



U.S. DEPARTMENT OF
ENERGY



WIPP Update

New Mexico Radioactive and Hazardous Materials Committee

*June 12, 2012
Santa Fe, New Mexico*

**Joe Franco, Manager
U.S. Department of Energy
Carlsbad Field Office**



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

Table of Contents

Overview

Current Status

Safety

Transportation

Disposal

National Cleanup

American Recovery
and Reinvestment Act



Looking Ahead



EM *Environmental Management*

safety ♦ performance ♦ cleanup ♦ closure

www.em.doe.gov

WIPP Team



U.S. Department of Energy
Carlsbad Field Office

- National TRU Program
- WIPP

Washington TRU Solutions LLC

Washington TRU
Solutions

- CCP
- WIPP
- Transportation
- Waste Data System (WDS)
- WIPP Operation

Specialty Transportation, Inc.

CAST Specialty Transportation

- Transport Carrier

Visionary Solutions

- Transport Carrier



Sandia National Laboratories

- Technical Support

Los Alamos National
Laboratory

- Waste Char. Advisor
- Mobile Loading Teams
- Site Documents Team
- AK Support



Ma-Chis – TRANSCOM

- Satellite Tracking

Portage - CBFO
Technical
Assistance Contractor

- Performance
Demonstration Program
- Technical Support
- QA Audit Support



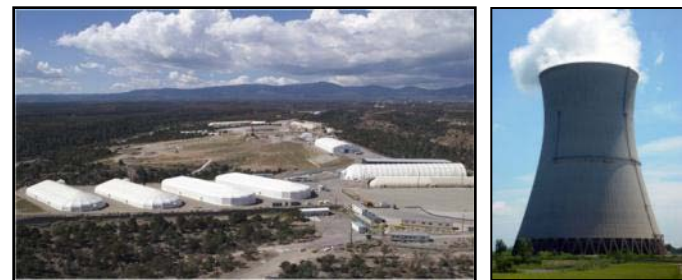
EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

WIPP Workforce

- Diverse backgrounds
 - Including engineering, chemistry, geology, physics, safety, mining, emergency management, environmental management, security, training, accounting and nursing
- Broad experience from the nuclear industry
 - Other DOE sites
 - Nuclear power plants
 - U.S. military

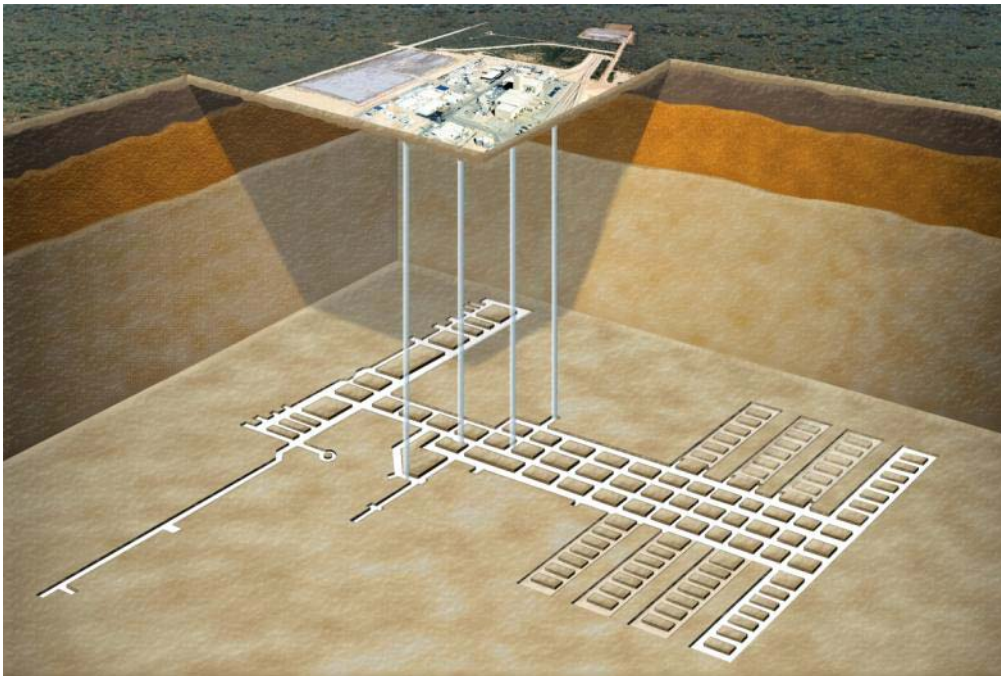


EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

A national solution



- WIPP is America's only deep geologic repository for the permanent disposal of defense-generated transuranic (TRU) radioactive waste left from research and production of nuclear weapons.



