

WIPP Status Update

*Presented to the New Mexico
Radioactive and Hazardous Materials Committee
October 13, 2011*

Edward Ziemianski, Interim Manager
U.S. Department of Energy
Carlsbad Field Office

**Farok Sharif, President and
General Manager**
URS Washington TRU Solutions



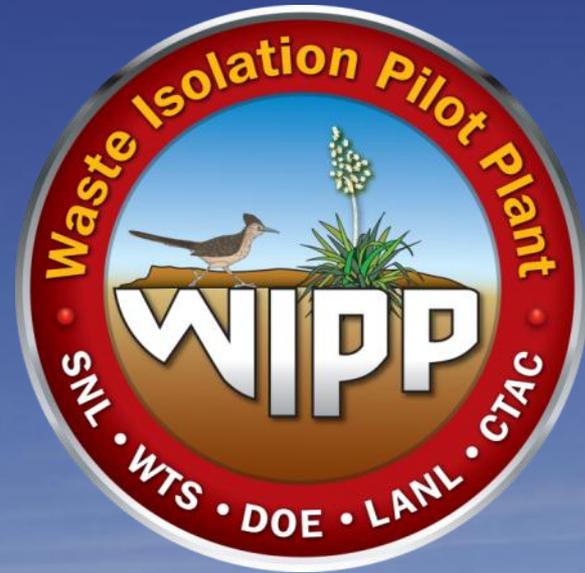
Table of Contents

Overview

Current Status

- Safety
- Transportation
- Disposal
- National Cleanup
- American Recovery and Reinvestment Act

Looking Ahead



WIPP Team



**U.S. Department of Energy
Carlsbad Field Office**

- Leads the Transuranic Waste Program
- Science Program



Washington TRU Solutions LLC

Washington TRU Solutions

- Manages and operates the WIPP facility
- Manages transportation logistics and packages
- Manages waste retrieval, characterization and certification



Los Alamos National Laboratory

- Scientific advisor for waste characterization
- Mobile loading



Specialty Transportation, Inc.

CAST Specialty Transportation

- Transportation carrier



Sandia National Laboratories

- Scientific advisor for repository recertification



CBFO Technical Assistance Contractor

- Technical and Quality Assurance support for the Carlsbad Field Office



Visionary Solutions

- Transportation carrier

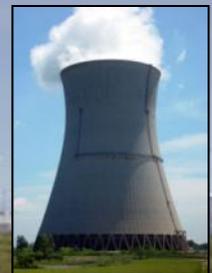
WIPP Workforce

– 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



Economic Impact



FY11 budget: \$220M

Total impact/economic development spending in New Mexico has exceeded \$590M

WIPP provided about 1,300 jobs

Managing and operating (M&O) contractor procurement of \$71.5M for FY11

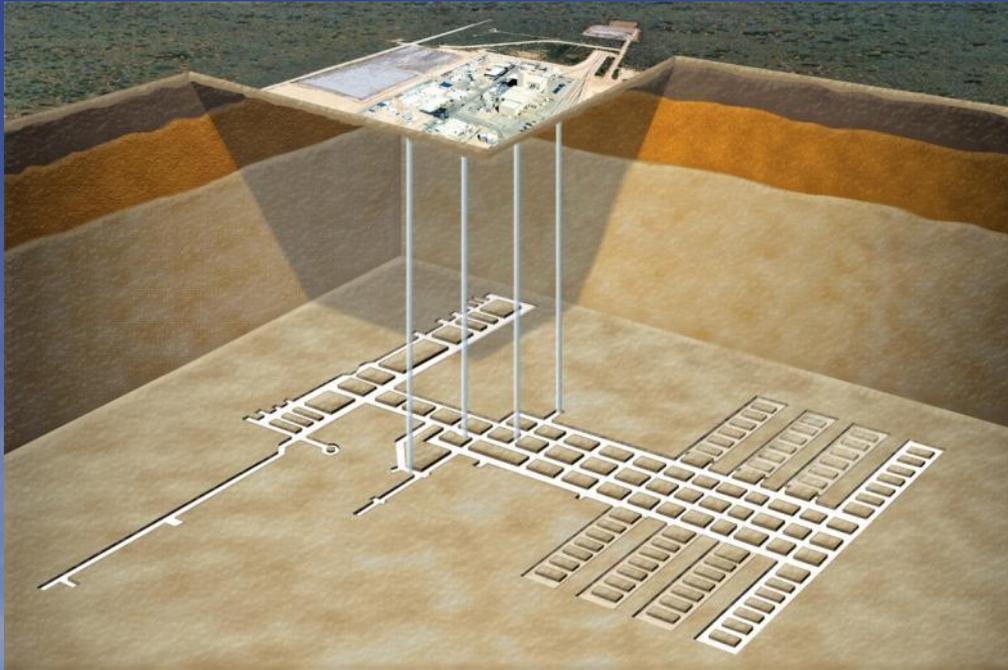
Notes:

FY11 data is preliminary.

The increase in out-of-state expenditures reflects the expenditure of ARRA funding in support of the accelerated characterization activities at the generator sites.

M&O Spending	FY08	FY09	FY10	FY11
In New Mexico	\$38.5M (60%)	\$44M (51%)	\$68M (47%)	\$28M (37%)
Outside New Mexico	\$25.6M (40%)	\$29M (49%)	\$77M (53%)	\$43.5M (63%)

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.



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										(110)	(111)	(112)
		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
- About 96 percent of waste to be disposed at WIPP



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.



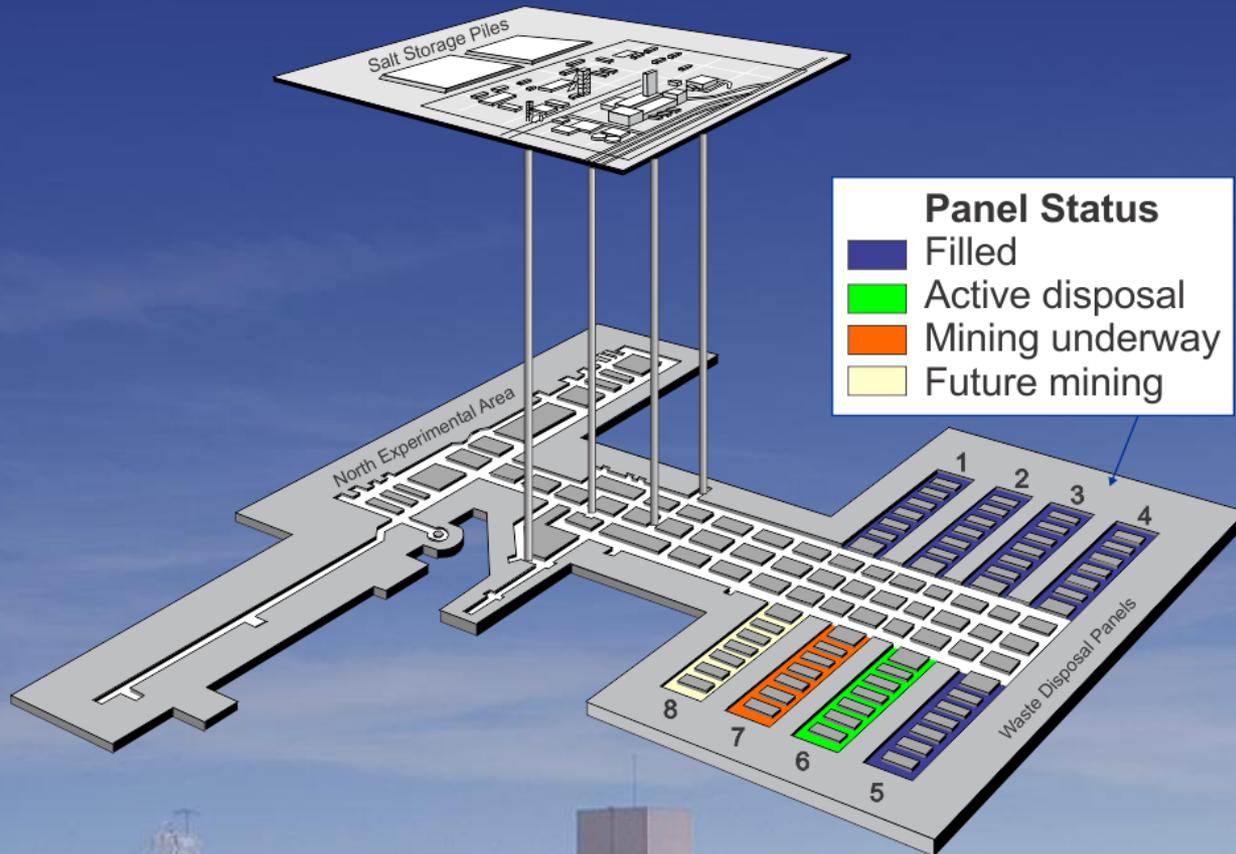
Salt is the reason for WIPP's location



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



