

April 30, 2008

Public Comment and Analysis
Part One: The Nuclear Weapons Complex-wide Impacts

Submitted to

The U.S. Department of Energy,
National Nuclear Security Administration

Submitted as comment for

Draft Complex Transformation
Supplemental Programmatic Environmental Impact Statement
DOE/EIS-0236-S4
(also known as the "Bombplex" plan)

Submitted by

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Tri-Valley CAREs' "Part One" comment document is structured as follows:

1. Public Comment Period
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3. Costs / Cost Comparisons
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NOTE: Tri-Valley CAREs' "Part Two" comment document follows with specific analyses of the SPEIS' environmental Impacts on Livermore Lab and surrounding California communities.

PART ONE: COMPLEX-WIDE IMPACTS

1. **The Public Comment Period is Insufficient and Must be Extended:**

The issues embedded in the Dept. of Energy (DOE) National Nuclear Security Administration's (NNSA) draft "Complex Transformation" plan are of great significance to the country and, in particular, to the millions of people who live near facilities that will be impacted by the plan. As we wrote earlier (and reiterate here), a 90-day extension of the comment period, from April 10, 2008 to July 8, 2008, on this draft Supplemental Programmatic Environmental Impact Statement (SPEIS) is necessary for the following reasons:

First, the additional time is needed to ensure that everyone impacted by the rebuilding (or transformation) of the nuclear weapons complex will have sufficient opportunity to provide comment. While Tri-Valley CAREs and colleague organizations have undertaken to alert and inform their members about the comment opportunity, the present comment period simply does not provide enough time for word of the plan to reach everyone who has a stake in the future of the complex.

Second, the time is needed to ensure that the public comments have maximal technical depth and analysis. The draft SPEIS is a lengthy and technical document. Reading, parsing, and understanding it requires a huge investment of time and effort, especially for the lay public that may experience extreme difficulty with the details of the plan and its overuse of dense technical jargon and acronyms. An extended comment period will allow for submittal of more thoughtful, in-depth comments. This is not only a public good, but will also benefit DOE NNSA and other decision-makers by giving a more accurate picture of the public's perspectives, analysis, criticisms and feedback.

So, while we recognize that DOE NNSA did extend the comment period from April 10, 2008 to April 30, 2008, we maintain that the comment period is none-the-less insufficient given the complexity of the draft document and other considerations. And, we again call on DOE NNSA to extend the public comment period by the full 90-days requested by Tri-Valley CAREs, Senator Jeff Bingaman, Representative Tom Udall and others.

2. The "Purpose and Need" as Outlined in the SPEIS is Legally Deficient:

In the draft Complex Transformation SPEIS, the purpose and need section is largely predicated on a policy document, the 2001 Nuclear Posture Review, of waning importance that will soon lose all significance. Moreover, the draft SPEIS does not contain adequate information to evaluate the alternatives considered on the basis of NNSA's stated purpose and need. Finally, the purpose and need statement articulated by NNSA is missing consideration of alternate ways to accomplish the stated mission.

Under the Council on Environmental Quality's (CEQ) regulations implementing NEPA, an EIS "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." 40 C.F.R. § 1502.13. According to the draft Complex Transformation SPEIS, the underlying purpose and need addressed in the SPEIS is to: (i) "maintain core competencies in nuclear weapons"; (ii) "maintain a safe and reliable nuclear weapons stockpile"; and (iii) "[c]reate a responsive nuclear weapons infrastructure that is cost-effective, and has adequate capacity to meet reasonably foreseeable national security requirements; and consolidate Category I/II SNM at fewer sites and locations within sites to reduce the risk and safeguard costs." SPEIS at S-12. NNSA claims that the

fundamental principle underlying its evaluation of alternatives is that the Stockpile Stewardship Program (SSP) “must continue to support existing and reasonably foreseeable national security policy.” *Id.*

Furthermore, NNSA states that the Complex Transformation SPEIS “does not analyze alternative U.S. national security policies. Rather, it examines the environmental effects of proposed actions and reasonable alternatives for execution of the program based on the existing and foreseeable changes in this policy.” *Id.*

Outdated Basis:

The existing national security policy with regard to nuclear weapons is principally controlled by the 2001 Nuclear Posture Review (NPR), a classified document transmitted to Congress in December 2001 and only partially made public in 2002. In the Nuclear Posture Review Report, former Secretary of Defense Donald Rumsfeld stated that “Congress directed the Defense Department to conduct a comprehensive Nuclear Posture Review to lay out the direction for American nuclear forces over the next *five to ten years*.” Nuclear Posture Review Report at Foreword (emphasis added). Since the NPR was issued in late 2001, it is clearly at or near the end of its usefulness. In fact, Congress has passed legislation requiring the next Administration to conduct a comprehensive NPR upon taking office. As such, it is entirely inappropriate for NNSA to base its plans for Complex Transformation on a document of such limited import. And it is doubly inappropriate for NNSA to foreclose consideration of viable alternatives that may result from a new national security policy, particularly when the next NPR will be conducted shortly.

Costs are Offered as Rationale, but are Missing:

Although NNSA claims that the purpose and need for Complex Transformation is driven, in part, by considerations of cost, the draft Complex Transformation SPEIS does not contain sufficient information to allow for objective consideration of the alternatives on this basis. Pursuant to CEQ’s NEPA regulations, the section of an EIS analyzing alternatives should present “the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public.” 40 C.F.R. § 1502.14. Here, NNSA has neglected to do so.

The draft Complex Transformation SPEIS lacks adequate information to allow the decision-maker and the public to evaluate the cost-effectiveness of each of the alternatives under consideration. Also, there is no data to support NNSA’s assertions that the preferred alternatives would increase economic efficiency and thus serve the stated purpose and need for Complex Transformation. The draft SPEIS should be revised to include such information in both raw and comparative form (as in charts or graphics).

Impacts of the Preferred Alternative Cannot be Discerned:

The draft Complex Transformation SPEIS fails to present the environmental impacts of the proposed action and the alternatives in comparative form, as required under CEQ’s regulations. *Id.* Although the draft Complex Transformation SPEIS contains a number of charts, none of

these permit a comparison between the environmental impacts of the proposed action and the other alternatives under consideration. *See* S-68 – S-94. CEQ’s regulations implementing NEPA further specify that an EIS “shall be concise, clear, and to the point[.]” *Id.* at 1502.1. Here, the sheer number of acronyms used in the draft SPEIS and the lack of a clear organizational structure thwart any attempts to grasp the intricacies of the document, particularly by members of the public.

Furthermore, the preferred alternative is an amalgam of the options presented in the draft document. The preferred alternative does not fall within the boundaries of any of them and so its impacts are unknown.

Lack of Reasonable Alternatives:

Because a PEIS, such as the draft Complex Transformation SPEIS, constrains future decision-making, it “must therefore analyze alternatives in sufficient detail to prevent foreclosure of options with insufficient consideration.” *Ilio'Ulaokalani Coalition v. Rumsfeld*, 464 F.3d 1083, 1096 (9th Cir. 2006) (citations omitted). In this case, the draft SPEIS fails both to analyze reasonable alternatives and analyze those alternatives considered in sufficient detail. The alternatives analyzed in the draft Complex Transformation SPEIS are based on the need for a more responsive Complex infrastructure that has: (i) “[a]ll necessary technical and industrial capabilities”; (ii) “[a]dequate production capacity for a smaller stockpile, including pit production”; (iii) “[a] smaller size for more cost-effective operations”; and (iv) “[e]hanced security, particularly for activities involving special nuclear materials.” SPEIS at 2-2. This sweeping mandate could be served by alternatives that NNSA either neglected to consider in the draft SPEIS or inadequately analyzed.

Where, as here, the purpose and need for the proposed action is not, by its own terms, tied to a specific parcel of land, the range of alternatives that must be evaluated is broadened. *See Ilio'Ulaokalani Coalition*, 464 F.3d at 1098 (citations omitted). In the draft Complex Transformation SPEIS, NNSA fails to consider alternatives outside the NNSA nuclear weapons complex, with the exception of a limited mention of the White Sands Missile Range. Given the expansive purpose and need statement in the draft SPEIS, it is unreasonable for NNSA to neglect consideration of other alternatives outside the current nuclear weapons complex.

One example that has significant environmental impacts is the SPEIS’ failure to consider consolidation of plutonium and highly enriched uranium from Livermore Lab to a DOE facility with secure storage capacity that is not an NNSA “Complex Transformation” site (e.g., Idaho Lab) or to a secure facility owned by another federal agency (e.g., the Defense Department). Because the draft SPEIS proposes to keep these materials at Livermore Lab until 2012 (and then move the plutonium twice) to accommodate “Complex Transformation,” workers and surrounding communities are asked bear unnecessary risks. We note that the DOE has given Livermore Lab a “variance” from demonstrating that the site can comply with the Department’s 2005 Design Basis Threat. Thus, the community bears what we believe is an unacceptable risk in the event of a terrorist attack. Moreover, the risks posed by a release of nuclear material in the event of a severe earthquake on one of the nearby faults is not analyzed in the draft SPEIS.

