Long Term Stewardship at NNSA Sites

Long Term Surveillance and Maintenance Conference
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NNSA – Headquarters
Office of Environmental Projects and Operations (NA-56)

National Nuclear Security Administration

The National Nuclear Security Administration (NNSA) was established by Congress in 2000

NNSA is a semi-autonomous agency within the U.S. Department of Energy

Mission:

To strengthen United States' security through the military application of nuclear energy and by reducing the global threat from terrorism and weapons of mass destruction.

Thomas P. D'Agostino
Under Secretary for Nuclear Security and Administrator, National Nuclear Security Administration

NNSA Mission Areas

Defense Programs

Maintain a safe, secure, and reliable nuclear weapons stockpile to help ensure the security of the United States and its allies, deter aggression, and support international stability.

A National Ignition Facility technician examines a damage inspection instrument used to assess the optics in the target chamber.

Defense Nuclear Nonproliferation

Detect, prevent, and reverse the proliferation of weapons of mass destruction, and promote international nuclear safety.

A container with naturally occurring radioactive processed through a radiation portal monitor as part of NNSA's Second Line of Defense Program.

Naval Reactors

Provide the U.S. Navy with safe, militarily effective nuclear propulsion systems, and ensure their continued safe and reliable operation.

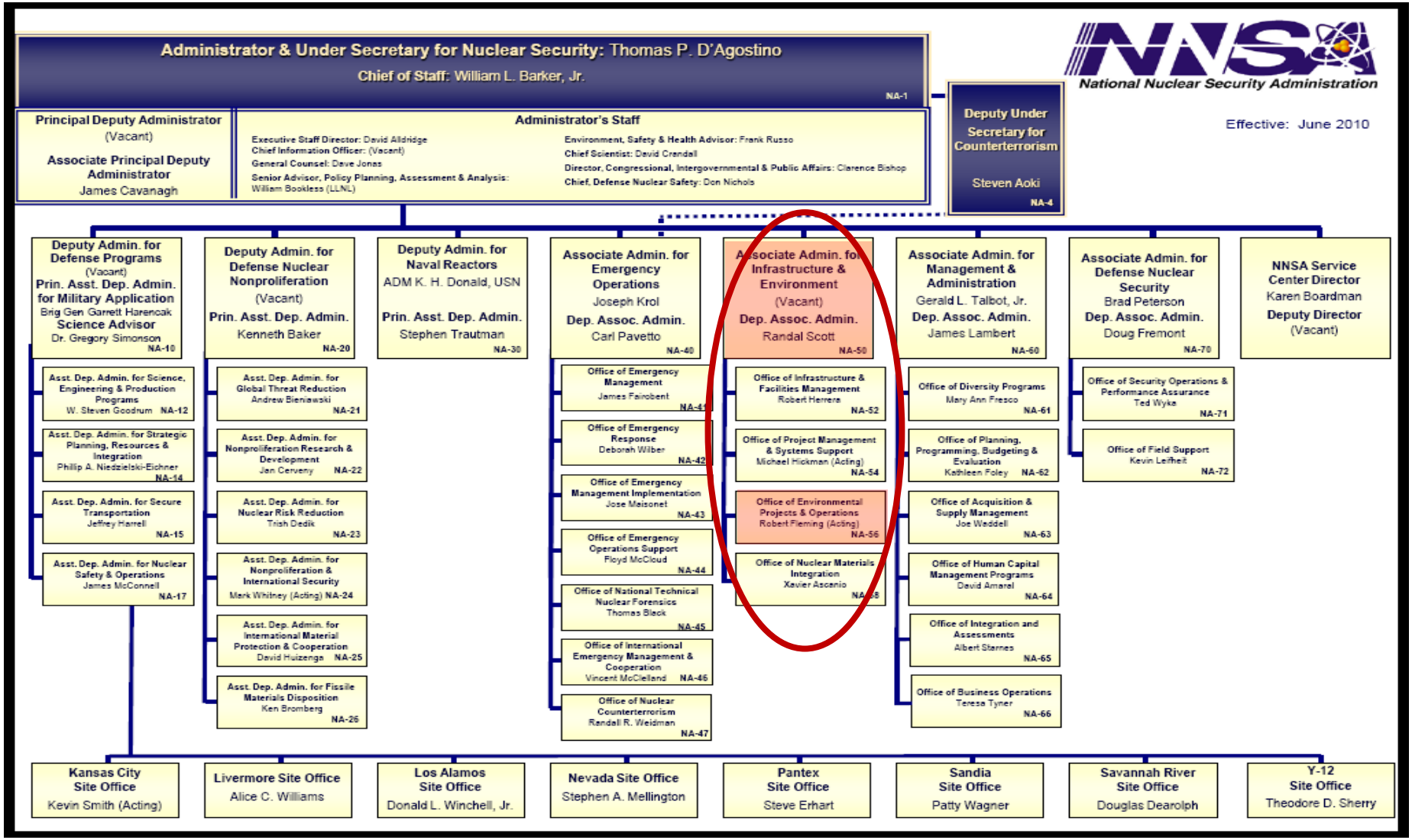
Nuclear-powered submarine, VIRGINIA, returning to port following her highly successful sea trials.

