## Management & Operating Contractors

<table>
<thead>
<tr>
<th>FACILITY</th>
<th>CONTRACTOR</th>
<th>PARENT COMPANIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lawrence Livermore National Laboratory</td>
<td>Lawrence Livermore National Security, LLC</td>
<td>University of California, Bechtel National, Babcock &amp; Wilcox, AECOM, Battelle</td>
</tr>
<tr>
<td>Los Alamos National Laboratory</td>
<td>Los Alamos National Security, LLC</td>
<td>University of California, Bechtel National, Babcock &amp; Wilcox Technical Services, and AECOM</td>
</tr>
<tr>
<td>Nevada Nuclear Security Site</td>
<td>National Security Technologies, LLC</td>
<td>Northrop Grumman, CH2M Hill, AECOM, Nuclear Fuels Svcs (Acquired by B&amp;W)</td>
</tr>
<tr>
<td>Sandia National Laboratories</td>
<td>Through May 2017: Sandia Corporation</td>
<td>Lockheed Martin Corporation</td>
</tr>
<tr>
<td>National Security Campus (formerly known as the Kansas City Plant)</td>
<td>Honeywell Federal Manufacturing &amp; Technologies, LLC</td>
<td>Honeywell International, Inc.</td>
</tr>
<tr>
<td>Pantex Plant</td>
<td>Consolidated Nuclear Security, LLC (CNS)</td>
<td>Bechtel National, Lockheed Martin Services, ATK Launch Systems, and SOC LLS</td>
</tr>
<tr>
<td>Oak Ridge Y-12 Site</td>
<td>Consolidated Nuclear Security, LLC (CNS)</td>
<td>Bechtel National, Lockheed Martin Services, ATK Launch Systems, and SOC LLS</td>
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</tbody>
</table>
NNSA SAFETY, INFRASTRUCTURE & OPERATIONS

A VAST AND COMPLEX ENTERPRISE

THE CHALLENGE: AGING & DECLINING INFRASTRUCTURE

AGE OF FACILITIES

- 30% 60+ years
- 24% 40-60 years

EXCESS FACILITIES

- 12%

CONDITION OF FACILITIES

- 21% Inadequate
- 41% Substandard

Vision

Safely operate and modernize our enterprise to meet demands now and in the future.

Mission

Maintain, Operate, and Modernize NNSA Infrastructure in a safe, secure, and cost-effective manner to enable program results.

41,000 LABORATORY & PLANT EMPLOYEES

2,000 miles of roads

NEARLY THE DRIVING DISTANCE FROM DC TO LOS ALAMOS

TRACK 400,000 METRIC TONS OF NUCLEAR MATERIAL TRANSACTIONS

safety for 400 nuclear facilities

2,160 square miles of land area

ABOUT THE SIZE OF DELAWARE

36 Million SQUARE FEET OF FACILITY SPACE

(~ six Pentagons worth)

15.2 MILLION FT³ OF HAZMAT

ENOUGH TO FILL ~ 15 WASHINGTON MONUMENTS

9.1 Trillion BTUs

ENOUGH TO POWER ~ 250,000 HOMES FOR ONE YEAR

JULY 2015
UPF

- Replaces a 75 year-old facility
- Supports all DOE/NNSA uranium missions: weapons, non-proliferation, naval reactors, medical isotopes
- NNSA committed to a build-to-budget strategy for delivering the UPF Project for $6.5 billion by 2025
- UPF Project comprised of 7 subprojects, each with their own cost and schedule baselines, managed in accordance with DOE Order 413:
  - Site Readiness completed under budget and on schedule
  - Site Infrastructure & Services, Substation, and Mechanical Electrical Building baselined and executing on budget and schedule
  - Process Support Facility, Salvage and Accountability Building, and Main Process Building will be baselined in FY 2018
- Consistent with DOE policy, NNSA will establish the cost and schedule baseline after 90 percent design completion of the nuclear work
- Delivering UPF for $6.5 billion requires stable predictable funding profiles and the enactment of the President’s Budget Request

ASC

- Replacement of functionally inadequate and technologically obsolete aging facilities
- Sustainable infrastructure that supports the health, safety, and welfare of the employees, the public, and the environment
- Three stories, three wings in a ‘T’ shape, total 342,800 square feet (SF),
- Enables elimination of approximately $20M in deferred maintenance
- Accelerates progress on energy efficiency targets and mandates
- Enhances recruitment and retention, and Improves quality of life/work environment
Uranium Processing Facility

UPF replaces Building 9212 enriched uranium processing operations by 2025
Administrative Support Complex

Eliminates approximately $20M in deferred maintenance
### Life Extension Programs and Major Alterations

<table>
<thead>
<tr>
<th>Program</th>
<th>W76-1 LEP (Submarine missile warhead)</th>
<th>B61-12 LEP (Gravity bomb)</th>
<th>W88 ALT 370 (Submarine missile warhead)</th>
<th>W80-4 LEP (Cruise missile warhead)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Program Cost</strong></td>
<td>$3.6B</td>
<td>$8.1B</td>
<td>$2.3B</td>
<td>TBD in 2018</td>
</tr>
<tr>
<td><strong>FY16 Funding</strong></td>
<td>$244M</td>
<td>$643M</td>
<td>$245M</td>
<td>$195M</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>In production at Pantex; Production complete in 2019</td>
<td>In production engineering; first production in 2020</td>
<td>In development engineering; first production in 2020</td>
<td>In feasibility study &amp; design options; first production in 2025</td>
</tr>
</tbody>
</table>
| **Scope**                | - New arming, fuzing, and firing assembly  
- Refurbished primary & secondary  
- New trainers  
- Replace neutron generators and gas transfer system  | - Consolidates 4 existing B61 mods into the B61-12  
- New electronics  
- Refurbished primary & secondary  
- New trainers  
- Replace neutron generators and gas transfer system  | - New arming, fuzing, & firing assembly  
- Refresh high explosives in primary  
- Replace neutron generators and gas transfer system  | - Warhead for Air Force cruise missile replacing existing 30+ year-old missile  
- New electronics  
- Refurbished primary  
- New trainers  
- Replace neutron gens and gas transfer system |

- **W76-1 LEP**
- **B61-12 LEP**
- **W88 ALT 370**
- **W80-4 LEP**
Sustaining the Stockpile

**Source:** Figure 2-2, FY 2017 NNSA Stockpile Stewardship and Management Plan (SSMP)

“Greatest level of effort for the future deterrent since the Cold War - while maintaining the current deterrent”
U.S. Nuclear Weapons Stockpile, 1945-2016*

*Active and inactive warheads. Several thousand additional warheads are retired and awaiting dismantlement.

Max Warheads: 31,255
End of the Cold War
Total Warheads as of 2016: 4,018

Number of Weapons
Average Age of Stockpile

Average Warhead Age

0 5,000 10,000 15,000 20,000 25,000 30,000 35,000
No longer in the stockpile
Being phased out
Future deterrent

Weapons shown at date of stockpile entry
U.S. Nuclear Weapons Stockpile, 1945-2016*

*Active and inactive warheads. Several thousand additional warheads are retired and awaiting dismantlement.

**Max Warheads:** 31,255

**End of the Cold War**

**Cuban Missile Crisis**

**Total Warheads as of 2016:** 4,018