



U.S. Department of Energy National Nuclear Security Administration

Long-Term Stewardship (LTS) at NNSA Sites

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NNSA Missions and Crosscutting Capabilities





A Key Part of the Deterrent is a Responsive Nuclear Security Enterprise



LLNL

- **Weapon Design (Nuclear)**
- Design agency for the W80, W87, and B83
- **High explosive R&D** Center of Excellence



NNSS

- Nuclear material and other **experiments**

KCNSC

- **Nonnuclear** component manufacturing / procurement

Y-12 NSC

- **Uranium** component and sub-assembly production
- **Lithium** Processing

LANL

- **Weapon Design (Nuclear)**
- Design agency for the B61, W76, W78, and W88
- Pit production
- **Plutonium** sustainment

SNL

- Systems engineering
- **Neutron generator** design and production
- **Weapon Design (Non-nuclear)**

Pantex

- **Weapons assembly/ disassembly**
- **High explosive production** Center of Excellence

SRS

- **Tritium** operations
- TPBAR extraction
- Reservoir change-out

Over 50% of NNSA Infrastructure is more than 40 Years Old

NNSA SAFETY, INFRASTRUCTURE & OPERATIONS

MAKING THE RIGHT THINGS HAPPEN



A VAST AND COMPLEX ENTERPRISE

AGE OF INFRASTRUCTURE



EXCESS FACILITIES



CONDITION OF INFRASTRUCTURE



Vision

We contribute to national security now and in the future by managing the complex NNSA risks of safety, infrastructure, materials, and the environment.

Mission

Enable safe operations, ensure effective infrastructure, and provide enterprise services to meet National Nuclear Security Administration needs.

41,000

LABORATORY, PLANT & SITE 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
and hazardous
facilities



2,100
square miles
of land area



ABOUT THE LAND AREA OF DELAWARE

36 MILLION
SQUARE FEET OF
ACTIVE FACILITY SPACE



(Six Pentagons worth)

NNSA packages ship over
500,000
miles per year



Enough to travel to the moon and back



8.4 Trillion BTUs
ANNUAL ENERGY CONSUMPTION



enough to power
~ 237,000
homes for one year



NNSA LTS Program



- The NNSA LTS Program supports the ongoing mission by:
 - Protecting human health and the environment, and;
 - Ensuring safe working conditions by reducing exposure to hazardous and radioactive legacy contamination.
- LTS meets federal and state environmental regulatory requirements to ensure required safe cleanup levels are met.
- NNSA LTS annual budget for four sites is approximately \$55M.



Closure for the Seventh Generation



Closure for the Seventh Generation

A report from the State and Tribal Government Working Group's Long-Term Stewardship Committee | 2017 Edition

Stewardship of the U.S. Department of Energy Nuclear Weapons Complex and Legacy Waste Sites

- NNSA supports the 2017 *Closure for the Seventh Generation* report.
- A collaborative effort between states, tribes, DOE Field Offices, and Headquarters.
- A framework for ongoing dialogue and cooperative action.



STGWG

State and Tribal Government Working Group



NCSL



NNSA LTS Program: Four Sites





Regulatory Framework



- The Lawrence Livermore National Laboratory's Main Site (including Site 300), and the Pantex Plant are Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or "Superfund" sites on the National Priorities List, subject to EPA CERCLA authority.
- Sandia National Laboratories and the former Bannister Federal Complex are subject to State Resource Conservation and Recovery Act authorities.
- Complex regulatory document submissions are often required, such as Five-Year Remedy Effectiveness Reviews and new remedy alternatives analyses.

All stakeholders have the opportunity to participate in the regulatory review processes, in accordance with state and federal laws, regulations, and policy.



NNSA LTS Strategic Plan



- We are developing a NNSA LTS Strategic Plan that addresses the environmental stewardship life-cycle (EM-NNSA LTS-LM).
- The Plan will be a high-level document built upon existing documents and processes that will lay out a clear path forward for lasting stewardship of NNSA sites.
- The target date for completing the draft Plan is FY-end 2019 with publication shortly thereafter.