Emergency Operations

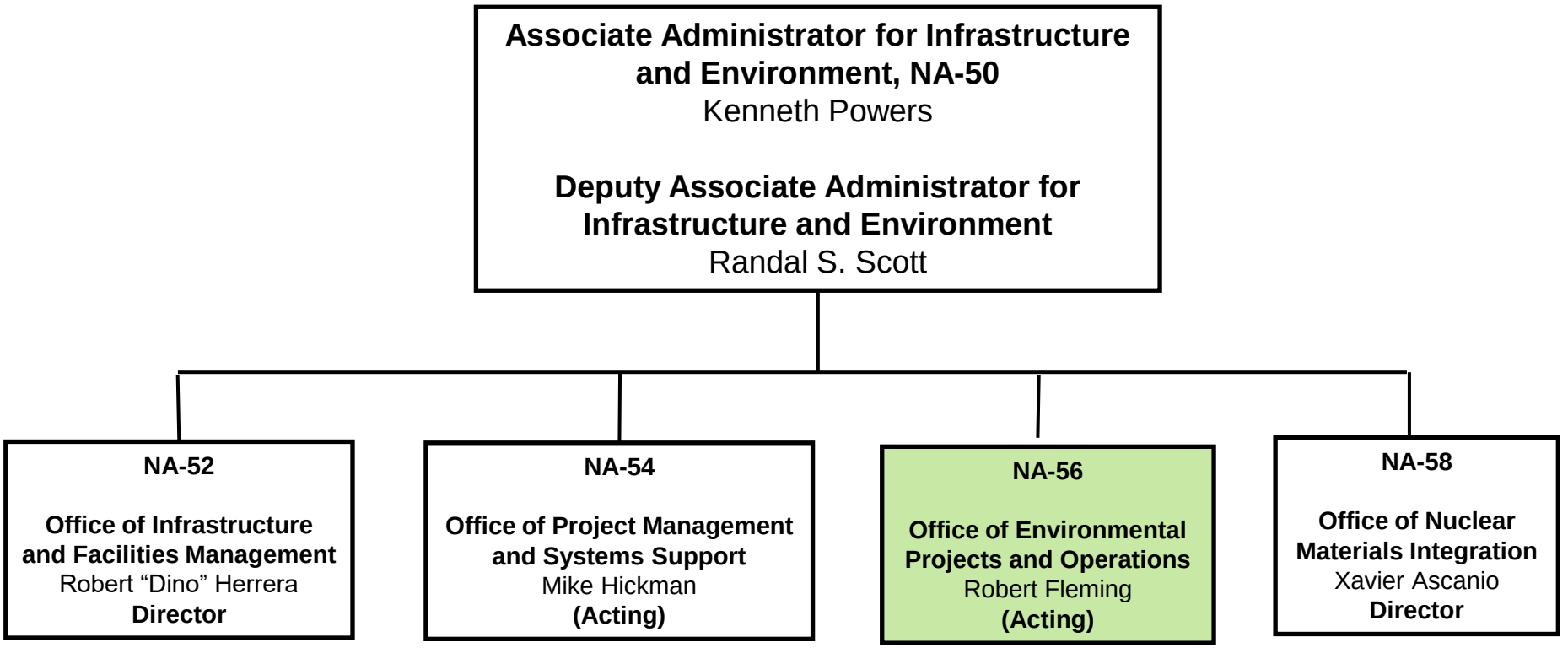
Administer and direct the programs of the National nuclear/radiological emergency response capability to ensure availability and viability to respond to nuclear and radiological emergencies within the United States and abroad.

