually. There's a limit to -- the waste stream was analyzed for NIF in the SEIS, and we have no expectation under any servicing conditions of exceeding the waste stream that was analyzed.

MR. BROWN: Let me try and get a few other people, and maybe we can get back to you.

MS. KELLEY: All right. Or I'll just do it during the --

MR. BROWN: Okay.

MR. SCOTT: Well, these are some detailed questions. We probably would like to get them in writing so we can respond, you know, in the appropriate forum there. And so I'm sure you'll provide them in writing, and we'll be able to respond in the final Supplemental EIS. Because that's -- we don't need to do this here. You know, the purpose of this is to explain.

MS. KELLEY: But time allowing. I'm -- I'm actually interested. That was an honest question about the neutron flux.

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MR. SCOTT: Okay.

MR. BROWN: Other questions? Yes.

MR. ZAHN: My name is Ken Zahn, resident of Tracy. And I just wanted to ask if, perhaps, during the start of the comment period it might be reiterated by the moderator or one of the panel members what the scope is for comments and questions.

As I recall or understood, this was to be a discussion of the Supplemental EIS, not necessarily general questions. Certainly general questions could be posed, but to take the time to discuss ancillary issues that aren't pertinent to the supplement itself seems, to me, to be not where we should be going with this. **3-5**

So I would hope and propose that you could review for the group what the scope of comments that are pertinent to this subject are for purposes of the public periods that we have available to us.

Thanks.

MR. BROWN: Thanks. I think the comments that will be most helpful and the ones that will be responded to in the final Supplemental EIS document are those that relate directly to the document and the range of the document. I mean --

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MR. FERGUSON: Just to add to that, all comments will be responded to. But the response to some comments may well be that they aren't relevant to the questions raised in the document.

MR. BROWN: Are there other questions?

UNIDENTIFIED SPEAKER: I have a quick follow-up on some very specific things.

MR. BROWN: Oh, sure.

I'm sorry. This gentleman hasn't posed a question yet. Go ahead and pose a question, then we'll get to you next.

MR. STEINHAUER: Just a brief question in regard to the most recent remarks that have been made. And I understand -- I truly understand your need to focus on the document, and I understand the problems behind it.

You have a magnificent opportunity here to go beyond that narrow, horse blinder vision of dealing with those issues in the document and trying to deal with other things that will undoubtedly come up. And along the way, they will lead to other challenges and other lawsuits and other problems. **3-6**

And I understand your vested interest, and I think that you gentlemen should take a hard look at

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the interests of some of the other people that are gathered here and the other concerns that they have.

And if you're not prepared to widen your scope of the issues that are being raised and dealt with here, not just the cost overrides and the technical problems and all other things, and actually the concealment of some of the data that has to be drug -- dragged out through the Freedom of Information Act and other questions -- other formations, whether you're not going to delay the process that you are trying to move along. **3-6 (cont.)**

And so maybe for now it rests on the four of you gentlemen to decide whether you're going to deal honestly with integrity and with honesty with the issues or whether you're going to try to say, "Well, we're only dealing with this issue."

And if you succeed in that, well then, fine. But you're only going to create more problems down the road. You're only going to generate more challenges, more lawsuits, and more delays.

So to some degree, I'm asking, you know: What's the depth of your integrity in this matter? How honest and open are you prepared to be?

I'll take the answer from my seat. Thank

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you.

MR. BROWN: Thank you.

MR. FERGUSON: I'm not sure there's a question there, but I'll try to answer it.

This process, as laid out originally by the moderator and by the first speaker, was the one that was initially documented when the process was started.

There has been no attempt to conceal information, no attempt to have it be anything other than as it's stated. The Supplemental EIS is being produced as a result of an agreement reached by the parties in the lawsuits. The scope of the document was delineated within that agreement. There was a very specific issue raised at the time.

The purpose of this document is to address that issue. That does not preclude other processes the Department might undertake to address concerns raised by the public. And I think the Department has a very good record in raising and addressing those concerns and listening to the public.

But today we are here for a very specific purpose.

MR. BROWN: Okay. There was a follow-up question?

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MS. CABASSO: Yeah. Jackie Cabasso again.

I wanted to go back to my original question and just ask you if you could comment on this Memorandum of Understanding between the DOE and the Defense Threat Reduction Agency regarding ensuring the implementation of design features required for weapons effects testing in the NIF. **3-7**

What does that -- we know the Memorandum of Understanding exists. What does it -- what does it talk about?

MR. CRANDALL: The Memorandum of Agreement is a very brief and simple document. It may be two pages, but I think it's only one.

It recognizes what is in the Mission Needs Statement for the NIF, that radiation effects and weapons effects are part of the mission for the NIF. And it stipulates that the DOE will work to include design features that allow that to happen.

Principally, the point was to provide a basis for cooperation between DTRA and the Department of Energy on that issue. And it specifically was included and analyzed in the PEIS, the NIF-specific portion of the PEIS. And the principle effect of that design was to allow for red light -- not the blue light, but the red

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light -- to be distributed within the collision chamber to be put on so that x-rays could be directly converted from the red light of the laser to provide a large area illumination of things that might be put in the target chamber.

This involves no radioactivity, involves no hazardous materials beyond those innate already in the facility, and it does not involve fusion ignition.

That was the principle effect. It wasn't the only one. What we did was to make sure that the facility was as flexible as possible for producing radiation light that would be useful in weapons effects. And it did not change the facility in any substantial ways other than the ability to redirect red light into the chamber.

MS. CABASSO: Is it a particularly sensitive document?

MR. CRANDALL: No.

MS. CABASSO: Because we have FOIA'd it, and we've been waiting quite a while for a response. Is there anything you could do to help us get it? **3-8**

MR. CRANDALL: I'm surprised. I think you already have that document.

MS. CABASSO: No, we don't.

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MR. CRANDALL: I bet you do. I bet you I can help you find it. It's in the legal proceedings that were done before, documents that were provided to you. So when you find it, you're not going to find anything very interesting, I'm afraid.

MS. CABASSO: But I can come back to you if we can't find it?

MR. CRANDALL: We should get it in your hands. There's no secret here.

MS. CABASSO: Yeah. All right. Well, I'm just saying, though, this is how rumors develop and how perceptions of bad faith come up in a public process when we actually FOIA something and we don't get anything, and then we begin to wonder. So I'm just -- it's an illustration of the kind of thing that comes up.

I have to respond to the gentleman who spoke from Tracy and say that under NEPA there is nothing that precludes the Department of Energy in this process from taking another look at the purpose and need for the program and the scope of the hearing.

And so, as you correctly responded, the time when the DOE will declare something out of bounds is after they've heard what it is, not before.

3-9

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MR. BROWN: Thank you.

Other questions?

(No response.)

MR. BROWN: How did you want to -- did you want to make your questions and comments, combine them during the comment period?

MR. SCOTT: Excuse me. There's one over here.

MR. BROWN: I'm sorry. I didn't see the hands. Yeah?

UNIDENTIFIED SPEAKER: Hi. My question has to do with the Purpose and Needs Statement in the document. It says that -- I'll read the sentence. It says,

"As explained in the SSM PEIS those models" -- speaking of the computer models -- "are needed to simulate weapons physics, thereby providing insights on the reliability of the weapons stockpile."

In previous hearings, the question has been asked about reliability, whether reliability ever meant that there was any question that the weapons that we have in the stockpile would not go off at all.

3-10

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And Dr. Crandall answered that question in previous hearings to say, no, they would always go off. The question had to do -- the question about reliability had to do with the yield curve, the particular characteristics of the explosion, not whether they would explode at all.

And I want to ask the same question again: Is that still true?

MR. CRANDALL: No matter what I say, it will be used differently probably.

There can be no clear answer to what the reliability issues would be unless we know very specifically what it is we're addressing.

There are a large range of physical processes and materials responses that have to be understood in evaluating what we find in our nuclear weapons. We do a regular surveillance of nuclear weapons. We find issues problems all the time that -- many of them that need specific resolution in terms of the behavior of materials under different conditions.

There are few, if any, previous expectations that there would be zero functioning of a nuclear weapon, but there are -- there are serious and less serious and various degrees of analyses that are

3-10 (cont.)

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done for every one of those that come up.

And you have to be able to speak to individual ones to be -- to be concrete as to whether or not it's a yield issue or a function issue or a characterization of the output issue that you're dealing with, and those become classified subjects when you get specific.

So there's a full range, very broad range of materials issues that get addressed.

UNIDENTIFIED SPEAKER: I understand that these are material issues. I understand it's a broad range, and I understand that they're classified. I'm not asking you about any particular issue that's classified.

I'm asking: Because you're building this facility to the tune of, you know, a billion plus dollars, in your statement saying, "This is to address reliability."

I'm asking: Are any of those reliability issues concerned with whether the weapons will work? And buried in your answer was, there is very little, zero expectation, that there would be zero yield on anything. And that's really not what you're building this for, right? I mean, that's what I'm asking.

3-11

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MR. CRANDALL: What we evaluate to is the military effective yield, which is set by DOD requirements. And to my knowledge -- to my personal knowledge, we have not had situations in which we thought there would be no consequence from triggering a nuclear weapon. But that's -- I don't know everything, fortunately.

UNIDENTIFIED SPEAKER: Okay. I take that as my answer, and I would summarize the answer and ask you if this is a correct summary: That, although in the public and newspapers and so forth, reliability is often interpreted as, "Is our stockpile reliable," in a sense, "Will it work?" That's not the issue here. **3-11 (cont.)**

Your reliability is measured against the military need for a weapon to perform in a certain way. And that's the only -- the perceived military need for the weapon to perform in a certain way, and that's what you mean by reliability, not whether the weapons will work.

Right? Did I -- did I capture what you said correctly?

MR. CRANDALL: Yes, except that you can't say that that's exclusive of whether the weapons would work, but yes.

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MR. FERGUSON: I think it's worth mentioning, too, that the Department of Defense and Energy must jointly, yearly certify to the President that the stockpile is safe and reliable.

That certification, as I said, must occur on a yearly basis. And your question implied a static situation. And as time progresses and the stockpile ages, questions about function will merge and blur, and each year that certification still has to be made.

So I'm not a scientist, but all I can say is I think it's a mistake to consider this to be a static, snapshot question or issue with respect to reliability.

UNIDENTIFIED SPEAKER: I know that the phrase "safety and reliability" gets used a lot together. I point out that this document says nothing about safety issues. It says only about reliability issues. So I don't think we ought to bring up the safety question here. **3-12**

You're not building this to ensure the safety of the stockpile. You're building this to ensure the reliability of the stockpile. And my question had to do with what you mean by "reliability."

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You're also building it to look towards the future. So if you're building it for the reliability of the stockpile, you can't just say, "Well, there might be something that comes up in the future that we might be able to use this for." You must have particular things in mind that, as Dr. Crandall says, are classified.

I'm not asking about what those particular things are. I'm just saying: Are any of those particular things that you have in mind have to do with whether the weapons will function? And the answer was "no." **3-12 (cont.)**

Okay. And I don't think you ought to muddy it with safety, reliability and thinking about, you know, what might happen in the future. That's not what you're building it for. You're building it for what you know about now and what you're projecting for the future.

At least I hope you're doing it, and not just doing this on a lark, spending all this money on a lark.

MR. CRANDALL: But the comment is: The NIF is designed for and needed for looking at material responses, how materials function at very high densities, temperatures, and pressures; that NIF is

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the principle instrument of doing that with respect to stockpile issues for either known, unknown, known-unknowns or unknown-unknowns that may occur in the stockpile.

We know that the materials in nuclear weapons have to carry out certain behaviors and functions at very high temperatures, pressures, and densities. And this is our principle instrument for being able to examine materials in that physical regime.

MR. BROWN: Okay. Are there other questions?

(No response.)

MR. BROWN: I was going to suggest, in response to your questions, that many of them seem to be fairly detailed and technical. And perhaps, as the panel suggested, they could be submitted in writing to get a more comprehensive -- okay.

And also, after the question and answer period, some of the panelists may be available to talk to you informally, and you are signed up to make comments. So you can make your comments at that point.

Are there any other questions at this point?

(No response.)

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MR. BROWN: Okay. I think we will now move into the formal comment period. I believe we have 12 persons signed up to speak. Has anybody else come in who would -- who's not signed up to speak who would like to? I'm trying to figure out how we apportion our time. Just have a show of hands.

Anybody else who will be wanting to make comments?

UNIDENTIFIED SPEAKER: Excuse me.

MR. BROWN: Yes?

UNIDENTIFIED SPEAKER: Since nobody got call backs from calling in in terms of signing on, who is on the sign-up sheets so we know the names that are listed? Some people might have called and not be on the list.

MR. BROWN: Okay. Let me read through the folks that I have. Karen Majors, with the mayor's office; then Marylia Kelley, Sally Light, Don Larkin, Dale Nesbitt, Madilyn Duckles, Rene Steinhaven (sic), Janis Turner, Cindy Pile, Tal Simchoni, Ann -- is it Beier or Beier?

MS. BEIER: Beier.

MR. BROWN: -- Beier who signed up this evening, and then Jackie Cabasso who also signed up this evening. So those are the names that I have.

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UNIDENTIFIED SPEAKER: Madilyn Duckles will not be here. She called me to let me know she was not going to be here.

MR. BROWN: Okay. All right. Well, I'll call the names in order, and if folks aren't here, we'll go on to the next.

Is there anybody missing, or is there anybody here who would like to make comments?

Okay. I guess we have on the order of 10 or 11 speaking.

We're now prepared to take formal comments. I will ask each person, as their name is called, to step up to the microphone and identify themselves and provide an organizational affiliation, if that is appropriate.

Because of the number who are signed up -- and I want to make sure that everybody has an opportunity to speak -- I'll ask that the initial presentation be confined to ten minutes. I will notify you after eight minutes have elapsed, and if you can wrap your comments up within ten minutes, that's fine. And if not, if you can end at ten minutes and you have further comments after everyone else has had a chance to speak, we'll come back to you so that you can complete your statement.

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So I'd like to call our first speaker at this point. That's Karen Majors, who is the Economic Development Director for Mayor Cathie Brown's office.

MS. MAJORS: Good afternoon. My name is Karen Majors, and as the gentleman said, I'm the Economic Development Director for the City of Livermore.

Mayor Brown asked me to come and read a letter that her office prepared as written testimony, and she would like to have it read into the record. Unfortunately, her schedule did not permit her to be here this afternoon.

The letter is addressed to Mr. Richard Scott, U.S. Department of Energy.

"Dear Mr. Scott,

"On behalf of the City of Livermore, I would like to affirm the City's support of the construction and operation of the National Ignition Facility at Lawrence Livermore National Laboratory.

"Today's public hearing is about

3-13

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the draft Supplemental Environmental Impact Statement or SEIS. This SEIS was necessitated because of the fact that during excavation for NIF in 1997, the construction contractor unexpectedly uncovered electrical equipment containing PCB oil, a hazardous material.

"It was disturbing that an undocumented hazardous material dump was uncovered; however, I was impressed with the speed and professionalism of Lawrence Livermore National Lab in handling the situation. Representatives from Lawrence Livermore National Lab notified me immediately and continued to keep me informed -- fully informed of the circumstances. I was assured that at no time the citizens of Livermore were in any danger from this event.

"This type of response, when

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unexpected events occur, gives me confidence that Lawrence Livermore National Lab is a good neighbor. I continue to support the NIF and urge you to accept the SEIS and proceed with the project. "Sincerely, Cathie Brown, Mayor" **3-13 (cont.)**

Thank you.

MR. BROWN: Thanks very much.

Our next speaker is Marylia Kelley.

MS. KELLEY: Hi. I, too, was impressed with the speed of the cleanup but need to mention that it was an emergency removal action under the Superfund Law.

What I want to say regarding this particular document is it must be noted that no scoping meeting was held. Now, it's the agency's discretion whether they want to hold a scoping meeting or not. You folks chose not to.

As currently written, the scope of the draft Supplemental Programmatic Environmental Impact Statement is inadequate because it's absurdly limited. Currently the draft Supplemental PEIS is limited to a mostly backwards-looking analysis of how the Department, way back in 1997, cleaned up **3-14**

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112 PCB-laden capacitors found in an undocumented waste dump during the initial phase of NIF construction, with some mention added about the court-ordered investigations that followed and the discovery of additional PCB-contaminated soil in the Special Study Area in 1998, which were later removed.

The National Environmental Policy Act, the law under which this document is being prepared, intends environmental analyses to be forward-looking and to assist an agency and the public in engaging in good decisionmaking.

If this document is to meet that bar, it must be expanded to incorporate new information and new proposals regarding the National Ignition Facility construction and operation that have emerged since that 1997 court order, including a full analysis of NIF's cost overruns and the underlying technical problems.

Second, there are proposals before the Department that, in essence, make NIF a very different and, therefore, new project, unlike the NIF that was analyzed in the 1996 PEIS, making that out of date. **3-15**

There is a proposal currently before DOE to

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build a half NIF consisting of 96 beams. This proposal comes with a subpart containing changes in the order in which the laser beams are to be brought on-line.

The order in which laser beamlines become operational and whether there are full or half of them affects NIF's experimental capabilities. **3-15 (cont.)**

Further, these new proposals may alter the time frame in which different categories of experiments are likely to be done. These things, in turn, could mean a change in the environmental impact of NIF.

The supplemental PEIS should analyze, for example, whether experiments using plutonium or highly-enriched uranium are made more likely by the change in the beamlines' number and/or operational order, as was mentioned in the Q and A time.

Further, the document should explore whether experiments that could use plutonium or HEU are likely to occur earlier or later as a result of these changes. **3-16**

And those same questions should be answered and were partially answered by you but should also be in the document -- "you" in this case being you, David -- about weapons effects testing.

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There could be differences in various kinds of toxic materials that may or may not be used.

Third, the draft Supplemental PEIS relies on a Purpose and Needs Statement made in the 1996 PEIS which is inadequate in light of this new information and potential changes for NIF.

Regarding the purpose and need for NIF as put in this document, Chapter One, page 3, contains the statement that, quote,

"NIF will provide a unique capability as a key component of DOE's science-based stewardship of the nation's nuclear weapons stockpile," end quote. **3-17**

NIF's operational capabilities are very much called into question by the serious, unresolved technical problems with laser glass and other optics, with target fabrication and with diagnostics. At a minimum, this should trigger a reassessment of NIF's purpose and need.

We note, as well, that the U.S. Environmental Protection Agency requested that the draft Supplemental EIS contain a, quote, clear statement of purpose and need. And that's in Chapter One, page 7. The DOE declined to do so. **3-18**

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This deficiency must be remediated in the final -- remedied in the final document. **3-18 (cont.)**

Four, DOE's preferred choice called the no-action as an ongoing activity -- which is an interesting way to turn "no-action alternative" on its ear -- in Chapter Two of the Supplemental PEIS is so narrowly construed that it becomes useless as a decisionmaking tool.

Chapter Two, page 1, states, quote,

> "Under this interpretation of the no-action alternative, DOE would make no changes in the design of NIF, would undertake no deviations **3-19** in construction techniques, and would impose no operational changes in response to the information regarding site contamination obtained during the characterization studies."

This is a surreal inversion of the reality surrounding the NIF. In fact, there are proposals that would significantly alter all three of those above-quoted parameters; that is, NIF design, construction techniques, and operational changes.

DOE hinges its preferred action on a mere

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assertion that these major changes are not necessarily linked to the discovery of the PCB-laden soils in the NIF construction area.

So what? Should DOE simply ignore the larger reality and proceed? If DOE chooses this course, it will waste taxpayer money and run contrary to the spirit and letter of the National Environmental Policy Act. A second, hard look at NIF is the action that's warranted at this juncture in time.

Furthermore, DOE must seriously consider a true no-action alternative; that is, to halt the construction of the National Ignition Facility.

The draft Supplemental PEIS dodges giving this option the consideration that it deserves. In fact, various parts of this document have prejudicial wording regarding the impacts of not moving forward with construction. **3-20**

There's one part that says that there could be radioactive releases associated, for example, with using the building for other purposes. Right now it's just concrete. There's no radiation there today. So that's an outrageous statement because whether or not there would be radioactive releases would depend entirely on what the other use was.

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You can't put that down as a negative impact of not continuing with what is, in fact, a radiological facility to begin with. **3-20 (cont.)**

Also, this draft document contains unsupported statements about other uses using fewer employees. It is not justified in this document. The opposite could, in fact, end up being true.

The NIF, according to DOE and Lab documents, may employ only 230 to 300 long-term employees, and most of those were moved over from NOVA. And as Dave Crandall knows, we objected to the dismantling of NOVA. So in terms of new jobs, transitioning this facility into something else at the Lab could, in fact, have a net job gain. **3-21**

Six, "Operation" -- this is a quote from your viewgraph, Richard.

> "Operation of NIF will have no impact on soil or groundwater," end quote.

I just want to point out that part of the Superfund cleanup going on at Livermore Lab includes a Freon plume as well as TCE and other organics in the laser area. And the only candidates for that Freon plume are NOVA and U-AVLIS. **3-22**

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So you can't just simply, blithely, make that statement. It's something -- the environmental impacts seriously need to be looked at.

Seven --

MR. BROWN: Two minutes, Marylia.

MS. KELLEY: All right.

MR. BROWN: Thanks.

MS. KELLEY: Regarding my earlier questions about the change-out. Part of your reply, David, was that there's no expectation of shattering lenses.

And I want to seriously suggest that the less optimistic aspects of some of these problems need to be analyzed in the document. In other words, you maybe should consider that there may **3-23** well be a lot of shattered optics, a lot of additional change-outs, and a lot of impacts that could be downstream from that that should be looked at.

I also want to take this opportunity quickly to ask for three documents and that they be made part of the record.

One is, Mike Campbell told me in August of **3-24** last year when he was Associate Director for Lasers

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that there was a report delineating all of the Beamlet experiments, not only their purposes but also an evaluation of them, a look at their parameters, a look at what they proved or didn't prove. And he said he would make that report available to me after it got out of the internal peer review here about the first of this year. I have yet to see that report.

So any report or reports on the results of Beamlet experiments, since everything in NIF -- not everything, but many things in NIF are predicated on what was supposedly proved in Beamlet. And I'm referring to the Lab's presentations to the Secretary of Energy Advisory Board task force on that. **3-24 (cont.)**

And those statements are being made without the base document being available to the public to analyze whether or not that, in fact, justifies the statements made by the Lab.

The second thing that should be part of the record is the Livermore Lab's new baseline report that they submitted to the Department of Energy a couple weeks ago now.

The Lab is claiming that that's in draft form, but, in fact, at least as a preliminary

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report, that is their final of that aspect of it, and that should be part of the record now. We shouldn't have to wait until next June when it's due in Congress to be able to see that because the baseline impacts the project and whether, in fact, it's a substantially different project with substantially different impacts. And that needs to be part of this record.

The third thing is, I also want to make sure that the MOU between the DOE and the Defense Threat Reduction Agency is made part of the record, and also additional MOUs with France and Great Britain that impact the design, construction, and operation and monies for NIF also be made part of the administrative record.

And finally, I just want to quote Richard. He said at the beginning, "This is a narrowly-scoped Supplemental EIS," and I want to thank you for that honest statement. And my comment is: Too narrowly scoped. **3-25**

Thank you.

MR. BROWN: Thanks very much.

Sally Light?

MS. LIGHT: Good afternoon. My name is Sally Light. I work for Tri-Valley CAREs,

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Communities Against a Radioactive Environment. I'm the nuclear weapons and waste program analyst.

A lot of my concern today -- there will be others who will speak in detail about the actual document, such as Marylia and Jackie and so forth.

I question -- I want to bring up the issue of credibility, generally and specifically. Credibility in terms of DOE's credibility with the public. Every time that we have an EIS or a PEIS, it's the DOE who is performing that. It's not an independent, outside agency that's unbiased. And so that always brings up issues of credibility for me. **3-26**

And when I looked to the specifics of the NIF situation, it takes a further wrinkle because I think that the Department of Energy and the Lab's conduct in terms of the time -- at the time the capacitors were found in the target chamber as it was being dug out -- I mean, I happen to -- I was actually in the -- in the Tri-Valley CAREs' office the day that we got a call saying that these capacitors were being unearthed.

And as I recollect -- and I was a part of the steering group on this lawsuit, so I was deeply involved in all of this -- that actually the bare

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minimum of reporting was accomplished by the Lab and DOE about those capacitors.

And I was the one who suggested that we contact our attorney and see whether this would be of interest, and it turned out to be very much of interest. We would not be sitting here today discussing this draft document had we not acted on it, researched it out, got to the court. And the court was irate at DOE and the Lab. And that turned a lot of things around in terms of the whole lawsuit.

So, again, when I think about that, that is a major question, and I want the media to remember back to that time, two and a half years ago.

And also, when I look at EISes in terms of how DOE produces the documents, in general they're very flat, flat, narrow in scope, rather toothless documents with very predictable findings.

And this -- this particular document is also like that. I'm very upset with the narrowness of the scope and some of the issues that others have already raised today in terms of the Q and A period as well as their comments. I underscore their concerns about the lack of reality about what's going on now in terms of new proposals concerning **3-27**

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the design and so forth of the NIF and how it plays here in terms of the document.

And I think the document is inadequate as it is, but it certainly is far more inadequate in view of the last six months' revelations concerning the NIF. **3-27 (cont.)**

I think that the style of the document is rather arrogant. I think that, you know, it wasn't done out of voluntary good faith, goodwill to present alternatives to the public. We dragged it out of you through our having to go to court, which is a shame, but that's the way it is. And I think that also plays into the credibility of the public.

I -- I feel that DOE and the Lab just -- they don't want anything to impede the NIF. The NIF has been touted by DOE as the flagship project of the Stockpile Stewardship Program. And so, again, the issue of good faith comes in. **3-28**

When I think back to June of this year at the target dedication, the NIF dedication ceremony, when Secretary Richardson actually got up and boasted that the project was within budget and on time, that brings up another issue of credibility to me because at the very minimum he was, shall we say, misled by the Department of Energy, his own

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Department, about what was going on out here.