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

TRU Waste



Includes clothing, tools, rags, debris, residues and other items contaminated with man-made radioactive elements that are heavier than uranium

Periodic Table of the Elements

H																	He						
Li	Be											B	C	N	O	F	Ne						
Na	Mg											Al	Si	P	S	Cl	Ar						
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr						
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe						
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn						
Fr	Ra	Ac	Rf	Ha	Sg	Bh	Hs	Mt										(113)	(114)	(115)	(116)	(117)	(118)
Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu										
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr										



Types of TRU waste

Contact-handled (CH)

- Primarily emits alpha radiation (less penetrating) and can be handled under controlled conditions without any shielding beyond the container itself



CH waste is disposed in columns on the disposal room floor. Disposal began in March 1999.



Types of TRU waste (continued)

Remote-handled (RH)

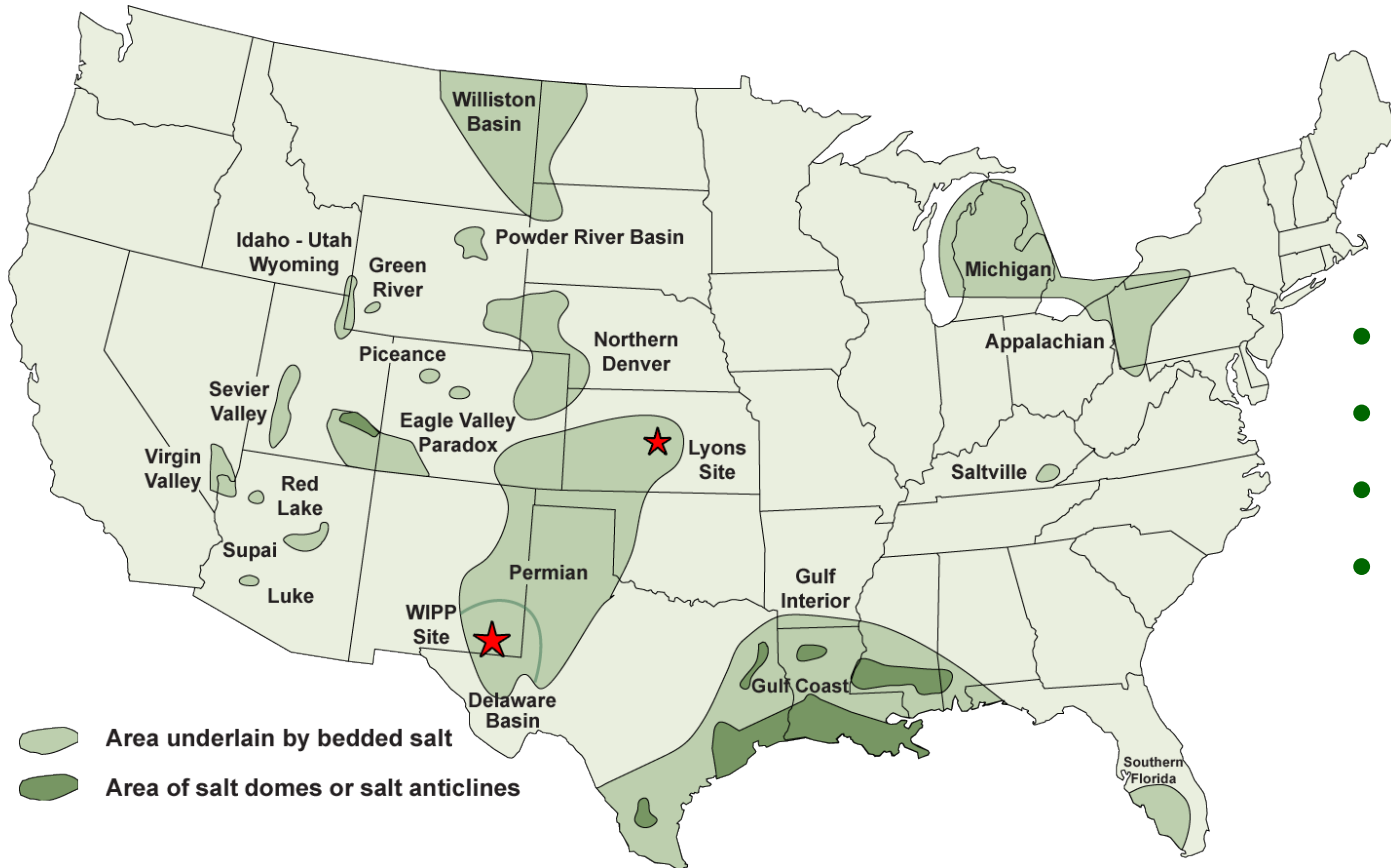
- Emits more penetrating radiation than CH-TRU
- Transported and handled in certified casks that provide additional shielding
- About four percent of waste to be disposed at WIPP