Dep Energy Sec Daniel Poneman (center) reviews Leading Nuclear Counter-terrorism Assets. This equipment, used at the G-20 Summit, is similar to NNSA's portable gamma/neutron detector.

National Nuclear Security Administration (NNSA) Organizational Structure



Office of Infrastructure and Environment (NA-50)
Organizational Structure



Environmental Projects and Operations Roles and Responsibilities

National Nuclear Security Administration

Elements of the Environmental Projects and Operations (EPO):

- **Long-Term Environmental Stewardship (LTS)** - Environmental Projects and Operations (EPO) is responsible for the planning, execution and management of activities at NNSA sites where the Office of Environmental Management (EM) legacy remediation project scope is complete
- **Waste Management** - EPO has the programmatic and management responsibilities for all newly generated waste activities at NNSA sites
- **Environmental Crosscutting Activities** - EPO serves as the organizational focal point for NNSA corporate integration with sites and HQ program offices
- **Environmental Cleanup Oversight** - EPO provides oversight/direction for all EM actions at NNSA sites
- **NEPA Compliance** - EPO is responsible for the coordination and approval of all NEPA documents. The NEPA Compliance Officer resides within the Office of Environmental Projects and Operations

Environmental Projects and Operations
LTS Vision and Responsibilities

National Nuclear Security Administration

Vision Statement:

- Provide leadership on environmental stewardship and cleanup activities to ensure NNSA's Stockpile Stewardship mission remains unfettered and focused while controlling risk to human health and the environment to acceptable levels

Responsibilities:

- LTS activities are an integral part of ongoing operations at NNSA sites
- In FY 2006, it was determined that when EM "completed cleanup" at NNSA sites, the responsibility for LTS of all remedial actions (e.g. pump and treat systems) implemented by EM be transferred to NNSA
- EPO was created to ensure funding, management, independent reporting, and oversight of LTS activities be continued while meeting regulatory requirements and stakeholder needs

EPO's Interface with the Office of Environmental Management

- Unlike other DOE and NNSA program offices, EPO is unique in that it provides direct HQ oversight for EM funded legacy environmental cleanup activities at NNSA sites (LANL, NV), under the authority of the NNSA Act Section 3220[1]
- Ensures that cleanup is conducted in a safe, compliant and cost-effective manner consistent with end states that support the nuclear weapons complex mission now and into the future
- Serves as the single NNSA point of contact for interface with DOE EM
- Enables EPO to have an active role in determining the cleanup actions at the NNSA sites and knowing what the LTS requirements will be prior to transfer

[1]Section 3220 states" Status of Administration and Contractor Personnel with Department of Energy- (a) Status of Administration Personnel- Each officer or employee of the Administration, in carrying out any function of the Administration- (1) shall be responsible to and subject to the authority, direction, and control of- (A) the Secretary acting through the Administrator and consistent with section 202 (c) (3) of the Department of Energy Organization Act; (B) the Administrator; or (C) the Administrator's designee within the Administration; and (2) shall not be responsible to, or subject to the authority, direction or control of, any other officer, employee, or agent of the Department of Energy."

