

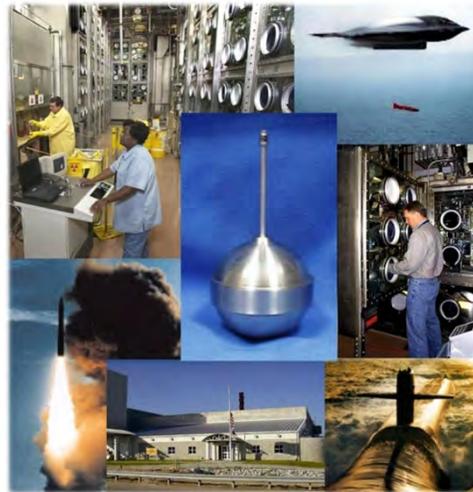


NNSA SRS Overview

Making the world a safer place

Doug Dearolph

Manager, NNSA Savannah River Site Office



SRS CAB Meeting March 26, 2012

NNSA Mission Areas

Defense Programs

Maintain a safe, secure, and reliable nuclear weapons stockpile to help ensure the security of the U.S. 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.

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.

Defense Nuclear Nonproliferation

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



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

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 U.S. and abroad



Dep Energy Sec Daniel Poneman (center) reviews Leading Nuclear Counterterrorism Assets.