If he's lied to by the Department of Energy, how can the public rely upon the Department of Energy to be truthful in anything?

Right now there is an investigation going on by -- by -- actually three different investigations; one is already complete -- by U.C. One is the SEAB, which Marylia really mentioned -- alluded to which is a very interesting process, and the other is by the General Accounting Office.

And I know that for the press here today, I just want them, as well as the public, to know that in the spring of 2000, approximately around there, there will be at least testimony in a hearing and perhaps a report by the GAO on the problems with NIF being very much over budget and having major technical problems driving the over-budget problem as well as being behind schedule.

If DOE calls NIF its flagship project for the SSP, somehow I just want to end on a rather jovial note, perhaps. Some of us are beginning to think that maybe the flagship should be called the Titanic. I think it's sinking into its own pit along with its capacitors and bones of ancient animals and whatever else they find out there.

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That's my main thing. I -- I -- how can I stand here and believe anything anybody's telling me anymore about NIF? **3-28 (cont.)**

Thank you.

MR. CRANDALL: I would like to make one comment or two comments in response, and it's partly to Marylia's question.

First of all, the Department is concerned about its credibility, and some of us urge openness and -- and easier communication. Our position is undermined by revisiting the same issues too many times. And so we could use help from everybody in helping -- in trying to make credibility and openness easier for the Department to execute and achieve.

Secondly, we do not have -- it is certainly true that NIF is going through a question associated with the cost and schedule. And we don't have a baseline plan for what we're coming to, so we don't have something to analyze at this point.

However, there is zero expectation in any of the discussions so far that the fundamental missions and needs and experiments change because of this. They may change in time; that is, they

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may happen at somewhat different times, but there's been no expectation of change. If there is, we would certainly revisit the analysis.

And finally, just one last thing: The rebaseline document is a draft. It is something -- it will be a departmental document. And what we have is a draft that we requested from the Lab which we are modifying. And so when we have finished developing a rebaseline plan, it should become a public document.

MS. KELLEY: My point is that you asked -- you ideally asked the Lab reporting to submit this rebaselining to you. So it is final as the Lab's proposals to you. It is not final as your report.

That proposal that the Lab submitted to you on their letterhead, not on DOE letterhead, is what should be released as their document. Then when DOE does finalize its report, then that should also be released. That's my point.

MR. CRANDALL: It's a fine point. It's a draft. We asked them for a draft, so we still consider it to be a draft. But I'll do whatever is expected.

MR. BROWN: Okay. I think he understands that the document is a draft.

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I might suggest that I'd prefer to have just comments here. If we begin engaging in dialogue -- we're already, I think, running up against our evening meeting. So it seems like everybody here knows each other. And if it may be after this session you could engage in some of that dialogue then, why don't -- I want to make sure that everybody has a chance to get their comments on the record.

Our next signed-up person is Don Larkin.

MR. LARKIN: Hi. I'm Don Larkin from Santa Cruz, and I am going to rehash old issues because I think it's appropriate to rehash them. Times have changed; conditions are different. And the statement you -- the draft -- the process we're engaged in right now, as I understand it, has to do with whether the environmental risks are worth -- worth it.

One of the options is a no-action alternative. There's two no-action alternatives. One of the no-action alternatives is to stop construction of NIF. And this seems to be a balancing act between the purpose of the project and the risks associated with the project.

So I would like to examine what this -- this

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document says in terms of the purposes of the project. And I know you've done this before, but I think you need to do it again because, as I read the statement in the document -- and I'll read it here.

"The purpose and need for the NIF is explained previously and summarized here. The NIF will provide a unique capability as a key component of DOE's science-based stewardship of the nation's nuclear weapons stockpile. Planned experiments with NIF at temperatures and pressures near those that occur in nuclear weapons detonations will provide data needed to verify certain aspects of sophisticated computer models."

3-29

I'll stop there and say that those models are the models used to do virtual design of nuclear weapons. This statement here doesn't say that.

"As explained in the SSM PEIS, those models are needed to simulate weapons physics thereby providing insights on the reliability of the

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weapons stockpile."

Going on,

"As a multi-purpose inertial confinement fusion facility, the NIF will also be used, important to national energy, that is as a critical step in scientific evaluation of inertial fusion energy as a future environmentally-attractive energy source."

It goes on. It says -- it mentions other things as well.

I went back -- so now what's being presented as part of Stockpile Stewardship and Management needed to ensure the reliability of our stockpile, there's no mention here explicitly of weapons design function.

3-29 (cont.)

I went back and looked at old documents, including the institutional plan for Livermore Labs six years ago, December 1993. It has an item there for fiscal year 1996 called the National Ignition Facility estimating only $677 million.

But here's what it says the mission are -- there's three mission points.

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"The mission of the National Inertial Confinement Fusion Program is three-fold: One, to play an essential role in accessing physics regimes of interest in nuclear weapons design and provide nuclear weapons-related physics data, particularly in the area of secondary design.

"Two, to provide an above-ground simulation capability for nuclear weapons effects on strategic, tactical, and space assets, including sensors in command and control. And, three, to develop inertial fusion energy for civilian power production."

I understand why you've, sort of, dropped nuclear weapons design out of your PR and your public statements, but I think it's dishonest of you to do so.

Clearly, this -- this facility, from the beginning, was intended to provide experimental data to plug into computer models and where those models -- to refine those models to the point where

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they could be used to do design of new types of weapons and new types of weapons and putting this to stockpile.

But in public discourse about this, people always bring up the third item on that list; that is, the energy-related item. Even good reports in the Sunday Mercury News say that the -- refer to this as a facility that's going to be -- help us get to nuclear energy. But it's not.

The only reason it's being built is because of nuclear weapons reasons. We've never had a national debate on whether we needed to develop fusion energy. We've never compared that to solar and wind energy.

3-29 (cont.)

It's admitted that this is not a prototype at all for a nuclear energy facility, and people in the labs have told me that it's at least 50 years away before we even know what to do with it. This is sort of like on spec. Maybe we're going to have fusion energy.

If there was that debate, if this was really for fusion energy, Congress might not provide you the funds. The only reason you're getting the funds is because this is a nuclear weapons design facility.

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And I think, then, you need to evaluate the environmental risks against that purpose, not just the purpose you have stated here in your document.

So I wanted to make a couple comments about that purpose. As in my earlier question about the reliability issue, often the discussion shifts to, "Oh, yes, this is just" -- the answer comes back as a, "This is a pure research design; we're doing pure research."

Now, I have to say that I support nuclear physics research on the cutting edge. But I would support it in a regime where we knew we had abolition of nuclear weapons; we knew what the products of that research were going to be.

So it's not enough to say, "Yes, this is" -- when you come to the practical purposes to shift back and say, "Oh, yes, basic research." We have to look at the practical purposes. And is this the appropriate thing to do now for these purposes given the risks? And I would say "no."

I would like to raise one -- one other issue in this regard. A number of years ago, there was a special study done about the proliferation risks from NIF. And at that -- that was, I think, in 1995 the report came out. The hearings were, I

3-30

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think, in 1994.

At that time, the conclusion was -- it was an optimistic conclusion and without any evidence. It said that NIF would support the non-proliferation of nuclear weapons. Why? Because it supported the Comprehensive Test Ban Treaty. It enabled us to continue developing weapons with the Comprehensive Test Ban Treaty where other nations would be forestalled from that purpose.

And because the Comprehensive Test Ban Treaty supported non-proliferation, then, by inference, NIF had to support non-proliferation because NIF made it possible for us to enter into a comprehensive test ban treaty. That was the logic.

3-30 (cont.)

Well, here we are today. First of all, we have India and Pakistan who have developed nuclear weapons in that period of time; both countries pointing to the United States as continue to develop investment in nuclear weapons research and design, projects like NIF, as a reason why they would go ahead and do their own nuclear weapons programs; that is, if it's good enough for us, it's good enough for them as well.

MR. BROWN: Two minutes remaining.

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MR. LARKIN: Thanks.

We've had the leaks. We've had the stories about secrets from the labs getting to China and other places. And, in fact, those leaks will continue to happen.

I notice that recently the security safeguards have been lessened because there were complaints that in this sort of pure research, cutting-edge environment, you needed cooperation from people around the world.

And, in fact, I have a story here from the 1994 San Francisco Examiner which says that at that time, Livermore Lasers Program alone now interacts with, quote, unquote, several hundred Russians at 25 to 30 institutions in Russia.

This kind of project necessarily involves people from all over the world. And it -- just logically looking at it, all weapons technology proliferates over time. You can't name a case where that's not true. You can't keep this confined here.

So the question is: Why do it, if you know you're funding and developing the nuclear weapons that will be in other people's hands in the not-too-distant future?

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Given those purposes of this program, I would say no environmental risks, no matter how slight, are worth it. And I would say, then, that you ought to take the second no-action alternative: Stop the construction; tear it down; stop it now. **3-31**

MR. BROWN: Dale Nesbitt?

UNIDENTIFIED SPEAKER: Does it have to be so cold in here?

MR. BROWN: Thank you. Where's the technician who knows how to control the temperature? Yeah.

UNIDENTIFIED SPEAKER: I think it might have a chilling effect.

MR. BROWN: Yes, Dale. Go ahead.

MR. NESBITT: I'm Dale Nesbitt. I speak here officially on behalf of the East Bay Peace Action. I'm also a board member of the Western States Legal Foundation. I am a retired staff scientist from the Lawrence Berkeley Laboratory, not to be confused with Livermore.

I'm here because of my concern for the very survival of humanity. I want to share some of my experience of working under very similar scientific projects of the NIF. I will do that incorporated in my comments.

First of all, to the scope of this particular draft EIS, I think it is much too narrow. And again, just to repeat, the court order does not limit it to just the question of the toxics found during the construction. **3-32**

Points that I think that should be considered are as follows: One is the cost overruns and the technical problems associated that are causing them. Second is the danger to our national security. And third is the fact of whether or not -- or the question of whether or not there is any technical reason for the NIF in particular.

First, to go into some detail on the cost overruns. I have certainly considered -- considerable experiences here. I've been project manager of a number of projects -- particle detectors, subatomic particle detectors, and the world's largest telescope, the ten-meter Keck telescope which involves a great deal of optics. **3-33**

Never in my experience have I found that any of the estimates that we made, even if they were made honestly, ever came close to the final figure.

When I first heard the figure of some 600 million, it reminded me of what one of my

managers once told me. He says, "Dale, I'm sure that you've done a very good job of making this estimate, and I'm sure that that is what it should cost. Now let's multiply it by pi. And we can say that's exactly what the cost is going to end up right now. Some 600 and multiply it by pi." **3-33 (cont.)**

Most of the people here know what pi is. For those that don't, it's 3.14 or 16 -- whatever. And that would be my estimate of what the final cost will be if it's carried to conclusion.

Second, I think there's very, very serious technical reasons to feel that it may never work. Now, frankly, I hope it doesn't. I object to it from the standpoint that I think it is a horrible waste of money of us taxpayers.

Now, I was never directly involved in the Superconducting Supercollider Project, even though I had some 30, 40 people sitting outside of my office working on it for some number of months. I didn't take part in it by choice because I didn't really feel that it was, perhaps, in the best interest of science overall because it would drain money from a whole bunch of other scientific projects which had more direct application to day-to-day needs of people. **3-34**

However, it was a pure scientific project, and it got killed. And there was, indeed, a great deal of basic science that could have been gained from that, where I think, the NIF, in my technical opinion -- and it is an opinion, of course -- not only will not provide any useful scientific information, but I think it is of great danger to our national security.

Why do I think that? Just think for a matter -- for a minute. What is the perception of other countries when they see the United States continuing to do all of this effort towards continuing to design, refine, improve our nuclear weapons? **3-35**

But we tell them, "Oh, no, you can't do it because there's non-proliferation." What would be your reaction if you were a leader in some other country? I know what my reaction would be. "Look what they're doing. So what can I do? The only thing I can do is to have a few nuclear weapons of my own."

Is there anybody in this room that could even think that we would have bombed Yugoslavia if they had had 200 nuclear weapons?

UNIDENTIFIED SPEAKER: Say "yes." Say it.

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MR. NESBITT: They would not -- we would not have bombed Yugoslavia. Why shouldn't India and Pakistan develop their own nuclear weapons as long as we insist to continue this mad rush of insanity to suicide, which is what it is? **3-35 (cont.)**

Another point which I wish to make based on my experience, and that is that once a certain technology is developed, it is much less expensive to duplicate it. And whether it is stolen through spying or whether it is in public domain or whether it's just the fact that you know someone else has already done something, then you have the confidence to go ahead and do it yourself.

And if we aren't stupid enough -- if we would not develop this, then no other country, I think, would be dumb enough to try to duplicate it. **3-36**

Another thing which hasn't been mentioned here, and certainly it doesn't -- isn't included in any official DOE weapons labs documents, and that is that the real possible benefit of the research that would be done on the NIF would be in aiding the ability of designers to design pure fusion weapons.

We know that this work has been going on for many years. I don't know any of the details. I do

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know people that do, but I don't know them. And this is one place where the NIF would be useful.

The third point is then a question: Is the NIF useful in any way for trying to ensure the safety, reliability of the existing stockpile? And I say that the technical information that's available clearly comes down on the side that it has essentially no utilization. **3-37**

I will mention Ray Kidder. I think everyone in this room knows who Ray Kidder is. He certainly feels that it doesn't. And many, many other experts that are not directly, or at least no longer, employed by the weapons labs feel the same.

Another thing that I will mention that the NIF, if it has any value, only deals with the fusion end, the secondaries. The secondaries, the designs are well-known; they're well-documented; they've been very, very reliable; there have been very, very few problems with them. There is a technical report out at Sandia which details all these. **3-38**

Then, I would say that what is needed to maintain the safety and reliability of the existing stockpile, while awaiting dismantling as our treaties certainly demand that we should, is

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good-quality engineering and perhaps a few less physicists. **3-38 (cont.)**

So I would say that what I would recommend certainly would be that the no construction -- to halt construction while a debate goes on, and I would hope that it would mean a cessation in the entire program. **3-39**

Thank you.

MR. BROWN: Thank you.

Rene Steinhaven (sic)?

THE REPORTER: Can I just ask you to wait one second while I change my paper?

MR. STEINHAUER: Yes, that's all right.

Just by way of short introduction, my name is Rene Steinhauer, and I'm with Tri-Valley CAREs. And I'm the community organizer for that organization.

And it's hard enough to talk with the objectives that we try to bring here to a panel such as yourselves, but when one of you is missing, I'm really not interested in talking to you.

So I'm going to defer for now until that gentleman comes back and takes his place at the seat, or maybe we could all have a short break to go drink water or go to the bathroom.

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Thank you.

MR. SCOTT: I'm sorry, Mr. Steinhauer. He has a young child he has to pick up. He just had to go for that.

MR. CRANDALL: And -- and Richard is his direct representative, so --

MR. STEINHAUER: We think it's still covered, but -- your choice.

MR. SCOTT: I'm the DOE document manager. Please go ahead.

MR. STEINHAUER: There will doubtlessly be conversations among the four of you as to some of the material that you hear here -- two different spellings.

MR. FERGUSON: Everything -- everything you put on the record, sir, will be available to Mr. Samuelson, like it will everyone else. So...

MR. STEINHAUER: Well, I'm familiar with reading some of those records and how much attention people pay to the written record as opposed to what they hear. But I will proceed then, knowing that he's not going to come back at all tonight. Is that right?

MR. SCOTT: I'm not sure. If he finds someone, he'll try to come back for the later

session, I believe.
MR. STEINHAUER: All right.
Well, first of all, I would like to start out by saying that although you've learned that I'm with Tri-Valley CAREs, it's clear we didn't coordinate our activities in here or plan things because practically who has gone before me has stolen most of the thunder that I would like to have presented here tonight. And that's good, and that's well, and that's fine because that gives me time for some other things.
But one of the things that I would like to go to is, again, from this -- from this original report here. And it's in section 1-7 -- it's page 1-7, and it's section 1.4. And I'd just like to read one paragraph from you in connection with this when this was being considered.
"DOE received one set of comments from the U.S. Environmental Protection Agency, EPA, on the September 25, 1998, anointing. The EPA commented that the SEIS" -- there are so many acronyms here -- "a scope should include seismic potential, environmental hazards of

3-40

operating NIF that were not identified in the Joint Stipulation and Order, waste streams and waste management from operations, and permitting and regulatory approval. DOE has considered these comments and has addressed them in a manner consistent with the scope of the SEIS, i.e., whether they bear on the question of contamination by hazardous, toxic, or radioactive materials in the area of NIF.
"However, DOE does not believe that it is appropriate to expand the scope beyond that established by the Joint Stipulation Order. DOE agreed to conduct the characterization activities described above and to prepare the SEIS in response to the discovery of the buried capacitors during the construction of NIF.
"No other site -- no other new information has been developed that would call into question the

analysis and conclusion contained in the SSM PEIS and the NIF PSIA contained therein regarding the environmental impacts and the constructing and operating of NIF."
And, again, I think most of what you have heard tonight has been from people who are concerned and, as I said before when I raised the question earlier, that have deliberately tried to narrow the scope so that you don't have to get into that muddy water of what the issues are about.
But I think one of the questions that you're going to have to deal with is, and one of the realities that you're going to have to deal with is, that you're not fooling anybody. There are serious problems out there.
There are problems of contamination, both radiological and chemical -- other toxic materials. There are problems about actual -- I mean, cover-up. There are questions about covering up these immense cost overruns. There are questions about lying about where the stage of the operation is at in regard to the development -- you're a couple of years behind, and you're hundreds of millions of dollars over cost.

3-40 (cont.)

3-41

3-42

Now, this is related to other issues that have come before the national attention lately about all this business about espionage and whether some Chinese person is really the culprit for all that has happened.
I want you to understand that when things like this go on and one operation is so greedy and is so involved in garnering all the money and keeping in its kind of bystands (sic), all those people that were cut off from the AVLIS project and others, and all that money is being sucked up.
And that money is coming out of other scientific projects that are going on at the Lab and other labs that it's no wonder that other well-intentioned scientists -- and they're not traitors; they're not agents of China or Russia or North Korea -- get a little pissed off at this business. And they come to us, and they tell us about these things that are going on.
When you continue to support an operation like this that is clearly lying about its present status -- and other people have mentioned about that June ceremony where all those grandiose statements were made -- and they're clearly lying about it, that you're going to have a lot of other

3-43

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problems coming forward with this thing.
That's why there are so many other people, organizations, agencies looking into this matter. That's why I raised the question earlier about integrity because you're here, and you're trying to keep this to that narrow horse blinder view, the business about the toxics at that site.
And if you're not prepared to deal with it now, that's going to come back and lay around your necks because you're the persons that were here at this point.
Now, a lot of the people here are out of the peace and freedom and justice organizations, and I'm reluctant sometimes to use military metaphors, but you're the guys who are here holding the line. You're the ones that are here to hold that bridge. And that's the way it is.
Either you're here to hold that bridge, and you've got to decide: Which side are you holding the bridge for? Are you holding the bridge for all those people that want to cover up and go on and keep bleeding the nation's economy with this money, or are you here to hold the bridge for the citizens?
And I don't know who's paying your money. I

3-43 (cont.)

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mean, I've always thought that we, the taxpayers, paid your money because you go to the same trough everybody else does. But maybe somebody else is paying money here, somebody that Eisenhower, you know, referred to ages ago about the military-industrial complex. Who is paying you?
And you're the guys that are holding the bridge, but I don't know which side you're holding it for. And that is a matter of integrity. That's the question I raised earlier.
So, I mean, you can sit here and narrowly define the views that you have about dealing with these other toxics, like the PCBs in that area, or you can really get on with the issues that this thing is all about and how effective -- and there's no need for me to go into it because other people have already gone into this business -- all of the issues related to the effectiveness of the NIF project and where it's going, what it's doing to both the Comprehensive Test Ban Treaty, the ABM, and all the others.
And to go forward with this thing only puts the world at greater risk. So these are the issues I'm talking about when I mention "integrity." Are you really going to stand up, and if you'll forgive

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me, are you going to have the balls to go forward with the thing that needs to be done, or are you going to go on being bureaucrats in just carrying the company line?
That's the issue that concerns me; it's the issue that has always concerned me; it's why I'm here. And you, gentlemen, will have to go home tonight and look at yourselves in the mirror.
Thank you.
MR. BROWN: We've had a few additional people sign up, and I think we're going to be running close to our limit to the start of the next meeting, so I'll just make note of that as I call each person up.
So our next speaker is Janis Turner.
(No response.)
MR. BROWN: All right. I'll come back to names I call who aren't here.
Cindy Pile? Hi.
MS. PILE: Hi. I'm Cindy Pile. I'm the director of the Nevada Desert Experience, which is a faith-based organization working to end nuclear weapons testing. And I'm used to being in a pulpit, but I don't think this is very different because I want to continue in this vein that our

3-43 (cont.)

3-44

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definition of "environment" in these statements is so narrow.
We really don't deal with the moral and the spiritual implications, and so I just want to touch on that, noting the time, very briefly.
First of all, I think we need to be very honest about what we're doing here. We use all these euphemisms. I haven't even heard the word "death." And we need to be clear that what we're doing is building a facility that develops weapons of death. We don't hang bombs on our Christmas trees. We don't give our children bombs to play with. We kill people with bombs.
And, of course, the usual argument is that, "Well, we're building these bombs so that other people aren't going to attack us, and so these are weapons of peace, in fact." But their very existence means death for a lot of people that I've lived with and I've worked with, homeless people who are impoverished because we're spending all of our time stockpiling these weapons.
And I think that these weapons kill not only the body but our soul and that what we're doing is sinful. I don't believe, no matter by what name we call upon God, that this is what our God is asking

3-45

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of us. And I'd ask us, all these words I hear here, to just stop and to ask what it is we're really doing. Is this really the legacy that we want to hand on to our world, to our children, to our God? I hope not.

And I think we'll be further inspired in our reflection if maybe we just look at each other for once? We're all looking up here. If we look, gaze deeply into the eyes of one another and we see that we are sisters and brothers, sisters and brothers also with the people who walk the streets, the people in India, Pakistan, China, Russia, and that we are one body and that we are going to be killing this one body. **3-45 (cont.)**

I think the beauty of this body, though, is that we've all been given these different gifts -- some of you as administrators, scientists, peace activists out here -- and we're called to use these gifts really wisely.

And we're also called to deal with this violence because all of us -- and I include myself; all of us include ourselves -- have helped unleash this violence. And it might be just by giving orders to test bombs; it might be in delivering food to the cafeteria here, paying taxes to build

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these bombs. It doesn't matter. We've all contributed.

And I think we can put these gifts to better use than constructing this National Ignition Facility. **3-46**

So, I guess, in the season of justice and peace, the season of light a lot of us are celebrating with Advent and Hanukkah, my prayer and my hope is that we open ourselves up a little bit more here. Let's open ourselves up to dream some dreams we don't usually dream and to do things we don't usually do, maybe think about not constructing this National Ignition Facility.

It's the start of a new millennium; it's the time of a new birth, and I hope that we can really work to build something that so many think is this utopian dream. It's not. It's right before us. It's within our grasp. It's a world of justice and peace. **3-47**

So thank you.

MR. BROWN: Thank you.

Tal Simchoni?

MR. SIMCHONI: Hi. My name is Tal Simchoni. I'm with Physicians for Social Responsibility. I'm the project coordinator for PSR. This is for the

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San Francisco Bay Area chapter.

PSR is a nationwide organization of over 20,000 physicians who have a long history of opposing nuclear weapons. And I, too, believe that the scope of this hearing is too narrow, and so I'd like to open it up and talk about the bigger picture which is -- which I'll exemplify that with a few facts. **3-48**

The first: That the Stockpile Stewardship has a budget of $60 billion over 13 years. And this is to modernize nuclear weapons, basically. And this money is more -- this is more money per year than the U.S. spent on nuclear weapons during the Cold War. **3-49**

And the second point and, actually, I really question why we're putting more money into projects such as this, such as NIF, that serve to escalate proliferation when hundreds of billions of dollars are needed to spend on cleaning up the mess that we've made already, such as plants at Hanford. **3-50**

And when I say "cleanup," I have serious doubts about the adequacy of a cleanup when there are persistent chemicals -- excuse me -- persistent toxic products such as plutonium that are difficult to clean up. **3-51**

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And, furthering the bigger picture, I think it's important to -- if the United States is committed to non-proliferation and peace, to not support projects such as NIF and to urge you -- to encourage you that you have the power to have a say in a decision in this matter, in NIF, and that we need to go towards de-escalation and getting rid of these weapons, abolition versus furthering the military-industrial complex. **3-52**

Thank you.

MR. BROWN: Thanks very much.

Ann Beier?

MS. BEIER: My name is Ann Beier, and I'm with Western States Legal Foundation.

And as outlined in the draft Supplemental EIS, I am in support of the no-action alternative which would cancel the NIF project, ceasing construction, and making the site usable for another purpose.

I support this alternative for the following reasons: The cost overruns have not yet been completely ascertained with any degree of certainty. Because the heart of the National Environmental Policy Act is alternatives analysis which provides decisionmakers and the public **3-53**

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information about impacts of the proposed action in order to allow the project's purported benefits to be balanced against the potential for harms, I believe the NIF project cannot proceed until there is full disclosure analyzing the cost. **3-53 (cont.)**

In the recent testimony of Sandia Director Robinson on the ratification of the Comprehensive Test Ban Treaty, he indicated more money may be necessary for the Stockpile Stewardship and Management Program, of which NIF is central. **3-54**

Secondly, the environmental analysis and information provided is inadequate and much too narrow in scope. **3-55**

Although the questions were raised earlier by Jackie Cabasso, I would still like to reiterate about plans to use plutonium, uranium, and lithium hydride in future experiments. Should these be -- these should be analyzed in a draft SEIS, and, for example, accident scenarios to workers in the surrounding community in handling lithium hydride. **3-56**

The overall scope of the draft SEIS should be broadened. Although the draft states the scope only covers what is mandated in the Joint Stipulation and Order, there are reasons to broaden the scope to include the proliferation impacts and **3-57**

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the enormous environmental costs associated with the proliferation of nuclear weapons technology and knowledge.