Environmental Projects and Operations
Long Term Stewardship

National Nuclear Security Administration

NNSA Long Term Stewardship is:

- All activities necessary to ensure protection of human health and the environment following completion of Environmental Management's legacy cleanup mission activities at a site
- Primarily regulatory driven (i.e., per cleanup agreements, state and federal laws)
- Required to continue to reduce risks to human health and the environment at NNSA Sites until "Contaminants of Concern" are shown to have been brought within regulatory cleanup requirements
- Essential to demonstrate continued effectiveness of installed cleanup remedies

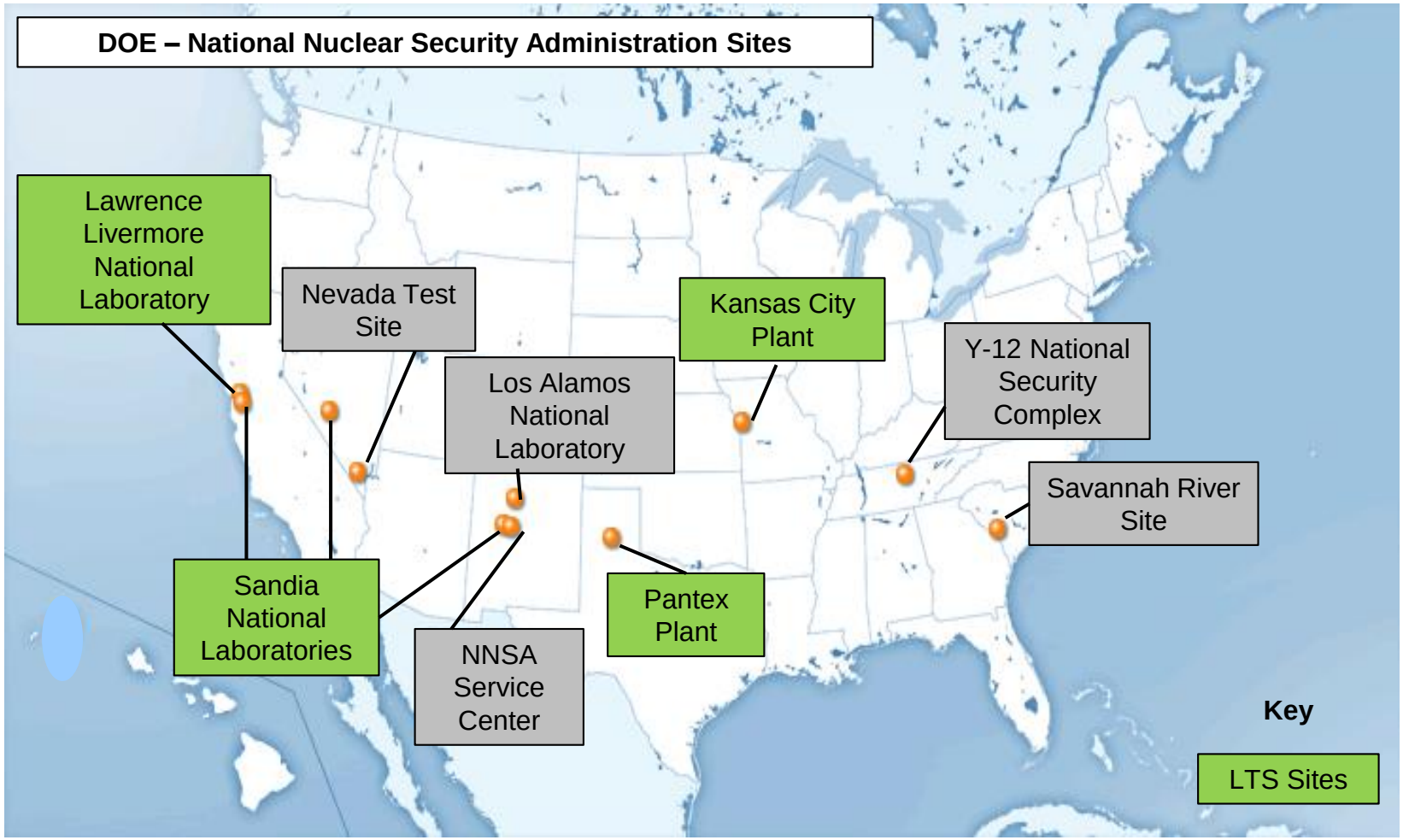
Environmental Projects and Operations
Long Term Stewardship