In addition, the range of alternatives considered in the draft SPEIS is insufficiently broad in light of the stated purpose and need for Complex Transformation. For instance, NNSA does not appear to have evaluated truly consolidating the nuclear weapons complex, which would mean closing down a number of sites.

Lack of justification for new plutonium pit manufacturing.

The following deficiency was pointed out by Tri-Valley CAREs in its “scoping” comment and was not properly addressed in the draft SPEIS. The JASONs review of the DOE NNSA weapons labs' plutonium "aging" data must be included in the PEIS and fully reflected in the "Purpose and Need.” The JASONs report of November 20, 2006 on plutonium pit lifetimes essentially states that the plutonium pits in U.S. nuclear weapons will remain reliable for approximately 100 years at a minimum (and perhaps much longer as a maximum). The average age of a U.S. nuclear weapon in the enduring arsenal is now about 25 years. These data undercut any possible justification, based on plutonium aging or reliability, for transforming the complex so that it can produce new plutonium pits and/or building a new arsenal of so-called Reliable Replacement Warheads (RRW). While the JASON review is noted in the draft SPEIS, the data on plutonium pit lifetimes is merely mentioned and is not used a framework for any meaningful analysis.

Moreover, the potential connections between the RRW program, the proposed new pit production facility at the Los Alamos Lab and the Complex Transformation plan as a whole must be detailed. DOE NNSA officials tell the public that there is not a connection between these three elements. Yet, the pit production now envisioned as the preferred alternative for Complex Transformation is sized to produce at least 50 certified (war reserve) plutonium pits per year. The pit capability at Los Alamos Lab is presently sized at 20 pits/year. The campaign to produce spares for the W88 (due to Rocky Flats closure) has been completed. The number of replacement pits that could be needed for weapons destructively tested each year is less than 20.

Therefore, it is difficult *not* to make a connection between the preferred alternative of 50/80 pits at Los Alamos Lab and the desire of top DOE NNSA officials to move forward with the RRW program. Congress cut funds for RRW last year. The draft SPEIS supports capabilities that would not be “needed” without the RRW program, or some similar, yet undisclosed, new weapons project.

It appears that DOE NNSA is crafting the “Purpose and Need” in compliance with its own desires, not Congress, not the American people and certainly not NEPA. If DOE NNSA does not agree that the "purpose" of the Complex Transformation plutonium pit production capability at Los Alamos Lab is to make pits for RRWs, then DOE NNSA should explain in detail for what purpose the full number of 50/80 pits will be "needed."

3. Costs and Price Comparison of Alternatives are Missing:

Complex Transformation’s preferred alternative means building new nuclear weapons plants, including making plutonium bomb cores at Los Alamos Lab in NM and a new Uranium Processing Facility at Y-12 in TN. Noticeably missing from the document are cost estimates.

The Government Accountability Office (GAO) had previously released a cost estimate that Complex 2030 (now called Complex Transformation) would likely cost upwards of \$150 billion dollars. The GAO also noted "DOE's history of poor project management," meaning implicitly that figure could be larger yet. DOE NNSA has said there will be a transition period in which Life Extension Programs and the rest of the Stockpile Stewardship Program continue while Reliable Replacement Warheads are phased in. Does this mean that the NNSA nuclear weapons budget may rise when one of the professed reasons for Complex Transformation is to reduce costs?

Some, even within the DOE, believe that \$150 billion is an extremely low estimate for the cost of maintaining the current system while building a new, not-so-consolidated set of facilities and then transitioning over to them. The costs of this should be included in the PEIS so that the public and all decision-makers can have a clear picture of the full price tag of this project, including the preferred alternative and reasonable alternatives to it.

The PEIS should include a cost analysis for each alternative to facilitate meaningful comparisons between them. A Curatorship alternative (see below), for example, may have a lower cost than the options currently being considered by DOE NNSA. These safer, more secure, options that focus on maintenance of the existing arsenal and minimize changes (i.e., Curatorship) and on full compliance with the nuclear Non-Proliferation Treaty (i.e., disarmament) are viable, reasonable, and must be analyzed in the final document -- including their relative costs.

We note that we also asked for a comparison of costs in our "scoping" comments -- and that the draft SPEIS continues to proffer alleged cost savings in its purpose and need, but without providing any of the cost information needed to evaluate the claim (or compare alternatives).

4 (a). Complex Transformation Fails to Consolidate the Weapons Complex:

Complex Transformation is not about true consolidation of the nuclear weapons complex. In exchange for giving up a number of outdated buildings that the Department of Energy (DOE) no longer wants or needs, DOE NNSA will get a number of new facilities that will pave the way for the development of new nuclear weapons, including through the Reliable Replacement Warhead program.

DOE NNSA does not appear to have evaluated truly consolidating the nuclear weapons complex, which would mean closing down or re-missioning a number of sites no longer needed for nuclear weapons activities, including Livermore Lab, its Site 300 high explosives testing range, the Kansas City Plant and others (details below).

4 (b). Alternatives that are Reasonable, Viable and Meet Legal Obligations with Lower Costs and Fewer Environmental Impacts Have Been Excluded:

The Complex Transformation SPEIS does not adequately consider all viable alternatives, in particular the Curatorship alternative. According to CEQ, the section discussing alternatives "is the heart of the environmental impact statement." 40 C.F.R. § 1502.14. Pursuant to CEQ's NEPA regulations, agencies are required to "[r]igorously explore and objectively evaluate all

reasonable alternatives.” *Id.* at § 1502.14(a). Curatorship is a reasonable alternative, and it was not rigorously explored and objectively evaluated, as required under NEPA.

The Department claims that this alternative is not distinctly different from the current stockpile stewardship program. This demonstrates DOE NNSA’s deliberate and willful misunderstanding of Curatorship and the reduction in cost and environmental footprint it would enable (as explained in detail below). Moreover, Curatorship entails consolidation of the nuclear weapons complex and its risks in ways that differ from any other alternatives analyzed in the SPEIS.

The PEIS *should* present the environmental impacts of the proposal and the alternatives in comparative form, thereby sharply defining the issues and providing a clear basis for choice among the alternatives by decision-makers and the public. The "Complex Transformation" draft PEIS fails utterly to do this.

For example, Curatorship, which was first suggested by Tri-Valley CAREs, was among the alternatives eliminated from further study in the draft SPEIS.

4 (c). The SPEIS Must Include a Curatorship Option; Curatorship is Superior to and Contains Advantages over Alternatives Analyzed in the Draft:

As noted, in its “scoping” comments, Tri-Valley CAREs (TVC) requested that NNSA include an alternative that reflects a “Curatorship” approach to maintaining the nuclear weapons stockpile. NNSA rejected that request stating, “[the] curatorship alternative does not define a programmatic alternative outside the range of alternatives evaluated in this SPEIS.”¹ We dispute that conclusion. Curatorship is a fundamentally different approach to maintaining the nuclear weapons stockpile from the Stockpile Stewardship Program (SSP), which would continue under all of the alternatives evaluated in the Draft SPEIS. Many more R & D facilities would be closed under Curatorship than under the alternatives consider in the Draft SPEIS. More importantly, a Curatorship approach would lead to a safer, more secure and more reliable stockpile, at lower cost, than any of the alternatives considered. NNSA should include a Curatorship option as a programmatic alternative in the final SPEIS and should choose it as the preferred option.

Curatorship is Fundamentally Different from the Alternatives in the SPEIS

According to the NNSA, “The SSP emphasizes development and application of greatly improved scientific and technical capabilities to assess the safety, security, and reliability of existing nuclear warheads without the use of nuclear testing.”² NNSA applies the results of the SSP to nuclear weapons in so called, “Life Extension Programs” (LEP). “An LEP is a systematic approach by weapon type that consists of a coordinated effort by the design laboratories and production facilities to: (1) determine which components will need refurbishing to extend each weapon’s life; (2) design and produce the necessary refurbished components; (3) install the components in the weapons; and (4) certify that the changes do not adversely affect the safety and reliability of the weapon.”³ According to the Draft SPEIS, “NNSA has taken an aggressive

¹ Draft SPEIS page 3-129.

² Draft SPEIS page 1-1.