RH waste is disposed in pre-drilled boreholes in the walls of the disposal room and sealed with a concrete shield plug. Disposal began in January 2007.



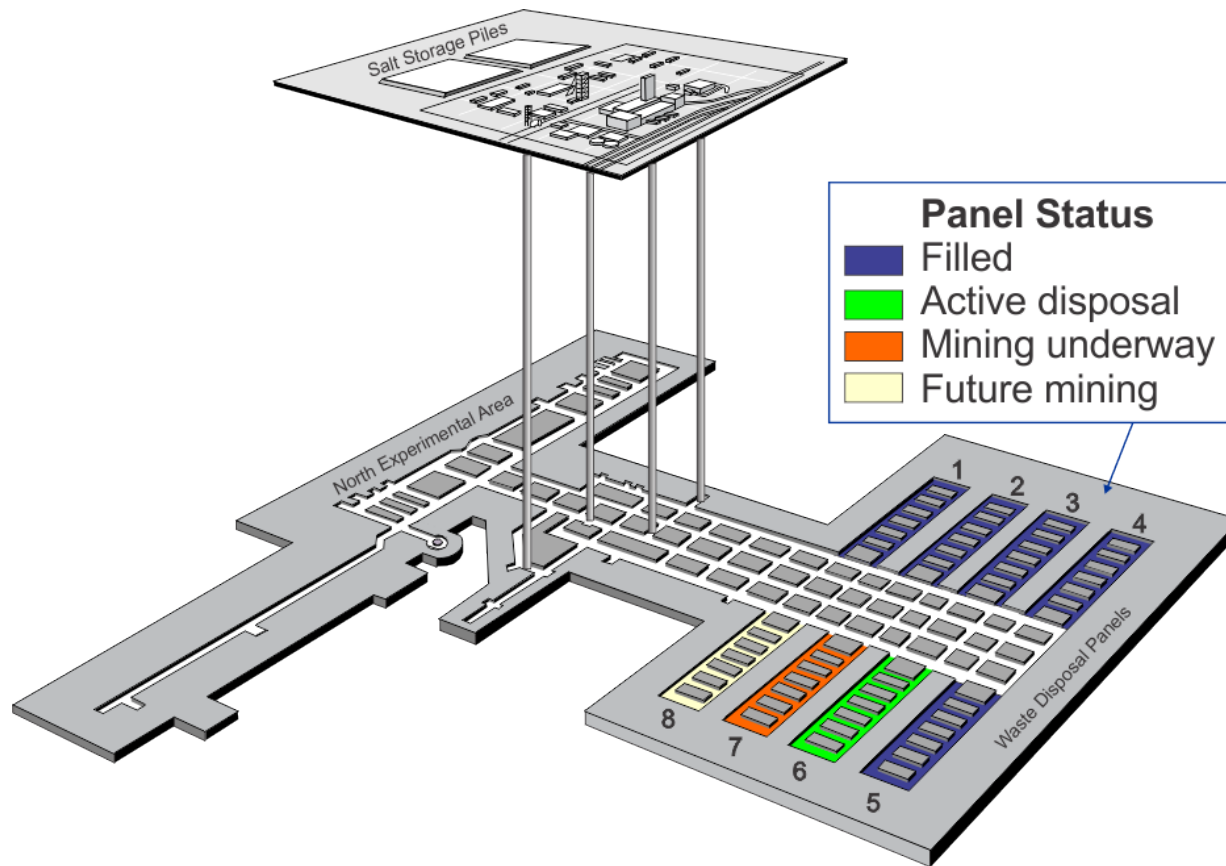
Salt is the reason for WIPP's location



- Stable geology
- Lack of water
- Easy to mine
- Plastic quality of salt allows it to close in on the waste



The Underground



WIPP Transportation System

“...The [WIPP transportation] system is safer than that employed for any other hazardous material in the U.S....”

*National Academy of Sciences,
WIPP Panel*

- Since opening in 1999, WIPP WIPP drivers have logged more than 12.6 million safe loaded miles



EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

Safest shipping containers on the road



Nuclear Regulatory
Commission certified

- TRUPACT-II
- TRUPACT-III
- HalfPACT
- RH-72B

Proven leak tight after
rigorous testing

- 30-foot drop
- Puncture bar test
- 30 minutes in 1,475-degree
jet fuel fire



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

Shipments tracked by satellite



Fully automated, nation-wide tracking

Five-minute updates

States and tribes have access to password-protected Web site

Drivers in constant communication with WIPP's Central Monitoring Room/Transcom operator