For example, we are currently cooperating with both the French and the British on inertial confinement fusion. There is a need for more analysis on proposed design changes, as discussed by the recently-formed SEAB.

And last, other -- other environmental issues which should be analyzed are the monetary costs of decommissioning and decontaminating NIF, and where will the waste generated by NIF be transported, treated, stored, and disposed of? **3-58**

MR. BROWN: Okay. Thank you.

Jackie Cabasso?

MS. CABASSO: Thank you. I'm going to use some viewgraphs, and I'm going to ask Ann to assist me.

UNIDENTIFIED SPEAKER: Jackie, you've gone over to the other side.

MS. CABASSO: Just wait till you see the viewgraphs.

MR. BROWN: Is this a first?

MS. CABASSO: No, it isn't. I occasionally use them.

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MR. BROWN: All right.

MS. CABASSO: My name, again, is Jackie Cabasso. I'm the executive director of the Western States Legal Foundation. And I'm going to take my ten minutes here to try to reframe the issues.

My basic premise, I guess, is that the scope of this Supplemental Environmental Impact Statement is too narrow. So I want to start with a quote. **3-59**

> "The working definition of an expert is a person who can solve a problem faster or better than others, but who runs a higher risk than others of posing the wrong problem. By virtue of his or her expert methods, the problem is redefined to suit the methods."

That's a quote from Charles Perrow from a book called Normal Accidents: Living with High Risk Technologies.

So I'd like to start by basically reframing the questions with another quote.

Could I have the first viewgraph, please?

This is a statement that the mayor of Hiroshima made to the International Court of Justice in the Hague in 1995 when they were

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considering whether the threat or use of nuclear weapons is legal under international law.

> "History is written by the victors. Thus, the heinous massacre that was Hiroshima has been handed down to us as a perfectly justifiable act of war. As a result, for over 50 years we have never directly confronted the full implications of this terrifying act for the future of the human race." **3-60**

So I'd like to now go on to what some of those implications are.

Could I have the next one, please?

This is a statement that was made in September by the U.S. negotiator to the Comprehensive Test Ban Treaty, Steven Ledogar, at an event I attended in New York. He said,

> "The basic fact is, this effort, the CTBT, represents a treaty whose time has come. This idea's time came when technology reached the state that the United States began to have confidence it could maintain its nuclear weapons

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stockpile safely and reliably without explosive underground testing... We believe that we are trying to ban the bang, not the bomb." **3-60 (cont.)**

Unfortunately, most of us and most countries in the world thought the CTB was about banning the bang and the bomb.

So, next one?

Here, of course, is some of that technology he was talking about. Some of you will recognize this. It is, of course, the NIF target chamber, which, I think, Mike Campbell aptly described as the Death Star from Star Wars at the groundbreaking ceremony which I was the sole representative of the regular people in attendance. **3-61**

The purpose of the National Ignition Facility is usually described in terms of maintaining the safety and reliability of the enduring stockpile.

Can I have the next slide?

Now, this is one of the viewgraphs that was presented to the first meeting of the Secretary of Energy Advisory Board here on November 15th. And it's entitled, "21st Century Science Based

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Stockpile Stewardship." "Safe and reliable stockpile without underground testing; comprehensive program from concepts and certification to products."

And it includes many, many things -- the whole Stockpile Stewardship system, modeling, simulation, experimentation, development and certification, and science-based manufacturing. **3-62**

So I was most intrigued when -- next slide, please -- Gilbert Weigand, the Deputy Assistant Secretary for Research, Development and Simulation for U.S. Department of Energy Defense Programs described that slide as, "This is how we maintain our nuclear weapons superpower status," which I think is the first honest description of Stockpile Stewardship that I've ever heard from a U.S. official.

Now, what is the role of Stockpile Stewardship in U.S. national security policy? Quote,

"Our nuclear deterrent posture is one of the most visible and important examples of how U.S. military capabilities can be effectively used to deter **3-63**

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aggression and coercion, as reaffirmed in a Presidential Decision Directive signed by President Clinton in November 1997. Nuclear weapons serve as a hedge against an uncertain future, a guarantee of our security commitments to allies and a disincentive to those who would contemplate developing or otherwise acquiring their own nuclear weapons.... The United States must continue to maintain a robust triad of strategic forces sufficient to deter any hostile foreign leadership with access to nuclear forces and to convince it that seeking a nuclear advantage would be futile. We must also ensure the continued viability of the infrastructure that supports U.S. nuclear forces and weapons. The Stockpile Stewardship Program will guarantee the safety and reliability of our nuclear weapons **3-63 (cont.)**

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under the Comprehensive Test Ban Treaty."

And this is a quote from A National Security Strategy For a New Century, which was issued by the White House in October of 1998.

Now, let's see what another country has to say about the CTBT.

"We have always believed that the objective of a CTBT was to bring about an end to nuclear weapons development. We are all aware that nuclear explosion technology is only one of the technologies available to the nuclear-weapon States. Technologies relating to subcritical testing, advanced computer simulation using extensive data relating to previous explosive testing, and weapon-related applications of laser ignition will lead to fourth generation nuclear weapons even with a ban on explosive testing. It is a fact that weapons-related research and development in these technologies **3-64**

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is being promoted. Our objective therefore was a truly comprehensive test-ban treaty, rather than merely a nuclear-test-explosion-ban-treaty. For many years, we had been told that a CTBT was not possible because testing was required for the safety and reliability of existing nuclear weapons. We questioned it then and now we know that we were right. Today, underground explosion technology has the same relevance to halting development of new nuclear weapons by the nuclear-weapon States as banning atmospheric tests did in 1963."

3-64 (cont.)

That was India.

Now, could I have the next slide?

This may seem like a non sequitur, but it isn't because I'm going to tie it all in.

This is the Wingspread statement on the precautionary principle. And I'm just going to tell you what it is; I'm just going to sum it up. I don't know if you can -- it doesn't look like it's quite in focus there.

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What is the precautionary principle? This is a comprehensive definition that was spelled out at a major meeting in January 1998 of scientists, lawyers, policymakers, and environmentalists.

And basically, its sum says,

"`When an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.

"Key elements of the principle include taking precaution in the face of scientific uncertainty, exploring alternatives to possibly harmful actions, placing the burden of proof on proponents of an activity rather than on victims or potential victims of the activity, and using democratic processes to carry out and enforce the principle -- including the public right to informed consent."

3-65

And it's in that spirit that I'm making that presentation.

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Now, what if India adopts the same method of ensuring its national security as the United States has? Why shouldn't they? In fact, it does seem, unfortunately, that they are moving in that direction. And what if their neighbor Pakistan feels the need to ensure its national security against India the same way?

3-65 (cont.)

Could I have the next slide, please?

MR. BROWN: Two minutes.

MS. CABASSO: Okay.

This is the cover of a report written by a friend of mine for IPPNW, International Physicians for the Prevention of Nuclear War. It's called Bombing Bombay? Effects of Nuclear Weapons and a Case Study of a Hypothetical Explosion.

"Based on the available population data, the historical experiences of Hiroshima and Nagasaki and different physical models, we have estimated short-term casualties from a hypothetical explosion over Bombay. For a 15 kiloton explosion, the number of deaths would range between 160,000 and

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866,000. A 150 kiloton weapon could cause somewhere between 736,000 and 8,660,000 deaths. In addition, there would be several hundreds of thousands of people who would suffer from injuries or burns. Many of them may die without prompt medical aid, which is quite unlikely. These estimates are conservative, and there are a number of reasons to expect that the actual numbers would be much higher. Further, these estimates do not include the long-term effects like cancers that would afflict thousands of people in the following years or genetic mutations that would affect future generations.

3-66

"The immense scale of these effects, and that too resulting from just a single fission weapon with a low yield, should make it clear that the possible use of such weapons would lead to a major

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catastrophe. The only guarantee that such a tragedy would never occur is complete elimination of nuclear weapons, from both the region and from the world, and the means to manufacture them."

I would suggest -- this is my concluding statement -- in view of these potential environmental impacts, implementation of the precautionary principle is clearly indicated. The NIF project should be canceled as indicated in the true no-action alternative.

Thank you.

MR. BROWN: Donald King?

MR. KING: Good evening. I'm Donald King, and I've been in Livermore since 1978; worked for the Lab for four years. Not a scientist, though. I was in administration.

And I've briefly went through the draft Supplemental Environmental Impact Study -- or Statement to glean out a few points that I feel I would like to make.

Under the heading of "Lawsuit," on September 22nd, 1997, the Natural Resources Defense Counsel, et al. -- and I believe that included my

3-66 (cont.)

3-67

organization, Tri-Valley Communities Against a Radioactive Environment -- brought suit against the Department of Energy.

The NRDC, et al., contended that the DOE, prior to beginning construction of the NIF, sited it in an area known to be contaminated, and that the DOE failed to do sufficient preliminary analysis of the site to weigh the risks involved.

How did the NRDC, et al., arrive at that conclusion? Frankly, I do not know. I've not read their Complaint.

At any rate, we are here today because that suit was brought. The court, on October 27th, 1997, ordered that the DOE agree to prepare a supplemental to the original Environmental Impact Statement. That supplemental study would address the deficiencies that the court found in the Department of Energy's original Environmental Impact Statement.

Under the heading of "Restricted Scope," the Department of Energy, perhaps understandably, decided to fulfill their legal obligation by focusing narrowly upon environmental impacts related to or resulting from contamination found to be present at the construction site.

3-68

3-68 (cont.)

And, of course, that relates to the fact that the suit resulted when excavation at the NIF site uncovered capacitors containing toxic PCB oil. And that was on September 3rd, 1997. The capacitors and surrounding contaminated soil was removed on September 12th, 1997.

The DOE, as a result of its cleanup, concluded that contamination of PCBs in soil or groundwater would be below any level of regulatory concern for all alternatives.

And what alternatives did the DOE consider? There were two: Construct the NIF at another site or cancel the program entirely.

Well, my view: I agree with the Department of Energy that now that the NIF is 80 percent complete, it would not make sense to begin all over again at another site. As to the other alternative, cancel the project, that idea is addressed in section 4.3 of the draft and Supplemental Environmental Impact Statement.

Look there, and you find that statement -- that the Department of Energy does not consider ceasing NIF construction to be a reasonable -- or to be reasonable.

The report then presents a detailed listing

3-68 (cont.)

3-69

and analysis of ways by which the facility could be modified to serve other purposes; that it's done its present stated purpose as necessary to carry out the Stockpile Stewardship Program.

And, frankly, I was a little surprised to see all those alternatives, and some of them seemed pretty desirable to me in hoping that we would depart from the stated present purpose, which was to carry out the -- the nuclear weapons program.

I should say that many of us have followed the Department of Energy and this nation's nuclear weapons policies and have questioned the need for the NIF. We see it as facilitating a policy based upon deterrents that goes way beyond the need to assure the maintenance of a safe and secure and steadily decreasing stockpile of nuclear weapons.

We feel that the NIF represents vividly the current administration's failure to follow through on its obligation, to aim at a world in which the nation threaten -- no nation threatens others with a nuclear option.

I'd like to emphasize, also, my associate Rene Steinhauer mentioned the Environmental Protection Agency's position, another federal agency that I think has competent scientific

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personnel.
And in section 1.4 of the draft Supplemental Environmental Impact Statement, that Department commented that the scope should include seismic potential and environmental hazards of operating NIF that were not identified in the Joint Stipulation Order, waste streams and waste management from operations, and permitting and regulatory approval. **3-71**
The DOE rejected the EPA's comments. The DOE, quote, does not believe that's appropriate, to expand the scope of the -- of the statement beyond that established by the Joint Stipulation Order. Period.
Needless to say, I think the DOE is wrong and the EPA is right.
Thank you.
MR. BROWN: Thanks.
Wes Nicholson?
MR. NICHOLSON: If I were to sum it all up in one word, this would be it: A stop sign. But guess what? I get ten minutes to talk, so -- so **3-72** I'm going to elaborate on that "stop."
There's an old saying -- I heard this on the way over, and it seemed to apply, so I'm going to

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recount it. I'll wait until you guys are ready, though. Okay?
There's an old saying, "We can plan for 100 years from now, but we don't know what's going to **3-73** happen in the next moment."
When I was a young kid, I wanted to be a scientist; I wanted to be an astronaut and a scientist. You know, so I really can appreciate and I can respect the mentality that wants to prove, that needs to know, that wants to push the boundaries. I respect that because I've felt it myself.
But there's some things that we don't need to know. We don't need to know how many times over we can, you know, improve on a nuclear weapon. We don't need to know what the outcome is going to be for the people when we shoot depleted uranium bombs at them.
We don't need to know, you know, what's going to happen to the people later on that have, you know, relied on drinking water that was contaminated by nuclear waste. There's some things that we don't have to know; we don't have to prove.
There's some things we already do know. Radioactive illness is very prevalent in the world

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today, and it's caused by activities directly related to what goes on here at the Lab. **3-73 (cont.)**
We also do know there's been a lot of coverups through the history of DOE and coverups right here at the Lab. We've already mentioned that.
We also do know already that the DOE doesn't have too good a credibility, being as they've lied to Congress on numerous occasions. We also do know that human error is a very real thing, a real factor, and it's directly related to activities of **3-74** this magnitude when we're handling nuclear weapons and nuclear waste.
So I suggest that we need to change this paradigm of science where we have to do everything just because, you know, we haven't proved it yet or haven't -- see if we can do it; we have to do it.
No, we don't have to do everything. We need to change that.
And we need to start using common-sense intelligence or maybe refer to it as emotional or spiritual intelligence that will start to guide **3-75** science a little bit more. Okay? And I don't want to go into too much what that means, but let's just think about it.

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Emotional intelligence. What's our gut reaction, you know, when we think of what a nuclear bomb does? You know, what's some of our spiritual intelligence tell us about this kind of technology?
Now, a lot of conversation here and a lot goes on about the cost for the NIF. Okay? We hear these phrases, "cost effective," "over budget." Well, I got a little calculator here. I can add up seven billion times three million or whatever, you know, all these different numbers, and I can get lots of fancy figures; I can revise my figures; I can cheat; I can, you know, change them around to suit what I want.
But there's one thing that this calculator **3-76** cannot do, and it's the same as all of your guys' calculators can't do, and that is: Determine the cost in human terms. The real costs. What are the real costs of nuclear weapons and nuclear power?
I'd like to give you a couple examples of the real cost. Okay? One example is a recent little war in Kosovo where we bombed people with depleted uranium weapons. Now, whoever got off in thinking of that, I don't know. But, you know, God have mercy on their soul because, you know, there are people that are going to be suffering because

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of that years and years down the line. **3-76 (cont.)**
Another -- another example of the human cost: We cannot even deal with our current waste. You know, we have all these problems. "Well, these fuel rods are coming in; where are we going to put them?" "Oh, they're safe."
Well, if they're so damn safe, why don't we bury them, you know, in Washington or put it somewhere where it will be safe? No. They end up getting distributed to poor communities and **3-77** different places that are going to be moved around. Okay? And we all know that nuclear waste directly relates to radioactive illnesses.
Okay. So, here's something that's not figured in with all your fancy, you know, money things: That people are being poisoned.
Just the other day I heard a report from the Marshall Islands. You guys ever heard now? There's a new term out there. It's called "monster babies." What's a monster baby? A monster baby **3-78** are the children that are being born in the Marshall Islands, where we first started testing nuclear weapons, from the generation -- the kids that are being born now were -- their mothers had not yet been born then when they started testing.

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Now, the monster babies are babies without skeletons. Just think of that for a minute. A child without a skeleton? This is the result of nuclear weapons and nuclear weapons testing. This is part of the human costs that you won't find on any calculator. Okay?
Another example: The contaminated soil in the parks of our own community, Livermore. The parks where maybe our kids play in has contaminant soil from years back when we were told, "Well, **3-79** let's just give some of this out as sludge." You know, "Hey, it's good for the lawn." You know, these are examples of the real human cost. Okay?
Now, I'd like to say something else. I'd like to relate something here -- I'd like to read to you just very briefly, it's in the Universal Declaration of Human Rights, Article IV -- and I got this in my recent trip to the U.N.
Article IV,
"No one should be held in slavery **3-80** or servitude. Slavery and the slave trade shall be prohibited in all their forms."
I suggest to you, and I've always maintained, that the people of the world have been

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in a state of slavery ever since we've developed and used nuclear weapons. So we're going against our own Universal Declaration of Human Rights when we continue to develop nuclear weapons, okay, because it's a type of slavery.
You know, that's really what it feels like when you're held -- you know, when somebody else **3-80 (cont.)** has the power over you that you don't want, and the power to wipe you out, basically.
Now, we live in a pass-your-buck kind of society. Pass the buck. "Well, you know, it's not me; it's those guys," or whatever. Well, I'm telling you, the buck starts right here because you guys are the ones that develop these weapons. And as far as I'm concerned, it should stop right here.
Now, human organisms are very frail and complicated. And when we introduce things into them, change their environment, there's outcomes that we can't predict.
Now, we know by the outcome already from nuclear waste that what happens is it ends up **3-81** making the people of the world human guinea pigs by the activities that happen because you guys don't always know what -- you know, we don't always know what's going to happen, but it's like making us

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guinea pigs.
But the people of the world are calling for abolition. This is evidenced by the Abolition 2000 **3-82** Movement. People in countries all over the world are saying, "Let's get rid of it."
And why? Nuclear power is not economical. It just isn't. It's just financed by governments, but it doesn't make any money. You know, it's just -- it's not economical.
And another thing: Nuclear weapons are not ethical. Tell me one person who believes that, you know, setting 50,000 people on fire at one time is **3-83** ethical.
I'm going to finish, okay. I drove all the way from Concord.
MR. BROWN: Yeah.
MR. NICHOLSON: I'm almost done. Okay?
MR. BROWN: Thanks.
MR. NICHOLSON: So what I'm saying is: We need to shift our consciousness away from death and destruction, and we need to -- we need to start **3-84** healing the people that have been harmed by nuclear weapons already in parts of our planet, okay -- that means ecosystems, too. We need to adopt a policy of negotiation not incineration. Okay?

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So, you know, we just -- the NIF -- we've heard all this stuff "it's over budget." You know, I don't care if the thing is half price on sale. You know, we don't need it, and we don't want it.

3-85

And we've got to remember something, okay? We are all connected. You know, and our new physics teaches us that. It teaches us what the indigenous people knew all the time: That we're connected.

3-86

Now we have our physics that proves it, our new physics. Okay? You guys are familiar with new physics. It shows us that on atomic -- subatomic level, we are all connected together.

So I urge you guys to use your hearts and your conscience, you know, with the decisions that you make on a daily basis. You know, when you get this many people out of the community -- and there's lots of people that couldn't even come today; they had to work.

3-87

You know, I represent myself and also a few -- a lot of other people that agree with me. But, you know, thank God we have a few open hearings. You know, we had to go to court to get them, but -- you guys, really, listen to the people. We don't want the NIF; we don't need it.

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Thank you.

MR. BROWN: The final person who signed up is Mr. Tupadocus -- Tupadocus.

MR. TUPADOCUS: My name is Andreas Tupadocus. I obtain a Ph.D. degree in chemistry from the University of Michigan ten years ago.

I have worked in the industry, universities, have lived in different -- eight different states in the United States, 20 years in the United States. I was born and raised in Greece.

I worked in Los Alamos as a post doc. Pure hydrogen chemistry -- had nothing to do with weapons. I did environmental work in Los Alamos. I had the luck -- I don't know how to call it -- to find myself in the labs where they assemble, disassemble the pits. I had to put my hands one day in there just to keep my job.

3-88

We had accidents very well-reported in the news, major news with spills. And I lived all this terror in that place, and I was forced to go in -- eventually I did not because I did not belong, and I was not doing such work.

The man who made the mistake was fired in one month. He breathed plutonium. He got sick, in other words. I know the details of all these

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things: How they happen, why they happen, and who is behind all these things and why things don't work the way they're supposed to work.

3-88 (cont.)

And because I was working for environmental work -- and the environmental work does not get money; the weapons get the money -- I was running out of money. And so I had to apply for a job, and I got the job in Lawrence Livermore National Laboratory one and a half year ago to work on environmental work.

I find myself after a year -- rather after two, three months, to be expected to do nuclear weapons work. And I was actually asked a few months ago to write proposals on it. I refused because I was hired to do environmental work. And I found myself one floor down in a cubicle in a week. At this point, I guess I'm on assignment -- employee between assignments.

I have made up my mind, my fellow workers, citizens of the Lawrence Livermore National Laboratory, to make my announcement probably publically this night, that I have decided to resign from this place of insanity. And I expect that many others will follow my example.

I will follow this talk of mine later on in

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the news, and I will report what insanity I have seen taking place in these places.

Every one of us is counted accountable for this. How can we have our conscience right, go and have our children on our lap, provide to our families food when we know we are building the machine for Armageddon?

How can we walk out of this room and go expect a paycheck this month to know that this money we're getting is coming because one day humanity is going to be as a prophet said?

3-89

And I know very well many of you go to the church, and you feel pretty good about it because you give poor to the organizations for the poor. But you are accountable -- each one of you -- the work you do for humanity, to save humanity or destroy humanity.

I came here -- the first impression the Lab gave me was that Lee -- Mr. Lee was a spy. They gave us indoctrination about espionage because I was holding and I am holding a high-security clearance. And I left from that room, and I knew, I believed -- they made me believe that Dr. Lee was a spy.

3-90

Well, after a while, the Government comes in

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and says, "We are not sure if he's a spy."
The polygraph testing came. The DOE proposed for 5,000 people to be tested. Now they are down to 1,000. Why? Why is that? Did they start considering the insanity of their decision?
Mr. or Dr. -- I do not know what to say any more -- Campbell disappeared. The management did not give any explanation to me, as a worker, staff in this Laboratory, why he left. What is behind all this disappearance, and what is happening now? I have no clue. **3-90 (cont.)**
I demand to know what happened. Is he a Dr. or a Mr.? Very important to know. Give us the results. Give us information. We are behind the fence, but we do not know what is happening.
What is the management's position about polygraphy? Allows the DOE come in and put wires on the people's hands to see what they think, to read their thoughts. What does the management of Lawrence Livermore National Laboratory has done about it to protect the employees and their rights?
When I was hired, no one told me I will sit on a chair, put wires here on my hand to read my thoughts. And if I don't, then I will have to find a different job. That was one more reason to make

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up my mind to get out of this, to resign.
MR. BROWN: Two minutes.
MR. TUPADOCUS: How long are you going to deceive humanity? And I'm not speaking only to you; I'm speaking all to those that have decided to go on with these projections, with these details of how to construct a machine to burn up humanity in the name of saving humanity. **3-91**
Someone made a very clear statement before and very important one. Yugoslavia was bombed, yes, because they didn't have nuclear weapons. If they did, they would not.
Now, what are you going to do? Are you going to start bombing everyone who doesn't have nuclear weapons? What other nations are going to do that they do not have nuclear weapons? They will say, "Well, one day we will be bombed. Let's make more bombs." **3-92**
So then you're saying -- and you have a whole office -- millions of dollars spent for non-proliferation. And what are you doing? You multiply nuclear weapons on -- on our planet.
Therefore, I'm telling you: Follow my example. As a scientist with a career of $91,000 a year, a permanent job, I have decided to go and

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teach my students about the truth, how to save humanity, if we can; if it's not too late.
Do you have children? You love them. And you see them coming to you, and you rejoice. I'm asking you: Will you see your grandchildren to come to your knees, on your lap, and you feel that joy again? **3-92 (cont.)**
God is my witness. If you do not change this direction -- and I'm not talking to only these three of you; I'm talking to all the ones that will read this that the stenograph is writing.
It is my witness, the Lord of the Universe, that if these people who control and decide for the fate of this world -- and they know very well who they are -- if they do not change their direction, God is my witness, Armageddon is knocking your door. And you will see it with your own eyes. And that day you will say, "What have we done?"
I recommend to you to go and see the video made by the International Action Center titled NATO Targets. Go and see it. And I know that as a human being, you will feel that which millions of people will feel very soon if we do not change our direction.
Thank you very much for your patience to

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listen to me.
MR. BROWN: Thank you.
Okay. That concludes the persons who signed up; it also concludes this hearing. We are over time.
Now, we will have an evening session. We'll have, again, the same format: a brief presentation, questions, and answers. I know some people may have additional comments to make. Maybe we can just take a quick break for the panel.
You want to take maybe three to five minutes?
And if there are folks who wish to make additional comments, maybe they can talk to me, and we'll figure out how we can get these put in the record.
Again, I appreciate your attendance here, your interest. And we'll break for five minutes and then start the evening session.
Thanks very much.
(Whereupon, the proceedings adjourned at 5:37 p.m.)

)
STATE OF CALIFORNIA) ss.
)

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

That said proceedings we 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 proceedings which took place.

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 said proceedings.

IN WITNESS WHEREOF, I have hereunder subscribed my hand this 11th day of December 1999.

LETICIA A. RALLS, RPR
CSR NO. 10070

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DOCUMENT 4: Meeting Transcript, Livermore, California, December 8, 1999, 6:30 p.m.

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UNITED STATES DEPARTMENT OF ENERGY
OFFICE OF DEFENSE PROGRAMS
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In re:
DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE NATIONAL IGNITION FACILITY

PUBLIC MEETING

Proceedings before: HOLMES BROWN, Facilitator

Wednesday, December 8, 1999

6:30 p.m. session

Taken by Lesley D. Schneider,
a Certified Shorthand Reporter
in and for the State of California
CSR No. 10580

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PROCEEDINGS

BE IT REMEMBERED, on Wednesday, the 8th day of December, 1999, commencing at the hour of 6:45 p.m. of said day, at the LAWRENCE LIVERMORE NATIONAL LABORATORY, SOUTH CAFETERIA, East Avenue, Livermore, California, before me, LESLEY D. SCHNEIDER, a Certified Shorthand Reporter in and for the State of California, said proceedings were had.