³ Draft SPEIS page 2-9.

approach to warhead refurbishment.”⁴ Through a joint process with the Department of Defense (DoD), NNSA has been authorized to make hundreds of changes to nuclear weapons, adding new components and modifying weapons’ military characteristics. The joint NNSA/DoD Project Officer Groups (POGs), which are responsible for each warhead, often agree to changes that are intended to improve weapons performance, rather than solely to replace failing components.

In contrast, Curatorship would take a conservative approach to refurbishing warheads. Only if NNSA’s surveillance activities, could demonstrate compelling evidence that components have degraded, or will soon degrade, and further analysis indicates that such degradation could cause a significant loss of safety or reliability, would NNSA replace the affected parts. The replacements would be remanufactured as closely to their original design as possible.⁵ They would truly extend the life of the warhead, without improving its performance. A prohibition on improving warhead performance under Curatorship would require policy changes at DoD as well as at NNSA, since some improvements are initiated by DoD requests. Ideally, introduction of the Curatorship option would be accompanied by a shift in the nation’s nuclear security policy that would discourage, if not prohibit, improvements to nuclear weapons. However, even without such a prohibition, NNSA could still implement virtually all of the changes discussed below.

Instead of relying on a massive R & D enterprise to improve scientific and technical capabilities, the Curatorship approach relies upon the extensive historical testing and certification activities, which have demonstrated that the existing stockpile is safe and secure. Under Curatorship, NNSA would still need skilled engineers and designers, with good judgment, to examine warheads and to determine when components must be replaced. NNSA would continue to operate state-of-the-art testing and engineering facilities to examine components. It would retain sufficient scientific and computing capabilities to apply analytical models to questions of weapon safety and reliability. It would make use of evolutionary improvements in computing technology to better appraise problems with weapons systems. On the other hand, NNSA would have no need to continue enhancing its understanding of weapons science or to maintain cutting edge research facilities in a wide range of technologies. Those capabilities are needed primarily to design and certify new components. Under Curatorship, most of NNSA’s research and experimentation programs would cease and numerous facilities would be closed. The extent of those closures place the Curatorship approach, “outside the range of alternatives evaluated in the SPEIS.”

Curatorship is sufficiently different from the SSP, which underlies all of the alternatives in the SPEIS, that NNSA should consider it as a separate programmatic alternative. The major change under Curatorship would be the closure of many more R & D facilities than the NNSA proposes to close under its project specific alternatives. However, the programmatic alternatives would also be affected. Since there would be fewer changes to the weapons remaining in the stockpile, the scale of plutonium operations, uranium operations, and assembly/disassembly activities could be reduced at the facilities proposed under any of the programmatic alternatives. In addition, R

⁴ Draft SPEIS page S-12.

⁵ In some cases, current environmental regulations might not allow exact remanufacture of old components. In others, original specifications have been lost or are incomplete. In those cases, NNSA would attempt to match the output of the old component as closely as possible. Those cases would require more analysis and testing than exact replacements, but would still be far less costly and introduce much less uncertainty than under the current approach, which allows major modifications.

& D on plutonium and uranium would be reduced and several R & D facilities, which are not addressed in the SPEIS (and should be), would also be closed.

Note that in the context of this analysis, “closed” is defined as “no longer needed or used by NNSA for nuclear weapons activities.” Should another use or “landlord” be appropriate, the site or facility may continue operating with a substantially changed or new mission and purpose.

Curatorship is Superior to the Alternatives in the SPEIS

According to NNSA, the benefits it is seeking through complex transformation include, “improved safety, security, and environmental systems, reduced operating costs, and greater responsiveness to future changes in national security policy.”⁶ Curatorship would be more beneficial in all of these areas than any of the alternatives in the SPEIS.

Improved Safety – Under Curatorship, no matter how many nuclear weapons remain in the stockpile, there would be fewer changes made to those weapons than under the SSP/LEP approach. Thus, NNSA could reduce the scale of plutonium operations, uranium operations, and assembly/disassembly activities at the facilities it chooses under any of the programmatic alternatives. A lower workload is inherently safer. In addition, studies of defects in nuclear weapons have shown that many more problems have occurred in new weapons and components than result from the aging of components in old weapons. That result was obtained on weapons that were well tested, before the nuclear testing moratorium went into effect. Thus, new components introduced to the stockpile through LEPs are likely to be less safe and reliable than the ones they replace. Any attempt by NNSA to make major changes to nuclear weapons, without nuclear testing, such as those proposed for a Reliable Replacement Warhead (RRW), could introduce significant safety and reliability problems into the stockpile.

Improved Security – The rationale for improved security under Curatorship is similar to that for improved safety. Under Curatorship, the weapons complex would be more secure, simply because there would be less activity. There would be fewer R & D facilities requiring protection and less new classified information generated. There would be fewer contractor employees with access to sensitive facilities and classified information. There would also be fewer shipments of nuclear weapons and components around the country that offer opportunities to terrorists.

Improved environmental systems – Under the Curatorship approach, NNSA would close numerous facilities and complete sites that use high explosives, tritium, and other hazardous materials, such as Site 300 at LLNL. Those closures would produce significant environmental benefits beyond the alternatives considered in the SPEIS. Moreover, under Curatorship new facilities, such as the CMRR at Los Alamos Lab and the Uranium Processing Facility at Y-12, planned under the present programmatic preferred alternative, would not be built or operated, resulting in an additional significant environmental benefit.

Reduced operating costs – Operating costs would be dramatically reduced under Curatorship. NNSA currently spends about fifty percent of the Weapons Activities budget on R & D. That is

⁶ Draft SPEIS page S-1.

appallingly out of step with any industrial activity in the United States. Large companies in the most research-intensive industries, such as computers and electronics, chemicals, aviation, and biotechnology, spend less than twenty percent of their revenue on R & D. Most spend less than ten percent. With over sixty-five years of experience in designing, producing, and maintaining nuclear weapons, there is no reason for NNSA to spend such a large percentage of its funding on R & D.

Under Curatorship, R & D would be directed primarily to improving surveillance and testing, to understanding how materials and components in existing weapons age, to supporting the manufacture and certification of rebuilt components, and to further validating computer codes to historical test results. Such R & D should amount to less than twenty percent of the Weapons Activity Budget.

Greater Responsiveness To Future Changes In National Security Policy – Under Curatorship, NNSA would not use this SPEIS to commit prematurely to building any major new facilities, before the next Administration completes a comprehensive review of the role of nuclear weapons in national security policy. Thus, the weapons complex could respond more rapidly to whatever changes that review proposes. Furthermore, the complex would not be burdened with excessive workload resulting from non-essential changes to nuclear weapons that are now routinely included in LEPs. In addition, NNSA will be able to respond more quickly to the infrequent aging problems that might arise in existing components. Its response will be to replace the problem component with a younger version of the same component, instead of designing a completely new component and scheduling its replacement as part of a complex LEP, which would take more time.

Curatorship is also superior to the alternatives considered in the SPEIS, because it would more closely align with United States' responsibilities under the nuclear Non-Proliferation Treaty (NPT) and the nation's nonproliferation goals. The New Agenda Coalition (NAC), an influential group of signatory states to the NPT, has called upon the nuclear weapons states to stop modernizing their arsenals. The NAC stated, "Any plans or intentions to develop new types of nuclear weapons or rationalization for their use stand in marked contradiction to the NPT, and undermine the international community's efforts towards improving the security of all states." Whether one agrees with the NAC that improving nuclear weapons is contrary to NPT responsibilities (and we believe it is), it is clearly detrimental to U.S. non-proliferation objectives. Stemming the proliferation of nuclear weapons requires the cooperation of all industrialized nations. To the extent that the NNSA's development of new and improved nuclear weapons alienates nations such as the New Agenda Coalition, it is undeniably contrary to U.S. non-proliferation goals.

NNSA argues that its joint planning with DoD minimizes the number of changes that are made to nuclear weapons during LEPs. It further claims they are not introducing new capabilities into the stockpile. Those are false or misleading claims. For example, the W76 LEP involves major discretionary changes to both the reentry body and to the warhead package. NNSA is replacing "organics" in the primary; replacing detonators; replacing chemical high explosives; refurbishing the secondary; adding a new Arming, Fuzing & Firing (AF&F) system, a new gas reservoir, a new gas transfer support system, a new lightning arrestor connector and making numerous other

alterations to components that still function adequately.⁷ The change to the AF&F system alone is creating a weapon with significantly improved military capability over the old version. While the old fuze permitted targeting of only soft targets, the new AF&F system adjusts the height of detonation, which gives the W76 a hard target kill capability for the first time. In addition, the new reentry body and other modifications allow the W76 to be delivered by the D5 missile, with much greater accuracy than its previous delivery vehicle. Few of the changes under this LEP (with the possible exceptions of replacing the gas reservoir and some organic adhesives) address age-related problems that would require fixing under the Curatorship option.