The Underground



As of July 7, 2011

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*



Safest shipping containers on the road



Nuclear Regulatory
Commission certified

- TRUPACT-II
- TRUPACT-III
- HalfPACT
- RH-72B
- CNS10-160B

Proven leak tight after
rigorous testing

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

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

Emergency responders trained along pre-approved routes



Since 1988, more than 30,700 first responders have been trained

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

Safety

Recertified at the Star level in DOE's Voluntary Protection Program (maintained since 1994)

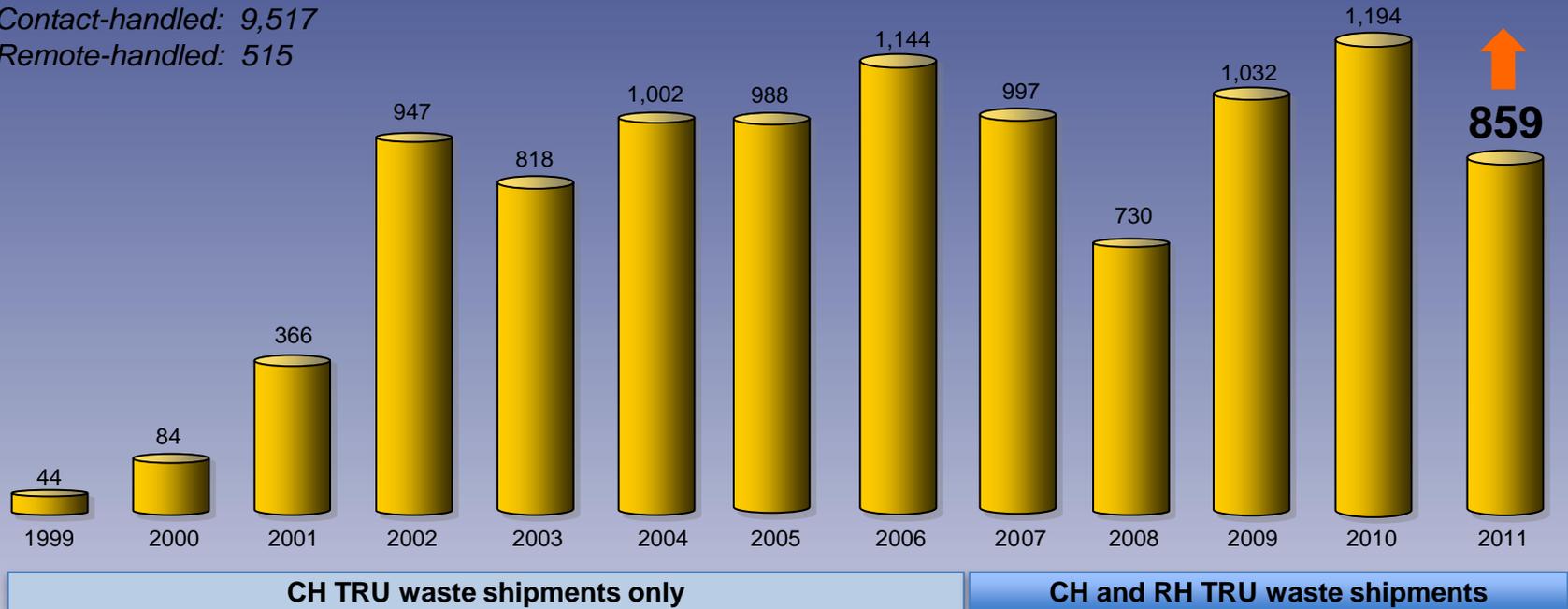
More than 12 million safe loaded miles traveled to WIPP



