NNSA Production Office

OVERVIEW ON SITE MISSIONS

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National Nuclear Security Administration

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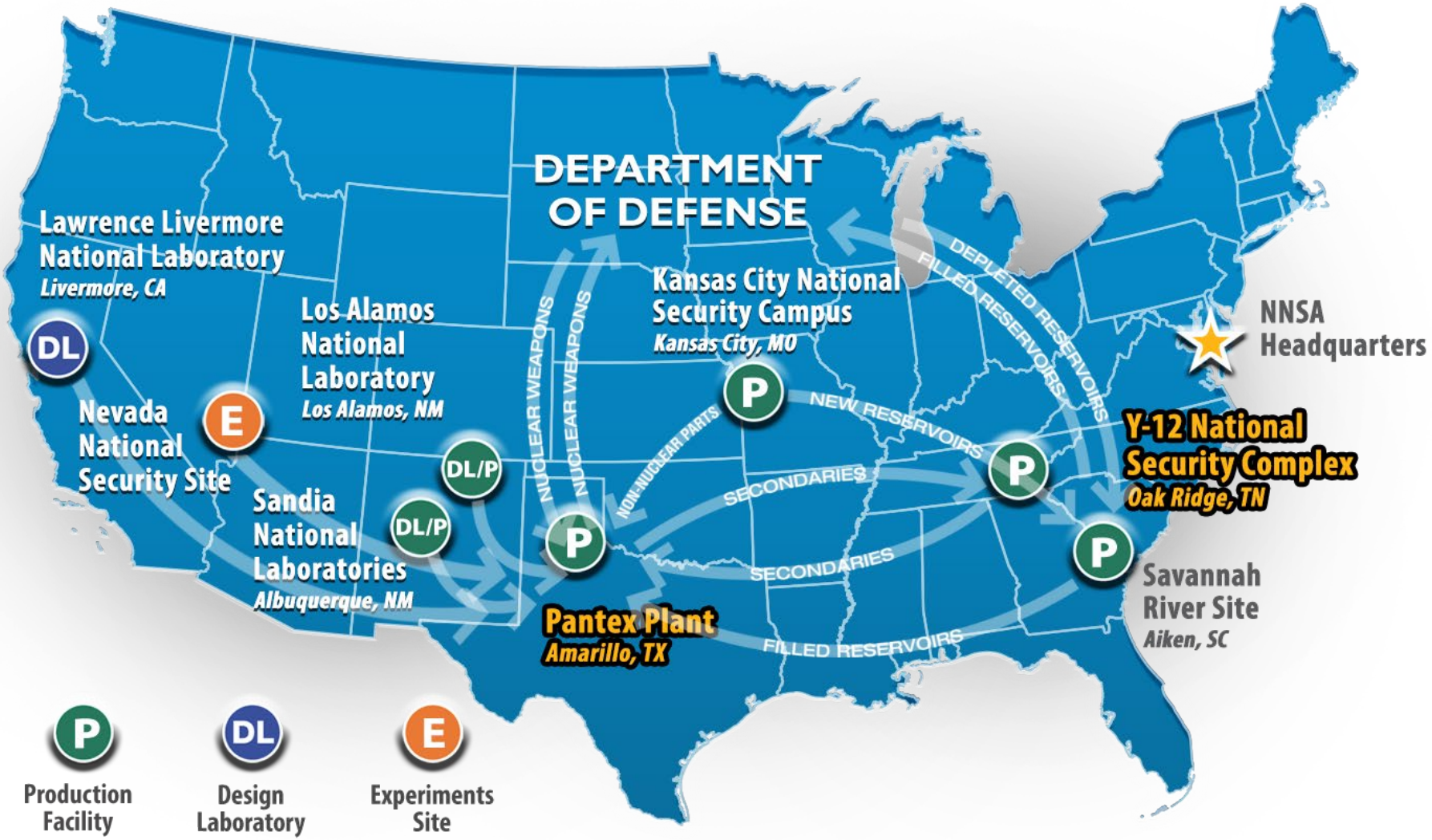
PANTEX

- Weapons assembly and disassembly
- Life Extension Programs and surveillance for active weapons
- Special Nuclear Material operations
- High explosives components

Y-12

- Disassembly, refurbishment, and reassembly of canned subassemblies
- Safe, secure uranium storage
- Highly enriched uranium fuel for the United States Navy
- Specialized response training and material recovery to support nonproliferation