Differences between Curatorship and the Project Specific Alternatives

According to the NNSA, there is no “significant difference in the technical capabilities needed to maintain the weapons in the legacy stockpile from those required to design new weapons.”⁸ That may be true under the SSP/LEP-based approach to maintaining the legacy stockpile, but it would not be true under the Curatorship approach. Under the Curatorship approach of replacing old components with new ones of their original design, no design capabilities are needed. However, it is not that difference alone that sets the Curatorship approach apart from the SSP approach. The major difference derives from asking whether NNSA needs to conduct a vast R & D enterprise to improve its capabilities to design new weapons and components. Under SSP, NNSA answers yes, under Curatorship the answer is no.

Much of NNSA’s R & D is intended to improve its understanding of material properties and basic weapons physics in order to improve the complex computer codes that designers use to model the behavior of nuclear weapons. Those computer codes would play only a minor role in maintaining the stockpile under Curatorship. The legacy stockpile was developed using much simpler codes. We believe that the vast improvements that NNSA has already made to its computer codes under the SSP are more than sufficient for maintaining the legacy stockpile. Under Curatorship, we would halt all R & D related to development and validation of new computer codes for weapons design and simulation.

Another large class of NNSA’s R & D activity seeks to improve its capabilities in a host of emerging technologies, such as nanoscale technology and microelectronics, which are useful only to design and develop new components for nuclear weapons. All such R & D would also cease under Curatorship.

The only large scale R & D activities that would continue under Curatorship are those which directly improve capabilities in surveillance and testing of the stockpile and to a lesser extent R & D in understanding how existing components age. Of course, all activities necessary for the surveillance and testing of the legacy stockpile and for testing and certification of rebuilt replacement components would also continue.

The question of whether NNSA should maintain a capability to design new nuclear weapons or modify existing weapons is not relevant to decisions regarding which R & D facilities should be

⁷ Hans M. Kristensen. Administration Increases Submarine Nuclear Warhead Production Plan. www.fas.org/blog/ssp/2007/08/us_tripplis_submarine_warhead.php.

⁸ Draft SPEIS page 3-129.

retained. We believe that there is no need to maintain the capability to design new weapons and that doing so is contrary to nonproliferation objectives. However, should upcoming reviews of nuclear policy determine that a design capability should be retained, that would be primarily a matter of retaining experts in nuclear weapons design, rather than retaining R & D facilities to improve and extend weapon design codes and enhance NNSA's understanding of nuclear weapons science. The suite of facilities that NNSA would retain under the Curatorship option is more than adequate to maintain a basic nuclear weapon design capability, should policy makers decide to do so.

High Explosives (HE) R & D

The revisions to HE R & D activities are among the most significant differences between the Curatorship option and the Project Specific Alternatives. Under Curatorship, virtually all HE activities at LLNL and LANL (except for production of detonators at LANL) would cease. Activities at SNL and NTS would be significantly curtailed.

The Draft SPEIS states, "HE R&D is required to assure stability and dependability of HE in nuclear weapons."⁹ That is a considerable overstatement. Substantial evidence shows that many types of HE used in the weapons of the legacy stockpile become more stable and dependable as they age. What the quote probably means to claim is that 'HE R&D is required to *improve the stability and dependability of new types of HE in new nuclear weapons.*' That may be true, but is irrelevant under Curatorship, in which NNSA would not seek such improvements. The primary way to assure the continued stability and dependability of HE in existing warheads under Curatorship is to continue randomly selecting warheads from the stockpile to dismantle and thoroughly examine, as NNSA currently does under its surveillance program.

All HE R & D would cease under Curatorship, except for some studies of aging of HE formulations in existing weapons and components, which could continue at one site. Surveillance activities and quality assurance (QA) studies of HE in existing components would continue at Pantex, as would all R & D in direct support of the production mission.

HE formulation and processing would continue only at Pantex and testing would continue only at Pantex and NTS, except that testing of components (with up to 1 kg of HE) would continue at SNL as part of the surveillance program.

The facilities that would be closed under the Curatorship option include¹⁰:

The High Explosive Application Facility (HEAF) at LLNL;

All HE facilities at Site 300 at LLNL;

TA-9, TA-14, TA-16, TA-36, TA-46 and TA-53 at LANL; and

Explosive Applications Department facilities at Sites 9920, 9930, 9939, and 9940 in Coyote Canyon and at facilities in Thunder Range at SNL/NM.

⁹ Draft SPEIS page S-53.

¹⁰ This is only a partial list, as HE R & D is conducted at 120 building at LANL alone (Source: TechSource 2007d, page 3-1).

The Explosive Component Facility (ECF) at SNL/NM would remain open, but it would be significantly reduced in scale. Its mission would be reduced to surveillance, testing, and R & D directly related to better understanding lifetime issues in existing components. There would be no R & D on new HE formulations or new component designs, unless a catastrophic flaw is discovered in an existing component.

HE facilities at NTS would be significantly reduced in scale and Hydrotesting and subcritical experiments would cease (see below). The Big Explosives Experimental Facility (BEEF) might remain open for render-safe experiments and work for other DOE offices and other agencies. NNSA might occasionally perform tests at BEEF to study aging of HE and to understand defects that may develop in existing HE components, which are too large to conduct at Pantex. No fissile materials would be used in those tests.

A small level of R & D activity on aging and performance of main charge HE might continue at either LANL or LLNL, but the formulation, processing and testing of HE to support those activities would be conducted at Pantex or NTS.

Tritium R & D

The Draft SPEIS states, “Because warheads depend on tritium to perform as designed, there is a need for tritium R & D.”¹¹ This statement highlights the difference between SSP and Curatorship. The properties of tritium are extremely well known. Because tritium decays with a 12.5-year half-life, the gas in weapons in the stockpile must be replaced periodically to keep them within design limits. It is absurd to state that R & D on tritium is needed, unless NNSA plans to change its tritium maintenance practices or modify weapons’ Gas Transfer Systems (GTS). Under Curatorship, such modifications would not be made.

Tritium production activities (as defined in the SPEIS to include irradiation of tritium targets, tritium extraction, tritium recycle, reservoir refill, and GTS surveillance) would continue under Curatorship at SRS, much as they would under the preferred alternative in the SPEIS. However, future decisions about the size of the stockpile may preclude the need for target irradiation and tritium extraction for many years.

Under Curatorship, all tritium R & D at LANL would cease and the Weapons Engineering Tritium Facility (WETF), located at TA-16, would be closed.

All NNSA-related tritium activities at LLNL would also cease. The LLNL Tritium Facility, within the Superblock, would most likely be closed. Therefore, it goes without saying that the expansion of the LLNL Tritium Facility, called the Tritium Facility Modernization Project, would not need to be undertaken and would cease. Most tritium activity at LLNL is related to NIF target design and support. Since the NIF would no longer be used by NNSA (see below), all NNSA-related tritium operations at LLNL would cease. However, DOE’s fusion energy or science programs might continue operating the NIF and might choose to continue working with

¹¹ Draft SPEIS page 3-90.

tritium targets. In that case, LLNL would retain a very small tritium handling capability (without either R & D or target manufacturing capability).

Tritium activities at SNL/NM would continue in support of neutron generator production and surveillance, including R & D for production support and quality improvement. However, R&D on new neutron generator designs and technology would cease.

NNSA Flight Test Operations

Under Curatorship, there would be no new bombs or components requiring flight tests. However, flight tests for surveillance of existing weapons would continue. While NNSA would conduct fewer flight tests, there would be no significant change to the alternatives for flight test operations from those considered in the SPEIS.

Hydrodynamic Testing

Hydrodynamic Testing is sometimes used (in conjunction with computer modeling) to examine issues of concern regarding the annual certification of existing weapons. It is more often used to perform weapons physics research, to improve modeling of nuclear weapons performance, to study new nuclear weapons geometries, to design and certify new nuclear weapons, and to evaluate the performance of new materials and components. Under Curatorship, it would be used for only the first purpose. That would require only a small fraction of the current testing rate.

Under Curatorship, all hydrodynamic testing activities would be consolidated at the DARHT facility at LANL. The concept here is that NNSA would choose one, and not continue to maintain multiple facilities. DARHT is the most modern of NNSA's hydrotest facilities. When DARHT becomes fully operational, it will be capable of performing tests with multiple shots from two different viewing angles on targets including full-scale mockups of any warhead in the current stockpile. About 100 hydrotests per year are performed at DARHT, which would be more than sufficient for all of the hydrotesting required under Curatorship. All other hydrotesting facilities at LANL would be closed.

The Contained Firing Facility (CFF), all other firing point complexes, and all support functions for hydrotesting at LLNL's Site 300 would be closed. Together with the cessation of all HE-related activities, this would enable closure of Site 300 or rededication to another purpose.