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

Emergency responders trained along pre-approved routes



Since 1988, more than 31,000 first responders have been trained

- Exercises
- State, tribe and hospital personnel training
- Outreach



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

TRU Waste Shipping Activity

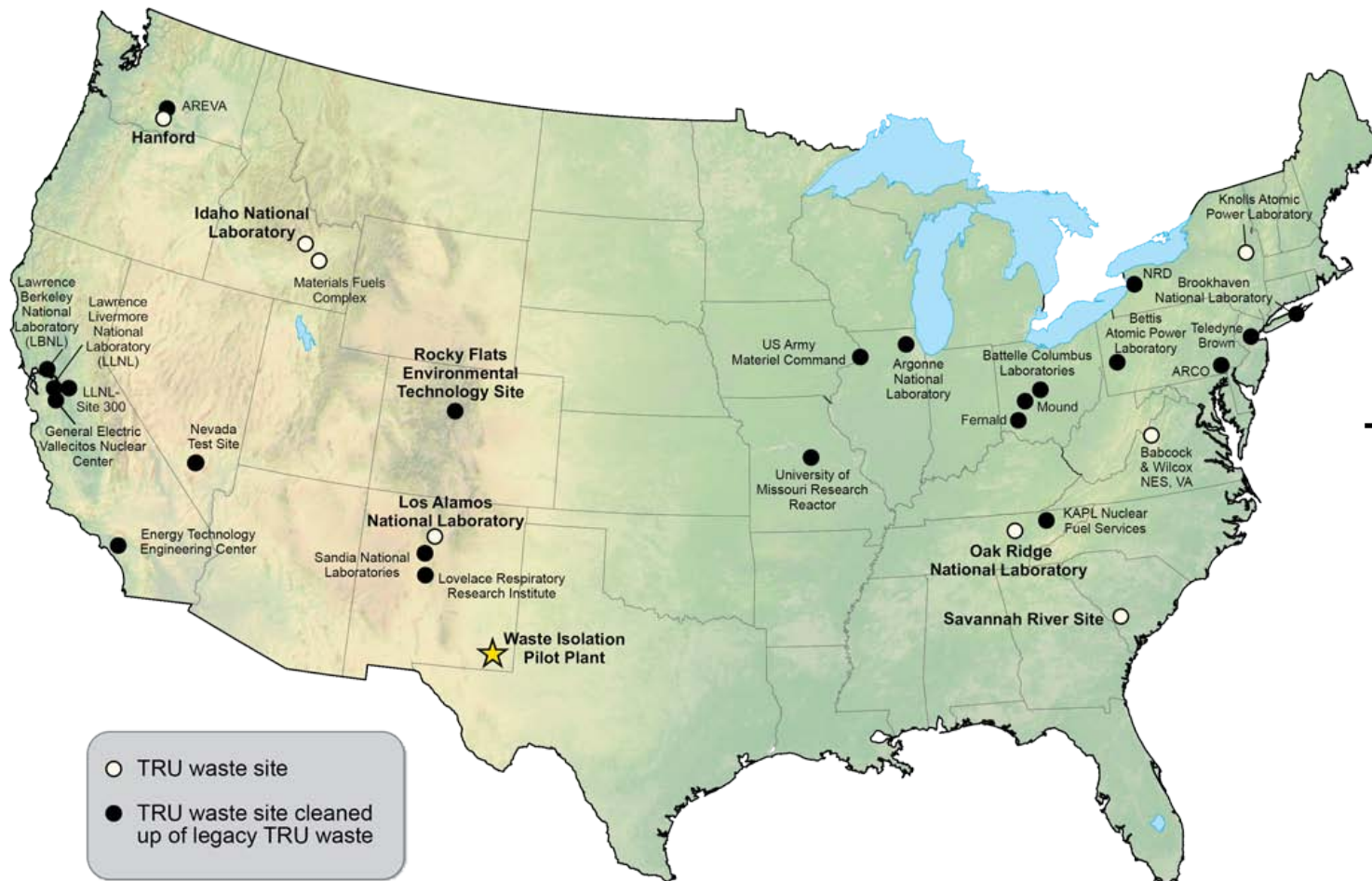
Fiscal Year 2012

(As of 3:00 p.m. 6-7-12)

<u>To WIPP</u>		<u>Inter Site</u>	
Argonne	22	SNL to INL	1
Idaho	252	Coring drum	
LANL	133	shipments	6
ORNL	12	Total	7
SNL	8		
SRS	107		
Total	534		



National cleanup



Total number
TRU waste sites
cleaned up of
legacy TRU
to date:
22



EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

Key Regulatory Success



Environmental Protection Agency

- Recertification every five years until closure
- Documents compliance with long-term disposal regulations
- WIPP recertified for the second time since opening on November 18, 2010



Hazardous Waste Facility Permit

- Required for disposal of TRU waste mixed with hazardous materials
- Original 10-year permit issued by New Mexico Environment Department in October 1999
- Permit renewed on November 30, 2010



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

American Recovery and Reinvestment Act



Carlsbad Field Office allotted
\$172 million

Jobs created or saved

- WIPP target: 400
- Actual: 696



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

ARRA Accomplishments

Legacy TRU cleanup completed at eight sites

- Nevada Test Site
- Vallecitos Nuclear Center
- Lawrence Livermore National Laboratory – Site 300
- Lawrence Berkeley National Laboratory
- NRD
- Bettis Atomic Power Laboratory
- Argonne National Laboratory
- Sandia National Laboratories

Increased shipments from Los Alamos National Laboratory

- More than double from FY08 to FY10



EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

ARRA Funds Position WIPP to Meet National Cleanup Goals

Completed construction activities

- Salt evaporation pond
- South Access Road

Major equipment purchases

- Horizontal Emplacement Machine
- Light Weight Facility Cask
- TRUPACT-III
- Underground load-haul-dump vehicle
- Two 13-ton forklifts
- Two trailer jockeys