Nuclear Security Enterprise



Pantex and Y-12 Workforce

- ~9,800 employees
  - Including ~4,500 represented by 9 unions
- Average age: 47
- Average years of service: 11

- Employees with degrees:
  - 9% associate's
  - 27% bachelor's
  - 10% master's; 1% doctorate
- Retirement eligible:
  - 23% currently eligible; 32% eligible in 5 years





CNS Bargaining Unit Contract Status

Union	Employees Represented	Occupation Represented	Contract Expiration
Atomic Trades and Labor Council (Y12)	1,264	Maintenance, production, service and technicians	June 19, 2025
United Steel Workers (Y12)	5	Power operations	August 1, 2025
International Guards Union of America (Y12)	45	Central Alarm Station operators, Beta 9 operators and CTF instructors	September 29, 2020
Teamsters, Local 519 (Y12)	21	Y-12 fire department captains and lieutenants	June 30, 2021
Knoxville Building and Construction Trades Council (Y12)	437	Construction workforce	September 30, 2021 (9/30/2026) (with 5-yr extension clause)
West Texas Building Trades (Pantex)	31	Construction workforce	May 10, 2022
Pantex Guard Union (Pantex)	500	Security police officers	June 5, 2022
International Guards Union of America (Y12)	390	Security police officers	August 15, 2023
Metal Trades Council (Pantex)	1,217	Maintenance, production and service	April 7, 2024

5

Y-12 Site

- 3079 acres with 150 high-security acres
- 349 buildings
- 7.6 million ft^2 of laboratory, machining, dismantlement, research and development, and office areas
- 1.4 million ft^2 demolished

Provide a Safe and Effective Nuclear Deterrent

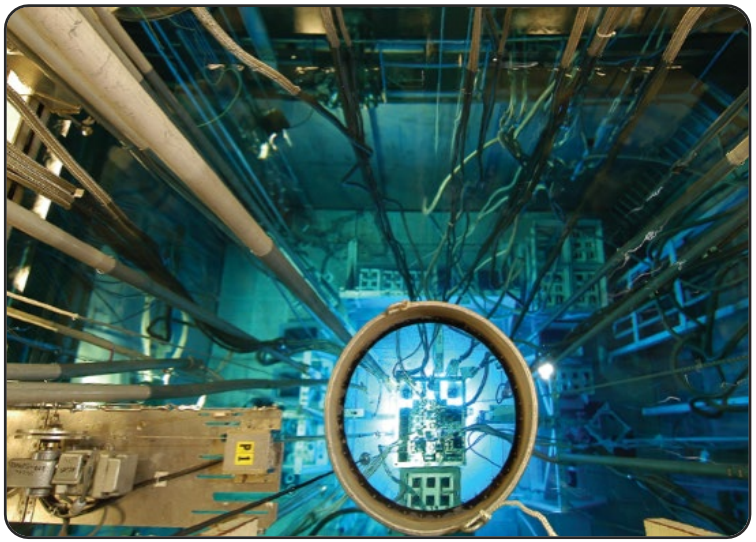
- Build canned subassemblies for Life Extension Programs
- Conduct “CSI for nuclear weapons” (Testing to determine the effects of aging, environmental conditions, and material incompatibilities)
- Dismantle retired subassemblies and disposition components and materials
- Ensure nuclear material is in safe and secure storage

Reduce the Global Nuclear Threat

- Recover weapons-capable materials
- Provide special materials expertise and detection technologies to our allies and U.S. government agencies
- Train first responders, safety, security and law enforcement personnel to protect special materials

Supply Nuclear Fuel

- Provide uranium feedstock to power U.S. Navy submarines and aircraft carriers
- Supply uranium to research reactors
- Develop reactor components for space travel



Secure Our Site

- **Mission:** Deter and/or defeat any threat to special nuclear material, classified information, personnel and property located at Y-12