All hydrotesting facilities at SNL/NM and Pantex would close, as they would under NNSA's preferred alternative.

The BEEF at NTS is used primarily for weapons physics and other testing that has little direct contribution to the annual certification of existing weapons. It would have little continuing mission within the Curatorship program. However, it might stay open to support other DOE programs and in support of other agencies, including DHS and DOD. If so, NNSA might occasionally perform a test there, if it is too large to conduct at DARHT.

The U1a facility at NTS is used mainly for subcritical experiments, which provide information on the performance of plutonium, uranium and other materials, primarily to improve or validate computer codes. This activity would cease under Curatorship and U1a would be closed or maintained in a standby condition.

Major Environmental Test Facilities

The SPEIS identifies more than thirty “Major Environmental Test Facilities (ETFs).” NNSA has used those facilities for multiple purposes including R & D on new component and weapon designs and for certification of new components and weapons. Under Curatorship, there would be no development of new components or weapons and those uses would drop out. Some Environmental Test facilities have also been used to test and validate changes in computer models. Those uses would also drop out.

NNSA also uses many of the ETFs to test components from weapons randomly drawn from the stockpile as part of its surveillance program. That activity would continue under Curatorship. In addition, testing for certification and quality assurance of necessary replacement parts would also continue under Curatorship.

Under Curatorship, NNSA would retain or replace only those ETFs that are essential to the surveillance program. Many of the facilities that are retained or replaced under NNSA’s preferred alternative -- consolidate major environmental testing at SNL/NM -- appear to meet that criterion. There is, however, insufficient information in the SPEIS to determine whether each of those facilities would do so. Some of those facilities are likely to have very limited roles under Curatorship and would be candidates for closure.

One such example is the Annular Core Research Reactor (ACCR) at SNL/NM. The weapons and components in the existing stockpile have already been certified to withstand the high flux neutron environments that the ACCR can simulate. Components are not routinely retested in that environment as part of the surveillance program. Under the Curatorship option, if a component degrades or changes to a point that NNSA believes there is a reasonable probability that it could no longer withstand the required high flux neutron environment, it would be replaced. Thus, the ACCR would have little or no role under Curatorship and would be a candidate for closure. On the other hand, the ACCR is used to test the radiation hardness of components for other agencies, to test and develop nuclear fuels, and to produce radioactive isotopes. Therefore, DOE might continue to operate it as a user facility even with little or no NNSA mission.

Sandia National Laboratories, California (SNL/CA) Weapons Support Function

It is not clear whether NNSA is considering consolidation alternatives for the Sandia National Laboratory, California site. There are no proposed actions regarding SNL/CA in section 2-4 of the SPEIS and there is no preferred alternative identified in section 3-17. On the other hand, Section 3-13 describes facilities at SNL/CA and presents an alternative to “Consolidate SNL/CA non-nuclear component design and engineering work to SNL/NM.” The environmental impacts of that alternative are discussed in section 5-18.

The SNL/CA Weapons Support mission has evolved over the past several decades into a robust weapons design and R&D activity.¹² Since SNL/CA has little to do with surveillance and testing of existing systems, it would have little or no mission under Curatorship. Most of its facilities would be closed, unless other DOE programs choose to support them. Specifically, Building 910, in which NNSA conducts engineering and technology R&D in electronics, surface physics, neutron detector research, and telemetry systems, would be closed. The Micro and Nanotechnologies Laboratory (MANTL) would also be closed. There is no need for NNSA to be at the forefront of these technologies under Curatorship. Two other major facilities at SNL/CA -- the Combustion Research Facility (CRF) and the Center for Integrated Nanotechnologies (CINT) -- are operated as user facilities by DOE's Basic Energy Sciences (BES) Program. They could continue operating, but most, if not all, NNSA activities at those facilities would cease.

Most of the remaining smaller facilities at SNL/CA would be closed under the Curatorship option. Any surveillance and testing activities or R&D in direct support of surveillance and testing that is conducted there could continue at other sites.

Effect of the Curatorship Approach on the Programmatic Alternatives

Under the Curatorship approach, NNSA must be prepared to replace any component in the weapons stockpile if it has degraded to a point where it could cause a significant loss of safety or reliability. Thus, NNSA would have to retain a capability to produce or acquire any part in the stockpile, or be able to obtain such a capability in a short time. That includes the nuclear components -- the plutonium pit and the canned subassembly. Most likely, pits or components of canned subassemblies will need to be replaced infrequently and the workload for plutonium operations and enriched uranium operations will be lower than under the SSP/LEP approach.

In addition, plutonium operations will be reduced, because there will be considerably less R & D on plutonium. Some R & D on plutonium aging will continue. However, the vast majority of plutonium R & D would cease. R & D that seeks to extend NNSA's knowledge of the equation of state of plutonium would cease, as would other studies of the behavior of plutonium at high temperatures and pressures. Such research is needed only to improve computer codes to design new nuclear weapons. It is unlikely that there would be a need to manufacture new pits under the Curatorship approach, since there would be no new nuclear weapons. NNSA's own aging studies have concluded that it is unlikely any existing pits will fail due to aging for another seventy years or so. Nevertheless, it would be prudent to retain a basic capability to produce pits in case there is a problem with an existing warhead.

R & D on the basic properties of enriched uranium operations would also cease. NNSA will continue to disassemble and assemble canned subassemblies under its surveillance program. However the workload for disassembly/assembly will likely be reduced, since there will be fewer changes to components inside the canned subassemblies than occur now as part of LEPs. On the other hand, the rate of disassembly of warheads that have been retired from the stockpile might increase.

¹² Draft SPEIS page 5-509.

The workload for weapons assembly and disassembly operations would be only a little lower under Curatorship than under the SSP/LEP approach. Disassembly and assembly activities for the purpose of surveillance and testing would remain the same. There would still be regularly scheduled programs, at about the same rate as LEPs, to replace aged components in weapons. However, NNSA would replace only those components that truly need to be changed and it will make few, if any, design changes to those components. As already noted, disassembly of warheads that have been retired from the stockpile might increase.

Tri-Valley CAREs' comments on the programmatic alternatives in the SPEIS to restructure SNM facilities appear in later sections, below. Suffice it to say here that a change from Stockpile Stewardship to Curatorship, by itself, would not have a major effect on the alternatives for enriched uranium or assembly/disassembly operations. For plutonium operations, there would be no need for more than a true capability-based production alternative and only minimal R & D.

Changes under Curatorship to Programs and Facilities not Addressed in the SPEIS

Non-Nuclear Production Facilities

The vast majority of components in a nuclear weapon are non-nuclear. NNSA has chosen not to consider consolidation options for manufacture of non-nuclear components. Under Curatorship, a capability-based approach would be sufficient for non-nuclear components. Such an approach would include the possibility of consolidating the non-nuclear production capabilities of SNL/NM and the Kansas City Plant (KCP). NNSA should examine such an option.

High Energy Density and Pressure (HEDP) R & D

NNSA has numerous facilities it uses to create high pressures, densities, and temperatures for studying the behavior of materials under conditions similar to those in an exploding nuclear weapon. They are referred to collectively as HEDP facilities. The SPEIS notes that no consolidation of HEDP facilities is considered, except for the consolidation of major hydrodynamic test facilities.¹³ All HEDP facilities would be candidates for closure under the Curatorship approach. The major purpose of most HEDP facilities is to improve the computer codes used to design and simulate the behavior of an exploding nuclear weapon. Current codes are more than sufficient to analyze almost all issues that might arise in existing nuclear weapons. Those weapons underwent extensive nuclear testing before the United States entered into the test ban moratorium. In the unlikely event that a future issue affecting the safety or performance of a weapons in the stockpile arises, which cannot be resolved with sufficient confidence using existing codes, the component in question would be replaced or other steps would be taken to ameliorate the issue.

Some of the HEDP facilities can be used to produce X-rays or other effects that are used in environmental testing of components. However, other major Environmental Test Facilities, which would remain in operation under the Curatorship option (see above), can produce similar effects. Therefore, all of the HEDP facilities listed below would be candidates for closure. Some

¹³ Draft SPEIS page 2-17.

of them may be useful for R & D in other areas including basic materials science, astrophysics, and energy production. Those facilities might remain in operation if other DOE programs or other agencies choose to support them.

