

Final Complex Transformation Supplemental Programmatic Environmental Impact Statement (SPEIS)

Preferred Alternatives

CEQ regulations require an agency to identify the alternative it prefers for achieving its purpose in a Final EIS (40 CFR 1502.14(e)). NNSA's preferred alternative is described below. It is based on NNSA's consideration of environmental impacts described in this Final SPEIS, as well as other factors such as mission and infrastructure compatibility, economic analyses, safety, safeguards and security, and workforce training and retention. **The preferred alternative described below reflects NNSA's current preference, but it is not a decision. NNSA will announce any decisions in one or more Records of Decision and may select an alternative other than the preferred alternative identified below.**

Preferred Alternatives for Restructuring Special Nuclear Material (SNM) Facilities

- **Plutonium manufacturing and Research and Development (R&D):** Los Alamos National Laboratory would provide a consolidated plutonium research, development, and manufacturing capability within TA-55 enabled by construction and operation of the Chemistry and Metallurgy Research Replacement—Nuclear Facility (CMRR-NF). The CMRR-NF is needed to replace the existing Chemistry and Metallurgy Research (CMR) Facility (a 50-year old facility that has significant safety issues that cannot be addressed in the existing structure), to support movement of plutonium R&D and Category I/II quantities of SNM (special nuclear material requiring the highest level of security) from Lawrence Livermore National Laboratory, and consolidate weapons-related plutonium operations at Los Alamos. Until completion of a new Nuclear Posture Review in 2009 or later, the capacity at Los Alamos would be limited to a maximum of 20 pits per year. Other national security actinide needs and missions would continue to be supported at TA-55 on a priority basis (e.g., emergency response, material disposition, nuclear energy).
- **Uranium manufacturing and R&D:** Y-12 National Security Complex would continue as the uranium center producing components and canned subassemblies, and conducting surveillance and dismantlement. NNSA has completed construction of the Highly Enriched Uranium Materials Facility (HEUMF) and will consolidate highly enriched uranium storage in that facility.¹ NNSA would build a Uranium Processing Facility (UPF) at Y-12 in order to provide a smaller and modern highly-enriched uranium production capability to replace existing 50-year old facilities. The site-specific impacts and candidate locations for a UPF will be analyzed in a new environmental impact study for Y-12 that NNSA is currently preparing.
- **Assembly/disassembly/high explosives production and manufacturing:** Pantex would remain the Assembly/Disassembly/High Explosives production and manufacturing center. NNSA would consolidate non-destructive surveillance operations at Pantex.

¹ The environmental impacts at HEUMF and its alternatives are analyzed in the 2001 Y-12 SWEIS (DOE 2001a).

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- **Consolidation of Category I/II SNM:** NNSA would continue to transfer Category I/II SNM from Livermore under the No Action Alternative and phase out Category I/II operations at Livermore's Superblock by the end of 2012. NNSA would consolidate Category I/II SNM at Pantex within Zone 12, and close Zone 4.

Preferred Alternatives for Restructuring R&D and Testing Facilities

High Explosives (HE) R&D. NNSA would reduce the footprint of its HE production and R&D related to nuclear weapons; and reduce the number of firing sites. Use of energetic materials (greater than 1 kg) for environmental testing conducted at Sandia National Laboratories would continue (e.g., acceleration or sled tracks, shock loading, or in explosive tubes) and is not included in HE R&D. NNSA would consolidate weapons HE R&D and testing within the following locations, without constraining transfer and operation of weapons programs firing sites to other NNSA, DoD, and national security sponsors, as follows

- Pantex would remain the HE production (formulation, processing, and testing) and machining center. All HE production and machining to develop nuclear explosive packages would continue at Pantex. HE experiments up to 22 kg HE would remain at Pantex;
- Nevada Test Site would remain the testing center for large quantities of HE (greater than 10 kg);
- Livermore would be the HE R&D center for formulation, processing, and testing (processing capability to handle up to 15 kg and testing less than 10 kg) HE at the High Explosives Applications Facility (HEAF); formulation and processing of HE would be conducted either at a new HEAF Annex built adjacent to HEAF, or at existing Site 300 facilities (but using less space than currently used for these activities);
- Sandia would remain the HE R&D center for non-nuclear explosive package components (less than 1 kg of HE) at the Explosive Components Facility (ECF); and
- Los Alamos would produce war reserve main charge detonators, conduct HE R&D experimentation and support activities, and move towards contained HE R&D experimentation.
- Each site would maintain one weapons program open-burn and one open-detonation area for safety and treatment purposes.

Tritium R&D. NNSA would consolidate tritium R&D at the Savannah River Site (SRS). SRS would remain the site for tritium supply management and provide R&D support to production operations and gas transfer system development. Neutron generator target loading at Sandia and production of National Ignition Facility targets at Livermore, which involve small quantities of tritium, would continue and would not be included in this consolidation. NNSA would move bulk quantities of tritium from Los Alamos to SRS by 2009; and remove most tritium materials from the Weapons Engineering Tritium Facility (WETF) at Los Alamos by 2014.

NNSA flight test operations. Campaign Mode Operation of Tonopah Test Range (TTR) (Option 3—Campaign under Reduced Footprint Permit). NNSA would reduce the footprint of

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TTR, upgrade equipment with mobile capability, and operate in campaign mode. NNSA expects it would not use Category I/II SNM in future flight tests.

Major Hydrodynamic Testing. By the end of fiscal year 2008, NNSA would contain the hydrodynamic testing (consisting of Integrated Weapons Experiments and Focused Experiments) at Livermore at the Contained Firing Facility (CFF) and at Los Alamos at the Dual-Axis Radiographic Hydrodynamic Test (DARHT) facility. At Los Alamos, firing site operations for weapon programs required by NNSA's hydrodynamic test program would be moved to contained firing. In addition:

- Hydrotesting at Livermore's Site 300 would be consolidated to a smaller footprint by 2015.
- The goal is to minimize open-air testing at Los Alamos. Open-air hydrotests at DARHT, excluding SNM, would only occur if needed to meet national security requirements.
- NNSA would allow open-air firing at Los Alamos, in TA-36, until adequate radiographic capabilities and associated supporting infrastructure are available for open-air firing at Nevada Test Site.

Major Environmental Test Facilities. NNSA would consolidate major environmental testing at Sandia and infrequently conduct operations requiring Category I/II SNM in security campaign mode there. NNSA would close the Los Alamos and Livermore major environmental testing facilities by 2010 (except those in Livermore's Building 334 and the Building 834 Complex). NNSA would move environmental testing of nuclear explosive packages and other functions currently performed in Buildings 334 and 834 to Pantex by 2012.

Sandia National Laboratories, California Weapons Support Functions. NNSA would continue operations under the No Action Alternative.

As to any other programmatic and project-specific alternatives not mentioned above, NNSA's preferred alternative at this time is to continue with the No Action Alternatives. Section 5.20 of this Final SPEIS provides a summary of the environmental impacts of the preferred alternatives.