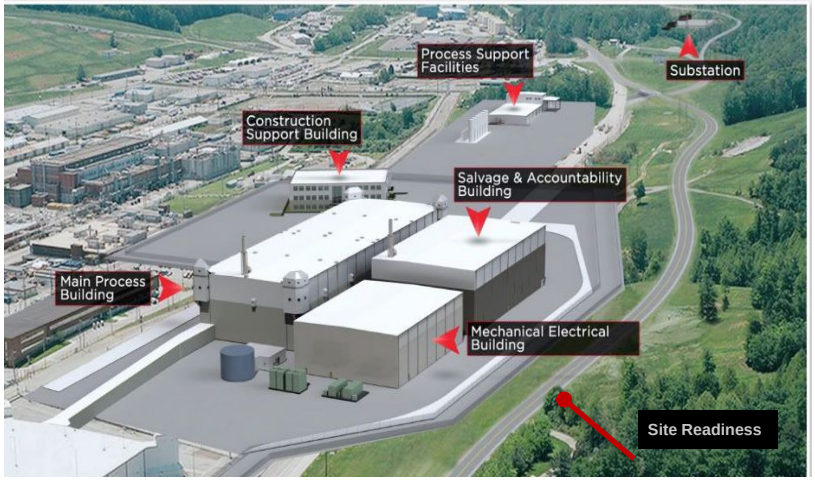
- ~500 uniformed personnel; most (95%) have prior military or law enforcement experience
  - Trained on a wide variety of offensive and defensive tactics, techniques and procedures to include advanced marksmanship, fire and maneuver techniques, breaching, and operations in limited visibility
  - Equipped with a full complement of weapons, optics and protective equipment that enhances lethality, survivability and mission accomplishment
- Provides training and policies regarding classified information
- Monitors and maintains more than two miles of intrusion detection assets

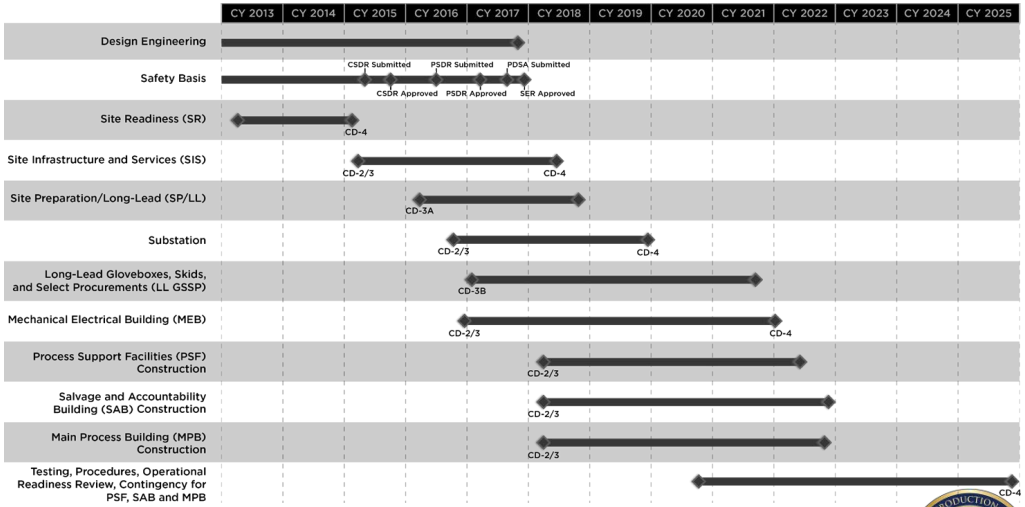
Active or Planned Y-12 Capital Projects

- **Emergency Operations Center:** Relocate Plant Shift Superintendent and site emergency management operations from Building 9706-02, a 1940s-era building, to a new facility.
- **Fire Station:** Relocate Y-12's fire station from Building 9710-02, a 1940s-era building, to a new facility.
- **West End Protected Area Reduction:** Reduce the Y-12 protected area by ~50% by reconfiguring the perimeter intrusion, detection, and assessment system (or PIDAS).
- **Lithium Processing Facility:** Relocate mission-critical lithium processing activities at Y-12 from the rapidly deteriorating Beta-2 (9204-02) and into a new facility.
- **Electrorefiner:** Design, procure, test, install, and turn over to operations a process that provides an electrochemical means of purifying uranium metal.
- **Calciner Project**: Install a process to bridge the mission capability gap for the Building 9212 exit transition strategy.