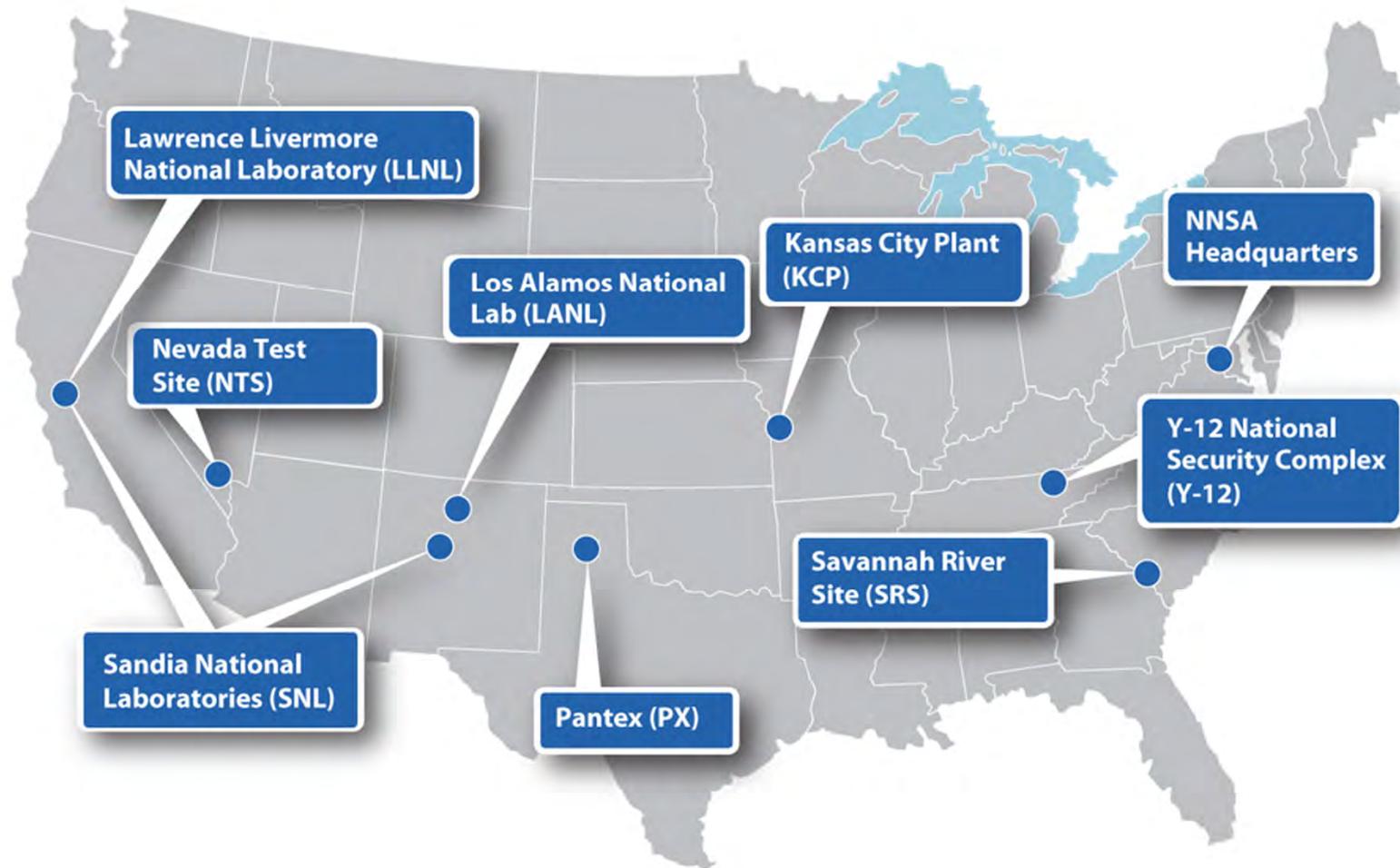


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Nuclear Security Enterprise



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Defense Program Mission



Directed Stockpile Work



Mini-TCAP Experimental Unit

Research, Development:
Engineering, Science
and Technology

“To provide the nation a safe, secure, and effective nuclear weapons stockpile without underground testing”



Infrastructure for the Enterprise



Safe and Secure Transportation



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Nuclear Nonproliferation Program Mission

Conduct Cutting-Edge
Research and Development



To reduce the global nuclear threat by detecting, securing, safeguarding, disposing and controlling nuclear and radiological material worldwide, as well as promoting the responsible application of nuclear technology and science

Secure Russian Nuclear
Weapons Material



Eliminate Weapons-Usable
Material



Secure Civil Nuclear and Radiological
Materials Worldwide



Detect and Deter Illicit
International Nuclear Transfers



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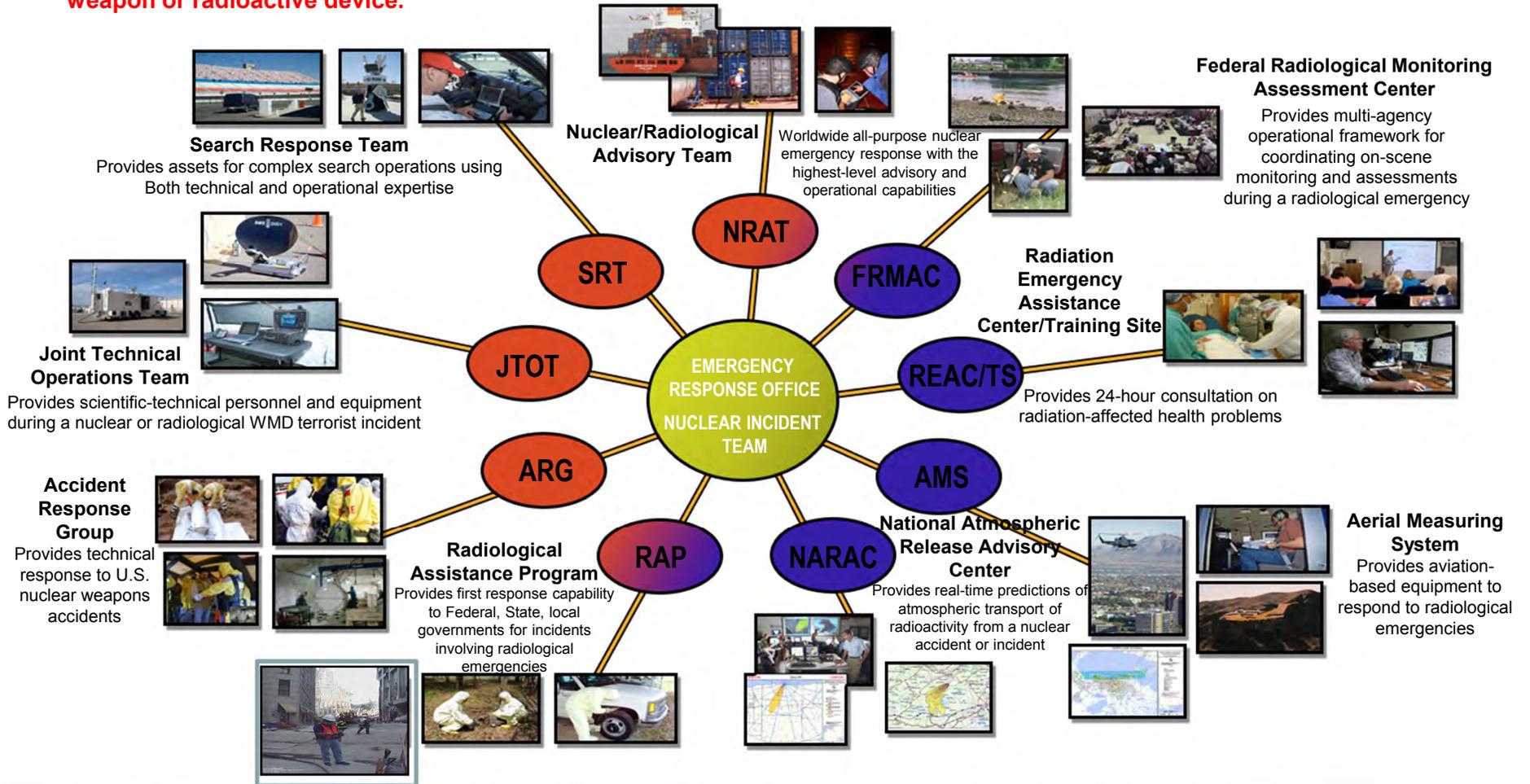