Shipments Summary

Shipments received
at WIPP to date:
10,032

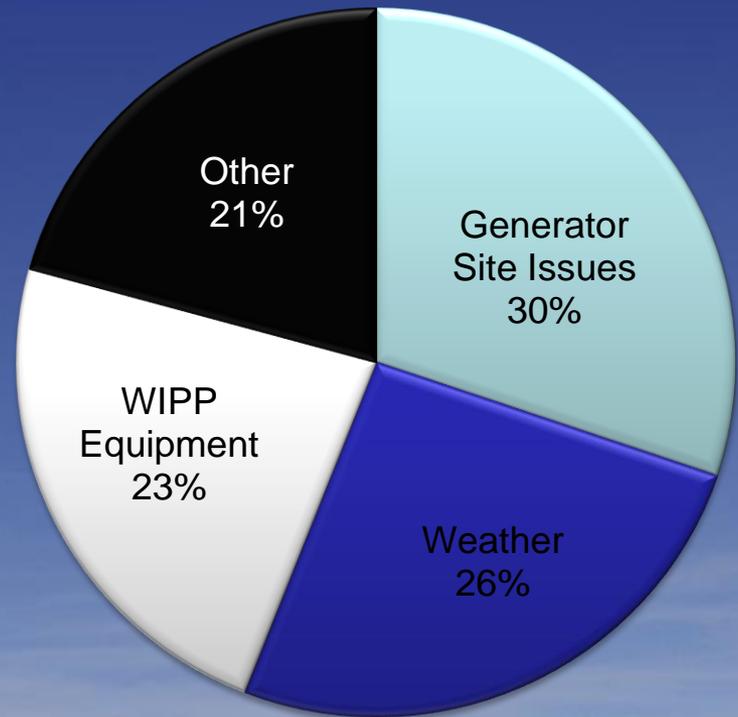
Contact-handled: 9,517
Remote-handled: 515



Total Shipments Received by Calendar Year
(Including intersite shipments)

2011 Shipping Summary

- Major impacts on shipment departures
 - Generator Site issues
(Lack of approved waste; LANL fire suppression system; crane)
 - Weather
(Winter weather; high wind)
 - WIPP equipment
(Waste hoist; 41-ton forklift)
 - Other
(Includes packaging; wildfires; carrier equipment)



Planned departures through September: 945

Actual: 786

Difference: -159 (27 shipments were subsequently rescheduled or added)

Planned departures for October-December: 257

Shipments impacted by recent events

Wildfire near Raton: 10 (June 12-18)