Laser Facilities Not Needed Under Curatorship

The National Ignition Facility (NIF) at LLNL
The Janus Laser at LLNL
The Trident Laser at LANL
The Petawatt Laser at SNL/NM
The Nike Laser at the Naval Research Laboratory
The Omega Laser at the University of Rochester

Pulsed Power Machines Not Needed Under Curatorship

The Atlas Facility at NTS
The Z Machine at SNL/NM
The Saturn Facility at SNL/NM

Gas Guns Not Needed Under Curatorship

The Joint Actinide Shock Physics Experiment Research (JASPER) Facility at NTS
The Shock Thermodynamic Applied Research STAR Facility SNL/NM
Several smaller gas guns at LLNL, LANL, and SNL/NM, some of which may be scheduled for closure under consolidation alternatives for Hydrodynamic Testing or Major Environmental Test Facilities.

Microsystems, Nanotechnology, and Advanced Electronic R & D

NNSA supports a substantial amount of R & D on microsystems, nanotechnology and advanced electronics for new nuclear weapon components. Under Curatorship, there would be little or no introduction of new components into nuclear weapons and little need for NNSA to perform such research. Research in microsystems, nanotechnology, and advanced electronics contributes to other missions, including fostering the competitiveness of US industry. However, unless NNSA's state of the art facilities for R & D on those technologies is supported by other programs or agencies, they would be candidates for closure under the Curatorship alternative.

Such facilities include:

The Micro Electronics Development Lab at SNL/NM
The Microsystems and Engineering Sciences Applications (MESA) Facility at SNL/NM
The Center for Micro- and Nanotechnology at LLNL

Los Alamos Neutron Science Center (LANSCE)

LANSCE is a pulsed spallation neutron source. At LANSCE, a linear accelerator produces high-energy protons, which strike a target of tungsten metal producing copious neutrons. The protons and neutrons are used in a wide range of applications. NNSA operates LANSCE as user facility, but most of the beam time is devoted to NNSA activities. The primary activities are proton radiography for R & D on high explosives during detonation and collection of nuclear cross-section data on actinides and radiochemical tracers, which enable refinements to nuclear weapons

codes. Neither of those activities would continue under Curatorship. LANSCE would be closed, unless another DOE office takes over its operation.

Advanced Simulation and Computing (ASC) Facilities

For a long time, NNSA has used state-of-the-art computers and codes in its design efforts to simulate the behavior of nuclear weapons. When the weapons in the current stockpile were designed, several parameters in those codes had to be adjusted to conform with the results of underground nuclear tests. At that time, there was a broad consensus that no sophisticated new nuclear weapon could be certified without nuclear testing.

One of the major initial goals of the Stockpile Stewardship program was to improve its computing capabilities to better model nuclear weapons performance. Today, fifteen years and scores of billions of dollars later, NNSA believes that its improved computational and simulation tools allow it not only to certify the performance of the existing stockpile, but to design and certify new nuclear weapons. NNSA's ability to certify a new weapon, without testing, is controversial. However, there is no doubt that modeling existing weapons of the legacy stockpile is a much easier task. It is easier because the extensive results from nuclear testing of those weapons can still be used to baseline the new, much more sophisticated codes. In addition, this original test data had been augmented by an enormous amount of test data from hydrodynamic and other tests on the legacy designs.

Under Curatorship, NNSA would need no further improvement to its computing and simulation capabilities to certify the legacy stockpile indefinitely. That is mostly because there will be few changes to those designs. Indeed, the fundamental basis for continued certification will be the absence of change, as assured through vigorous surveillance and replacement of altered components with new ones of the original design. Under that model, modeling and simulation play only a subsidiary role. The improved simulation capability that NNSA has acquired to date is certainly up to the task of verifying that the minor changes, which might occur under Curatorship, would not adversely affect the safety or performance of the legacy stockpile.

Under Curatorship, NNSA would maintain its existing computing and modeling capabilities. It would halt all further improvement of computer codes, but could continue adapting the existing codes to run on its newest computers and could continue applying existing test data to those codes to better understand the behavior of the legacy stockpile under a variety of conditions. In addition, NNSA would cease its current practice of using computer procurements to aggressively pursue revolutionary new technology. Instead, it would procure computers with evolutionary improvements as they become available commercially.

5. The SPEIS Improperly Sidesteps (Non)proliferation Impacts, International Law, and Treaty Obligations:

In its "scoping" comments, Tri-Valley CAREs pointed out that it is unacceptable to brush aside a discussion of how DOE NNSA will ensure compliance with the nuclear Non-Proliferation Treaty (NPT), which is US law, especially with the regard to the new planned pit manufacturing capability, the Reliable Replacement Warhead and the "responsive infrastructure."

Under Article VI of the nuclear Non-Proliferation Treaty, the United States is obligated “to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control.”

The New Agenda Coalition, an influential group of signatory states to the NPT, has called upon the nuclear weapons states to stop modernizing their arsenals:

“Any plans or intentions to develop new types of nuclear weapons or rationalization for their use stand in marked contradiction to the NPT, and undermine the international community’s efforts towards improving the security of all states.”

On June 1, 2006, Hans Blix issued a recommendation for freeing the world of Weapons of Mass Destruction. In that document, the United States was described as “exploring the possibilities of developing new types of nuclear weapons.” In response, the report recommended:

“Any state contemplating replacement or modernization of its nuclear-weapon systems must consider such action in the light of all relevant treaty obligations and its duty to contribute to the nuclear disarmament process. As a minimum, it must refrain from developing nuclear weapons with new military capabilities or for new missions. It must not adopt systems or doctrines that blur the distinction between nuclear and conventional weapons or lower the nuclear threshold.”

Kofi Annan, on Nov. 28, 2006 at Princeton University made this statement about nuclear weapons:

“All of the NPT [Non-Proliferation Treaty] nuclear-weapon States are modernizing their nuclear arsenals or their delivery systems. They should not imagine that this will be accepted as compatible with the NPT. Everyone will see it for what it is: a euphemism for nuclear re-armament.”

The Complex Transformation PEIS should consider both the vertical and the horizontal nuclear proliferation risks of each alternative, including the fact that some of the options (e.g., the preferred alternative) may increase the threat of other countries getting and using a nuclear bomb as a result of our country resuming nuclear weapons production.

By nuclear weapons production, we mean both the RRW program's contemplated weapons production and the plutonium pit production of 50/80 bomb cores at Los Alamos Lab (as a nuclear core that contains sufficient material to detonate is a bomb). The draft SPEIS fails to include the needed (non)proliferation analysis.

Nor does the draft SPEIS consider any real analysis of a disarmament alternative. As with the Curatorship option detailed above, strict adherence to U.S. treaty obligations to disarm is a viable alternative that must be examined in the PEIS. Thirty-three thousand people demanded just such an alternative during the public "scoping" process. The DOE NNSA mentions the comments in the draft SPEIS, but sidesteps their substance and refuses to consider the facilities and capabilities that would be needed in a nuclear weapons complex to carry out a true Non-Proliferation Treaty / disarmament option. For example, a NPT / disarmament alternative may

include transitioning key facilities from a majority nuclear weapons R & D and/or production mission to treaty verification and other, related new missions. Under this alternative, additional capacity for carrying out dismantlements would likely be needed. The Device Assembly Facility at the Nevada Test Site is one facility that should be analyzed in this context. So, too, would nuclear material storage and disposition requirements differ from other alternatives.

The NPT / disarmament alternative would not include a 50/80 plutonium pit manufacturing capability or a new Uranium Processing Facility. This alternative would have a different footprint and impacts than other alternatives analyzed in the draft SPEIS, and would be significantly different than the preferred alternative.

Or, to put it another way, the draft SPEIS speaks of Complex Transformation as being “capabilities based”. However, a crucial capability is glaringly absent: the capability to disarm. The current draft SPEIS includes no discussion of what such a path would look like or what would be required to fulfill such a mission. This is a glaring omission that must be rectified.

6. Timing / Complex Transformation puts the “Cart Before the Horse”:

Complex Transformation involves important decisions about the future of the nuclear weapons complex that should not be made in the final days of the Bush Administration and founded upon documents, such as the 2001 Nuclear Posture Review, whose future viability is extremely suspect. These decisions will have long-lasting consequences and should be subject to vigorous national debate and congressional oversight. The DOE NNSA is avoiding such oversight, in part, by asserting (without foundation) that it can implement Complex Transformation within its existing budget.

In the SPEIS, DOE NNSA should not be allowed to dismiss alternatives that it claims fall outside the current scope of nuclear policy, which is defined by the 2001 Nuclear Posture Review. The Nuclear Posture Review is not a law, it is merely a policy statement developed by the Bush Administration. Changes in that policy are likely and imminent with end of the Bush Administration fast approaching. As such, NNSA should postpone any decisions regarding the future of the nuclear weapons complex until the new, Congressionally mandated and forthcoming Nuclear Posture Review is developed.

