



Perspectives on NNSA Nuclear Project Needs

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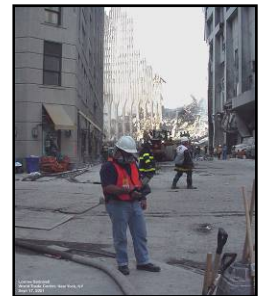
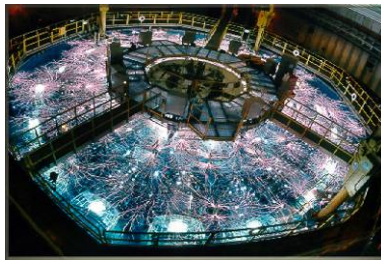
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NATIONAL SECURITY ENTERPRISE MISSION



Strengthen national security through the military application of nuclear energy and by reducing the global threat from terrorism and weapons of mass destruction.





NNSA Profile



- **Federal and Contractor Employees: ~ 25,000**
- **Geographically Diverse with Operations and Sites in**
 - California
 - Nevada
 - New Mexico
 - Tennessee
 - South Carolina
 - Missouri
 - Washington
 - Texas
 - Idaho
 - Pennsylvania
 - New York
 - Virginia
 - Other Domestic
 - Several International
- **Currently managing approximately 100 Nuclear Facilities**
- **Budget Profile:** *The FY 2009 Request for NNSA is \$9.1 billion*
- **Committed to Safety and Quality**



NNSA's Challenges



While NNSA is meeting security requirements today,

- **The nuclear weapons complex is too big, old, and costly.**
- **Capability and facilities required to support a large Cold-war era nuclear weapons stockpile are no longer necessary or affordable.**
- **Special nuclear materials (SNM) are present at more sites than we believe are needed, and are more expensive to secure.**
- **Safety, Security, and Regulatory requirements are increasing**
- **Sustainability investments are demanded while awaiting key facility replacements**



Complex Transformation



Vision:

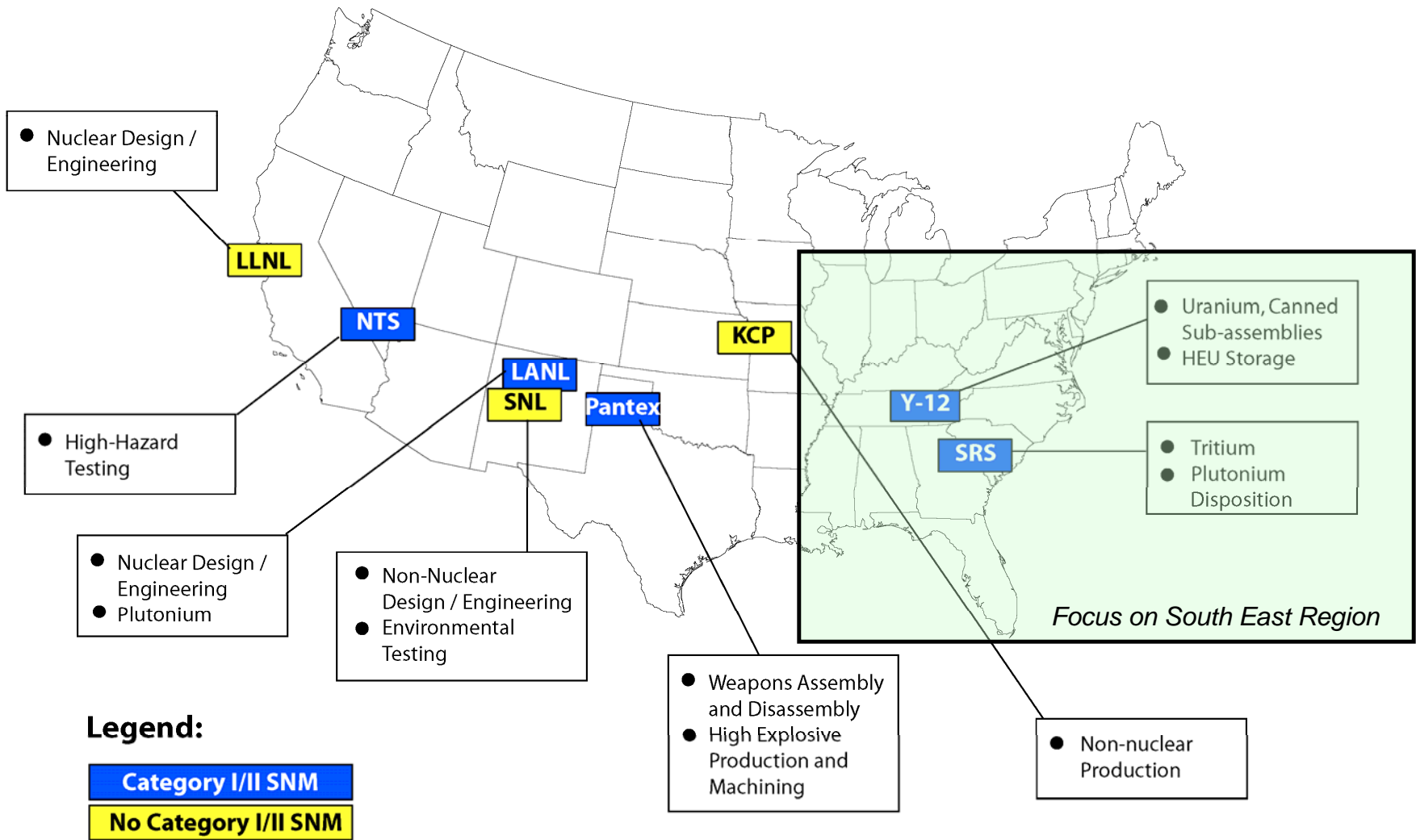
A smaller, safer, more secure and less expensive enterprise that leverages the scientific and technical capabilities of our workforce, and meets national security requirements.