APPEARANCES

HOLMES BROWN, of AFTON & ASSOCIATES, appeared as the Facilitator.

RICHARD SCOTT, of the DEPARTMENT OF ENERGY, Document Manager for the NIF SEIS, ES&H Program Manager for NIF, Oakland Operations Office, appeared as the presenter and as a panel member.

THOMAS FINN, of the OFFICE OF DEFENSE SCIENCE, appeared as a panel member.

STEVE FERGUSON, of the DEPARTMENT OF ENERGY, Attorney, Office of General Counsel, appeared as a panel member.

SCOTT SAMUELSON, of the DEPARTMENT OF ENERGY, NIF DOE Field Manager, Oakland Operations Office, appeared as a panel member.

(Whereupon, a presentation was given by Richard Scott consisting of the same information as the afternoon session, including the same viewgraphs.)

MR. BROWN: It's now time for the question-and-answer period. I would like to introduce the other members of the panel other than Richard.

We have Tom Finn, who is with the Office of Defense Science. Steven Ferguson is an attorney with the DOE's Office of General Counsel in Washington D.C., and Scott Samuelson is the DOE Field Manager for NIF.

In order for everybody to get their questions in, I will ask if we can start off with folks just asking one question and one follow-up, and we'll just see if we can run through all the questions.

Also, for the sake of the court reporter, if you could step up to the microphone and identify yourself, and if there is an organizational affiliation that is appropriate also provide that.

I know there are a lot of questioners out there. Who would like to start? Ann.

ANN BEIER: I'm Ann Beier of Western States Legal Foundation, and I have questions about receiving documents. Like the transcripts, you said, would be available. How will they be available? On the web site? Is there somebody to talk to, or anybody who goes to this meeting, will we get copies of the transcripts? **4-1**

MR. SCOTT: Typically, the transcripts go out as an appendix to the final SEIS with the viewgraphs, and then everybody who is on the list will get a copy of that, and the viewgraphs will be reduced and put in there, again, in the appendix --

MS. BUYER: Thanks.

MR. SCOTT: -- of the final Supplemental EIS.

MS. BUYER: Okay. Thanks.

MR. BROWN: Yes.

MS. KELLEY: This is just a point of information. When people -- the sign-up thing, it doesn't ask for their address, so I would just recommend that you specifically say, "Please give us your address so that we can send this to you." I mean, you can find me, I know, but there are other people who might want a copy.

MR. BROWN: Thanks for that clarifying point.

Other questions?

MR. SCOTT: Just a point of clarification, we sent around 220 SEIS copies out, and we sent one to everyone who asked, but it's also on the web site.

Normally we would not send it to you unless you specifically asked for a copy because we prefer doing it electronically, so if anyone wants a copy, they have to ask and give us their address at that time.

MS. KELLEY: Right. But you just said everybody who is here and speaks will get a copy, and I was just trying to be helpful and tell you that there were people who were here and are here and spoke, and you don't have their address.

MR. BROWN: It's possible they are clairvoyant, but assuming in some cases they aren't, your suggestion that --

MS. KELLEY: I expect a lot from government officials, but that is not on my list.

MR. BROWN: Okay. Questions?

MR. LARKIN: I have a question that arose out of reading the San Jose Mercury News, which

usually does pretty good reporting about NIF, and I'll read the portion here. It goes on about some of the difficulties that you're encountering and talks about the different likely outcomes and suggests that one outcome might be using NIF at lower power, and then this is what it says:

"Researchers could use the laser at lower power, which causes less damage to the glass, but that move would limit the laser's usefulness, particularly in the field of nuclear fusion energy research."

So my question is: What is behind that? If you use the laser, if you use the NIF at lower power, it limits its usefulness, particularly for the energy research justification for this project versus the weapons development justification for this project.

First of all, is that true, and if it is true, why is it true? What is behind this statement? I just want to understand it better.

MR. FINN: It's estimated that in order to reach ignition, the baseline of the facility is about 1.8 megajoules. I think the codes

4-2

predict that you need around a megajoule to get into the ignition research, so the thinking is if we can't get above a megajoule, we have difficulty getting into that ignition regime. So you need a certain amount of energy to be able to hit the pellet hard enough to get into the burning nuclear fusion regime.

MR. LARKIN: And then, just following up on what you said, just so I understand, if you don't get it to ignition, then its usefulness for fusion energy research is undercut, in some way, is reduced more than its usefulness for weapons research.

MR. FINN: Yes, that is true.

MR. LARKIN: Thank you. So really -- okay. I can draw my own conclusion.

I have a second question.

MR. BROWN: That's fine. Sure.

MR. LARKIN: And this has to do with something I alluded to this afternoon when I was talking, and that is that there was a proliferation impacts study of the NIF done in 1994, 1995. I believe those are the years, but it was a while back. Since that time, a lot has changed.

4-2 (cont.)

4-3

First of all, the justification -- the report came out and said that NIF would promote non-proliferation because, primarily, it promoted the United States' ability to enter into a conference of test ban, and a conference of test ban, in turn, promoted non-proliferation.

We now see that things have changed since that time. We now see that even when the administration tried to use the Stockpile Stewardship Program as their justification for doing the CTBT, it was rejected, so you can't rely upon the CTBT to sort of say that NIF is for non-proliferation.

We are also seeing that countries like India have entered into the -- to become nuclear powers in part because the United States continues -- at least in their own words, because the United States continues to do nuclear weapons research.

We also see that there has been a lot of leaks from -- I'm saying leaks; people talk about espionage. But, anyway, the results of the research done at the labs, this gets out into others' hands, and the labs have entered into joint agreements, say, with France on their

4-3 (cont.)

megajoule project, and other countries.

So there has been a big change since that study came out. I think the study -- that whole process was flawed. The results were wrong.

But now, given that the world has changed, that you can't rely upon the CTBT to say that there is no proliferation impact from NIF, my question is this: Would you now redo that -- reopen that process; take another look at that; allow public comment, and enter into this issue again? It seems appropriate to do so at this time.

MR. FERGUSON: If you're suggesting that that's what the Department should do, we'll take that as a comment. There is no one here who can speak for the non-proliferation program.

This is a question-and-answer period on the Supplemental EIS, and we're prepared to answer those questions.

Your question goes to a much broader scope of questions associated with the Department and, frankly, the U.S. Government's policies on proliferation, and we aren't experts in that area, and we shouldn't hold ourselves out to be.

MR. LARKIN: Let me clarify. I'm not

asking about the United States Government's policies on non-proliferation. The United States Government's policy on non-proliferation is it's against it.

I'm asking about NIF's impact on proliferation or non-proliferation of nuclear weapons. That was an issue. The situation has changed since the last study. I'm just asking whether the Department, not the whole United States Government, but whether the Department will now enter into a re-examination of that issue under the new circumstances and whether they would undergo hearings and have comments on that. **4-4**

MR. FERGUSON: No one here can answer that question.

MR. LARKIN: Okay. Who can answer that?

MR. FERGUSON: I personally know of no plans to do so, but there could very well be such plans. The people who run the non-proliferation program for the Department were the ones who managed the last effort, and they would have to be the ones to make that decision in consultation, I'm sure, with the upper management of the Department.

If you're making that as a suggestion, we will take it as a comment, but, I reiterate, we are not in a position to answer your questions.

MR. BROWN: Other questions?

(No response.)

MR. BROWN: All right. I guess we are now prepared to take formal comments. I'll ask each presenter, again, to step up to the microphone and identify themselves and provide an organizational affiliation, if that is appropriate.

I'll also ask if each person can confine their initial remarks to ten minutes in order for the number of folks who signed up to all have an opportunity to make their initial presentation in a timely fashion.

I'll notify you when you have reached the eight-minute mark and when you have two minutes remaining. If you can wrap your statement up within the ten-minute period, that is fine. If you have comments beyond that, if you can end at the ten-minute mark, and I will go through all of those who have signed up and then come back, and people can complete their statements.

I'd like to call on the -- well, first, I guess, as a formality, I'll ask if there are any representatives of elected officials here. We did have one this afternoon, but I don't think anyone is here this evening.

(No response.)

MR. BROWN: Okay. In that case then, we will proceed to call people in the order in which they have signed up.

The first person is Stephanie Ericson. Good evening.

MS. ERICSON: My name is Stephanie Ericson. I'm a resident of Dublin, formerly a resident of Livermore, and I've been a member of Tri-Valley CAREs for a number of years.

I want to first congratulate the 39 peace and environmental groups for their successful legal challenge that resulted in part in this hearing, a hearing to provide greater review and public disclosure of the National Ignition Facility.

While NIF was never really properly reviewed in the context of its overall role within the DOE's mislabeled Stockpile Stewardship Program, in the first place, in my view, certainly NIF's technical setbacks, projected **4-5**

budget increases and resulting changes in NIF's likely eventual configuration really require a full and broader reevaluation of the project.

DOE has often tried to publicly justify NIF on grounds of developing nuclear fusion as a new source of energy. If this were the case, I believe it would utterly fail to win Congressional funding favored against more promising areas of research development, such as solar, hydrogen fuel cells, et cetera, certainly on the level of the massive funding that is being proposed. But NIF is a military program, and so has not suffered the same level of cost/benefit scrutiny that civilian projects are subject to. **4-6**

I will not repeat the very fine technical and general comments being made by many others today -- many of them earlier today and some presumably later on -- except to say that I agree that NIF does present a potential environmental and health danger to our community, and that it also presents a danger to the global community, a community that can truthfully point to NIF as another example of U.S. hypocrisy in matters of nuclear weapons development and proliferation. **4-7**

This is especially true in the wake of the

Senate vote against the Comprehensive Test Ban Treaty. As many of us and you are aware, the Clinton administration's decision to go along with the nuclear weapons labs Stockpile Stewardship Program was part of a backroom political deal, a quid quo pro for the Lab's support of the CTBT.

4-7 (cont.)

It was a very bad deal from the start, in my opinion and in the opinion of many, but the Lab's, at best, tepid support for the CTBT during the critical debate in the Senate, showed how bad and how one-sided that deal really was.

I must say that this all makes me very tired.

In recent years we have seen the so-called peace dividend dangled enticingly before our eyes at the end of the Cold War only to be to swallowed up, not by improved social programs to help improve health care and education and address other critical needs, but by continuing high levels of so-called defense spending.

4-8

I'm tired of seeing military programs receive less than a tenth of the scrutiny that civilian programs undergo.

I'm tired of seeing communities near

contaminated DOE sites around the country struggle to stretch minimal dollars allocated for cleanup and public health, while the nation remains on a dangerous and budget-busting nuclear weapons' treadmill that we seem not to be able to get off.

Frankly, I'm tired of seeing the black hole of military spending gobbling up our resources. There is no excuse anymore, if there ever was one. NIF is just the latest example. But as a single project, it's a doozy.

I used to keep track of what it's supposed to cost, but I finally gave up on that. Its multi-billion dollar price tag is a moving target, and the direction is always up. To borrow a phrase from Ross Perot, "Do you hear the sucking sound?"

Our nation and our world cannot possibly benefit from the economic waste and extraordinary danger from continuing nuclear weapons development. Let's draw the line in the sand with NIF here and now and begin living up to our legal and moral commitment to reducing the threat of nuclear war.

Thank you.

MR. BROWN: Thanks very much.

Our next speaker is Joanne Fresch. Is she here?

(No response.)

MR. BROWN: Okay. I'll come back to her then.

Ed Rippy.

(No response.)

MR. BROWN: These were folks who had signed up. They may be coming later. Okay.

MS. KELLEY: Also, we got a lot of calls at our office asking if people were actually signed up because they didn't get confirmation calls.

MR. BROWN: I see.

MS. KELLEY: So if they don't come later, DOE needs to follow up, because there was some confusion about whether the sign-ups got reported.

MR. BROWN: I see. Okay.

And there were a couple names this afternoon. In fact, I know one person who was signed up this afternoon has arrived this evening who will be speaking. So, anyway, we'll check on that.

Barry Luboviski.

MR. LUBOVISKI: Good evening. My comments will be brief. My name is Barry Luboviski. For the record, that's spelled L-u-b-o-v-i-s-k-i. I'm secretary-treasurer for the Building and Construction Trades Counsel for Alameda County.

We currently represent workers who are working on the NIF site and on work contained under a project labor agreement.

I briefly reviewed a document that I have with me here, the National Ignition Facility Draft Supplemental Environmental Impact Statement to the SSM PEIS.

It is my understanding that due to the discovery of contaminants, specifically PCBs, that the ensuing remediation occurred which successfully removed -- identified and removed those contaminants.

4-9

Our counsel represents 26 local unions and approximately 25,000 workers that work in construction activities in the Bay Area. Hearing such an occurrence is not unusual. It's not something that we look forward to, but within the Bay Area, there are numerous sites which come across all kinds of debris or unanticipated

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substances in the ground when they are digging. Whether it's coming across unidentified gas lines or electrical lines which weren't properly located in the construction plans or whether it's coming across unidentified landfills, this is something that occurs, and it's expected to occur.

So when I discovered that there was remediation, I felt confident with regard to one thing, and that is that workers on this site represented by our Building Trades Counsel and the crafts, because of these kinds of expected problems and others, are trained in what we call HAZMAT training, hazardous material handling. That occurs in most of our apprenticeship programs. It also occurs with journeymen. And in some sites, such as some of the refinery sites in Contra Costa County, it's expected.

4-10 (cont.)

So I expect, as do the workers, that the remediation should be and must be done in a safe manner.

I've not heard to this point that the specific remediation for the PCBs was handled in a manner to endanger the workers or the general population in terms of the way it was removed

4-11

from the site.

I would expect that there is, in fact -- I always like to look at the glass as being half full -- that there is a benefit. To the extent that additional excavation, should this project proceed, discovers additional contaminants, it affords everybody the opportunity of being aware of exactly what those contaminants are and knowing that those contaminants will be removed fully and completely and that the proper studies will ensue to ensure that that comes to fruition.

For those reasons and because of my assurance of the competency of the work force that handled this remediation and would handle remediations if they were to occur in the future, I would support this project continuing.

4-12

I would think that, really, the most important aspect to focus on is effective identification or removal of hazardous substances and not lengthy studies which would stall this project and, in fact, might potentially raise the costs and not benefit either the local population or, in general, government financing for this project.

4-13

Now, we have historically -- in the past,

the building trades has come out in support of a process which reviewed all aspects of the NIF project. The review process ensued and came to final conclusions and to completion. The project is now under construction. This work is being done under a project agreement and affords the proper wages and working conditions, and, I might add, safe working conditions, for workers working on the project.

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So speaking on behalf of all the crafts that I represent, we feel that it is appropriate that this project should continue until and unless such a time that there are substances or actions with regard to the discovery of any dangerous substances which would necessitate the stopping of this project. At this point, we do not see anything that at least convinces us that that has happened.

4-15

Thank you.

MR. BROWN: Thank you.

Joanne Freemire.

MS. FREEMIRE: That's Joanne Freemire, J-o-a-n-n-e, F-r-e-e-m-i-r-e. And I live in the town of Sunol, which is just south of Livermore. I am a member of Tri-Valley CAREs, and I care not

only about the healthy -- you know, having a healthy environment, and I have concern about radioactive contamination of the environment, but also as a taxpayer, you know, I watch how the Government spends my dollars.

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And when the NIF was first proposed, it was advertised as an energy project. I still felt -- even though I support, you know, the use of alternative energy, clean energy, I was opposed to the project because of the large amount of money that was being proposed that had to be spent to make this project. I felt, you know, if you had used that same amount of money for other energy-related projects, it would have gone further. We would have gotten a better bang for our bucks as taxpayers.

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As far as jobs go, it would have created a larger number of jobs and crafts, some more, for sure, energy sources than fusion, which is still very questionable as to whether it can actually be achieved.

Then, you know, as time went on, it becomes more obvious that its primary purpose is for military purposes, weapons research, and I am totally opposed to that. And I'm watching the

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cost go up and up and up, and I'm thinking these are my tax dollars at work, so when I heard of the opportunity to speak at this hearing, I wanted to come and, you know, let my feelings be known.

I noticed in your presentation at the beginning there were two alternatives offered. Under the no-change alternatives, one was to continue the project as it's going, and the other was not to build the project. And I, obviously, would support not building the project. I feel that is the best alternative.

One of the proposals that I have heard to keep the NIF within the original budgeted -- or at least the last budgeted amount of money that was -- we were told it was going to cost is now to reduce the size of the project to a 96-beam project. Well, in my mind, this would remove its ability to be used as an energy project, and so now it's perfectly clear it's just a weapons project. And it also appears to me that this would then be a new project and then would require a new PEIS.

But, if those that make these decisions insist on proceeding with the project as the

4-18 (cont.)

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no-change alternative, then it would seem to me the SEIS needs to address the waste that would be created by the NIF, which apparently it does not.

I mean, what I saw in his presentation tonight mostly dealt with waste that was already on the site from previous operations, but it certainly should include any waste that is going to be created by this project, especially any radioactive waste that, you know, might be long-lasting in the environment that we and our children and grandchildren and many, many generations of descendants would have to live with and deal with.

So, anyway, those are my thoughts.

MR. BROWN: Thank you very much.

Janice Turner.

MS. TURNER: Janice Turner. I live in Livermore, and I am allied with the Sierra Club, the Bay chapter of the Sierra Club, and with Tri-Valley CAREs.

My concern is for the environmental -- the environmental impact of the residue which will be created from the work that goes on inside of the chamber. Basically, if we're speaking of tritium being used as the core that the laser beams are

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being -- are attacking, the tritium that will land as residue inside of the chamber will need to be cleaned. What will happen with that cleaned tritium? How will it happen? Where will it go?

The filters that filter the air inside of the ignition chamber will obviously collect radioactive wastes, and then how will these filters be dealt with?

The lubricants inside of the system that -- the air-conditioning, I think, will probably need some lubricants. This will absorb the radioactive elements. What will happen with these oils and these lubricants? How will they be safely dealt with?

Also, I understand there are some cameras that will be involved with taking pictures of what goes on inside the chamber. These cameras will need to be removed periodically and cleaned and repaired. The radioactive residue that will come with these has to be dealt with.

So my concern is, whatever comes out of the chamber, what will it bring with it into our environment, and how is this going to be safely dealt with?

4-22 (cont.)

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I live within a mile of the Lab. I have lived within a mile of the Lab for over 30 years, and I want to know what will be the effect upon me from these residues. That's my main concern. And I'd like this issue addressed in the impact statement.

Thank you.

MR. BROWN: Thank you.

Is there anybody else who would like to make a statement at this time? I know we have one person who has been very patient, and I think that completes the list of folks who signed up.

And, I guess, Marylia, you had some remarks you would like to make.

MS. KELLEY: Hi. I'm not going to repeat my remarks of the afternoon. I just wanted to add a few things.

I want to make it very clear that the Joint Stipulation and Order that initiated this Supplemental Pragmatic Environmental Impact Statement was never ever intended to rescind or roll back the National Environmental Policy Act. Rather it specified a set of activities that the Department of Energy must undertake, so the Supplemental PEIS, therefore, must meet the

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requirements of both the Joint Stipulation and Order and the National Environmental Policy Act.

The reason I'm bringing this up is some of the text in the draft document itself and some of the spoken remarks from this afternoon seem to indicate that DOE feels that it only needs to meet the minimum requirements of the court order, and every time someone has brought up the requirements of the National Environmental Policy Act, their response has been something along the lines of "that wasn't in the court order."

Well, no, what was in the court order was to do a supplemental PEIS under the National Environmental Policy Act. So just to make really clear that because this was ordered by a court does not mean that NEPA is somehow held in obeyance.

The second thing that I would like to reiterate is that taking a look at all of the revelations that are coming out now about the National Ignition Facility's cost overruns and schedule slippages, taking a look at all of the changes that are being proposed for the National Ignition Facility in terms of potentially the number of beams, potentially the energy at which

4-24 (cont.)

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it is run, the different proposals for bringing it on-line in different orders, which, as I said this afternoon, means you are doing different experiments in a different order, all of these things really do make it under NEPA a substantially changed and new project. Therefore, I believe you would need to do a supplemental PEIS at this juncture, regardless of the Joint Stipulation and Order.

So the question in my mind is: Is the Department of Energy going to make wise use of the taxpayer dollars that are going into this document -- never mind for a moment the taxpayer dollars going into the project -- and take this juncture in time and take that second hard look at the National Ignition Facility that is required by NEPA?

The third thing, I would like to extend my remarks of this afternoon regarding the purpose and need, because I was reminded that in the Department of Energy's formulation of purpose and need for the National Ignition Facility is some language about civilian fusion energy applications, and while I agree with speakers this afternoon who said that the true mission of

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NIF is nuclear weapons work, and it is, nonetheless, the DOE is justifying it and legally putting in its Purpose and Needs Statement civilian fusion energy applications.

That brings up two things under NEPA.

First, I would like to point out that the Stockpile Stewardship and Management PEIS never included an analysis of programmatic impact from fusion energy. That kind of programmatic analysis would look at everything from the impact of packing those pellets with the tritium and deuterium under high pressures, which is a place where there could very well be many, many emissions. It would look at the whole thing all the way through to the idea of power plants. So that programmatic look has never been done.

The second thing I would point out is that the changes in NIF designs that have been talked about here, both the potential change to go to 96 beams and the potential that it will run at lower energy because they cannot resolve the problem of the damage propagation in the final optics, either one of those alone, and certainly both together, forego even the slightest prayer of ignition.

4-26 (cont.)

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4-28

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Now, as was brought up earlier, the National Ignition Facility's nuclear weapons mission does not require ignition but as stated on numerous occasions by DOE, the scientific mission of NIF does require ignition. So once again, the purpose and need needs to be revisited at this time.

The fourth thing, I would like to add a little to the discussion about nuclear proliferation risks. That 1995 study also concluded that the proliferation risks of the National Ignition Facility could be made quote, unquote, "manageable" and, therefore, could be made quote, unquote "acceptable." That is an explicit admission that there are nuclear proliferation risks of the National Ignition Facility.

That document then went on to say on balance because there is a political deal. I want to make this clear. It is not a technical deal. There is no technical need for NIF in order to stop testing and enter into a CTBC. It's a political deal.

The document said because of this political deal, this supports the CTBC, and,

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therefore, it has an overall ameliorating benefit to non-proliferation. As previous speakers have said, that benefit has now essentially, for the moment anyway, disappeared, and the risk is still there. **4-30 (cont.)**

Much else has happened in the world as has been mentioned. India and Pakistan tested nuclear weapons and mentioned the U.S. Stockpile Stewardship Program and, specifically, NIF as part of their rationale for needing to test and needing nuclear weapons. Also, as has been brought up, the labs are embroiled in a security scandal. **4-31**

I would submit that nuclear proliferation is much more complex than just espionage, which has existed since the Manhattan Project, and, in fact, I would submit there is no different evidence for espionage, specifically in this case. **4-32**

So rather than subject innocent employees to lie detector tests, the Department should take a hard look at nuclear proliferation, and if you take that look -- and this is the one time that Edward Teller and I are going to agree, so, please, make note of this -- if you take that

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look, you would find that nuclear weapons "secrets" quote, unquote are really non-secrets and that any advances that any country makes in nuclear weaponry and nuclear weapons technology becomes known by any other interested nation within about five years. That is what Edward Teller said.

Therefore, the NIF's stated admission, as was read from the Lab's institutional plan this afternoon, to advance our knowledge in the area of the thermonuclear secondary and in the fusion part of the weapon, will, by definition, proliferate. **4-33**

An underlying document that points to this is the 1981 Arms Control Disarmament Agency Impact Report to Congress. 1981 is interesting. That was before NIF was specifically considered. They were talking about inertial confinement fusion, the type of fusion that NIF would be. And they said inertial confinement fusion may very well contribute to nuclear proliferation in two ways: **4-34**

It could help a country that has a good technological base get more quickly deboosted fusion or thermonuclear weaponry. These would be

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countries such as India, Pakistan, Israel, Iran, Iraq, Egypt, Japan, Germany, I mean, should they decide to go nuclear. That's a very direct proliferation impact.

That same Arms Control Impact Statement also said that other nations might use the cover of fusion programs to develop that capacity. In other words, if we have it and say that we are not using it to develop nuclear weapons, then we can hardly complain when other countries have it and say they are not using it to develop nuclear weapons, when, in fact, that is its most utilitarian purpose. **4-34 (cont.)**

So at this time, at this juncture, I would agree with the previous speakers that this Supplemental PEIS should also include a re-analysis of the very real proliferation impacts. **4-35**

Thank you.

MR. BROWN: Thanks very much.

That concludes our list of speakers who have signed up. Again, I'll ask if there is anybody else who would like to make a comment at this time.

(No response.)

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MR. BROWN: We are scheduled to remain available for comments until 8:30. I think customarily what we do when no one is ready to make comments is we will recess at this point. We will be ready to reconvene at the point where anybody here would like to make a comment or if somebody arrives later who would like to make a comment. So why don't we recess at this point.

Thanks a lot.

(Whereupon, a recess was taken.)

MR. BROWN: We will formally reconvene, and I would like to call Ed Rippy.

You're next. If you'll step up to the mike and identify yourself, and if there is any organizational affiliation that's appropriate, you can tell us that as well, and you're on. Thanks. I'm glad you could join us.

MR. RIPPY: My name is Ed Rippy, R-i-p-p-y. For identification purposes, I am a member of the executive board of the East Bay Chapter of Peace Action. I've come to speak about the political philosophy implications of the National Ignition Facility and the Stockpile Stewardship Program in general.