NNSA claims that it is merely implementing the national security policy established by the President and Congress, rather than developing its own policy. However, the draft Complex Transformation SPEIS would lock the nuclear weapons complex into a path that entrenches the current nuclear weapons policy, a policy that may radically change in the coming years. NNSA, in its haste to push the Complex Transformation plan forward before the next President takes office, is proposing to alter the nuclear weapons complex in a way that, as noted, may dictate or inhibit the national security policy of the next President.

DOE NNSA claims that it merely implements the national security policy established by the President and Congress, rather than developing its own policy. However, the "Complex Transformation" plan would lock the nuclear weapons complex into a path that entrenches the current nuclear policy, preempting a full and complete policy debate. "Complex Transformation," as some in Congress have stated, seeks to put the "cart before the horse."

The Cold War is over and the U.S. must adopt a new nuclear weapons policy geared toward non-proliferation, disarmament, and the abolition of nuclear weapons. Beginning next year, the new President will take the next steps toward the development of a new policy, and he or she should not have that policy prejudiced or pre-restrained by decisions DOE NNSA rushes to incorporate into a Record of Decision on Complex Transformation this year.

Although the SPEIS does include some discussion about making the nuclear weapons complex responsive to an evolving national security policy, it is only responsive within a narrow scope. The SPEIS is inadequate in this regard and should be altered to account from a broad range of options regarding nuclear weapons policy. Or, the document should be redrafted and re-circulated for public comment after publication of the new Nuclear Posture Review.

7 (a). Complex Transformation Fails to Prioritize Safety and Security:

The DOE NNSA clearly has a goal in mind for Complex Transformation; namely, the creation of a revitalized nuclear weapons complex. Unfortunately, NNSA first set out what it wanted to do, and then it attempted to consider safety and security within that narrow framework. A more rational approach would have been to make safety and security organizing principles for the future complex, and then develop a plan that embodied them.

7 (b). Analysis of Security and Terrorism Risks Must Include an Unclassified / Declassified Summary in the SPEIS, Particularly Regarding Health Impacts, Comparative Risks Between Sites and Other Information that Does Not Disclose Access or Other Security Vulnerabilities:

According to the President in Homeland Security Presidential Directive-3, the world has changed since September 11, 2001. "We remain a Nation at risk to terrorist attacks and will remain at risk for the foreseeable future. At all Homeland Security Threat Conditions, we must remain vigilant, prepared, and ready to deter terrorist attacks."

Thus, the DOE NNSA should treat terrorist attacks as a threat that is reasonably foreseeable for the purposes of NEPA and the environmental impacts of which should be fully analyzed just as reasonably foreseeable accidents scenarios are analyzed in NEPA documents. This was affirmed in the San Luis Obispo Mothers for Peace v. NRC case and again in the Tri-Valley CAREs v. DOE case (both in the 9th Circuit).

Tri-Valley CAREs has a grave, overarching concern that plans to revamp the nuclear weapons complex may create attractive targets for terrorism and other acts of malice or insanity. Additionally each time that special nuclear materials, such as plutonium and highly enriched uranium, are shipped there may be additional opportunities for attack.

And, we have particular concern for the Livermore area, where densely-populated neighborhoods with tract homes are built right up to the fence line of the Livermore Lab Main Site. Houses sit a mere 800 yards away from the tritium and plutonium facilities that make up the Livermore Lab's so-called "Superblock". Releases of radioactive materials could have a profound and enduring impact on the more than 7 million people surrounding the Livermore Lab.

In our comments on “scoping,” Tri-Valley CAREs said that it is critical that a security assessment be done that the public can provide input on – and that takes into account the various ways that these materials will be made vulnerable including storage, transportation, loading / unloading, packaging, processing etc. A generalized discussion of the pros and cons of each proposed location for these materials should be included. Further, we asserted that the nuclear materials should not be shipped gratuitously, and surplus materials should be immobilized in forms that are difficult to access and retrieve for would-be attackers.

Moreover, we stated we would expect that the amount declared "surplus" to the nuclear weapons program would steadily increase over time as disarmament advances. We suggested this be studied as a part of the proposed alternatives (e.g., compliance with Non-Proliferation Treaty and Curatorship options). The draft SPEIS fails to do any of this.

Instead, the draft SPEIS merely lists the DOE NNSA sites for which terrorism impacts are considered in a classified appendix. Worse, the list in the Executive Summary of facilities for which terrorism is allegedly considered (at page S-64) ***does not match*** the list of facilities that is contained in the body of the draft SPEIS (at page B-18). And, there is no way to tell which list of facilities is the correct one.

In the Executive Summary, it states that potential impacts of malevolent, terrorist or intentionally destructive acts at Livermore Lab are analyzed in a classified appendix. In the full draft document, Livermore Lab is missing from the list of facilities analyzed in the classified appendix – and therefore, it may not be included.

According to the draft SPEIS Executive Summary, “Depending on the malevolent terrorist, or intentional destructive acts, impacts may be similar to or would exceed accident impact analyses prepared for the SPEIS. These data will provide NNSA with information upon which to base, in part, decisions regarding transformation of the Complex... Although the results of the analyses cannot be disclosed in this unclassified SPEIS, the following general conclusion can be made: the potential consequences of intentional destructive acts are highly dependent upon distance to the site boundary and size of the surrounding population – the closer and higher the surrounding population, the higher the consequences. In addition, it is generally easier and more cost-effective to protect new facilities, as new security features can be incorporated into their design...”

Inadequate attention to security and terrorism vulnerabilities at Livermore Lab (in what should be both classified and unclassified analyses) may have led to proposals in the draft SPEIS (including in the preferred alternative) that could have a catastrophic impact on Livermore Lab workers and the surrounding populations.

First, DOE NNSA admits that the environmental and health impacts of a malevolent act or terrorism may exceed the limits of those analyzed in the SPEIS (in contradiction to the aforementioned legal decisions handed down by the 9th Circuit and common sense).

Second, DOE NNSA notes that the severity of impacts is related to the distance to the site boundary. In this regard, Livermore Lab is unique. Some DOE sites cover hundreds of square miles (e.g., Nevada Test Site), others cover scores or dozens of square miles (e.g., Los Alamos).

The Livermore Lab main site, which houses significant plutonium, highly enriched uranium and tritium inventories, is a hair over one square mile (1.3 square miles). The distance from the site boundary to the highly populated neighborhoods, with tract homes, apartments, little league fields, etc. is simply across the street. As noted, the distance from the “Superblock” tritium and plutonium buildings to these homes is about 800 yards. Some of the highly enriched uranium is located in a building that sits between the “Superblock” and the neighbors. There is no other location in the DOE NNSA complex that is situated to maximize impacts of a terrorist attack like Livermore Lab.

Third, DOE NNSA notes that the size of the surrounding population increases the impacts that would be suffered in a terrorist attack. For population size and density (as well as proximity), Livermore Lab is uniquely – and potentially catastrophically – situated. Livermore Lab is located in the East Bay region of the San Francisco Bay Area, about mid way between San Francisco, Oakland, San Jose, Concord and Stockton, California. More than 7 million people live within a 50-mile radius of Livermore Lab. The population of the City of Livermore alone is more than 81,000 – and growing.

Further, the DOE NNSA states that it is more difficult to protect older facilities, as they do not have security features incorporated in their design. The plutonium facility at Livermore Lab (where the administrative limit exceeds 3,000 pounds) is an old facility, nearly a half-century old. Its primary structure was constructed in 1961; the last major addition was completed in 1977.

The preferred alternative in the draft SPEIS involves keeping large stockpiles of plutonium and highly enriched uranium at Livermore Lab until 2012. There is no consideration in the SPEIS of moving these materials to a non-NNSA site or to a Dept. of Defense owned site. Therefore, these nuclear bomb-making materials may be left at Livermore Lab – in a uniquely vulnerable situation – longer than they should or would otherwise be kept. Thus, the preferred alternative for the plutonium and highly enriched uranium at Livermore Lab is being allowed to trump safety and security in violation of NEPA (and common sense). Tri-Valley CAREs, its members and other Livermore Lab workers and other area residents are being unacceptably placed at risk. (Additional Livermore Lab specific impacts will follow in Part Two).

In November 2007, the GAO released an audit of DOE’s progress in securing nuclear materials around the country, including at Livermore Lab. The GAO found that while DOE had told Congress in 2005 that the agency would complete plans within one year to consolidate and better secure plutonium and highly enriched uranium (principally), only 2 out of 8 plans were in place. Among the 6 plans left undone was the one to remove all weapons usable quantities of special nuclear materials from Livermore Lab. According to GAO, the security costs of keeping these materials at Livermore Lab was nearly half a billion dollars (for 7 years). As stated, the SPEIS touts cost as an element of its “Purpose and Need.” The security costs of leaving these materials at Livermore Lab that must also be considered in the SPEIS along with the potential health and environmental costs. The GAO report is titled, “DOE has Made Little Progress Consolidating and Disposing of special Nuclear Material.”