Regional Highlights from the Program of Record:

- **Uranium operations will be consolidated at NNSA's Y-12 National Security Complex in Tennessee.**
 - NNSA completed construction of the Highly Enriched Uranium Materials Facility (HEUMF) in 2008 and will consolidate HEU storage in that facility.
 - NNSA will build a UPF at Y-12 to provide a smaller and modern highly-enriched uranium production capability, replacing 50-year-old facilities.
- **Tritium operations will be consolidated at the Savannah River Site in South Carolina.**
- **Plutonium Disposition functions are being consolidated to Savannah River Site.**
 - Mixed Oxide Fuel Facility (MOX) and Waste Solidification Building (WSB) currently under construction.
 - Design underway for the Pit Disassembly and Conversion Facility (PDCF).



Proposed Nuclear Weapons Complex Distributed Centers of Excellence





NNSA Transformation and Nuclear Needs



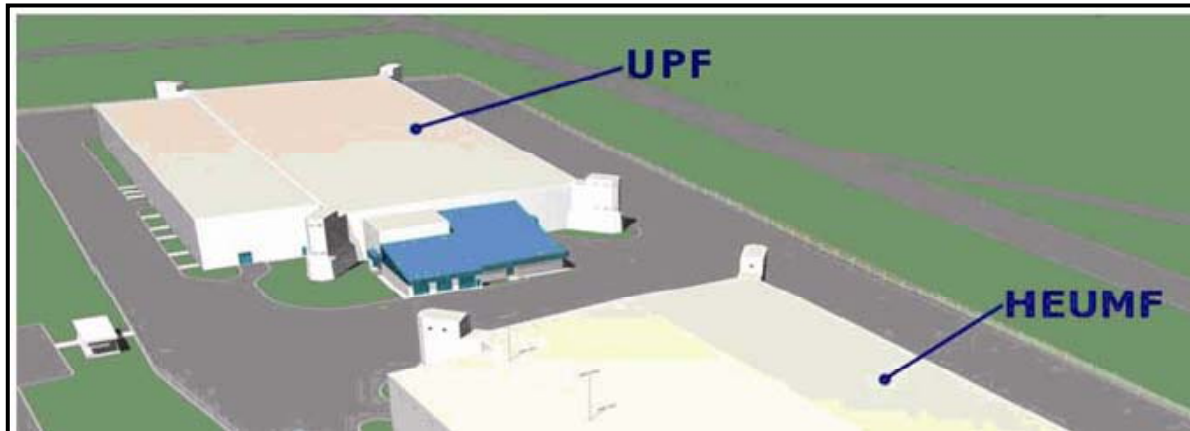
- **Nuclear Operations**
 - Nuclear “Pedigree” Equipment
 - Nuclear Facility Systems
 - Upgrades for Infrastructure Systems
 - Replacements-in-kind for Existing Infrastructure
 - Safety Basis Support Services
- **Major Construction Projects (Congressional Line Items)**
 - Uranium Processing Facility (Y-12)
 - Pit Disassembly and Conversion Facility (SRS)
 - Multiple “Medium” Projects (SRS and Y-12, etc.)



Nuclear Projects – Uranium Processing Facility (UPF)



- **Purpose:** Future capability for Highly Enriched Uranium processing operations
- **Funding Profile:** Estimated Total Project Costs range of \$1.4 - \$3.5 Billion
- **Project Status:** Preliminary Design Underway
- **Project Completion Target:** 4th Quarter FY18 (fully operational FY20/product in FY22)



Rendering of a UPF Adjacent to the HEUMF



Nuclear Projects – Pit Disassembly and Conversion Facility (PDCF)



- **Purpose:** Disassemble surplus plutonium pits and convert the weapons-grade metal into plutonium oxide for fabrication at the Mixed Oxide Fuel (MOX) facility for ultimate use in commercial nuclear power plants.