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Emergency Operations

Crisis Response:
 Identification, characterization, rendering safe, and final disposition of any nuclear weapon or radioactive device.

Consequence Management:
 Respond to and mitigate the effects of nuclear and radiological incidents.



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NNSA SRS Facilities

Defense Programs: Tritium Complex



- Tritium Supply
- Nuclear Stockpile Maintenance
- Nuclear Stockpile Evaluation
- Helium-3 Recovery

Nuclear Nonproliferation: MOX & WSB Projects



- Convert weapons-grade plutonium to mixed oxide fuel
- use in commercial nuclear reactors
- makes it unsuitable for use in nuclear weapons



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Nuclear Nonproliferation Program

Conversion of at least 34 metric tons of weapons grade plutonium into mixed oxide fuel for use in commercial nuclear power plants. Once irradiated, plutonium can no longer readily be used for weapons purposes.

- **Pit Disassembly and Conversion (PDC)**
 - Disassemble nuclear weapon pits, remove impurities, and convert the metal into oxide for MFFF
- **Mixed Oxide Fuel Fabrication Facility (MFFF)**
 - Produce mixed oxide fuel elements for irradiation in commercial nuclear power plants
- **Waste Solidification Building (WSB)**
 - Process high activity and low activity liquid waste streams from MFFF to a form suitable for onsite or off-site disposal



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Pit Disassembly and Conversion Status

DOE's preferred alternative for pit disassembly and the conversion of surplus plutonium metal to feed the MFFF, is to use some combination of facilities at TA-55 at LANL, K-Area at SRS, H-Canyon/HB-Line at SRS and MFFF at SRS, rather than to construct a new stand-alone facility.



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Mixed Oxide Fuel Fabrication Facility (MFFF) Status

- Began Construction: August 2007
- Total Project Complete: 60%
- Facility Construction Complete: 50%
- Process Building Structure Complete: 76%
 - Now installing piping, HVAC, glove boxes, cable trays, roof
- 11 of 16 support facilities are complete
- 3 additional support buildings are in construction or planning phases
- Scheduled for Completion: October 2016
- Current Employment: 2609



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MFFF - March 2012



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Waste Solidification Building (WSB) Status

- Began Construction: December 2008
- Total Project Complete: 76%
- Facility Construction Complete: 67%
- Process building concrete complete
- Installation of piping, ductwork, cable tray, and long lead equipment (process tanks, evaporators, diesel generator, etc) in progress
- Scheduled for Completion: 2012
- Current Employment: 170



WSB – 3/2012



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SRS Federal Organization