Uranium Processing Facility (UPF) Project

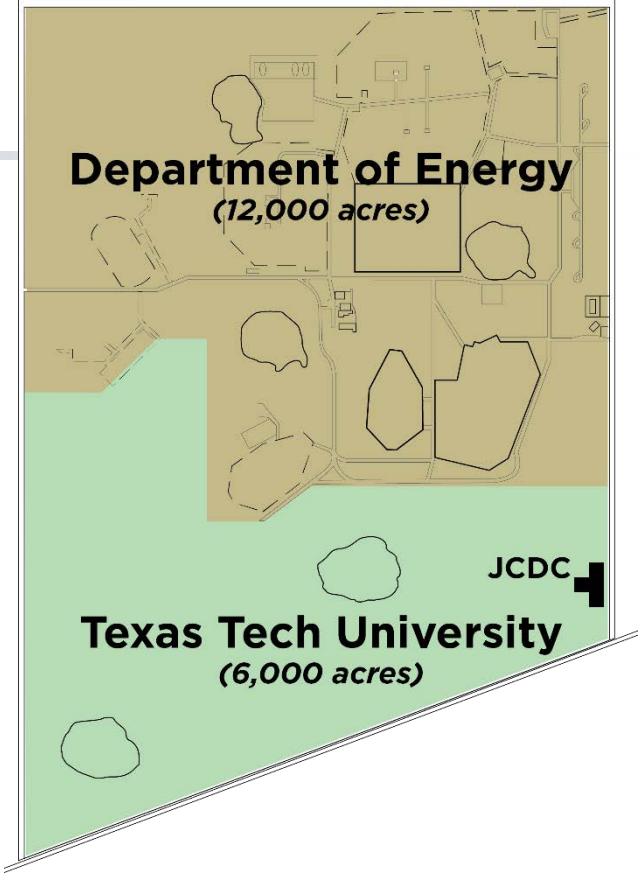
- **UPF supports phasing mission dependence on Y-12's Building 9212**
  - Will provide Enriched Uranium (EU) capability to support the nuclear weapons stockpile, nonproliferation and naval reactors mission
  - Will replace HEU casting, oxide production, recovery, decontamination and assay capabilities from Building 9212 and house them in new, modern nuclear facilities
- **Seven Subprojects**
  - Three complete on time and under budget: Site Readiness, Site Infrastructure and Services and Substation
  - Four underway: Mechanical Electrical Building, Salvage and Accountability Building, Main Process Building and Process Support Facilities
- **UPF will be delivered for no more than $6.5B by the end of 2025**





Pantex Site

- Department of Energy (DOE) owns northern 12,000 acres, leases remaining 6,000 acres from Texas Tech University, and owns 1,500 acres east of FM 2373
- Most plant operations conducted in 610 buildings on ≈ 2,000 acres
- Five DOE wind turbines supply ≈ 60 percent of plant electricity



Providing the Nuclear Deterrent

Assembly, Disassembly, and Surveillance

- Only site in United States authorized for full assembly and disassembly of nuclear weapons
- Workforce has specialized training and skills to support inspection, retrofit, and surveillance of our stockpile

Ensuring our Stockpile is Strong and Viable

Life Extension Programs and Stockpile Surveillance

- Part and component replacement for aging weapons systems
- Quality Evaluation/Surveillance work and Joint Test Assemblies (JTAs) help confirm the effectiveness of the stockpile
- Data gathered allows laboratories to annually validate the effectiveness of the stockpile to the President

Reducing the Total Nuclear Weapons in the Stockpile

- Dismantle retired weapons and disposition components and materials
- Ensure nuclear material is in safe and secure storage

Providing High Explosives that Perform as Planned

Chosen by NNSA as the High Explosives Center of Excellence

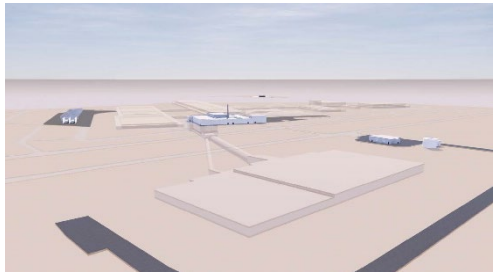
- Develop, test, and fabricate high-explosives components to support the nation's nuclear deterrent
- Manufacture the main-charge high explosive
- Design Agencies and Pantex work closely with raw material supply base to execute the nuclear explosives design requirements

Active or Planned Pantex Capital Projects

- **High Explosive Science and Engineering Facility:** Provides improved capabilities supporting core surveillance activities, modeling, scientific analysis, and testing of High Explosive products. Replaces more than a dozen legacy facilities at Pantex.

- **High Explosives Synthesis, Formulation, and Production Facility:** Relocate critical high-explosives activities in several 70+-year-old Pantex buildings into a single facility.

- **Material Staging Facility:** Consolidate the staging of weapons and weapons components at a new Pantex facility.



Future of the Nuclear Deterrent

- B61-12 Life Extension Program
- W80-4 Life Extension Program
- W87-1 Modification Program
- W88 Alteration 370