Conclusion



- We will consider the *Closure for the Seventh Generation* Report findings and recommendations as we develop the NNSA LTS Strategic Plan.
- NNSA Field Offices, with support from Headquarters, will collaborate with states, tribes, and other stakeholders on Plan development.

NNSA is committed to effectively fulfilling its environmental stewardship responsibilities and to continued collaboration and engagement with EM, LM, states, tribes, and other stakeholders.

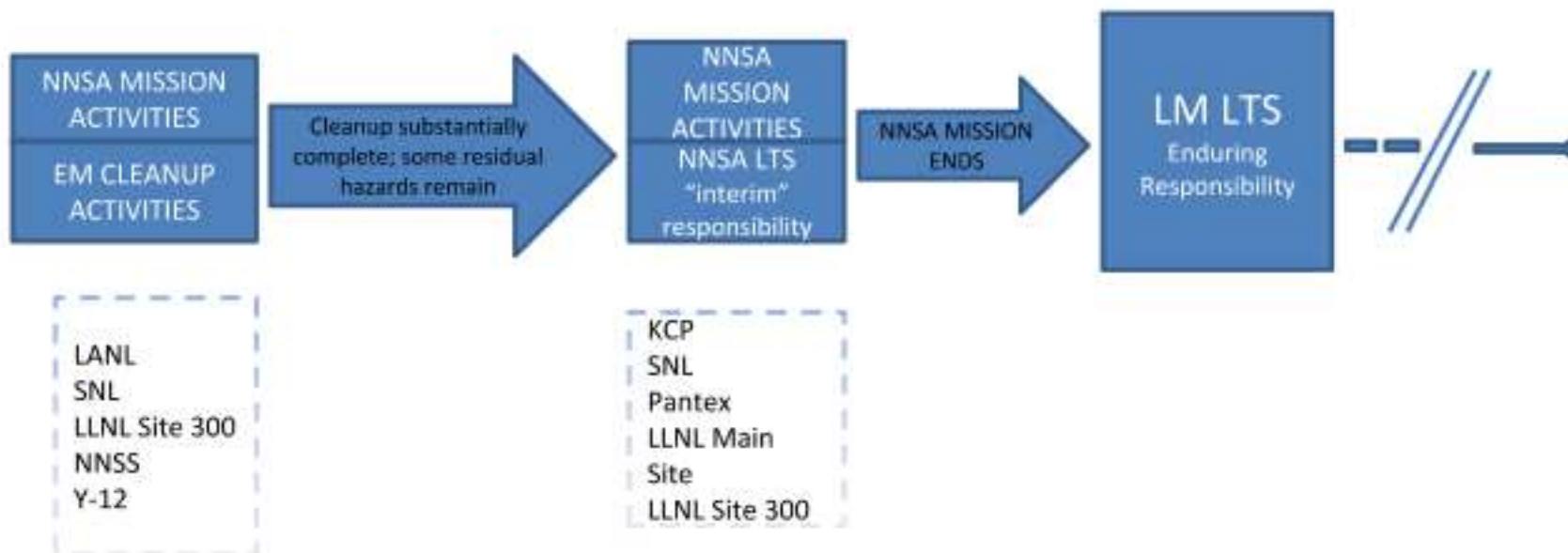


BACKUP



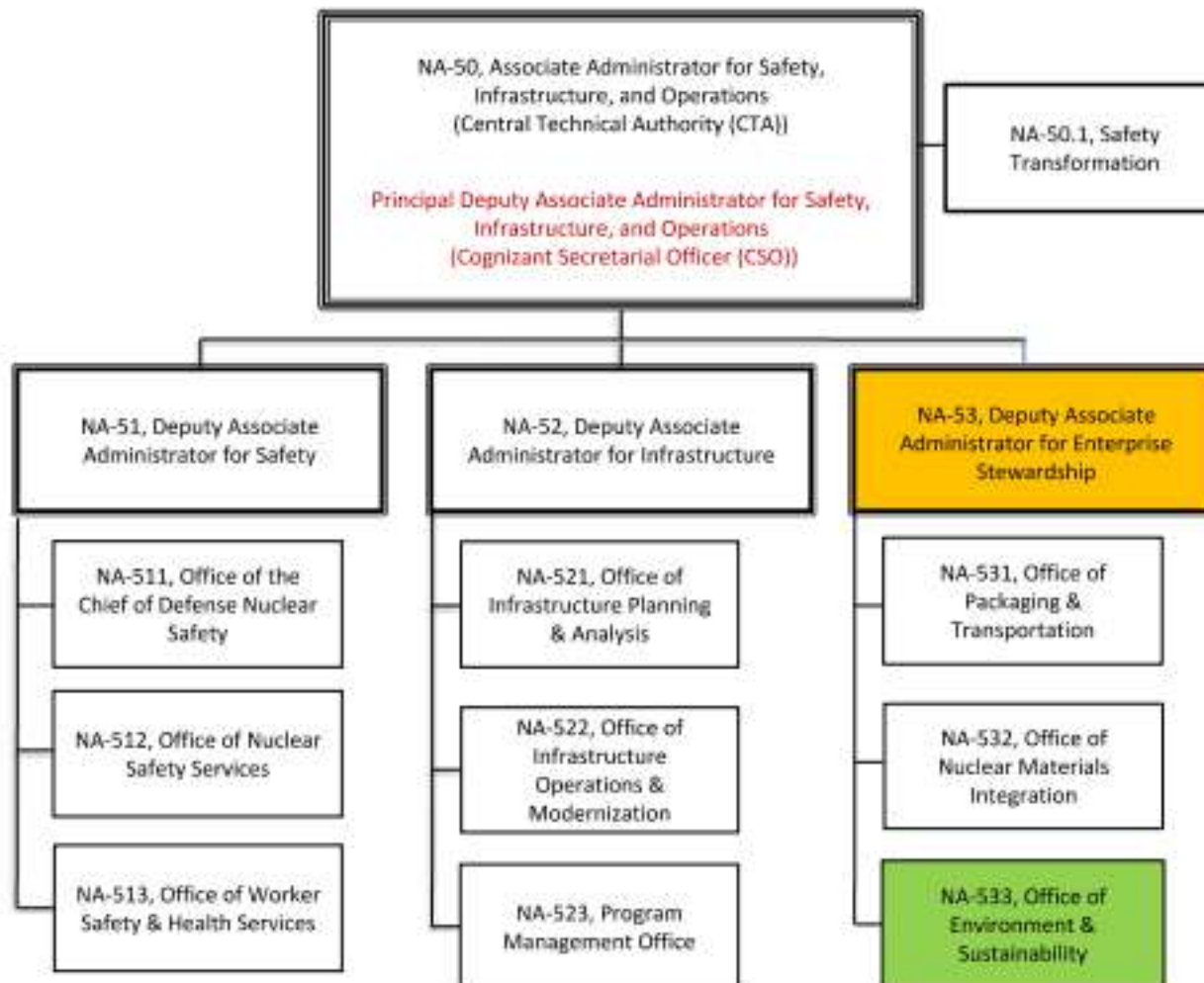


LTS Life Cycle at DOE





NA-50 Organization Chart





Lessons Learned



- Lessons Learned from transition of LTS responsibility from EM to NNSA:
 - Actively engage during legacy cleanup to allow early knowledge and understanding of the LTS requirements.
 - Document and agree to details of the LTS transfer. Refine the details during the federal planning, programming, budgeting and execution process, with transfer occurring at execution.
 - Recognize that LTS requirements can be revised if regulations change, technology improves, or if problems/concerns emerge with the cleanup remedy.

NNSA protects human health and the environment at its LTS sites and collaborates with the Office of Legacy Management on future transition.