This government, especially the Department **4-36**

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of Energy, has had a long history of exposing unwilling subjects to radiation hazards, ignoring responsible, competent research on the effects of low-level radiation. As an example, the atmospheric -- the A-bomb tests around Camp Desert Rock where soldiers were marched into ground zero only minutes after detonation, exposed to high levels of radiation; Hanford residents, where the U.S. Government sold contaminated land without telling anybody about the contamination; the injections -- secret injections of radionuclides and unwilling suspects and other exposures as medical experiments and unwilling suspects which have been revealed; the suppression and ignoring of work by such really good physicists, doctors. There is John Gofman, Arthur Chaplin, Rosalie Bertell, Thomas Mancuso, and many, many others.

4-36 (cont.)

These things continue. We have found plutonium -- unexplained plutonium in the park for three samplings in a row around here in Livermore. We have unknown and unexplained releases of tritium at Lawrence Berkeley National Lab. This Lab here, Livermore National Lab, is also on the Superfund list with a lot of very

4-37

Page 35

nasty tritium around. These are all lies which hurt people and kill people, not only here, but around the world.

The Department of Energy's five-year plan, the Green book -- well, maybe four-year or six-year plan -- was secret until parts of it were declassified as a result of a Freedom of Information Act lawsuit by a large coalition of groups. They still haven't fully declassified, however, despite repeated assurances from Department of Energy spokespersons that there was no nuclear weapons development going on.

4-38

The Green book showed the certification of the B-6111 earth penetrator, which is certainly a new military capability. They are saying it is only modified -- a modified weapon, but it has a new military capability. They have been working, still working, perhaps, on a glide bomb. Again, a new military capability.

All of these, again, are lies which endanger the peace and threaten peace, security and life all over the planet.

4-39

Our Declaration of Independence states that the just powers of Government derive from the consent of the Government, but how can there

4-40

Page 36

be consent when those governed do not know what their Government is doing to them?

Even a foundational document of the English Social Contract Theory, John Locke's second treatise on civil government, states that:

> "When Government through deception or abuse of power injure their people, they create a state of war with those people. There is no longer a state of social contract. There is a state of war."

4-40 (cont.)

So our Government, and especially the Department of Energy, is, in fact, at war with the people of the United States, with the people of other nations, and even the earth herself.

Indeed, international law would look very disfavorably upon stockpile stewardship. The international court of justice has, of course, declared even the threat of use of nuclear weapons illegal, and, of course, given the standing first use policy of the United States and, indeed, of NATO to continue development of nuclear weapons certainly implies the threat of

Page 37

their use.

The Nuremberg principles state that citizens of every country have a right, if not a positive obligation, to take non-violent action to stop their governments from committing grave crimes, crimes against humanity, war crimes, indiscriminate use, weapons which cannot -- the use of weapons which cannot discriminate between civilians and military targets.

As far as the non-proliferation -- oh.

And we also have obligations under Article VI of the Non-proliferation Treaty to engage in good faith towards the elimination of nuclear weapons. How can we be engaging in negotiations in good faith while we secretly continue to develop further weapons?

4-41

As an example or an illustration of the proliferation dangers, I'll quote from C. Wright Mills' book Listen Yankee written quite some years ago about the situation in Cuba. He was repeating, perhaps paraphrasing, the words of Cuban guerilla fighters that he had met and interviewed, and I will quote:

> "Where did I get my gun? From you, of course. At least I

Williams Reporting Service

guess you paid for it. Maybe you didn't know that, but it's true. It happened like this: You pay taxes to your government and your government took your money and bought my gun and gave it to Batista, that bloody bastard, and Batista gave it to one of his murdering gangsters. But one night in an alley in a little town you wouldn't even know the name of, the four of us jumped you. I killed him himself with my machete. It was a war, Yankee, and so I got my gun off him. Then I went to the Sierra to Fidel and fought with him against all the Batistas."

Given the way that the United States drives the nuclear arms race and drives nuclear weapons technology and then ultimately winds up exporting much of that technology to other countries in order to curry favor, it can be clearly seen that the environment, the nation and

4-41 (cont.)

the entire world is damaged by war and the preparations for war that are being carried on by stockpile stewardship of which National Ignition Facility is the largest part.

Thank you.

MR. BROWN: Thank you very much.

Is there anybody else who would like to make a comment at this point?

(No response.)

MR. BROWN: Again, we will recess, but be available to reconvene until 8:30. Thank you so much.

(Whereupon, a recess was taken.)

MR. BROWN: We will formally reconvene this evening's meeting on the Supplemental Environmental Impact Statement on the National Ignition Facility, and noting that there is no member of the public who wishes to speak at this point, this meeting is formerly adjourned.

I thank you very much.

(Whereupon, the proceedings adjourned at 8:30 p.m.)

)
STATE OF CALIFORNIA)
)

I, LESLEY D. SCHNEIDER, a Certified Shorthand Reporter in and for the State of California, do hereby certify:

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 proceedings which took place.

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 said proceedings.

IN WITNESS WHEREOF, I have hereunder subscribed my hand this 11th day of December, 1999.

_____
Lesley D. Schneider, RPR
CSR No. 10580

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DOCUMENT 5: Letter from U.S. Environmental Protection Agency, Region IX, December 20, 1999

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

RAS
12/21/99

Mr. Richard Scott
Document Manager
U.S. Department of Energy
L-293, P.O. Box 808
Livermore, CA 94550

DEC 20 1999

**RE: Draft Supplemental Environmental Impact Statement
on the National Ignition Facility
at Lawrence Livermore National Laboratory
DOE/EIS-0236-S1**

Dear Mr. Scott,

The U.S. Environmental Protection Agency (EPA) has reviewed the above referenced Environmental Impact Statement and would like to take the opportunity to provide comments. Comments are provided under the National Environmental Policy Act (NEPA), Section 309 of the Clean Air Act, and the Council on Environmental Quality's (CEQ) NEPA Implementing Regulations (40 CFR 1500-1508).

The Draft Supplemental Environmental Impact Statement (Draft SEIS) examines the potential environmental impacts that may result from alternative courses of action at the National Ignition Facility (NIF) construction site with respect to "any potential or confirmed contamination in the area by hazardous, toxic, and/or radioactive materials." This Draft SEIS was produced as the result of a joint stipulation and order signed October 27, 1997. The Draft SEIS considers several possible alternatives that include proceeding with construction and operation of the NIF as planned, ceasing construction and demolishing the structure, and completing construction but utilizing the facility for some other purpose.

The Draft SEIS is being rated ***EC-2, Environmental Concerns - Insufficient Information.*** Please refer to the enclosed Summary of Rating Definitions for more information about this rating. Specific comments are attached.

Thank you for your consideration of these comments. If you have any questions regarding our comments, please feel free to call me at (415) 744-1584. Please send a copy of the Final EIS to our office when it is available.

Sincerely,

Leonidas Payne

for Dave Farrel, Chief
Federal Activities Office

<u>Specific Comments on the Department of Energy (DOE) NIF Draft Supplemental EIS to the SSM PEIS</u>

1) Page 4-16 describes and compares the potential impacts on employment of construction workers and Lawrence Livermore National Laboratory (LLNL) employees under the different options for NIF. The Draft SEIS states "LLNL workforce and payroll would decline for both the re-use and demolition alternatives, because NIF workers would not be employed." This statement might exaggerate the socioeconomic impacts of ceasing NIF construction and/or utilizing the facility for another purpose. At best, the statement is not fully explained and clarified. If the construction were to proceed and the facility used for an alternate purpose, this new purpose would utilize some number of employees. The Draft SEIS does not consider this. It may even be the case that an alternate use would employ a greater number of people than completion and operation of the NIF would. To state that re-use would result in a decline in employment and payroll is not necessarily valid. 5-1

The demolition case is also not fully explained. Presumably, future NIF employees, or a large proportion of them, are currently employed at LLNL in other, perhaps related, programs. For example, the NOVA facility, now decommissioned, was the forerunner to the proposed NIF. NIF workers are not a wholly new set of employees but rather a mix of current employees transferred to the NIF facility and some number of new employees. The Draft SEIS does not thoroughly analyze whether demolition to a brownfield state would result in layoffs of current employees or whether those employees may remain employed at LLNL in some other capacity.

The Final EIS should fully describe and account for the potential socioeconomic impacts of the alternatives, negative and positive.

2) Page 4-16 describes the impacts associated with remodeling the NIF building for use as an alternate facility and compares it with immediate demolition. The demolition option would "...require the longest time and greatest effort." As a result, DOE concludes that "[m]ore workers would be injured during demolition of NIF than for the other alternatives."

This statement cannot be substantiated. There is no way DOE can predict the outcomes of different construction options with respect to <u>actual</u> worker injury rates. The Draft SEIS could make a statement about the relative probability of the occurrence of worker injuries across different options, but as stated in the Draft SEIS this sentence is completely without basis in fact. The Draft SEIS suffers from the inclusion of this statement as it seems to bias the document toward DOE's preferred option of completing construction and operating the NIF. Furthermore, the Draft SEIS does not make it clear whether undertaking demolition presently would incur greater risks than would the inevitable decommissioning and decontamination process that will take place at the termination of the NIF program. The decommissioning and decontamination phase is not taken into account. This phase could result in higher worker health risks given the presence of radiological hazards that would be present after several decades of fusion experiments. 5-2

The Final EIS should revise this statement to explain that worker injury rates are speculative, and to account for the fact that demolition would occur as part of all of the alternatives.

3) In several places in the text, it is stated that the cleanup level for soil contaminated with polychlorinated biphenyls (PCBs) at the East Traffic Circle (ETC) was agreed upon by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Remedial Project Managers (RPMs) to be 18 ppm, which is stated to be the EPA Region 9 Preliminary Remediation Goal (PRG) for Aroclor 1254. While it is true that the CERCLA RPMs agreed to use the PRG for industrial soil as the cleanup level, the selection of 18 ppm was based upon an incorrect reading of the Region 9 PRG Tables, as discussed in the RPM meeting on December 3, 1999. 18 ppm is the concentration associated with non-cancer effects. The cancer PRG is 1 ppm. All incorrect references in the document to the Region 9 PRGs should be corrected. (For example, see pages vi, 1-3, 2-2, 2-4, A-8, and Table 3.1, including footnote d.) 5-3

4) Before EPA can concur that the removal action at the East Traffic Circle was performed in a manner consistent with CERCLA, DOE must complete the associated Action Memorandum, which should document the appropriateness of the chosen action level. EPA would like to review a draft of the Action Memorandum, and it should be cited in the final NIF Draft SEIS. EPA anticipates that the action level used (18 ppm) will be acceptable for the following reasons:

a. 18 ppm translates to a cancer risk of 2E-05, so it is still within the CERCLA industrial exposure cancer risk range. 5-4

b. 18 ppm does not exceed the non-cancer concentration.

c. 18 ppm falls within the range of 10-25 ppm for remote industrial areas. The traffic circle can be considered "remote" because the danger of auto traffic keeps people out. The 10-25 ppm range for remote industrial areas is cited in EPA's Quick Reference Fact Sheet entitled "A Guide on Remedial Actions at Superfund Sites With PCB Contamination," Directive 9355.4-01 FS.

5) The document should state that analytical procedures used in both removal actions (at the NIF construction site and at the East Traffic Circle) were performed in accordance with the approved QAPP (Quality Assurance Project Plan) and DOE's standard operarting procedures. The QAPP should be included in the list of references. 5-5

6) Page 1-6, last sentence: Soils removed from the ETC Area were excavated and disposed of under the CERCLA removal process, not the remediation process, which would have involved a Record of Decision. This comment also applies to page 4-9, second full paragraph. 5-6

7) Page 2-4, second paragraph, first sentence refers to DOE's evaluation of "new information." It is not clear what information is referred to. 5-7

8) Page 4-8, first full paragraph. Please add the word "significant" so that the text reads "it is concluded that the only *significant* sources of previously unknown or undiscovered buried ...waste...were the capacitor landfill... and ... the ETC Area." The same comment also applies to the next paragraph (Section 4.2.1), first sentence. 5-8

9) PRG for freon-11: Freon-11 is a brand name for trichlorofluormethane. Its industrial PRG in soil is 2000 mg/kg. Please modify Table 3.1 accordingly. 5-9

Summary

EPA commented on the clean-up levels for PCBs and the relationships among various clean-up plans and requirments under CERCLA. The comments called for clarification in the Final EIS so that the levels and requirements that call for them are accurately cited. Also, changes were recommended to make the economic impacts more credible and accountable.

Concurrence from >>	Paul Carroll	Dave Farrel
Mailcode:	CMD-2	
Initials:	PMC	
Date:	12-16-99	

SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION

Environmental Impact of the Action

LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of environmental quality, public health or welfare. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement*

Category 1-Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From: EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

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DOCUMENT 6: Letter from Winston H. Hickox, California Environmental Protection Agency, December 31, 1999

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Winston H. Hickox
Agency Secretary

California Environmental Protection Agency

Air Resources Board • Department of Pesticide Regulation • Department of Toxic Substances Control
Integrated Waste Management Board • Office of Environmental Health Hazard Assessment
State Water Resources Control Board • Regional Water Quality Control Boards

Gray Davis
Governor

December 31, 9999

Mr. Richard Scott
Document Manager
United States Department of Energy
P.O. Box 808, L293
Livermore, California 94550

Dear Mr. Scott:

I appreciate the opportunity you have provided for the State of California to comment on the National Ignition Facility, Draft Supplemental Environmental Impact Statement to the Stockpile Stewardship and Management Programmatic Environmental Impact Statement (SSM PEIS). As you may be aware, the Department of Toxic Substances Control has had staff coordinating with Lawrence Livermore National Laboratories' remedial project managers in the investigation of past contamination under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The Department of Toxic Substances Control's primary contact is Mr. Mark Piros, Hazardous Substances Engineer, of the Northern California - Coastal Cleanup Operations Branch.

Mr. Piros sent comments under separate cover on December 6, 1999. For your convenience, I am enclosing a copy of his letter. I encourage you to work with Mr. Piros directly on these particular site contamination issues. Mr. Piros can be contacted directly, at (510) 540-3832. However, should any concerns arise that might be best resolved with the assistance of my agency staff, please do not hesitate to contact me, at (916) 445-3846. 6-1

Sincerely,

Winston H. Hickox

Winston H. Hickox
Agency Secretary

Enclosure

cc: See next page.

cc: Ms. Carol Borgstrom, Director
Office of NEPA Policy and Assistance
Department of Energy
Washington, DC 20585

Mr. Mark E. Piros, P.E.
Hazardous Substances Engineer
Northern California - Coastal Cleanup
Operations Branch
Department of Toxic Substance Control
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

DOCUMENT 7: Electronic Mail from Kathy Barnes, December 20, 1999

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scott, richard

From: KATHY [christian@cbpu.com]
Sent: Monday, December 20, 1999 9:52 PM
To: Richard Scott
Subject: public comment

I would like to enter my public comment about the NIF (National Ignition Facility). I am against such a venture, because it is dangerous, and will not promote peace, but will cause tension and a return to the cold war. I am against anymore public money going to any nuclear ventures because they are detrimental to the environment, health, and welfare of the American people. We don't even have health care for many people. There is desperate poverty and homelessness in the US., as well as other problems. Many people can not afford the education they need to build a better country, and workers are forced to compete more and more with cheap third world labor, as well as all the small businesses that are being run out of business by it. There are more waste dumps and contaminations than can be cleaned up, and polluters are let off the hook over and over again, while the public--the taxpayers--are forced to bear the burden of not only being made to pay for toxic pollution, but suffering from it also.....we don't need more pollution. I am against the expansion of the nuclear industry in all its abhorrent, malevolent forms--including plutonium mobilization and the NIF. **Do not promote it**. Sincerely, Kathy Barnes R1 Sherwood,MI 49089

7-1

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DOCUMENT 8: Letter with Attachments from Terry Roberts, State of California Governor's Office of Planning and Research, State Clearinghouse (includes letters from Mark E. Piros, Department of Toxic Substances Control, and Jean C. R. Finney, Department of Transportation)

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STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
GOVERNOR

Loretta Lynch
DIRECTOR

December 17, 1999

Richard A. Scott
U.S. Department of Energy
7000 East Ave
P.O. Box 808, L-293
Livermore, CA 94550

Subject: National Ignition Facility Draft Supplemental EIS to the SSM PEIS
SCH#: 99112010

Dear Richard A. Scott:

The State Clearinghouse submitted the above named Draft EIS to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on December 16, 1999, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's eight-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts

Terry Roberts
Senior Planner, State Clearinghouse

Enclosures
cc: Resources Agency

Document Details Report

State Clearinghouse Data Base

SCH# 99112010
Project Title National Ignition Facility Draft Supplemental EIS to the SSM PEIS
Lead Agency Energy, U.S. Department of*

Type eis Draft EIS

Description National Ignition Facility Supplemental Environmental Impact Statement to evaluate the reasonably forceable significant adverse environmental impact of continuing to construct and of operating NF at LLNL with respect to contamination by hazardous, toxic or radioactive materials, in the area of construction.

Lead Agency Contact

Name Richard A. Scott
Agency U.S. Department of Energy
Phone 925-423-3022 **Fax**
email
Address 7000 East Ave
P.O. Box 808, L-293
City Livermore **State** CA **Zip** 94550

Project Location

County Alameda
City Livermore
Region
Cross Streets Vasco / East Ave.
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways 580
Airports Livermore
Railways
Waterways
Schools
Land Use Industrial

Project Issues Drainage/Absorption; Economics/Jobs; Toxic/Hazardous; Water Supply; Other Issues

Reviewing Agencies Resources Agency; Department of Fish and Game, Region 3; Office of Historic Preservation; California Highway Patrol; Caltrans, District 4; Department of Health Services; Regional Water Quality Control Board, Region 2; Department of Toxic Substances Control; California Energy Commission; Native American Heritage Commission; Public Utilities Commission; State Lands Commission

Date Received 11/02/1999 **Start of Review** 11/02/1999 **End of Review** 12/16/1999

Note: Blanks in data fields result from insufficient information provided by lead agency.

Department of Toxic Substances Control

Edwin F. Lowry, Director
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

clear
12/16/99

December 6, 1999

Mr. Richard Scott
Document Manager
United States Department of Energy
P.O. Box 808, L-293
Livermore, California 94550

National Ignition Facility, Draft Supplemental Environmental Impact Statement to the SSM PEIS, SCH# 99112010

Dear Mr. Scott:

The Department of Toxic Substances Control has reviewed the *National Ignition Facility, Draft Supplemental Environmental Impact Statement to the SSM PEIS, October 1999 (Supplemental EIS)* prepared by the United States Department of Energy. We have the following comments on this document:

1. Use of the Term "Brownfields" - In Section 2, ceasing construction of the National Ignition Facility is identified as one of two variations of the no action alternative. In Sections 2.3 and 4.3, demolition of the National Ignition Facility is identified as one of two ways of implementing this variation of the no action alternative. Along with demolition, it is stated the site would be returned to a brownfield condition (see page 2-4, last paragraph and page 4-15, first and last paragraphs). The U.S. Environmental Protection Agency (U.S. EPA) defines brownfields as "abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination." The use of the term brownfields seems inappropriate in the context in which it is used and inconsistent with statements and conclusions in the Supplemental EIS. Specifically, stating that the site will be returned to a brownfields condition is inconsistent with: 1) the statement in Section 2.1 that, "The second [no action alternative] assumes that DOE would cancel the NIF [National Ignition Facility] project, ceasing construction and making the site usable for another purpose."; and 2) the conclusion in Section 4.2 that, "The Phase I and Phase II investigations...suggest that there is low likelihood that significant quantities of additional previously identified buried hazardous, toxic, or radioactive objects remain in the stipulated areas." 8-1

2. Preliminary Remediation Goals -Table 3.1, Figures 3.4, 3.6, 3.8, 3.10, 3.12, 3.14, 3.16, and the various other parts of the Supplemental EIS where U.S. EPA, Region 9, Preliminary Remediation Goals (PRGs) are cited, should be modified to reflect revised values in the 1999 update of the PRG table (these PRGs can be found at **http://www.epa.gov/region09/waste/sfund/prg/index.htm**).

   Additionally, Table 3.1 and the figures noted above incorrectly indicate that there are not PRGs for Freon 11 (trichlorofluoromethane) or tritium. The current U.S. EPA, Region 9 PRGs for Freon 11 and tritium in industrial/commercial soil are 2,000 milligrams per kilogram and 45,000 picocuries per gram, respectively. Please note, the PRGs for tritium and other radionucleides cannot be found at the above website. If you require more information about the PRGs for radionucleides, we recommend that you contact Kathy Setian, the U.S. EPA Remedial Project Manager for the ongoing cleanup activities at the Lawrence Livermore National Laboratory (LLNL), Main Site. She can be contacted at (415) 744-2254. 8-2

3. Contaminants Addressed in Supplmental EIR and Table 3.1 - The bulleted list of contaminants after the second paragraph on page 3.6 should include polychlorinated biphenyls (PCBs). The last sentence on page 3.6 should state, "Table 3.1 gives maximum sampled soil sediment concentrations in each area for each of the **six** contaminants." 8-3

4. Maximum Contaminant Level for Freon 11 - Table 3.1 and Figures 3.4, 3.6, 3.8, 3.10, 3.12, 3.14, 3.16 incorrectly indicate that there is not a California Maximum Contaminant Level (MCL) for Freon 11. The California MCL for Freon 11 is 150 parts per billion. The above table and figures should be revised to include this MCL. 8-4

5. Page 3-9, First Complete Sentence - "parts per millions" should be "parts per million." 8-5

6. Explanation for Lack of Recent Data - An explanation should be included as to why Figures 3.7 and 3.15 indicate no 1997 and/or current groundwater data is available. 8-6

7. Disposal Site for Soil from East Traffic Circle Removal - The contaminated soil, discovered at the East Traffic Circle during drainage maintenance operations in 1998, was excavated and disposed at the Enviro-Safe, Inc. facility in Idaho, not the Clive, Utah incinerator as indicated in the last sentence of the second paragraph on page 4-2. 8-7

8. Release of Particulates - In the next to last paragraph of Section 4.4, it is stated that, "Locations at LLNL where past activities may have resulted in buried wastes or materials or contaminated soil or groundwater are undergoing active remediation...These remedial activities at LLNL may also release particulates (PM_{10}) that contain PCBs." This statement implies that PCB-contaminated particulates may be released as a result of ongoing ground water and soil vapor extraction and treatment operations. This statement is a misrepresentation and should be revised so that it is clear that reference is being made to the removal actions which occurred at the National Ignition Facility Construction Site and East Traffic Circle and not to ongoing cleanup operations. 8-8

Thank you for your consideration of our comments. If you have any questions or wish to further discuss any issue, please call me at (510) 540-3832.

Sincerely,

Mark E. Piros

Mark E. Piros, P.E.
Hazardous Substances Engineer
Northern California - Coastal Cleanup Operations Branch

cc: See next page

cc: Mr. Guenther Moskat
Department of Toxic Substances Control
Planning & Environmental Analysis Section
400 P Street, 4th Floor
Sacramento, California 95812-0806

State Clearinghouse
Governor's Office of Planning and Research
1400 Tenth Street
Sacramento, California 95814

Mr. Joseph Chou
California Regional Water Quality Control Board
San Francisco Bay Region
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Oakland, California 94612

Ms. Kathy Setian
U.S. Environmental Protection Agency, Region 9
Federal Facilities Cleanup Branch
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Mr. Hannibal Joma
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Mr. Robert Bainer
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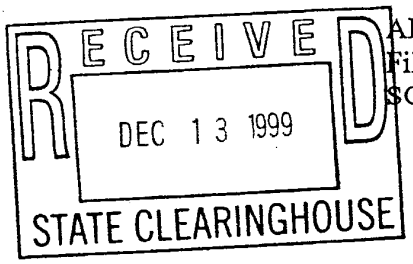
Mr. Peter Strauss
PM Strauss & Associates
317 Rutledge Street
San Francisco, California 94110

STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
P O BOX 23660
OAKLAND, CA 94623-0660
Tel: (510) 286-4444
Fax: (510) 286-5513
TDD (510) 286-4454

December 1, 1999



ALA-580-9.68
File #ALA580608
SCH #99112010

Clear
12/16/99
e

Mr. Richard A. Scott
U.S. Department of Energy
Lawrence Livermore National Laboratory
7000 East Avenue
Box 808 L-293
Livermore, CA 94550

Dear Mr. Scott:

National Ignition Facility, Draft Supplemental EIS to the SSM PEIS

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above-referenced project. We have reviewed the Draft Supplemental Environmental Impact Statement and are satisfied that the project will not have a significant impact to State highway facilities. 8-9

Should you require further information or have any questions regarding this letter, please call Paul Svedersky of my staff at (510) 622-1639.

Sincerely,

HARRY Y. YAHATA
District Director

By Jean CR Finney

JEAN C. R. FINNEY
District Branch Chief
IGR/CEQA

c: State Clearinghouse

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DOCUMENT 9: Letter from JoAn Saltzen, Sacramento/Yolo Peace Action, December 16, 1999

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Sacramento/Yolo Peace Action

formerly Sane Freeze 916-448-7157
909 12th Street, #118 Sacramento, CA 95814

Dec. 16, 1999

DOE Oakland Operations Office
Attn: Richard Scott c/o LLNL
P.O. Box 808
Livermore, CA 94550

RE: Written Public Comment on the Supplemental Programmatic Environmental Impact Statement

We are opposed to the continued construction of the National Ignition Facility because the Lawrence Livermore National Laboratory site is contaminated with hazardous, toxic and radioactive materials. Any construction on the site will increase the dispersal of contamination dangerous to the environment and to the health of all living organisms. The actual operation of the National Ignition Facility will produce more contamination especially from the highly dangerous effects of tritium. The San Francisco Bay Area in which the National Ignition Facility is being built has several million people who are put at further risk by the deleterious effects of hazardous, toxic and radioactive materials carried in soil, water and air. 9-1

We are opposed to the National Ignition Facility because it continues the development of nuclear weapons, aiming to produce a pure fusion weapon which will increase the danger to everyone on the earth. We have lived under the threat of annihilation by atomic bombs, nuclear weapons and missiles. We are now being threatened with a more deadly killing creation, fusion bombs and weapons whose technology will be developed by means of the National Ignition Facility. 9-2

We are opposed to the continuation of the National Ignition Facility as it is a boondoggle of the highest order. The conception, design and construction are flawed and scarce tax dollars are squandered in the illusion of building a new scientific wonder. Scientists, engineers and technician are employed, corporations are awarded contracts, weaponeers are given new experiments by which to advance their knowledge of weapons of mass destruction. 9-3

We demand that nuclear weapon development stop and that construction of the National Ignition Facility cease.