National Nuclear Security Administration

LTS Implementation at NNSA Sites:

- LTS began in FY 2007 at Sandia National Laboratories, Kansas City Plant, and Lawrence Livermore National Laboratory Main Site
- Pantex and Lawrence Livermore Site 300 were added in FY 2009 following completion of legacy cleanup
- Los Alamos National Laboratory LTS is to begin in FY 2016 following legacy cleanup completion in FY 2015
- The Nevada National Security Site and Y-12 legacy cleanup completion dates are yet to be determined

NNSA Sites


DOE – National Nuclear Security Administration Sites
Lawrence Livermore National Laboratory
Nevada Test Site
Los Alamos National Laboratory
Kansas City Plant
Y-12 National Security Complex
Savannah River Site
Sandia National Laboratories
NNSA Service Center
Pantex Plant
Key
LTS Sites

Environmental Projects and Operations
Long Term Stewardship

LTS at the NNSA sites is projected to extend a minimum of 75 years from cleanup completion

Examples of LTS activities at NNSA sites:

- Operation, maintenance, and monitoring of installed groundwater pump and treat and/or soil vapor treatment systems
- In-situ bioremediation system
- Maintenance and administration of Institutional and Engineered Controls
- Compliance monitoring and reporting
- Regulatory and community interactions

NNSA Long Term Stewardship Funding

($ in Millions)

	FY 2009	FY 2010	FY 2011
Kansas City Plant	$ 2.7	$1.8	$ 1.9
Lawrence Livermore National Laboratory (Main Site and Site 300)	21.4	24.1	20.8
Pantex Plant	7.5	8.4	11.3
Sandia National Laboratories	7.0	7.0	8.3
TOTAL	$ 38.6	$ 41.3	$ 42.3

Environmental Projects and Operations
Long Term Stewardship

<u>LTS of Cleanup Remedies</u>: Per regulatory requirements, operate facilities to treat contaminated groundwater, perform environmental monitoring, and maintain landfills

Well Sampling/Monitoring

Surface water Sampling

Before

After

Well Maintenance

Operation and Maintenance of Ground Water Pump & Treat System

Landfill Cover Monitoring

Environmental Projects and Operations
Long Term Stewardship

GRANULAR ACTIVATED CARBON FILTER MEDIA CHANGE-OUT AT PANTEX PLANT

Environmental Projects and Operations
Long Term Stewardship

National Nuclear Security Administration

INSTALLATION OF NEW LINING FOR A SUBSURFACE SITE DRAIN AT KANSAS CITY PLANT

Lessons Learned from transition of LTS responsibility from EM to NNSA

- Establish Terms and Conditions that contain:
  - a "warranty" clause
  - unanticipated scope and cost clause
- Ensure details of the LTS transfer are documented and agreed to by both organizations
- Establish a separate organization to manage and be the advocate for the LTS program
- Direct fund LTS activities, if possible, identify the LTS activities in a separate funding account within the budget
- Negotiate a "funding target" to be transferred to the receiving program (i.e., from EM to NNSA)
- Recognize there is always the possibility that LTS requirements may need to be revised; if regulations change, technology improvements are identified, or if there are problems/concerns (i.e., failure) in the cleanup remedy selected
- Involvement during the legacy cleanup allows early knowledge and understanding of the LTS requirements