WIPP Update
National Council of State Legislators

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Nuclear Waste Partnership
The WIPP Team

U.S. Department of Energy Carlsbad Field Office
• Leads the Transuranic Waste Program
• Science Program

Nuclear Waste Partnership LLC
• 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

Sandia National Laboratories
• Scientific advisor for repository recertification

Ma-Chis Lower Creek Indian Tribe Enterprises, Inc. – TRANSCOM
• Satellite Tracking

CBFO Technical Assistance Contractor
• Technical and Quality Assurance support for the Carlsbad Field Office

CAST Specialty Transportation, Inc.
• Transportation carrier
Why WIPP

- Stable geology
- Lack of water
- Easy to mine
- Plastic quality of salt allows it to close in on the waste
Generally, TRU waste includes clothing, tools, rags, debris, residues and other items contaminated with man-made radioactive elements that are heavier than uranium.
• 2,150 feet deep
• Eight disposal panels
• Four vertical shafts
• Controlled ventilation
• North Experimental Area
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

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.
Waste Emplacement Update
Mining Update

Panel 8:
— Currently mining Room 3 and access drifts

Mining Resumption
— Cumulative tons = 36,754

Bolting activities this week:
— Performed on an as-needed basis
Safest 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
Shipments (As of 05/28/19)

- Total Shipments received (since 1999) – **12,453**
- Total Loaded Miles Traveled (since 1999) – **14,923,888**
- Shipments received in CY18 – **311**
- Shipments received in CY19 – **115**
- Loaded miles in FY18 – **401,946**
- Total CH Waste Containers Disposed – **177,150**
- Total RH Waste Canisters Disposed – **719**
Satellite Tracking

- 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
Since 1988, more than 38,000 first responders have been trained

• Exercises
• State, tribe and hospital personnel training
• Outreach
Total number of TRU waste sites cleaned up to date: 22
• Phase 1 Grading Complete
• Five Construction Trailers Installed
• Phase 2 Grading Complete
• Underground plumbing and electrical instillation for Salt Reduction Building underway
• Excavation for foundations underway
SAFETY SIGNIFICANT CONFINEMENT VENTILATION SYSTEM

SALT REDUCTION BUILDING - 24,966 SQFT

TWENTY TWO - 27,000 CFM SAFETY SIGNIFICANT HEPA FILTER HOUSINGS
20 ONLINE • 1 IN STANDBY • 1 IN MAINTENANCE

EXISTING EXHAUST SHAFT

7 110,000 CFM DEDUSTERS AND DEMISTER
5 ONLINE • 1 IN STANDBY
1 IN MAINTENANCE

NEW FILTER BUILDING - 55,553 SQFT

125 FT EXHAUST STACK

SIX - 1,000 HP FANS (HOUSINGS, MOTORS,
VARIABLE FREQUENCY DRIVES
4 ONLINE
1 IN STANDBY
1 IN MAINTENANCE

TOTAL AIRFLOW — 540,000 CFM

TWO - 3,000 KW STANDBY DIESEL GENERATORS
• Critical Decision 3A approved
• Critical Decision 2/3 approval expected in June
• Cut, fill and grading is underway
• Fence installation underway
• Clearing and grubbing for:
  • Salt Pond #5
  • Salt Pile
  • Alternate Power
WIPP Repository Utilization
(concept for future)
Questions?