Minnie Saltzen, for

JoAn Saltzen, Secretary
Sacramento-Yolo Peace Action

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DOCUMENT 10: Electronic Mail from JoAn Saltzen, Sacramento/Yolo Peace Action, December 16, 1999 [duplicate of Document 9]

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scott, richard

From: Staff [sypeaceact@jps.net]
Sent: Thursday, December 16, 1999 2:01 PM
To: richard.scott@oak.doe.gov
Cc: president@whitehouse.gov
Subject: NIF PEIS

Dec. 16, 1999

DOE Oakland Operations Office
Attn: Richard Scott c/o LLNL
P.O. Box 808
Livermore, CA 94550

RE: Written Public Comment on the Supplemental Programmatic Environmental Impact Statement 10-1

We are opposed to the continued construction of the National Ignition Facility because the Lawrence Livermore National Laboratory site is contaminated with hazardous, toxic and radioactive materials. Any construction on the site will increase the dispersal of contamination dangerous to the environment and to the health of all living organisms. The actual operation of the National Ignition Facility will produce more contamination especially from the highly dangerous effects of tritium. The San Francisco Bay Area in which the National Ignition Facility is being built has several million people who are put at further risk by the deleterious effects of hazardous, toxic and radioactive materials carried in soil, water and air.

We are opposed to the National Ignition Facility because it continues the development of nuclear weapons, aiming to produce a pure fusion weapon which will increase the danger to everyone on the earth. We have lived under the threat of annihilation by atomic bombs, nuclear weapons and missiles. We are now being threatened with a more deadly killing creation, fusion bombs and weapons whose technology will be developed by means of the National Ignition Facility.

We are opposed to the continuation of the National Ignition Facility as it is a boondoggle of the highest order. The conception, design and construction are flawed and scarce tax dollars are squandered in the illusion of building a new scientific wonder. Scientists, engineers and technician are employed, corporations are awarded contracts, weaponeers are given new experiments by which to advance their knowledge of weapons of mass destruction.

We demand that nuclear weapon development stop and that construction of the National Ignition Facility cease.

NIF PEIS

JoAn Saltzen, Secretary
Sacramento-Yolo Peace Action

DOCUMENT 11: Letter from Ann Seitz, December 16, 1999

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Ann Seitz
22103 Main Street
Hayward, CA 94541
Tel: 510-538-5285
December 16, 1999

Mr. Richard Scott
Document Manager
Department of Energy
L-293, P.O. Box 808
Livermore, CA 94550

RE: Public Comment Period: National Ignition Facility

Dear Mr. Scott:

How can any statement from Livermore Lab be trusted when so may scientists working on their projects are so intellectually dishonest and twisted they can convince themselves of their lies and delusions, then lie to the U.S. government, let alone the taxpayers who feeds the government? They need to be watched like children who get into trouble. Otherwise, why would countless responsible, successful, citizens interrupt their lives and careers to become activists? I wonder why private citizens must even put up this fight and argument? 11-1

The Lawrence Livermore Lab's attempts to sell this $1.2 billion dollar NIF project with its insufficient economic and environmental consequences are disgusting attempts for boys to have bigger toys. They claim NIF is not primarily a weapons project. Holy cash cow! According to the Lawrence Livermore Institutional Plan 1994-1999, "Other ICF facilities will have to be used until NIF is operational, but their capabilities will be largely exhausted by the end of the decade in terms of making new scientific headway on the important problems facing the weapon-design and weapon-effects programs." Moreover, Dr. Vic Reis, former DOE Assistant Secretary for Defense Programs and a strong advocate of NIF, described it this way to Congress: "The whole idea of lasers is for understanding the physics of (nuclear weapons) secondaries, but also more particularly, for maintaining the cadre of scientists who both understand the fusion process and all the things that go along with that...." Furthermore, according to *Nature*, an international weekly journal of science article 9-16-99 "The NIF's real function, in fact, is to serve as a sandbox for U.S. weapons scientists until nuclear weapons development and testing can resume". 11-2

DOE and the lab claim NIF cannot hurt U.S. non-proliferation objectives. But, how can it possibly look to signers of the Non-Proliferation Treaty for the U.S. to be making a multi-billion dollar investment in a nuclear weapons design facility and this after the end of the Cold War? Really, how would it look if a proposed multi-billion dollar weapons design facility appeared in North Korea or Iraq? Oh, but they say it's for simple lab tests! The purpose of NIF is to maintain U.S. nuclear weapons design capability, which runs in counter purpose to any test ban. Besides, how can aging weapons possibly need more than a replaced wire that has rusted or a little Brasso? That's overly simple, but everyone can see that maintenance is not really exciting, sexy science to someone who has invested in a Ph.D. 11-3

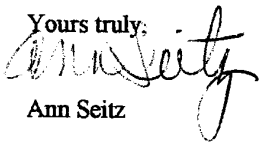
The lab sends out its "spin dogs" who claim NIF is exactly what NIF isn't! What NIF can do, is denied! Millions of taxpayer dollars have been spent for this fundamental lie. NIF is synonymous with desperate hope attempting a compelling reason for it to exist. How many more billions of tax dollars to find something really cool? Now that there is a focus on NIF's shortcomings even more money may be requested for the project. I see in the Independent, Dec. 8 that radioactive AVLIS equipment was on auction held at the old Livermore K-Mart building. Will these few bucks also be eaten by NIF? Someday, will it also be a private citizen who discovers that AVLIS equipment, that could be used for proliferation, was sold to further embarrass and threaten this nation? 11-4

I wonder if the real bosses and string-pullers of the cold evil death cabal have conscience enough to know what they are doing? I wonder if their work makes them feel strong. I know American strength through

their work is certainly the nationalism line I'm expected to buy. I'm ashamed that supposed adult men can't get over their "bad little self" enough to attempt peace. As Americans we are all responsible for the actions of this government and those that function in its name. To the Lab, the project NIF and the DOE I say, you are on the wrong path, don't stay there in my name. 11-5

Beyond the endless pro and con argument regarding NIF is the lack of morality of this odious project. To work for anything other than peace in our time on the only planet we have, in my opinion, is a sin against the soul that all people owe God. That soul is decidedly different than the personality we develop through training, fear and selfishness. No doubt, many working on the project claim to be Christians, of course we all know claiming to be and being are quite different, aren't they Mr. Scott? 11-6

Yours truly,



Ann Seitz

DOCUMENT 12: Letter from Dennis Thomas et al., December 15, 1999

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Dec 15, 1999

Richard Scott
Document Manager, DOE
L-293
PO Box 808
Livermore, CA 94550

Re: NIF environmental report

Dear DOE,

Please recommend that an impartial and independent environmental impact statement be made.

The 'in-house' report prepared by the DOE: 12-1

-is a conflict of interest. It is not credible that the DOE which is building the NIF can write an objective report criticizing the NIF;

-does not adequately address the potential radiation hazards posed by the National Ignition Facility; 12-2

-develops conclusions of certainty (i.e. – no harmful radiation leaks) when several if not all DOEradiation facilities have had damaging leaks of radioactivity.

I would like the confidence and credibility of an independent report.

Sincerely,

Dennis Thomas
147 St. Germain Lane
Pleasant Hill, CA. 94523

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DOCUMENT 13: Letter from Patricia Sanderson Port, Regional Environmental Office, U.S. Department of the Interior, San Francisco, California, December 10, 1999

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United States Department of the Interior
OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
600 Harrison Street, Suite 515
San Francisco, California 94107-1376

December 10, 1999

ER 99/957

Mr. Richard Scott, Document Manager
U.S. Department of Energy, L-293
7000 East Avenue, P.O. Box 808
Livermore, CA 94550

Dear Mr. Scott:

The Department of the Interior has reviewed the Draft Supplemental Environmental Impact Statement (EIS) for the National Ignition Facility (NIF) Project Specific Analysis Portion of the Stockpile Stewardship and Management Programmatic Environmental Impact Statement (SSMPEIS), at Lawrence Livermore National Laboratory (LLNL), Livermore, California, and has no comments to offer. 13-1

Thank you for the opportunity to review this document.

Sincerely,

Patricia Sanderson Port
Regional Environmental Officer

cc:
Director, OEPC, w/original incoming
Regional Director, FWS, Portland

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DOCUMENT 14: Written Testimony of Marylia Kelly, Tri-Valley CAREs, December 8, 1999

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Received by
RAS
12/9/99

U.S. Department of Energy (DOE) Public Hearing
on the National Ignition Facility (NIF)
Supplemental Programmatic Environmental Impact Statement
December 8, 1999

Testimony of Marylia Kelley, Tri-Valley CAREs

1. As currently written, the "scope" of the draft Supplemental Programmatic Environmental Impact Statement is absurdly limited.

Currently, the draft Supplemental PEIS is limited to a mostly "backwards-looking" analysis of how the Department in 1997 cleaned up the 112 PCB-laden capacitors found in an undocumented waste dump during the initial phase of NIF construction, with some mention of the court-ordered investigations that followed -- and the discovery of additional PCB-contaminated soils in the "special study area" in December 1998, which were later removed.

The National Environmental Policy Act intends environmental analyses to be "forward-looking" and to assist an agency, and the public, engage in good decision-making. In order to do so, this draft document should be expanded to incorporate new information and new proposals regarding the National Ignition Facility construction and operation, including a full analysis at NIF's cost overrun and underlying technical problems. 14-1

2. Some of the new operational procedures under consideration for the National Ignition Facility may have new, here-to-fore unanalyzed environmental consequences.

For example, the technical problem of "damage propagation" at the NIF's final optics package (where the beam is converted to ultraviolet, referred to as the "third harmonic") may cause lenses to shatter more often than had been anticipated -- and, therefore, engender a vastly scaled up "change out" schedule. Are there potential radiological risks that may result from employees having to change out the final optics more frequently? The debris shield (which is part of the final optics package) is intended to protect the lens from fragments resulting from the experiments in the target chamber, but what about neutron flux? Would neutron activation products be present? Are there other, chemical risks that will or may be increased due to more frequent change outs? Will NIF's waste stream be impacted? 14-2

3. There are proposals before the Department that, in essence, make NIF a very different , and therefore new, project , unlike the NIF analyzed in the 1996 PEIS.

There is a proposal currently before DOE to build a "half NIF" consisting of 96 beams. This proposal comes with a sub-part containing changes in the order in which the laser beams are to be brought on line. The order in which laser beamlines become operational (and whether there will be 192 or 96) affects NIF's experimental capabilities. Further, these new proposals may alter the timeframe in which different categories of experiments are likely to be done. These things, in turn, could 14-3

mean a change in the environmental impact of NIF. The Supplemental PEIS should analyze, for example, whether experiments using plutonium or highly enriched uranium are made more likely by the change in the beamlines' number and/or operational order. Further, the document should explore whether experiments that could use plutonium or highly enriched uranium are likely to occur earlier or later in NIF's operational life as a result of these changes? These same questions should be answered with regard to nuclear weapons effects tests as well. Are they likely to occur earlier or later in NIF's design lifetime? Might there be related differences in the amounts of other toxic material to be used -- such as lithium hydride? 14-3 (cont.)

4. The draft Supplemental PEIS relies on a "purpose and need" statement made in the 1996 PEIS, which is inadequate in light of new information and potential changes in NIF.

Regarding "purpose and need" for NIF, chapter 1 page 3 of the draft Supplemental PEIS contains the statement that "NIF will provide a unique capability as a key component of DOE's science-based stewardship of the nation's nuclear weapons stockpile." NIF's operational capabilities are very much called into question by the serious, unresolved technical problems with laser glass and other optics, target fabrication and diagnostics. At a minimum, this should trigger a reassessment of NIF's "purpose and need." We note, as well, that the U.S. Environmental Protection Agency requested that the draft Supplemental PEIS contain a "clear statement of "purpose and need" (chapter 1 page 7). The DOE declined to do so. This deficiency must be remedied in the final. 14-4

5. DOE's preferred choice, called the "No Action as an Ongoing Activity" in chapter 2 of the Supplemental PEIS is so narrowly construed that it becomes useless as a decision-making tool.

Chapter 2 page 1 states that "Under this interpretation of the no action alternative, DOE would make no changes in the design of NIF, would undertake no deviations in construction techniques, and would impose no operational changes in response to the information regarding site contamination obtained during the [toxic dump] characterization studies..." This is a surreal inversion of the reality surrounding the NIF. In fact, there ARE proposals that would significantly alter all three of the above-quoted parameters (NIF design, construction techniques, operational changes). DOE hinges its preferred action on a mere assertion that these major changes are not necessarily linked to the discovery of PCB-laden soils in the NIF construction area. So what? Should DOE simply ignore the larger reality and proceed? If DOE chooses this course, it will waste taxpayer money and run contrary to the spirit and letter of the National Environmental Policy Act. A second, "hard look" at NIF is the action that is warranted at this juncture in time. 14-5

Further, the DOE must seriously consider a true "no action alternative": to halt the construction of the National Ignition Facility. the draft Supplemental PEIS dodges giving this option the consideration it deserves. 14-6

DOCUMENT 15: Comment Form from Janis K. Turner, December 8, 1999

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December 8, 1999 **Livermore, CA**

Received LLNL 12/8/99

COMMENT FORM

PUBLIC MEETING FOR THE NATIONAL IGNITION FACILITY SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

PLEASE PRINT

First Name: Janis MI: K Last Name: Turner

IF REPRESENTING AN ORGANIZATION

Title:_____ Organization:_____

HOME OR ORGANIZATION ADDRESS.....

Address: 749 Hazel St
City: Livermore State: Ca Zip: 94550
Phone Number: (925) 443-4372

Do you wish to be placed on the LLNL mailing list for further information? YES__

If you are submitting a comment, please complete the name and address sections and return this form to the registration table.

COMMENT:

My concern is about the Tritium control plan for residue which will result from ignition inside the chamber. What will be done with ① radioactive residue on chamber walls, ② residue on filters, ③ tritium residue in lubricants in filter system, ④ tritium contamination on cameras which must be removed periodically from chamber for maintenance?

Use the Back of this sheet for longer comments. Thank you

15-1

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DOCUMENT 16: Letter from Cathie Brown, Mayor, City of Livermore, December 6, 1999

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CITY OF LIVERMORE

'Wine Country Since 1849'

Administration Building
1052 S. Livermore Avenue
Livermore, CA 94550-4899
(925) 373-5100
Fax (925) 373-5135
TDD (925) 373-5052

Mayor / Council
(925) 373-5149

City Manager
(925) 373-5140

City Attorney
(925) 373-5120
Fax (925) 373-5125

City Clerk
(925) 373-5130

Community Development
Building Division
(925) 373-5180
Fax (925) 373-5183
Engineering Division
(925) 373-5240
Fax (925) 373-5267
Planning Division
(925) 373-5200
Fax (925) 373-5135

Economic Development
(925) 373-5095

Finance Department
(925) 373-5150

Fire Department
4550 East Avenue
(925) 454-2361
Fax (925) 454-2367

Library
1000 S. Livermore Avenue
(925) 373-5500

Personnel
(925) 373-5110
Fax (925) 373-5035

Police Department
1110 S. Livermore Avenue
(925) 371-4900
Fax (925) 371-4950

Public Services
(925) 373-5270
Fax (925) 373-5317

December 6, 1999

Mr. Richard Scott
United States Department of Energy
L-293, P.O. Box 808
Livermore, CA 94551

Dear Mr. Scott,

On behalf of the City of Livermore I would like to reaffirm the City's support of the construction and operation of the National Ignition Facility at the Lawrence Livermore National Laboratory.

Today's public hearing is about the draft Supplemental Environmental Impact Statement of SEIS. This SEIS was necessitated because of the fact that during excavation for NIF in 1997, the construction contractor unexpectedly uncovered electrical equipment containing PCB oil, a hazardous material.

It was disturbing that an undocumented hazardous material dump was uncovered; however, I was impressed with the speed and professionalism of LLNL in handling the situation. Representatives from LLNL notified me immediately and continued to keep me fully informed of the circumstances. I was assured that at no time were the citizens of Livermore in any danger from this event. **16-1**

This type of response, when unexpected events occur, gives me confidence that LLNL is a good neighbor. I continue to support the NIF and urge you to accept the SEIS and proceed with the project.

Sincerely,

Cathie Brown

Cathie Brown
Mayor

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4 RESPONSES TO PUBLIC COMMENTS

Response 1-1

See the response of Mr. Crandall following the comment.

Response 1-2

See the response of Mr. Scott following the comment.

Responses 1-3 and 1-4

Phase II characterization studies were conducted throughout the NIF Construction Area, one of the stipulated areas. The NIF Construction Area includes both the excavations for the NIF foundations and basement and the areas of surrounding land. DOE performed geophysical investigations and soil testing adjacent to the NIF excavation but not within the excavation itself. At the time of the Phase II characterization studies, basement foundations and buildings were already placed within the excavations. Nevertheless, further buried objects or materials were not expected within these excavations for the following reason. In the excavation, soils had already been removed to below the level where waste burial could have occurred. Buried wastes are expected to be within 1 to 3 meters of the surface. The NIF excavation is much deeper than that (greater than 10 meters), reaching soils that have been buried since prehistoric times. These levels include depths where mammoth and other fossils were discovered. Remains from waste disposal activities in the mid-20th century are not expected to be buried at such depths.

Responses 1-5 and 1-6

This document has been prepared according to the requirements of NEPA. See Mr. Ferguson's responses following the comments. Also, see General Issue 6 in Section 2 of this volume (Volume II of the SEIS).

Response 1-7

See the responses of Mr. Crandall and Mr. Ferguson following the comment. Also, see paragraph 2 of General Issue 5 in Section 2 of this volume (Volume II of the SEIS).

Response 1-8

See the response of Mr. Crandall following the comment. Decommissioning of NIF was addressed in Section I.4.1.2.8.2 of Appendix I of the SSM PEIS, the NIF Project-Specific Analysis.

Responses 1-9 to 1-12

See paragraph 1 of General Issue 12 in Section 2 of this volume (Volume II of the SEIS).

Response 1-13 to 1-15

See the responses of Mr. Crandall following the comments. Appendix I of the SSM PEIS based its estimates of operations employment on the total number of workers. Baseline employment at LLNL was expected to either remain stable or slightly decline. Attrition of workers would occur through retirement and any phasing out of programs no longer supported by DOE. It was assumed that some or all of the attrition due to programs closing would be negated through growth of other programs or reassignment of workers. Because operation of NIF would increase the number of workers over that baseline, it was assumed that NIF workers would either have to be new hires or transfers from other programs that might then need to hire new workers. If NIF were not operated, these new jobs would not be needed.

Response 1-16

See Mr. Crandall's response following the comment.

Response 1-17

See Mr. Scott's and Mr. Crandall's response following the comment.

Response 1-18

See General Issue 6 in Section 2 of this volume (Volume II of the SEIS).

Response 1-19

See General Issue 7 in Section 2 of this volume (Volume II of the SEIS) regarding the revised and added alternatives. A new alternative of abandonment has been evaluated (commenters called this "true no action"); however, this alternative was considered unreasonable and eliminated from detailed study (Section 2.3.1 of Volume I). Section 4.3 in Volume I of the SEIS describes the impacts of implementing the other revised alternatives. Ceasing construction, whether the facility is mothballed, converted to another purpose, or demolished, will have environmental impacts in addition to those that have already occurred to date. In addition, it may have impacts over and above what would be expected if construction were to proceed as planned. The comparison of alternatives has been revised to present this concept more clearly. There is no commitment on DOE's part to demolish the NIF facility after its operational life. The alternatives at decommissioning would be much like the alternatives if NIF construction were stopped.

Responses 1-20 and 1-21

See General Issue 5 in Section 2 of this volume (Volume II of the SEIS). In accordance with the court's Memorandum Opinion and Order filed on August 19, 1998, in *NRDC v. Richardson*, DOE, no later than January 1, 2004, will either (1) determine that experiments using plutonium, uranium (other than depleted uranium), lithium hydride, and certain other materials will not be conducted in the NIF or (2) prepare a Supplemental SSM PEIS analyzing the reasonably foreseeable environmental impact of such experiments

Response 1-22

DOE did not preclude action alternatives from the SEIS. The alternatives for the SEIS would have included modifying the manner in which NIF would be constructed and operated, in view of the potential for treating more buried material. However, since no material was found, such alternatives were judged not to be reasonable.

Response 1-23

Comment noted.

Response 1-24

Your opinions regarding the scope of the SEIS are noted. See General Issues 3 and 4 in Section 2 of this volume (Volume II of the SEIS).

Response 1-25

See General Issue 7 in Section 2 of this volume (Volume II of the SEIS). "Mothballing" (placing the facility in storage) has been added to the new "Cease Construction" alternative in the Final SEIS (Section 4.3 of Volume I).

Response 1-26

See General Issues 11 and 12 in Section 2 of this volume (Volume II of the SEIS). The characterization studies conducted during Phase I and Phase II were designed to identify any unknown buried objects or waste sites. The sampling was not designed to identify small isolated areas or points of residual contamination. The interviews with workers, soil sampling, and geophysical surveys identified no new areas of potential contamination other than those already known. The East Traffic Circle Area was not sampled during Phase I and Phase II activities because the site was already known to be an old waste disposal site. Wastes already had been removed and the site cleaned up. However, prior to beginning new work in the ETC (unrelated to NIF), samples were taken to confirm its clean condition. The results indicated that small isolated areas of PCB contamination remained. A further cleanup action was then initiated. Sampling for residual contamination is part of the planning for LLNL site actions in areas with a past history of contamination.

Phase I of the characterization studies did not rely solely on site records but looked for other evidence of buried objects or waste disposal that might have been overlooked earlier. This evidence included interviews with retired site workers who indicated they knew where burial activities had occurred. In addition, aerial and other site photographs were examined for evidence of disturbed areas or surface features indicating burial sites. See also General Issue 11 in Volume II of this SEIS for a description of geophysical surveys and groundwater monitoring.

Response 1-27

Appendix I of the SSM PEIS based its estimates of operations employment on the total number of workers. Baseline employment at LLNL was expected to either remain stable or slightly decline. Attrition of workers would occur through retirement and any phasing out of programs no longer supported by DOE. It was assumed that some or all of the attrition due to programs closing would be negated through growth of other programs or reassignment of workers. Because operation of NIF would increase the number of workers over that baseline, it was assumed that NIF workers would either be new hires or transfers from other programs that might then need to hire new workers. If NIF were not operated, these new jobs would not be needed. If NIF were completed for another purpose, the effort needed to complete the facility might be similar to construction employment needed to complete NIF for its proposed purpose. If NIF were to be demolished and if demolition debris were to be disposed of off site, such an action might take longer and result in more hours worked than if NIF construction were completed. Because use of NIF by another program, completing NIF for another purpose, or demolishing NIF are options not found in any existing LLNL program plan, the employment aspects of these options are speculative and without supporting data. The discussion in Section 4.3 of the Final SEIS of the impacts on employment of ceasing construction has been revised to more clearly reflect this condition.

Response 1-28

Expected worker injuries are calculated on the basis of injury rates and the number of hours worked. Demolition of structures already completed at the NIF site and filling in the excavation would most likely result in additional hours worked beyond those required to complete the NIF buildings. (NIF buildings are more than 94% complete.) The conclusion that more workers would be injured in demolition activities than if the NIF facility were completed is a reasonable statement of potential impact. This is because less work remains to complete the facility than would be required to demolish the facility. Demolition would involve the construction trades. Other impacts of decommissioning and demolition of NIF are addressed in Section I.4.1.2.8.2 of Appendix I of the SSM PEIS.

The commenter states that demolition of NIF now would be safer than demolition after the end of operational life because there is now no radiological contamination of NIF. DOE does not expect that workers would be injured by radiation during demolition activities. DOE performs all such works under the requirements of DOE regulations and guidelines that ensure that radiological injury to workers will not occur. Doses to all DOE radiological workers are monitored to ensure that the doses are very low.

Response 1-29

The discussion of potential impacts to white-tailed kites from ceasing NIF construction has been revised to clarify this issue. The NIF portion of the SSM PEIS discussed the potential impacts of construction on nesting white-tailed kites, and mitigation measures were developed in consultation with appropriate regulatory authorities. During NIF construction activities to date, no impacts on white-tailed kite nesting success have been observed. The population appears to be doing well, and nest numbers have actually increased. With completion of NIF construction, potential disturbance of nesting activity by construction activity will cease.

Demolishing NIF would involve the same activities that potentially affect white-tailed kites from construction. If NIF were to be demolished, traffic from demolition workers and heavy equipment would continue for a longer period of time, increasing the period of time that the kite nests are at risk from disturbance. However, since mitigation and protection measures seem to have worked so far, it is likely that any impacts to kites from demolition activities would be minor. Further, if demolition were to be selected, it is likely that additional consultation would be required, which could lead to certain measures being imposed, such as prohibition of blasting during the nesting season or within a certain distance from the nest.

Response 1-30

See General Issue 5 in Section 2 of this volume (Volume II of the SEIS).

Response 1-31

The analysis in this SEIS and in the SSM PEIS indicates that the NIF will not make environmental problems at LLNL worse. The discovery of buried PCB-containing capacitors was a direct result of NIF construction, and cleanup has removed a source of potential site contamination. Neither the SSM PEIS nor the SEIS identified any factors of NIF operations that worsen site contamination or result in health risks to the public or workers. See also General Issue 1 in Section 2 of this volume (Volume II of the SEIS).