EM *Environmental Management*

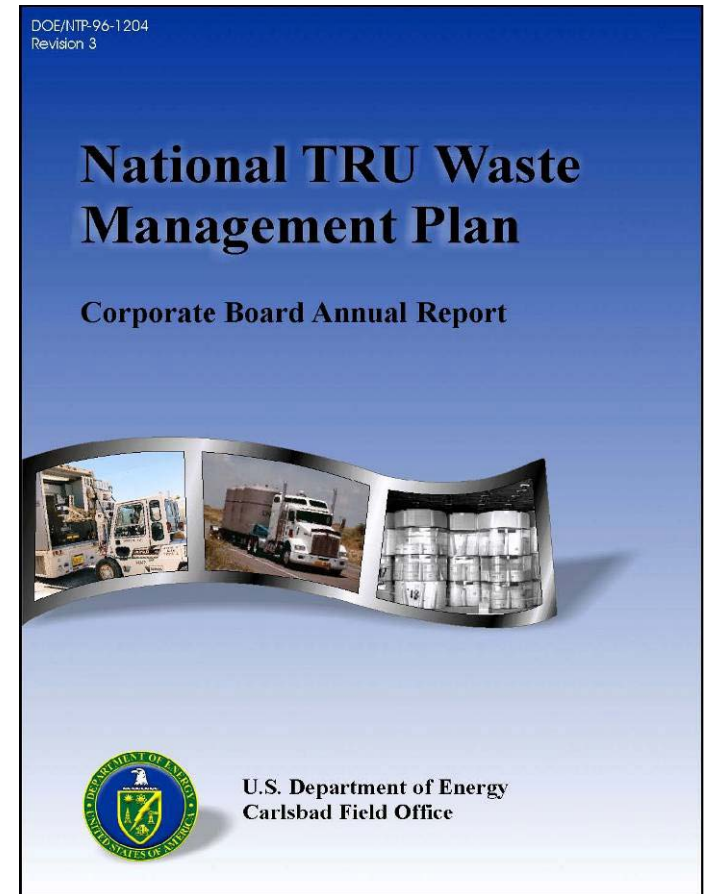
safety ♦ performance ♦ cleanup ♦ closure

www.em.doe.gov

National TRU Program Vision

Emphasized at the National TRU Waste Corporate Board meeting in March

- Develop a National TRU Program strategy that is integrated, compliant, and includes life-cycle budgets and work-off plans for the disposition of all legacy and non-legacy TRU waste



EM Environmental Management

safety ♦ performance ♦ cleanup ♦ closure

www.em.doe.gov

WIPP Receives 10,000th Shipment

- On September 24, 2011, WIPP received its 10,000th shipment. At the 10,000th shipment milestone event in October, which was attended by U.S. Representative Steve Pearce, DOE Senior Advisor for Environmental Management David Huizenga commended WIPP for its safety, achievements and service to the nation.



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

Final Legacy TRU Shipments from Sandia



On May 2, 2012, four shipments of remote-handled transuranic waste from Sandia National Laboratories for permanent disposal at WIPP marked the final stage of the DOE's Legacy TRU Waste Program with Sandia.



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

FY 2012 and Beyond

Budget

- FY12
- FY13
- **FY 14 Budget Submittal Requests**
- **Challenges**
 - **FY12 and FY13 budget (fewer shipments anticipated)**
 - **Greater use of TRUPACT-III at SRS**
 - **Completing the Fleet**
 - **Future Needs**

• Challenges (continued)

- **New Mexico Governor Initiatives**
 - **LANL 3,706 TRU Campaign Integrated Project**
- **SRS 5,000 m3 Plan**
- **INL Milestones**
- **RL and ORNL Future Needs**
- **TRU Site Integration**



Supplemental EIS for Elemental Mercury

- Notice of Intent on Supplemental Environmental Impact Statement to analyze additional alternatives for long-term management and storage of elemental mercury generated in the U.S. published in June 5 Federal Register
- Since publication of the Final Mercury Storage EIS, DOE reconsidered the range of reasonable alternatives already evaluated and proposes 2 locations near WIPP in addition to the 7 alternatives: One is across the road from the WIPP facility and the other is approximately 3 miles from it
- Scoping meetings:
 - Carlsbad – June 26, 5:30-8:00 p.m., Skeen-Whitlock Bldg, 4021 National Parks Highway
 - Albuquerque – June 28, 6:00-8:30 p.m., Crowne Plaza Albuquerque, 1901 University Blvd. NE



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov

New Mexico Radioactive and Hazardous Materials Committee

Questions?



EM

Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

www.em.doe.gov