8. The SPEIS Environmental Justice Analysis is Deficient:

President Clinton's Executive Order 12898 (59 FR 7629) mandated that federal agencies consider the potentially disproportionate effect of their activities on minority and low-income communities. The draft SPEIS does contain some discussion of environmental justice issues. But those sections are insufficient, particularly with respect to native people.

As we stated during "scoping," throughout history the native people of the United States have borne many of the highest costs of US nuclear dominance. The mining was done on land given to native people, the milling and processing has often occurred on native land, the testing of the weapons and ultimately the disposal is slated for native land. Through this process, the US government has continued to disregard (for example, Yucca Mountain Final EIS) its agreements between Western Shoshone Nation in the Treaty of Ruby Valley of 1872.

The SPEIS must include an explanation of how the DOE NNSA can ignore an agreement between the US government and the Western Shoshone, which is a treaty between nations and the highest law of the land. If the DOE NNSA uses the claim that lands were taken by the U.S. through gradual encroachment as the quasi-judicial Indian Claims Commission (ICC) alleged and upheld by the subsequent Supreme Court decision (Dann vs US Government) that the Western Shoshone lost title of their land, then it must explain how a ruling of a court within one nation (US Supreme Court) is binding upon both nations.

Further, the DOE NNSA needs to address the decisions of the Organization of American States Inter-American Commission on Human Rights (IACHR) and the United Nations Committee to Eliminate Racial Discrimination (UNCERD) which both found the U.S. to have violated the fundamental human rights of the Western Shoshone people with regard to the Indian Claims Commission Proceedings which led to the Supreme Court decision.

On March 9, 2006, UNCERD again urged the United States to "freeze", "desist" and "stop" actions being taken, or threatened to be taken, against the Western Shoshone Peoples of the Western Shoshone Nation, including threats related to ongoing weapons testing at the Nevada Test Site as well as efforts to build an unprecedented high-level nuclear waste repository at adjacent Yucca Mountain. The SPEIS needs to take into consideration both the IACHR and UNCERD decisions and describe the proposed action in the context of these decisions.

9. Improper Segmentation / The Kansas City Plant Must be Included in the SPEIS:

NNSA's plans to build a new Kansas City Plant (KCP) were illegally segmented from the Complex Transformation SPEIS. In addition, with regard to KCP, the DOE NNSA predetermined the outcome of the NEPA process and prejudiced the selection of alternatives.

As a rule, under NEPA, an agency may not divide a proposed action into smaller segments to avoid presentation of its full environmental impacts. On the contrary, it must determine if other activities are connected in such a way as to be considered parts of a single action, in which case they should be evaluated in the same EIS.

Here, the construction of a new multi-structure facility to house NNSA's non-nuclear component procurement and manufacturing operations, the new Kansas City Plant, was illegally segmented from the Complex Transformation SPEIS. There is no rational basis for excluding this site from

the SPEIS, other than NNSA's desire to move forward with plans for a new KCP with a lower level of environmental analysis, less public involvement, and without the delays that are likely to accompany the Complex Transformation SPEIS.

Of the eight active sites that are a part of the nuclear weapons complex, KCP is the only site to be excluded from analysis in the SPEIS. Significantly, KCP was included in the 1996 Programmatic Environmental Impact Statement for Stockpile Stewardship and Management, to which the SPEIS is a supplement.

According to NNSA, Complex Transformation could "produce significant benefits, including improved safety, security, and environmental systems, reduced operating costs, and greater responsiveness to future changes in national security policy." SPEIS at S-1. According to the Environmental Assessment (EA) for KCP, "[t]he proposed facility would meet current and future production requirements for NNSA in a modern, cost effective, and flexible manner through reductions in the current facility footprint while significantly reducing operational, maintenance, security, and energy costs." KCP EA at 8.

Thus, in both cases, the proposed actions are not only intimately related but serve the same underlying ends.

Moreover, NNSA claims that, "[b]ecause the non-nuclear operations at KCP are essential and do not duplicate the work at other sites, no proposal for combination or elimination of these missions was deemed reasonable for evaluation in [the Complex Transformation SPEIS]." SPEIS at S-24. However, according to the KCP EA, Sandia National Laboratory (SNL), in Albuquerque, New Mexico "offer[s] the highest co-location benefits to NNSA." KCP EA at 17. SNL is the primary design laboratory for non-nuclear components, so a combination of non-nuclear component design and production at SNL is clearly an alternative worthy of consideration in the Complex Transformation SPEIS.

Relatedly, NNSA appears to have predetermined the outcome of the NEPA process with regard to KCP. Since KCP was excluded from consideration as part of the Complex Transformation SPEIS at an early date, no serious consideration was given to moving non-nuclear component production activities to another site in the Complex.

Under the Council on Environmental Quality's (CEQ) NEPA regulations, an EIS must be "prepared early enough so that it can serve practically as an important contribution to the decision-making process and will not be used to rationalize or justify decisions already made" 40 C.F.R. § 1502.5. In this case, NNSA decided several years ago to exclude KCP from the Complex Transformation process and then crafted the SPEIS in such a way as to lend support to that assumption.

NNSA's motives concerning the illegal segmentation are transparent: "NNSA expects to make a decision on how to modernize [the Kansas City Plant] before it makes any decisions regarding the alternatives analyzed in [the Complex Transformation SPEIS]." SPEIS at S-25. NNSA, in its haste to build a wasteful and unnecessary new facility, has segmented KCP from the Complex Transformation SPEIS, in violation of NEPA.

Finally, NNSA has prejudiced the consideration of alternatives in the Complex Transformation SPEIS by deferring necessary maintenance projects. With regard to the KCP, the Relocation Business Case for that facility states that maintenance was deferred “to capture near-term savings from avoiding investments that would be unneeded upon vacating the site.” KCP Relocation Business Case at 27 (estimating a backlog of approximately \$200 million deferred maintenance through 2014). This incredible statement occurs as part of a NEPA analysis that supposedly considers continuing operations at the current site as part of a no action alternative. In other words, in a bad faith effort to bolster support for its preferred alternative—a new KCP—NNSA neglected to perform necessary maintenance projects at the existing facility.

Since CEQ’s NEPA regulations provide that “[a]gencies shall not commit resources prejudicing selection of alternatives before making a final decision[,]” NNSA has clearly violated NEPA by deferring such maintenance. 40 C.F.R. § 1502.2(f). This pattern has been repeated at other NNSA sites to paint a more attractive—but plainly distorted—picture of the alleged benefits of NNSA’s preferred alternative as part of Complex Transformation.

10. Confusing Document Structure and Failure to Properly Analyze or Disclose the Environmental Impacts of the “Preferred Alternative” in the SPEIS.

Tri-Valley CAREs ha been reading DOE NEPA documents, including numerous EIS and PEIS documents for the past quarter century, and this draft SPEIS is the most confusing 1,600 page jumble we have encountered.

First, it is not written in plain language. Instead, it features excessive technical jargon and novel (and dizzyingly numerous) acronyms. 40 CFR 1502.8 states that “Agencies should employ writers of clear prose to write, review, or edit statements, which will be based upon the analysis and supporting data from the natural and social sciences and environmental design arts.” This document does not begin to approach the bar of “clear prose”.

This has consequences. The public is unnecessarily inhibited from fully commenting and participating as envisioned by NEPA. Certainly, this has impacted the amount of time that Tri-Valley CAREs has had to invest in order to attempt to sort out various permutations of “program” and “project” options in the document.

These appear to be designed not for reasoned consideration of alternatives, but rather as variations on the narrow themes that DOE NNSA favors, e.g., do we put it here – or over there. In fact, it reads is as if DOE NNSA is more concerned about crafting some future legal brief defending against charges stemming from the exclusion of reasonable alternatives than in illuminating and differentiating real options upon which the public could comment.

Egregiously, the draft SPEIS nowhere contains an analysis of the environmental impacts of its preferred alternative. Instead, at the end, it culls a preferred alternative piecemeal out of various program and project options. The reader cannot discern the impacts of the specific actions that individually make up the preferred alternative. Nor can the reader determine the impact of the preferred alternative as a whole.

The text and the accompanying charts in the SPEIS contain summaries that purport to compare environmental impacts but fail utterly to analyze or disclose (or compare) the impacts of the preferred alternative. As noted in our Purpose and Need comments above, the preferred alternative is simply an unanalyzed “amalgam of options.”

No reader or decision-maker can tell the individual or aggregate or cumulative or comparative (or any other) impacts of the preferred alternative. This central, serious failure makes the SPEIS useless and invalid as a basis for decision-making.

NOTE: PART TWO FOLLOWS AS A SEPARATE WORD DOC