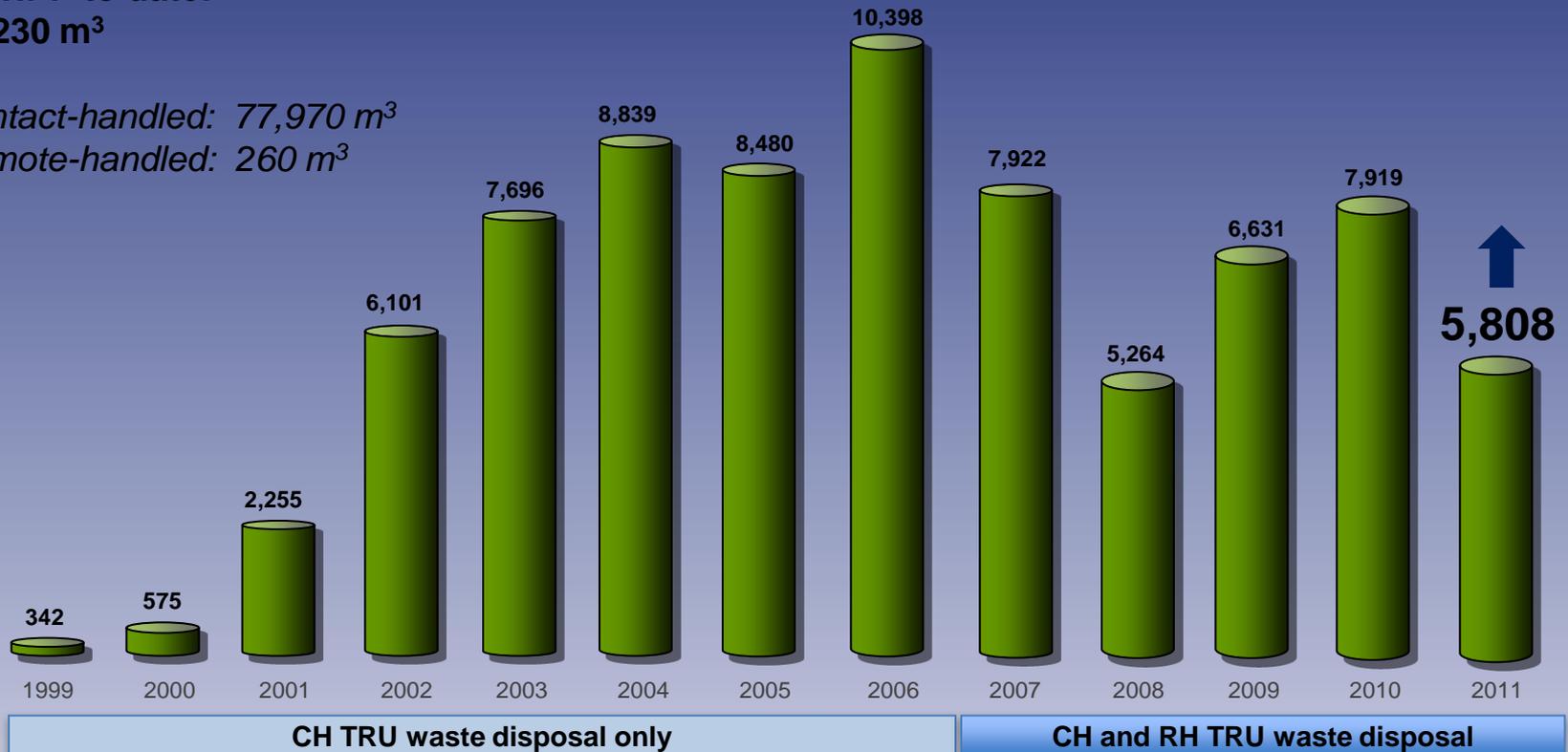
Wildfire near Los Alamos: 5 (June 26 – July 2)

Waste Hoist Head Rope Replacement: 35 (July 18 – 26)

Disposal Summary

Volume of waste disposed
at WIPP to date:
78,230 m³

Contact-handled: 77,970 m³
Remote-handled: 260 m³



Waste Disposed by Calendar Year
(In cubic meters)