- **Funding Profile:** Estimated Total Project Costs range of \$2.4 - \$3.2 Billion
- **Project Status:** Design Underway
- **Project Completion Target:** FY2019



MOX Facility Construction at SRS



Nuclear Supplier Attributes and Requirements



- **Nuclear Operations**

- Safety Basis Analysis and Implementation Experience
- Effective Implementation of a Quality Assurance Program for all component fabrications
- Management of quality for sub-tier suppliers
 - Consistent flow down of quality requirements to sub-tier suppliers
 - Perform qualification audits on all sub-tier suppliers performing nuclear work

- **Construction**

- Demonstrated Nuclear Project Competency
- Effective Prime Contractor Implementation of a Quality Assurance Program for all nuclear projects
 - NQA-1 Requirements
- Management of quality for sub-tier vendors and contractors
 - Quality requirements to all equipment vendors
 - Perform qualification audits for vendors and subs
- External Stakeholder Interfaces and Relationships are Critical



Nuclear Supply Chain Scope



Maintaining Nuclear Operations across the NNSA Complex demands a field of Qualified Suppliers and Vendors

- Nuclear “Pedigree” Equipment and Construction Materials
 - High Pressure Vessels, Compressors, HEPA Filters, Pumps, Dehydrators
 - Traveling Cranes, Hoists, Gantries, Personnel Airlocks, Radiation Shielding Doors
 - Concrete, Rebar, Structural Steel, Conduit, Piping
 - Glove Boxes
- Nuclear Facility Systems
 - Upgrades for Infrastructure Systems
 - HVAC
 - Pumps, Valves, Controllers
 - Replacements-in-kind for Existing Infrastructure
- Safety Basis Support Services
 - Subject Matter Experts
 - Analyses and Documentation



Closing



- **NNSA Complex Transformation presents a variety of business opportunities for nuclear suppliers**
 - Demand for Nuclear Suppliers is Growing
- **NNSA needs include products and services**
 - Nuclear Facility Construction
 - Security
 - Sensor Technology
- **Nuclear certification and training investments will position companies for federal and commercial nuclear market share**