



## Major Nuclear Facilities

This fact sheet describes the major nuclear facilities that are addressed in the Complex Transformation SPEIS: (1) Consolidated Plutonium Center; (2) Consolidated Uranium Center; and (3) Assembly/Disassembly/High Explosives Center. This fact sheet explains the potential consolidation of these nuclear facilities into a Consolidated Nuclear Production Center (CNPC) or Consolidated Nuclear Centers (CNC). This fact sheet also describes the upgrade alternatives at Los Alamos for the plutonium mission and the Uranium Processing Facility (UPF) at Y-12.

### Consolidated Plutonium Center

**Consolidated Plutonium Center (CPC):** A CPC would provide the facilities and equipment to perform pit manufacturing, pit surveillance, and plutonium research and development (R&D). A CPC would provide a baseline manufacturing capacity of 125 pits per year using a single shift, with a contingency of 200 pits per year through multiple shifts and extended work weeks. A CPC would be built and started up over a six-year period and would be fully operational by approximately 2022. A CPC would consist of a central core area surrounded by a Perimeter Intrusion Detection and Assessment System (PIDAS), which would enclose all operations involving Category I/II quantities of special nuclear materials (SNM). All administrative and non-SNM support buildings would be located outside of the buffer area. Once operational, approximately 110 acres would be required for a new CPC. A CPC is being considered at Los Alamos National Laboratory in New Mexico; Nevada Test Site (NTS) in Nevada; Pantex in Texas; the Savannah River Site (SRS) in South Carolina; and the Y-12 Site in Tennessee.

**Upgrade Alternatives at Los Alamos:** Los Alamos could support pit production requirements using existing and new facilities at TA-55, which is the current site of the Plutonium Facility (PF-4) and future site of the Chemistry and Metallurgy Research Building Replacement (CMRR) Facility. The SPEIS assesses two upgrade alternatives at Los Alamos: (1) Constructing a new facility (known as the "Manufacturing Annex") to augment existing pit-manufacturing capacity, the planned CMRR Facility, and related infrastructure capacity to produce 125 pits per year for single shift operations; and (2) a "50/80 Alternative", which would involve expanding the current pit production capabilities in Building PF-4 and completing the CMRR Nuclear Facility, to support production of up to 80 pits per year. This alternative is assessed in order to provide NNSA with an alternative that has a pit production capacity of less than 125 pits per year.

### Consolidated Uranium Center

**Consolidated Uranium Center (CUC):** A CUC would have a nuclear facility located within a PIDAS and non-nuclear support facilities outside the PIDAS. The CUC nuclear facility would process highly enriched uranium (HEU), produce nuclear weapon secondary components, provide the capability to perform HEU R&D in support of LANL and LLNL, and store HEU. The non-nuclear facilities would contain the non-nuclear production equipment and support functions. A CUC would be constructed over a six-year period, beginning in approximately 2010, with completion by approximately 2016, and operations beginning by approximately 2018. Once operational, approximately 35 acres would be required for a new CUC. Sites under consideration for the CUC are the same as for the CPC: Los Alamos, NTS, Pantex, SRS, and Y-12.

## Consolidated Uranium Center (continued)

**Uranium Processing Facility (UPF):** Y-12 currently performs most of the missions that would be performed in a CUC. As such, the alternative at Y-12 would only involve a new nuclear facility (the UPF) and a consolidated manufacturing center for non-nuclear production operations. A UPF would consolidate many of the existing operations into an integrated manufacturing operation sized to satisfy all identified programmatic needs. The UPF would be sited adjacent to the Highly Enriched Uranium Materials Facility (HEUMF) (currently under construction at Y-12), which is to be used for consolidated uranium storage, to allow the two facilities to function as an integrated operation.

## Assembly/Disassembly/High Explosives Center

The Assembly/Disassembly/High Explosives (A/D/HE) Center would assemble warheads, dismantle weapons that are surplus to the strategic stockpile, develop and fabricate explosive components, and conduct surveillance related to certifying weapon safety and reliability. An area of 180 acres would be provided in the PIDAS for weapons assembly and disassembly facilities, and for weapons and component storage. Located outside the PIDAS would be a buffer zone and non-nuclear facilities for HE fabrication, administrative support, and disposal of explosive materials. This area would be approximately 120 acres. An A/D/HE Center would be constructed over a six-year period beginning in approximately 2020, with completion by approximately 2025, and operations beginning by approximately 2025. Sites under consideration for the A/D/HE Center are the same as for the CPC and the CUC: Los Alamos, NTS, Pantex, SRS, and Y-12. Pantex has an existing A/D/HE mission and would not require construction of a new A/D/HE center.

## Consolidated Nuclear Production Center

A Consolidated Nuclear Production Center (CNPC) would be a large facility composed of the three facilities described above: a CPC, a CUC, and an A/D/HE Center. This facility would consolidate the three major functions involving Category I/II quantities of SNM into a single facility at one site. Sites under consideration for a CNPC are the same as for the CPC, CUC, and the A/D/HE Center: Los Alamos, NTS, Pantex, SRS, and Y-12. If NNSA were to construct and operate a CNPC, Category I/II plutonium and HEU would be consolidated at a CNPC.

## Consolidated Nuclear Centers

The Consolidated Nuclear Centers (CNC) would separate the A/D/HE mission to allow NNSA to consider an option that locates the plutonium and uranium production facilities at a different site than the A/D/HE mission. Under this option, NNSA would construct and operate a CPC and CUC at one site and operate an A/D/HE facility at either Pantex or NTS. Operationally, the major difference between a CNPC and a CNC involves transportation impacts between the nuclear production facilities and the A/D/HE facility. For example, once steady-state operations are achieved in a CNPC, all nuclear missions would occur at a single site and there would be virtually no radiological transportation (with the exception of waste shipments and nuclear weapons shipments between the Department of Defense and NNSA). Under the CNC Alternative, radiological transportation would be required between the production facilities and the A/D/HE facility.

---

### For further information contact:

Mr. Theodore Wyka  
Complex Transformation SPEIS Document Manager  
Office of Transformation, NA-10.1  
U.S. Department of Energy/NNSA  
1000 Independence Avenue, SW  
Washington, DC 20585

Phone: (800) 832-0885 (ext. 63519)  
E-mail: [complextransformation@nnsa.doe.gov](mailto:complextransformation@nnsa.doe.gov)  
Website: <http://www.ComplexTransformationSPEIS.com>