Primary factors impacting volume



PE-Ci per cubic meter
by calendar year

- Plutonium-equivalent curies per cubic meter of waste emplaced
 - Higher this year to date
- Weight
 - WIPP shipments stay within Department of Transportation weight limitations
 - INL has higher ratio of heavier waste

National cleanup



- TRU waste site
- TRU waste site cleaned up of legacy TRU waste

Total number TRU waste sites cleaned up to date:

21

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





Carlsbad Field Office allotted
\$172 million

Jobs created or saved

- WIPP target: 400
- Actual: 696

AMERICAN RECOVERY AND REINVESTMENT ACT

ARRA Accomplishments

Cleanup completed at seven 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

Increased shipments from Los Alamos National Laboratory

- More than double from FY 08 to FY 10



ARRA Funds Position WIPP to Meet National Cleanup Goals

Completed construction activities

- Salt Evaporation Pond
- South Access Road

Major equipment purchases

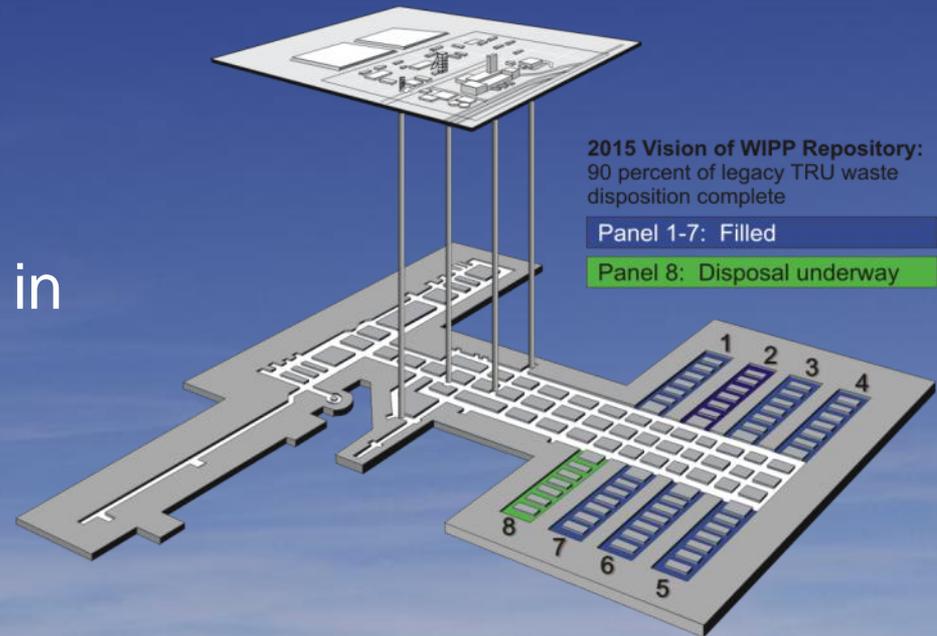
- Horizontal Emplacement Machine
- Light Weight Facility Cask
- TRUPACT-III
- Underground Load-Haul-Dump Vehicle
- Two 13-ton forklifts
- Two trailer jockeys



DOE Goal: Complete disposition of 90% of legacy transuranic waste by 2015

FY2011 progress (Versus FY2008)

- 29 percent increase in shipping overall
- Record number of waste containers characterized



Looking Ahead

FY12 budget challenges

Cleanup of Sandia National Laboratories
targeted by end of year



Looking Ahead *(continued)*

CBFO input into evaluation of recommendations from BRC on America's Nuclear Future

- Maintaining community support is key

Salt Disposal Investigation



Contact Information



Edward Ziemianski

U.S. Department of Energy

Carlsbad Field Office

P.O. Box 3090

Carlsbad, NM 88221-2078

Phone: (575) 234-7303

E-mail: Edward.Ziemianski@wipp.ws

Farok Sharif

URS Washington TRU Solutions

P.O. Box 2078

Carlsbad, NM 88221-2078

Phone: (575) 234-7370

E-mail: Farok.Sharif@wipp.ws