Responses 1-32

Your opposition to NIF on the basis of cost is noted. See also General Issues 2 and 12 in Section 2 of this volume (Volume II of the SEIS). See General Issue 5 in Section 2 of this volume (Volume II of the SEIS) regarding the initial phases of operations. DOE remains committed to the design and operation of NIF that have remained essentially unchanged since preparation of the SSM PEIS. See General Issue 9 in Section 2 of this volume (Volume II of the SEIS) regarding nuclear weapons and nonproliferation.

Response 1-33

See General Issues 2, 5, and 9 in Section 2 of this volume (Volume II of the SEIS).

Response 1-34

See General Issue 1 in Section 2 of this volume (Volume II of the SEIS) and see Response 1-32.

Response 1-35

See Mr. Crandall's response following the comments.

Response 1-36

See the response of Mr. Crandall following the comment.

Response 2-1

Your comment that the NIF is too expensive to justify its existence is noted. See General Issue 2 in Section 2 of this volume (Volume II of the SEIS) regarding nonenvironmental issues related to NIF and General Issue 8 regarding the purpose and need for NIF.

The NIF Project-Specific Analysis in the SSM PEIS (Appendix I, Section I.4.1.2.3) concluded that the NIF would not result in further contamination of either soils or groundwater. The radioactive wastes generated by NIF would be disposed of at the Nevada Test Site, not at LLNL.

Response 2-2

The NIF would use the energy of laser light to create a fusion reaction in small quantities of deuterium and tritium (a radioactive isotope). The energy produced by this reaction would be confined to the reaction vessel; no explosion would result. These experiments will produce low-level and mixed wastes that would be disposed of at the Nevada Test Site in Nevada. Waste management for NIF is discussed in Section I.4.1.2.8 of Appendix I of the SSM PEIS. See General Issue 9 in Section 2 of this volume (Volume II of the SEIS) regarding nuclear weapons and nonproliferation. Your comment on the cost of NIF is noted.

Response 2-3

See General Issue 2 in Section 2 of this volume (Volume II of the SEIS).

Response 2-4

Comments on cost are noted. The NIF facility is the foundation of science-based stockpile stewardship.

Response 2-5

In accordance with the court's Memorandum Opinion and Order filed on August 19, 1998, in *NRDC v. Richardson,* DOE, no later than January 1, 2004, will either (1) determine that experiments using plutonium, uranium (other than depleted uranium), lithium hydride, and certain other materials will not be conducted in the NIF or (2) prepare a Supplemental SSM PEIS analyzing the reasonably foreseeable environmental impact of such experiments. See General Issue 5 in this volume (Volume II of the SEIS).

Response 2-6

The SSM PEIS describes waste management for NIF (Section I.4.1.1.8). NIF would not release contaminants to soils or groundwater. The trend of declining contamination is expected to continue during NIF operations. This SEIS concludes that it is unlikely that there is significant contamination in the areas of NIF construction that could result in significant effects on human health or the environment.

Response 2-7

See General Issue 2 in Section 2 of this volume (Volume II of the SEIS) regarding nuclear weapons and nonproliferation aspects of NIF.

Response 3-1

While the use of lithium hydride has been discussed by some scientists, there are no plans for that application at NIF. See General Issue 5 in Section 2 of this volume (Volume II of the SEIS) regarding materials and energy levels.

Response 3-2

See Mr. Crandall's response following the comment. See the third paragraph of General Issue 5 in Section 2 of this volume (Volume II of the SEIS).

Responses 3-3 and 3-4

See the third paragraph of General Issue 5 in Section 2 of this volume (Volume II of the SEIS).

Response 3-5

See the response of Mr. Brown following the comment.

Response 3-6

See General Issue 4 in Section 2 of this volume (Volume II of the SEIS) regarding breadth of scope of the SEIS and Mr. Ferguson's response following the comment.

Response 3-7

See the response of Mr. Crandall following the comment.

Response 3-8

See the response of Mr. Crandall following the comment. A copy of the document has been sent to Ms. Cabasso.

Response 3-9

See General Issues 4 and 5 in Section 2 of this volume (Volume II of the SEIS).

Response 3-10

See Mr. Crandall's response following the comment.

Responses 3-11

See Mr. Crandall's responses following Comments 3-11 and 3-12 and Mr. Ferguson's response following Comment 3-11.

Responses 3-12

See Mr. Crandall's response following the comment.

Response 3-13

Comment noted.

Response 3-14

Under CEQ and DOE NEPA implementing regulations, a scoping meeting is not required for a Supplemental EIS. However, opportunity to comment on scope was provided by publication of the NOI. Since the scope for this SEIS was determined by the issues raised in the JSO, DOE decided not to hold a scoping meeting for this SEIS. The purpose of this SEIS is to evaluate whether, based on the new information and circumstances involving recently discovered buried objects containing PCBs, continued construction and operation would present significant effects on the human environment as a result of buried hazardous or radioactive materials in the stipulated areas. The SEIS also has the objective of specifying mitigation of any impacts identified in the analysis.

Other issues raised by commenters and related to operations of the NIF are outside the scope of this SEIS. See General Issue 2 in Section 2 of this volume (Volume II of the SEIS).

Response 3-15

The NIF Project-Specific Analysis in the SSM PEIS evaluated the upper bounds of NIF operations that could be expected to have the greatest impact on the human environment (Section I.3.2.2). Lesser degrees of operations were expected during the early phases of operations as the facility was brought to full power. See General Issue 5 in Section 2 of this volume (Volume II of the SEIS).

Response 3-16

See General Issue 5 in Section 2 of this volume (Volume II of the SEIS).

In accordance with the court's Memorandum Opinion and Order filed on August 19, 1998, in *NRDC v. Richardson*, DOE, no later than January 1, 2004, will either (1) determine that experiments using plutonium, uranium (other than depleted uranium), lithium hydride, and certain other materials will not be conducted in the NIF or (2) prepare a Supplemental SSM PEIS analyzing the reasonably foreseeable environmental impact of such experiments

Response 3-17

The possible changes identified by the commenter have not changed the purpose and need for NIF described in the SSM PEIS and incorporated by reference in the SEIS.

Response 3-18

DOE believes that it has presented a clear statement of purpose and need for NIF. The purpose and need for NIF have not been changed by the new circumstances and information that are evaluated in the SEIS. The purpose and need for NIF are described in the SSM PEIS and incorporated by reference in the SEIS.

Response 3-19

A Record of Decision was published in the *Federal Register* on December 26, 1996, in which DOE announced a decision to proceed with construction and operation of NIF. Groundbreaking occurred on May 29, 1997, and construction is ongoing. If DOE were to take no further action as a result of the SEIS, construction would continue to completion, expected in 2003. The purpose of this SEIS is to evaluate whether the newly discovered buried objects and wastes and other potential site contamination in the stipulated areas would result in any additional environmental impacts that were not addressed in the SSM PEIS and that would cause DOE to reevaluate the ROD. See General Issues 5 and 7 in Section 2 of this volume (Volume II of the SEIS).

Response 3-20

See General Issue 7 in Section 2 of this volume (Volume II of the SEIS). Because the NIF was designed to be used for activities involving radionuclides, it is reasonable to conclude

that reuse of the facility might also involve radionuclides. Certainly, LLNL's mission involves other programs involving radionuclides. A nonradiological use might also be found, and this is reflected in the revised description of this alternative.

Response 3-21

The commenter is correct that the number of employees for each of the alternatives involving ceasing NIF construction would depend on the nature of the action and could be less than, the same as, or more than the number that would be employed at NIF. The description of alternatives in the SEIS has been revised accordingly.

Response 3-22

Early operations at the LLNL site released organic contaminants, including Freon and trichloroethylene (TCE), which contaminated groundwater. LLNL has been remediating such groundwater contamination by pumping and treating contaminated water. Freon contamination is thought to have originated from an accidental release near Building 490. Unlike much older facilities, the NIF facility is designed in a way to prevent Freon and other organic chemicals from being released to soils where they could contaminate groundwater. The NIF portion of the SSM PEIS (Appendix I) acknowledges that the NIF would not release any Freon 11 or TCE to soils or groundwater. In addition, disposal practices for organic chemicals have changed in a way to prevent groundwater contamination. These chemicals are either recycled or sent off site for appropriate disposal at commercial facilities.

Response 3-23

DOE believes that the amount of shattered optics would be small and that there would not be a substantial increase in changeout of optics beyond that assumed in the NIF analysis in the SSM PEIS. The operations of NIF described in the SSM PEIS included maintenance of equipment and cleaning in areas including the area of the target chamber. Replacement of parts as needed for the various experimental campaigns and as a result of wear is expected. The NIF facility has been designed so that components of the laser and target experimental systems can be changed out as needed. This activity would be routine and would not require workers to be exposed to levels of radiation, activation products, or hazardous materials at levels that would present an unacceptable health risk. Exposure of workers would be limited by DOE and Occupational Safety and Health Administration (OSHA) regulations and guidelines. When maintenance activities would be performed near the target chamber, the NIF would be shut down, and neutron flux would not occur. Wastes from equipment changeout and cleaning were included in Tables I-4.1.2.8.1-2 and 3 of the SSM PEIS, and these estimates envelope variations in operations such as changes in maintenance schedules.

Response 3-24

Your request for documents has been noted. They will be provided as they become available to the public.

Response 3-25

See General Issue 4 in Volume II of this SEIS.

Response 3-26

Per 40 CFR Part 1500.2 and 1500.3 of the CEQ NEPA regulations, the National Environmental Policy Act of 1969 requires that a federal agency, with or without a contractor, prepare the EIS. The responsible federal agency for this SEIS is the U.S. Department of Energy. NEPA has no requirements for the impact analysis to be made by a separate, independent group. In the case of this SEIS, the Oakland Operations has hired a contractor who has no stake in the outcome of the SEIS to assist in EIS preparation and assess the environmental consequences of the action. A Conflict of Interest Disclosure is included in Section 6. DOE is required by law to be responsible for the content of the SEIS.

Response 3-27

See General Issue 4 in Section 2 of this volume (Volume II of the SEIS).

Response 3-28

The discovery of the buried capacitors at the NIF site was a surprise; they were encountered during construction activities. Their presence was not known when the SSM PEIS was prepared. In response to finding the capacitors, DOE immediately began removal and cleanup activities.

DOE and its stakeholders do not always agree on the course of action to be taken with regard to actions at LLNL. One way to resolve these issues is through litigation. The court case that followed the capacitor discovery set the bounds of subsequent reanalysis of the potential for further contamination in the NIF construction area and other nearby areas. DOE has published the results of these surveys in a series of reports that was made available to the public. The preparation of this SEIS has proceeded in accordance with requirements and guidelines for public participation in DOE regulations and Orders.

DOE continues to develop the experimental program for the NIF, which includes hypothetical options for how NIF could be operated. See General Issue 5 in Section 2 of this volume (Volume II of the SEIS) regarding these hypothetical options. During development of the experimental program, as well as during early R&D on components of NIF, a number of technical issues that need to be addressed were identified. This identification of issues is typical of any large R&D program. These issues are being solved as they surface, and DOE has not lowered its expectations for the NIF. DOE remains committed to the design and operation of NIF that has remained essentially unchanged since preparation of the SSM PEIS.

DOE is working to resolve issues related to the cost of the NIF program. These may include operation for some period of time at reduced power. See General Issue 5 in Section 2 of this volume (Volume II of the SEIS).

See Mr. Crandall's defense of DOE's credibility following the comment.

Response 3-29

The NIF would provide basic physical data on conditions similar to those that occur in nuclear weapons. These data are needed for simulating the behavior of nuclear weapons and understanding how they work. The NIF data will let the weapons program evaluate the reliability and behavior of nuclear weapons without having to test them underground. DOE realizes that some of these data obtained during the experiments may be useful in evaluating nuclear weapons design, but design of new weapons is not a necessary part of justification for the NIF. See further discussion below in Response 3-30. See General Issue 8 in Section 2 of this volume (Volume II of the SEIS) regarding the purpose and need for NIF.

Response 3-30

The NIF would be an experimental facility. Design of nuclear weapons occurs elsewhere in the DOE complex. Experiments at NIF will provide information for computer models that describe the physics of the reactions in nuclear weapons. These models are necessary for stewardship of the nuclear weapons stockpile. See General Issue 8 in Section 2 of this volume (Volume II of the SEIS) for information on the purpose and need for NIF. The environmental risks associated with operating NIF have been evaluated against that purpose as part of the SSM PEIS Record of Decision.

See General Issue 9 in Section 2 of this volume (Volume II of the SEIS).

Response 3-31

See General Issue 7 in Section 2 of this volume (Volume II of the SEIS). On the basis of an environmental analysis and other factors, DOE will choose one of the proposed alternatives and describe the selection in a ROD. The ROD will take into consideration other factors such as cost, nontechnical issues, engineering design issues, and national security. The SEIS evaluates certain environmental impacts of continuing to construct and operating the NIF, which will be only one element of the decision.

Response 3-32

See General Issue 4 in Section 2 of this volume (Volume II of the SEIS).

Response 3-33

See General Issues 8, 9 and 10 in Section 2 of this volume (Volume II of the SEIS).

Response 3-34

See General Issue 10 in Section 2 of this volume (Volume II of the SEIS).

Responses 3-35 and 3-36

See General Issue 9 in Section 2 of this volume (Volume II of the SEIS). On the basis of an environmental analysis and other factors, DOE will choose one of the proposed alternatives and describe the selection in a Record of Decision. The ROD will take into consideration other factors such as cost, nontechnical issues, engineering design issues, and national security. The SEIS evaluates certain environmental impacts of continuing to construct and operating the NIF, which will be only one element of the decision.

Response 3-37

See General Issue 8 in Section 2 of this volume (Volume II of the SEIS).

Response 3-38

Comment noted.

Response 3-39

Comment noted.

Response 3-40

See General Issue 4 in Section 2 of this volume (Volume II of the SEIS).

Response 3-41

DOE is committed to management of the LLNL site to protect human health and the environment from past, present, and future activities. DOE has implemented site remediation efforts to reduce site contamination due to historical operations. DOE published the results of these activities in various publicly available documents. These studies assess risk to the public and workers, and DOE has found these risks to be low. These activities are performed in accordance with federal and state regulations that specify how remediation activities are to be accomplished and how risks to the public are to be assessed. These studies present an accurate representation of the information available on LLNL site conditions. The characterization studies performed in Phase I and Phase II activities also have been accurately reported in the quarterly reports. The results of these studies were the basis of the SEIS conclusion that the potential impacts to human health and the environment from buried objects or materials in the stipulated areas from continued NIF construction and operations are low.

Response 3-42

See General Issue 10 in Section 2 of this volume (Volume II of the SEIS).

Response 3-43

Issues related to status, schedule, budget, and organization of NIF are released to the public as they are being identified during periodic program reviews. Any necessary adjustments are being addressed and resolved within DOE so that NIF can be completed in as timely and cost effective a manner as possible. DOE does not agree that it has lied to the public or acted in an irresponsible manner. See also General Issue 9 in Section 2 of this volume (Volume II of the SEIS).

Response 3-44

See General Issue 4 in Section 2 of this volume (Volume II of the SEIS).

Response 3-45

Comment noted.

Response 3-46

Your opposition to the NIF is noted.

Response 3-47

Comment noted.

Response 3-48

Comment noted.

Response 3-49

Comment noted.

Response 3-50

Comment noted. See General Issue 2 in Section 2 of this volume (Volume II of the SEIS).

Response 3-51

The SEIS addresses cleanup of buried objects discovered in the NIF construction area and residual contamination discovered in the ETC. These contaminants did not include plutonium. Post-cleanup analysis confirmed that the contaminants were cleaned up to levels appropriate for protection of human health (see Section 4 of Volume I).

Response 3-52

Comment noted.

Response 3-53

Comment noted. See General Issue 10 in Section 2 of this volume (Volume II of the SEIS).

The issue of operational waste treatment is not included in the scope of this SEIS (see General Issue 4). Volume III, Appendix I of the SSM PEIS, called the NIF Project-Specific Analysis, identified wastes generated by equipment changeout and cleaning (see Tables I-4.1.2.8.1-2 and 3 of the NIF Project-Specific Analysis). This document also identified how these wastes would be disposed of. The SEIS does not discuss this matter further. The SSM PEIS concluded that the risks associated with waste management were low in terms of impacts to the human environment.

The ultimate design and operation of NIF have remained essentially unchanged since the preparation of the SSM PEIS, although the initial level of operations will be lower in some respects. DOE believes that the analysis in that document accurately reflects the environmental impacts of constructing and operating NIF. Therefore DOE has determined that there were no new information or changed circumstances related to NIF operations, other than those contained in the SEIS, which would require further reevaluation of NIF operations as contained in the SSM PEIS.

Response 3-54

Comment noted.

Response 3-55

See General Issue 4 in Section 2 of this volume (Volume II of the SEIS).

Response 3-56

See General Issue 5 in Section 2 of this volume (Volume II of the SEIS).

Response 3-57

See General Issue 9 in Section 2 of this volume (Volume II of the SEIS).

Response 3-58

See General Issue 4 in Section 2 of this volume (Volume II of the SEIS).
See General Issue 10 in Section 2 of this volume (Volume II of the SEIS).

Response 3-59

Your comment on the scope of the SEIS is noted. See General Issue 4 in Section 2 of this volume (Volume II of the SEIS).

Response 3-60

Comment noted.

Response 3-61

The NIF target chamber would receive energy in the form of light to initiate the fusion reaction. The energy would be contained within the chamber in order for temperatures and pressures necessary for fusion reactions to take place. The energy of fusion would be contained within the chamber.

Response 3-62

Comment noted.

Response 3-63

Comment noted.

Response 3-64

Comment noted.

Response 3-65

The NEPA requirements under which this SEIS were written have the purpose of providing a mechanism for making decisions (i.e., the Record of Decision) that integrate concerns of potential impacts to the environment and human health. See General Issue 9 in Section 2 of this volume (Volume II of the SEIS).

Response 3-66

Comment noted.

Response 3-67

See General Issue 2 in Section 2 of this volume (Volume II of the SEIS). For the legal background of this SEIS, the commenter is referred to the text of the Joint Stipulation and Order and the Notice of Intent, also summarized in Section 1 of Volume I of this SEIS.

Response 3-68

See General Issue 4 in Section 2 of this volume (Volume II of the SEIS).

Response 3-69

Your preference for alternative use of the NIF facility is noted.

Response 3-70

Comment noted. See General Issue 8 in Section 2 of this volume (Volume II of the SEIS) regarding the purpose and need for NIF.

Response 3-71

DOE's response to the U.S. Environmental Protection Agency's (EPA's) letter of comment on the scope of the SEIS is described in Section 1.4 of Volume I of the SEIS. There, DOE discussed why certain issues raised by the EPA were inappropriate for this SEIS.

Response 3-72

See General Issue 2 in Section 2 of this volume (Volume II of the SEIS).

Response 3-73

Comment noted.

Response 3-74

Comment noted.

Response 3-75

Comment noted.

Response 3-76

See General Issue 10 in Section 2 of this volume (Volume II of the SEIS).

Response 3-77

DOE has evaluated the environmental impacts of the disposal of nuclear fuel in a recent Draft Environmental Impact Statement (EIS) entitled *Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0250D). Section 4.1.13 of that Draft EIS

addresses environmental justice. This EIS is available on the DOE web site at the following URL: http://tis.eh.doe.gov/nepa/docs/docs.htm

Response 3-78

Comment noted.

Response 3-79

In August 1998, samples of soil at the City of Livermore's Big Trees Park showed plutonium concentrations below the EPA's level of concern for residential soil. The 1998 sampling of Big Trees Park had two purposes. The first was to determine if plutonium is present below the surface at a concentration that posed an unacceptable risk to the public. The second was to determine the origin of the plutonium. The origin of this plutonium contamination is believed to be sewage sludge. Historically LLNL has released plutonium at levels below regulatory limits to the sanitary sewer with the single largest known discharge in 1967. The LLNL effluent goes to the City of Livermore sewage plant, which treats and processes the sewage. Sludge is produced as a result of treatment by the city. The sludge was available to the public for use as a soil supplement through the 1970s. Historic and current testing at the sewage plant continues to show plutonium levels to be below regulatory limits. These tests are confirmed by regulatory agency oversight, and the results are available to the public through LLNL environmental web sites and publications.

Response 3-80

Comment noted.

Response 3-81

Comment noted.

Response 3-82

Comment noted.

Response 3-83

Comment noted.

Response 3-84

Comment noted.

Response 3-85

Comment noted.

Response 3-86

Comment noted.

Response 3-87

See General Issue 2 in Section 2 of this volume (Volume II of the SEIS).

Response 3-88

Comment noted.

Response 3-89

Comment noted.

Response 3-90

Comment noted. DOE has implemented polygraph testing of employees in sensitive positions to protect the integrity of information and data of a sensitive nature.

Response 3-91

See General Issue 9 in Section 2 of this volume (Volume II of the SEIS).

Response 3-92

Comment noted.

Response 4-1

The transcripts and the response to comments are part of this volume (Volume II of the SEIS). When DOE approves this document for public release, it will be mailed to commenters, placed in the DOE reading room at Livermore, California, and available on the DOE NEPA web site at the following URL: http://tis.eh.doe.gov/nepa/docs/docs.htm

Response 4-2

See the response of Mr. Finn following the comment.

Response 4-3

See General Issues 8 and 9 in Section 2 of this volume (Volume II of the SEIS).

Response 4-4

See General Issue 9 in Section 2 of this volume (Volume II of the SEIS).

Response 4-5

See General Issues 4 and 9 in Section 2 of this volume (Volume II of the SEIS).

Response 4-6

See General Issue 9 in Section 2 of this volume (Volume II of the SEIS).

Response 4-7

The analyses in the SEIS show that there is low risk to human health or the environment from the newly discovered or potential buried objects or materials in the stipulated areas, including the NIF construction site. The SSM PEIS, Volume III, Appendix I (the NIF Project-Specific Analysis) concludes that there is low risk to human health from the operation of the NIF. See General Issue 4 in Section 2 of this volume (Volume II of the SEIS).

Response 4-8

See General Issue 2 in Section 2 of this volume (Volume II of the SEIS).

Response 4-9

As described in Section 1.1 of the SEIS, PCB contamination was immediately removed after discovery of the capacitors.

Response 4-10

Comment noted.

Response 4-11

The SEIS evaluated the potential risk from removal of the PCB-containing capacitors and related remediation activities and concluded that risks to the public and workers were low.

Response 4-12

Your preference for continuing with NIF is noted.

Response 4-13

Comment noted.

Response 4-14

Comment noted.

Response 4-15

Your preference for continuing with NIF is noted.

Response 4-16

Comment noted.

Response 4-17

Your preferences for using funds for other purposes and for creating jobs implementing other energy technologies is noted. See General Issue 8 in Section 2 of this volume (Volume II of the SEIS) for further discussion of the purpose and need for NIF.

Response 4-18

See General Issue 8 in Section 2 of this volume (Volume II of the SEIS).

Response 4-19

Your preference for the discontinuing to build the NIF is noted. See General Issue 7 in Section 2 of this volume (Volume II of the SEIS) for revisions to alternatives.

Response 4-20

See General Issue 5 in Section 2 of this volume (Volume II of the SEIS) regarding reduced energy operations. It is fully expected that NIF will eventually reach full-scale operations. Its potential contribution to the development of fusion energy has not changed.

Response 4-21

` The wastes generated during NIF operations are discussed in the SSM PEIS in Sections I.4.1.1.8 and I.4.2.1.8, which showed that the quantities and types of wastes potentially generated by NIF can be adequately disposed of as permitted by applicable regulations. The discovery of the PCB-containing capacitors and other existing site contamination does not change that analysis. These objects and wastes have already been disposed of in an environmentally acceptable manner.

Responses 4-22 and 4-23

The issue of operational waste treatment is not included in the scope of this SEIS (see General Issue 4). Volume III, Appendix I of the SSM PEIS, called the NIF Project-Specific Analysis, identified wastes generated by equipment changeout and cleaning (see Tables I-4.1.2.8.1-2 and 3 of the NIF Project-Specific Analysis). This document also identified how these wastes would be disposed of. The SEIS does not discuss this matter further. The SSM PEIS concluded that the risks associated with waste management were low in terms of impacts to the human environment.

The ultimate design and operation of NIF have remained essentially unchanged since the preparation of the SSM PEIS, although the initial level of operations will be lower in some respects. DOE believes that the analysis in that document accurately reflects the environmental impacts of constructing and operating NIF. Therefore DOE has determined that there were no new information or changed circumstances related to NIF operations, other than those contained in the SEIS, which would require further reevaluation of NIF operations as contained in the SSM PEIS.

Response 4-24

DOE has addressed the scope of issues identified in the JSO, including preparing a SEIS. This SEIS has been prepared to comply with the provisions of the National Environmental Policy Act and its implementing regulations, as they apply to SEISs.

Response 4-25

See General Issue 5 in Section 2 of this volume (Volume II of the SEIS). At this time, DOE is not proposing any significant changes to the NIF that were not analyzed previously in the SSM PEIS.

Response 4-26

See General Issue 8 in Section 2 of this volume (Volume II of the SEIS), which states that the purpose and need for NIF (science-based stockpile stewardship) has not changed from the description provided in the SSM PEIS. General Issue 8 also indicates that NIF would have scientific value beyond its role in stockpile stewardship. The experiments conducted at NIF would explore the physics of inertial confinement fusion reactions. Results could be used by physicists working to develop civilian fusion energy sources. Some scientists believe that inertial confinement fusion, which NIF experiments address, has potential for civilian applications including power, but much more information on basic sciences is needed. Experiments at NIF, up to and including actual fusion ignition, would provide such information.

Response 4-27

Although the experiments conducted at NIF would further understanding of the physics of fusion, the NIF facility is not designed or operated to be a source of fusion energy. Inertial

confinement fusion (the type of fusion that would occur in NIF) as a source of energy is too speculative an idea at this time to be appropriate for a programmatic environmental review. Should the mission of NIF change in the future, additional NEPA analysis would be conducted.

Response 4-28

See General Issue 5 in Section 2 of this volume (Volume II of the SEIS).

Response 4-29

DOE anticipates that the NIF will be used for a variety of experiments, some at levels where ignition is expected. Both subignition and ignition experiments are part of science-based stockpile stewardship. DOE expects that during its lifetime, NIF will reach conditions where ignition would occur. The purpose and need for NIF and the analyses of the impacts of operations of NIF in the SSM EIS were based on achieving ignition. The experiments at NIF will provide a better understanding of the physics of inertial confinement fusion. It is expected that early experiments at low power or with fewer beam lines would be followed by conditions approaching or achieving ignition. The purpose and need for NIF as stated in the SSM PEIS are still applicable. See General Issue 8 in Section 2 of this volume (Volume II of the SEIS).

Response 4-30

Comment noted.

Response 4-31

Comment noted.

Response 4-32

Comment noted.

Response 4-33

See General Issue 8 in Section 2 of this volume (Volume II of the SEIS).

Response 4-34

See General Issue 9 in Section 2 of this volume (Volume II of the SEIS).

Response 4-35

See General Issue 8 in Section 2 of this volume (Volume II of the SEIS).

Response 4-36

DOE is committed to operating its facilities, including LLNL, in an environmentally safe and protective manner.

Response 4-37

In August 1998, samples of soil at the City of Livermore's Big Trees Park showed plutonium concentrations below the EPA's level of concern for residential soil. The 1998 sampling of Big Trees Park had two purposes. The first was to determine if plutonium is present below the surface at a concentration that posed an unacceptable risk to the public. The second was to determine the origin of the plutonium. The origin of this plutonium contamination is believed to be sewage sludge. Historically, LLNL has released plutonium at levels below regulatory limits to the sanitary sewer, with the single largest known discharge in 1967. The LLNL effluent goes to the city sewage plant, which treats and processes the sewage. Sludge is produced as a result of treatment by the city. The sludge was available to the public for use as a soil amendment through the 1970s. Historic and current testing at the sewage plant continues to show plutonium levels to be below regulatory limits. These tests are confirmed by regulatory agency oversight, and the results are available to the public through LLNL environmental web sites and publications.

Response 4-38

The issues raised by the commenter are outside the scope of the NIF SEIS.

Response 4-39

Comment noted.

Response 4-40

Comment noted. Also, See General Issue 9 in Section 2 of this volume (Volume II of the SEIS).

Response 4-41

See General Issue 9 in Section 2 of this volume (Volume II of the SEIS).

Response 5-1

The analysis of employment for the alternative of ceasing NIF construction has been revised to clarify the uncertainties with regard to employment. See Section 4.3 of the SEIS. See General Issue 7 in Section 2 of this volume (Volume II of the SEIS) for a discussion of revisions and additions to alternatives.

Response 5-2

The statement referred to regarding potential injuries to workers for the NIF alternatives is a general estimate based on industrywide accident rates and general assumptions about the amount of effort required to complete the alternatives. Worker injuries were estimated on the basis of national statistics of injuries and deaths for construction workers. Demolition of structures already completed at the NIF site and filling in the excavation would most likely result in additional hours worked beyond that required to complete the NIF buildings. (NIF buildings are more than 94% complete.) The conclusion that more workers would be injured in demolition activities than if the NIF facility were completed is a reasonable statement of potential impact. This conclusion is based on the rate of worker injuries known for the construction trades. The source of these rates is cited in the SEIS.

Response 5-3

All references to Region 9 preliminary remediation goals (PRGs) with respect to the 18-parts-per-million (ppm) cleanup level for Aroclor 1254 have been corrected, including those on pages vi, 1-3, 2-2, 2-4, A-8, and footnote d of Table 3.1. The text has been revised so as not to imply that 18 ppm is the cancer PRG (that PRG is 1 ppm) for Aroclor 1254 in industrial soils. The Action Memorandum for the removal (see also next response) has been described and used for the basis of revisions to this section of text.

Response 5-4

DOE has prepared an Action Memorandum documenting removal of PCB-containing soils in the East Traffic Circle and providing the rationale behind choosing a cleanup level of 18 ppm (Joma, H., 2000, *Time Critical Removal Action at the East Traffic Circle*, Action Memorandum from H. Joma, DOE Livermore Environmental Programs Division to J. Davis, DOE Assistant Manager for Environmental and National Security, March 6). The Action Memorandum was sent to EPA Region 9 on March 10, 2000. This document incorporated regulatory agency comments and was issued to the public. The purpose of this document is to obtain closure for this action. The document explains the history of the cleanup level used in the ETC and the reasons this level of 18 ppm is considered protective. The Action Memorandum has been cited in the SEIS where appropriate.

Response 5-5

The SEIS has been revised to state that the analytical procedures used in both the NIF Construction Area and East Traffic Circle Area removal actions were performed in accordance with the approved Quality Assurance Project Plan (QAPP) and DOE's standard operating procedures (SOPs). The QAPP and SOPs are now included in the list of references for the document. These references are:

Dibley, V., 1999, *Quality Assurance Project Plan, Livermore Site and Site 300 Environmental Restoration Projects*, Lawrence Livermore National Laboratory, Livermore, Calif. (UCRL-AR-103160, Rev. 2).

Dibley, V., and R. Depue, 1999, *LLNL Livermore Site and Site 300 Environmental Restoration Project Standard Operating Procedures (SOPs)*, Lawrence Livermore National Laboratory, Livermore, Calif. (UCRL-MA-109115, Rev. 6).

Response 5-6

The term "remediation process" on pages 1-6 and 4-9 of Volume I of the SEIS, as noted, has been changed to "removal process," and the term "remediation actions" on page 4-9 has been changed to "removal actions."

Response 5-7

The term "new information" has been changed to "recent soil and groundwater data, including data collected in support of the capacitor landfill removal and Phase I and Phase II investigations, concluded…."

Response 5-8

The word "significant" has been added in the two places indicated in the comment on page 4-8 of Volume I of the SEIS. The text has been revised to state in both instances that investigations indicate that the capacitor landfill and the ETC area are the only "significant" sources of previously unknown or undiscovered buried hazardous, toxic, or radioactive waste.

Response 5-9

In Table 3.1 of Volume I of the SEIS, the term "Freon 11" has been changed to "trichlorofluoromethane (Freon 11)," and the PRG for this compound in industrial soil of 2,000 mg/kg has been added to the second column.

Response 6-1

Mr. Piros's letter is Document 8. See Responses 8-1 to 8-8.

Response 7-1

Your opposition to NIF, statement of better use of public funding, and opposition to the nuclear industry are noted. See General Issue 2 in Section 2 of this volume (Volume II of the SEIS).

Response 8-1

The use of the term "brownfield" has been deleted from the description of a demolished NIF facility site in Volume I of the SEIS.

Response 8-2

PRGs listed in Table 3.1 of Volume I of the SEIS and elsewhere in the document have been updated to 1999 values. PRG values of 2,000 mg/kg for Freon 11 (trichlorofluoromethane) and 45,000 pCi/g for tritium in industrial/commercial soil have been added to Table 3.1 in Volume I of the SEIS.

Response 8-3

The bulleted list of contaminants on page 3-6 has been revised to include PCBs. The last sentence on page 3-6 has been changed to indicate that Table 3.1 of Volume I of the SEIS lists six contaminants rather than seven.

Response 8-4

Table 3.2 of Volume I of the SEIS and all affected figures have been revised to indicate that Freon 11 (trichlorofluoromethane) has a California maximum contaminant level of 150 ppb.

Response 8-5

On page 3-9 of Volume I of the SEIS, “parts per millions” has been changed to “parts per million.”

Response 8-6

Data on groundwater concentrations for all contaminants in all areas for both time frames were not available for all the figures. In Figure 3-7 in Volume I of this SEIS, data were not available for 1997 and “current,” as indicated by the letters “NA.” In Figure 3.15 in Volume I of this SEIS, current data were available for tritium but not for other contaminants. This explanation has been added to the SEIS.

Response 8-7

The disposal site for the PCB soils removed from the East Traffic Circle Area after the 1998 discovery has been revised to the Enviro-Safe, Inc., facility in Idaho, instead of the Clive, Utah, incinerator.

Response 8-8

The text in the first paragraph on page 4-19 has been revised to indicate that removal actions involving PCB-contaminated soils in the NIF construction area and East Traffic Circle area have been completed and that any particulate-borne PCB releases would have been short term.

Response 8-9

Comment noted.

Response 9-1

Your opposition to the NIF on the basis of risk to human health is noted. The SEIS evaluates risks from exposure to radioactive and hazardous materials during cleanup of the newly discovered contamination in the NIF construction area. The SEIS concludes that risks would be very low. See Section 4 of Volume I of the SEIS.

Response 9-2

Your opposition to NIF on the basis of threats from nuclear weapons is noted. See General Issue 9 in Section 2 of this volume (Volume II of the SEIS).

Response 9-3

Your opposition to the NIF project and preference for not continuing with NIF are noted.

Response 10-1

This document is a duplicate; see responses to Document 9.

Response 11-1

Your comment regarding trust of scientists is noted.

Response 11-2

See General Issue 8 in Section 2 of this volume (Volume II of the SEIS).

Response 11-3

See General Issue 9 in Section 2 of this volume (Volume II of the SEIS).

Response 11-4

Your comments regarding the cost of NIF and fate of surplus equipment are noted.

Response 11-5

Your opposition to the NIF is noted.

Response 11-6

Your comments regarding the moral implications of NIF are noted.

Response 12-1

See Response 3-26.

Response 12-2

See General Issue 4 in Section 2 of this volume (Volume II of the SEIS).

Response 13-1

This document contains no comments.

Response 14-1

See General Issues 4 and 10 in Section 2 of this volume (Volume II of the SEIS).

Response 14-2

The operations of NIF described in the SSM PEIS included maintenance of equipment and cleaning in areas including the area of the target chamber. Replacement of parts as needed for the various experimental campaigns and as a result of wear is expected. The NIF facility has been designed so that components of the laser and target experimental systems can be changed out as needed. This activity would be routine and would not require workers to be exposed to levels of radiation, activation products, or hazardous materials at levels that would present an unacceptable health risk. Exposure of workers would be limited by DOE and Occupational Safety and Health Administration (OSHA) regulations and guidelines. When maintenance activities would be performed near the target chamber, the NIF would be shut down, and neutron flux would not occur. Wastes from equipment changeout and cleaning were included in Tables I-4.1.2.8.1-2 and 3 of the SSM PEIS, and these estimates envelope variations in operations such as changes in maintenance schedules.

Response 14-3

See General Issue 5 in Section 2 of this volume (Volume II of the SEIS).

Response 14-4

See General Issue 8 in Section 2 of this volume (Volume II of the SEIS).

Response 14-5

See General Issue 4 in Section 2 of this volume (Volume II of the SEIS).

Response 14-6

The SEIS was revised to address an alternative of halting construction of the NIF and abandoning the site. This alternative was considered unreasonable and not analyzed in detail, as described in General Issue 7 of this volume (Volume II of the SEIS).

Response 15-1

The issue of operational waste treatment is not included in the scope of this SEIS-Volume III, Appendix I, of the SSM PEIS, called the NIF Project-Specific Analysis, identified wastes generated by equipment changeout and cleaning (see Tables I-4.1.2.8.1-2 and 3 of the NIF Project-Specific Analysis). This document also identified how these wastes would be disposed of. The SEIS does not discuss this issue further. The SSM PEIS concluded that the risks associated with waste management were low in terms of impacts to the human environment.

See General Issue 4 in Chapter 2 of this volume (Volume II of the SEIS).

Response 16-1

Comment noted.

APPENDIX A: PRESENTATION BY DOE AT THE PUBLIC MEETINGS ON THE DRAFT SEIS

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Draft Supplemental Environmental Impact Statement for the National Ignition Facility (Draft SEIS)

Richard Scott, DOE Document Manager

U.S. Department of Energy

Oakland Operations Office

L-293, Livermore, CA

Purpose of the Meeting

- **To provide an opportunity for public comment on the NIF Draft Supplemental Environmental Impact Statement to the Stockpile Stewardship & Management Programmatic EIS: DOE/EIS -0236**

Joint Stipulation & Order (JSO)

- **The PEIS lawsuit resulted in a Joint Stipulation and Order whereby DOE agreed to evaluate the "… reasonably foreseeable significant adverse environmental impacts of continuing to construct and operate the NIF… with respect to contamination in the area by hazardous, toxic and/or radioactive materials"**

Agenda & Administrative Matters

- DOE presentation
- Opportunity for elected officials to comment
- Sign up sheets for public comments
- Public comments
- Transcript will be made of the meeting
- Web Site for DSEIS:
  http://tis.eh.doe.gov/nepa/docs/docs.htm

SEIS NEPA Process

- Comments must be submitted to DOE by December 20, 1999
- Comments received will be considered in the Final SEIS
- A Record of Decision (ROD) will be published in the Federal Register
- The process is scheduled to be completed in spring 2000

Background to the Supplemental EIS

- The environmental consequences of siting, construction and operations of the NIF were addressed in the SSM PEIS.
  - » The ROD was published on December 26, 1996
    - – Construct and operate NIF at LLNL
  - » Groundbreaking took place on May 29, 1997

NIF Construction Picture

DPOM 1199-00031

Capacitor Discovery and Removal
Sept 97

- Excavation activities at NIF discovered 112 capacitors containing PCBs and PCB contaminated soil
- Capacitor and soil cleanup conducted with oversight by Federal and State Remedial Project Managers (RPMs) following procedures set forth in CERCLA
- RPMs Included: US EPA; State of CA, Department of Toxic Substances Control; and San Francisco Bay Regional Water Control Board

JSO Identified Seven Areas

- The Joint Stipulation and Order required characterization of various areas in and around the NIF site
- Characterization was done to determine if the areas contained hazardous, toxic, and/or radioactive buried objects
  - » During characterization, progress was reported to the court through Quarterly Reports
- Following characterization a Draft Supplemental EIS was prepared

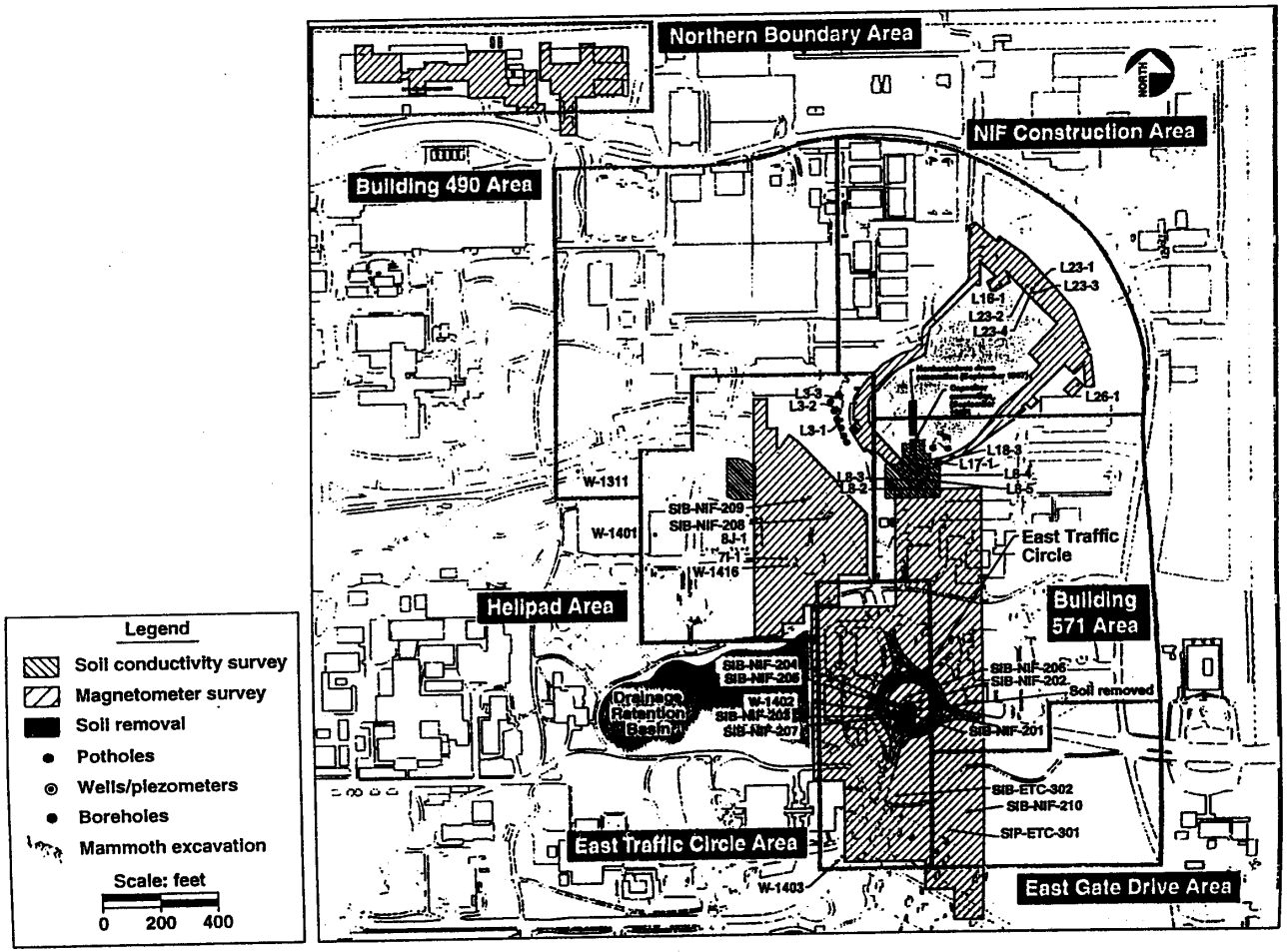
Areas for Evaluation

- Helipad Area,
- East Traffic Circle Area (ETCA),
- Northern Boundary Area,
- Building 571 Area,
- East Gate Drive Area,
- Building 490 Area, and
- NIF construction site

Map of Stipulated Area

- **Picture**

Environmental Surveillance Activities for the NIF



Investigation under JSO

- Records & photos reviewed, past and present employees interviewed
- Geophysical surveys conducted
- Groundwater wells and soil borings & excavations
- Quarterly reports to court
- Prepare a Supplemental EIS

DPOM 1199-00037

Characterization Activities

- Review of historical records, examination of aerial photos, interviews with current employees and retirees
- Conducting magnetometer, electromagnetic induction, and ground penetrating radar surveys
- Drilling boreholes and analyzing soil samples; drilling monitoring wells and analyzing groundwater samples
- Exploratory excavations based on geophysical results

Characterization Activities

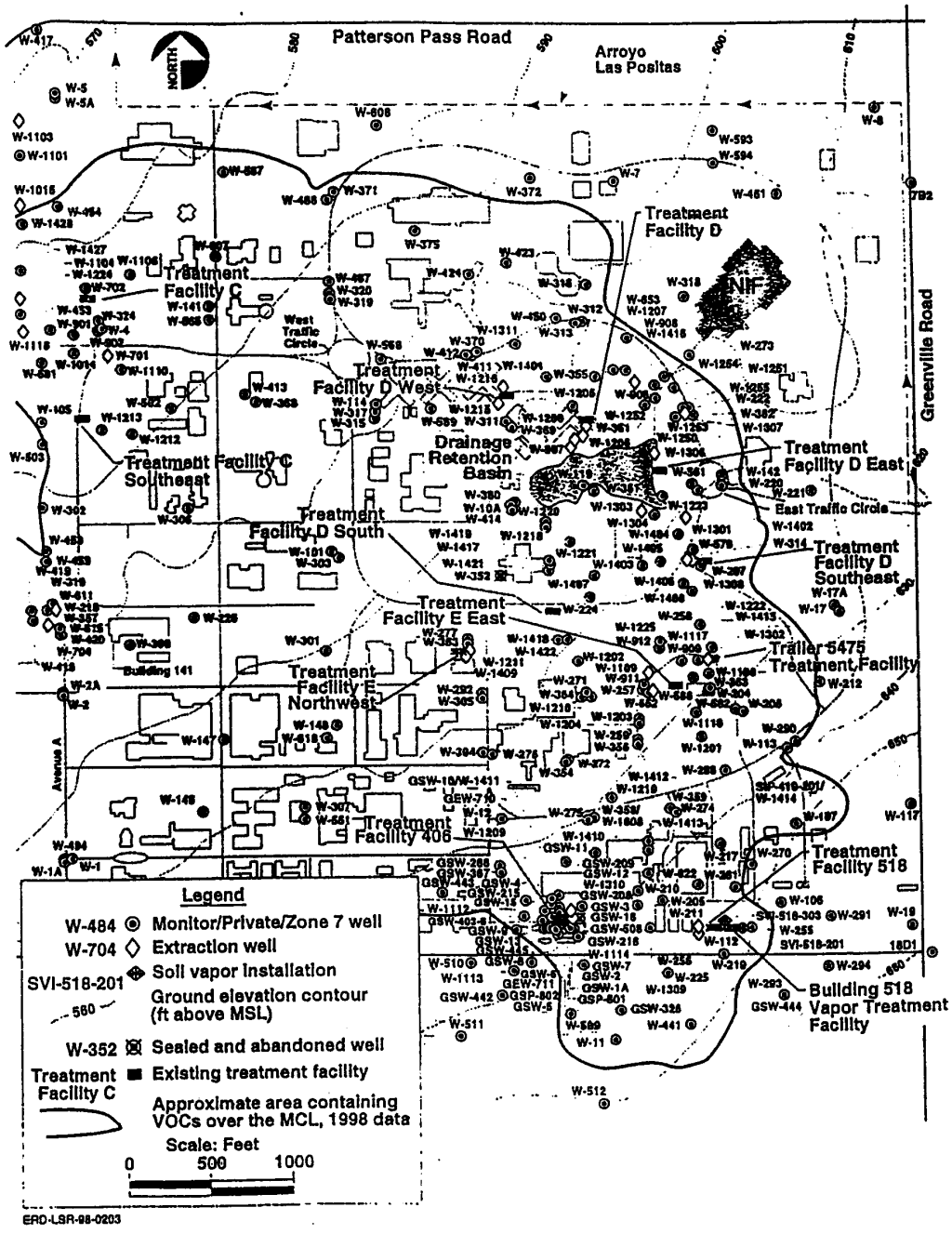
- **Geophysical Investigations**
  - Four Magnetometer Surveys
  - Two Electrical Conductivity Surveys
  - One Ground Penetrating Radar Survey
- **Six New Groundwater Monitoring Wells**
- **31 Soil Boreholes**
- **Eleven Test Excavations**
- **Comprehensive Review of Data**

Groundwater Monitoring Wells
NE Area

- **Map of area**

DPOM 1199-00039

Eastern portion of the Livermore Site showing ground water wells and approximate area containing VOCs over the MCL levels in 1998



5/17/00

A-15

Approval Final CRD

Characterization Findings

- **NIF Construction Area**
  - » **Sediment samples found no contaminants above levels of regulatory concern**
  - » **Only construction debris was uncovered during drilling of boreholes and excavations based on geophysical results**
  - » **Groundwater sampling at the NIF site found on-going cleanup had continued to reduce contamination levels**
  - » **No PCBs have been detected in groundwater anywhere on site**

DPOM 1199-00047

Results Other Areas

- **Geophysical surveys evaluated:**
  - boreholes and/or excavations on significant geophysical anomalies found only construction debris
- **Groundwater sampling found:**
  - on-going cleanup had continued to reduce contamination levels

East Traffic Circle PCB Removal

- **December 1998: PCB contaminated soil identified during routine maintenance which is outside the NIF construction site**
- **Approximately 110 cubic yards of contaminated soil removed to regulator-approved level**

ETC PCB Removal 1998

- Removal Action under Guidance of CERCLA RPMs
- Cleanup level of 18 ppm selected based on risk for remote industrial site
- Clean fill used to cover excavation
- Action Memorandum in preparation

NIF SEIS Alternatives (JS&O)

- **SEIS evaluated two no action alternatives**

The Preferred No Action Alternative

- **Complete NIF Project at LLNL**
  - Continue to construct (with detailed site characterization under the JSO) and,
  - Operate NIF under the ROD for the SSM PEIS

No Action Alternatives

- **No NIF Project at LLNL**
  - Complete construction for alternate facility use
  - Demolish facility return site to brownfield condition

NIF SEIS Alternatives (JS&O)

- SEIS evaluated two alternatives
  - » Continued to construct and operate the NIF as indicated in the SSM PEIS (Preferred Alternative)
  - » Ceasing construction on the NIF
    - – Construct and operate at another site
    - – Cancel project entirely
- Action alternative; environmental mitigation
  - » Characterization activities indicate that there are no action alternatives that require detailed study

Environmental Impacts

- Low likelihood that buried hazardous, toxic or radioactive objects remain in the stipulated area
- Soil and groundwater sampling indicate that there is a low likelihood of finding additional buried waste
- Continued construction and operation of NIF would not result in a release of hazardous, toxic, or radioactive material to the groundwater

Cumulative Impacts

- **Historical/ongoing CERCLA cleanup actions and the recently completed site characterization have:**
  - cleaned-up of contaminated soil and removed buried capacitors,
  - resulted in continued reduction in groundwater contamination, and
  - shown a low probability of finding any additional buried hazardous, toxic or radioactive material
- **Reduction in cumulative impacts from historical soil and groundwater contamination at LLNL will continue to improve environments at LLNL and its surrounding community**

DPOM 1199-00061

Draft SEIS Finding

- **The results of the analysis indicate that:**
  - the concentrations of contaminants are below applicable levels of regulatory concern and
  - the impacts from buried material on human health and the environment are very low

SEIS Schedule

- Issued Federal Register Notice of Availability 11/05/99
- Public Meeting - Washington, DC 12/01/99
- Public Meeting - Livermore, CA 12/08/99
- Public Comments due to DOE 12/20/99
- Issue Final SEIS Spring 2000
- Publish Record of Decision in Federal Register Spring 2000