W a s t e I s o l a t i o n P i l o t P l a n t

America's Deep Geologic Radioactive Waste Disposal Repository

Session 070
February 27, 2013
Phoenix, Arizona

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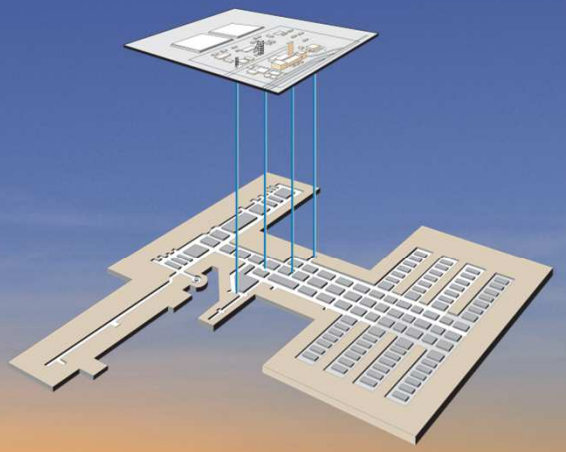
WIPP Today

- Safe transuranic (TRU) waste disposal for nearly 14 years (March 1999)
- More than 11,100 shipments received at WIPP with more than 13 million safe loaded miles traveled
- 84,500 cubic meters of waste disposed
- 22 sites cleaned up of legacy TRU waste
- World's largest Type B shipping-container program
- Challenge: Aging infrastructure



Legacy TRU Cleanup

22 sites cleaned up of legacy TRU waste to date

Revitalized

Completed in 2012:

- Sandia National Laboratories

Continuous Improvement:

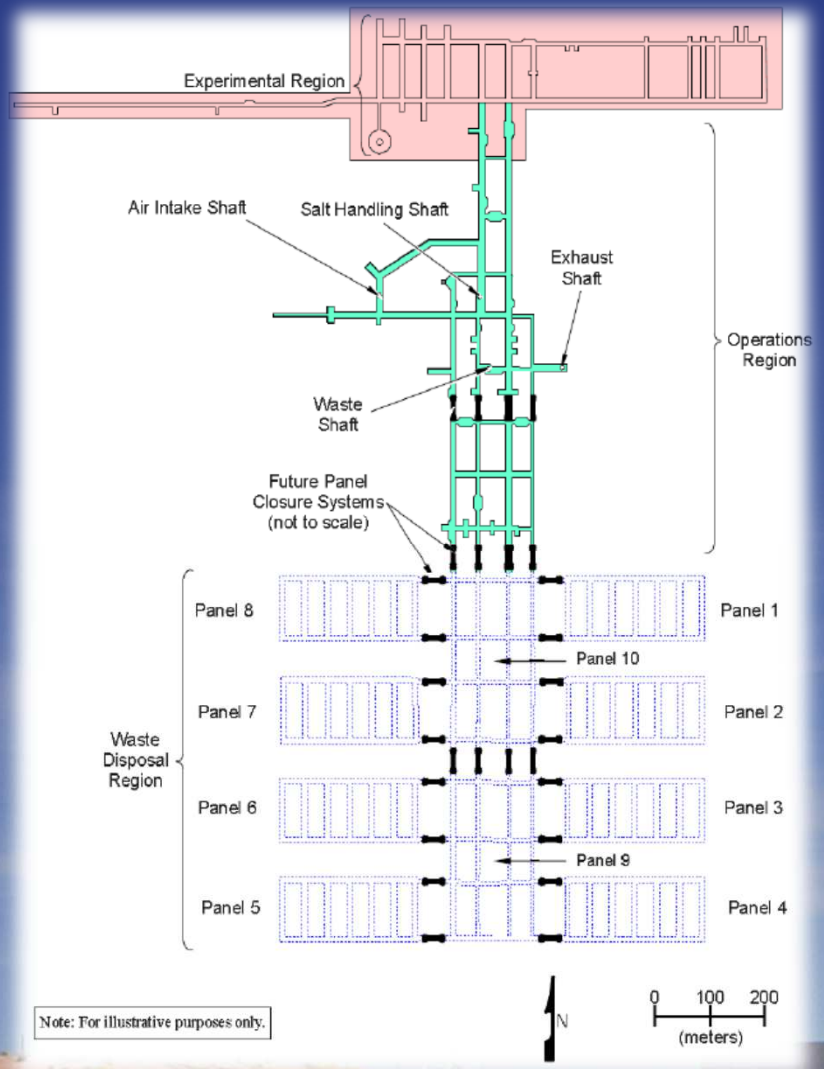
New Remote Handled (RH) Waste Shipping and Emplacement Concept: Shielded Containers

- NRC[1] Certificate of Compliance May, 2009
- EPA[2] approval Aug, 2012
- NMED[3] approval Nov, 2012
- ~1/3 fewer shipments than RH-72B
- Uses contact-handled (CH) waste-handling infrastructure
- Enhances operational flexibility



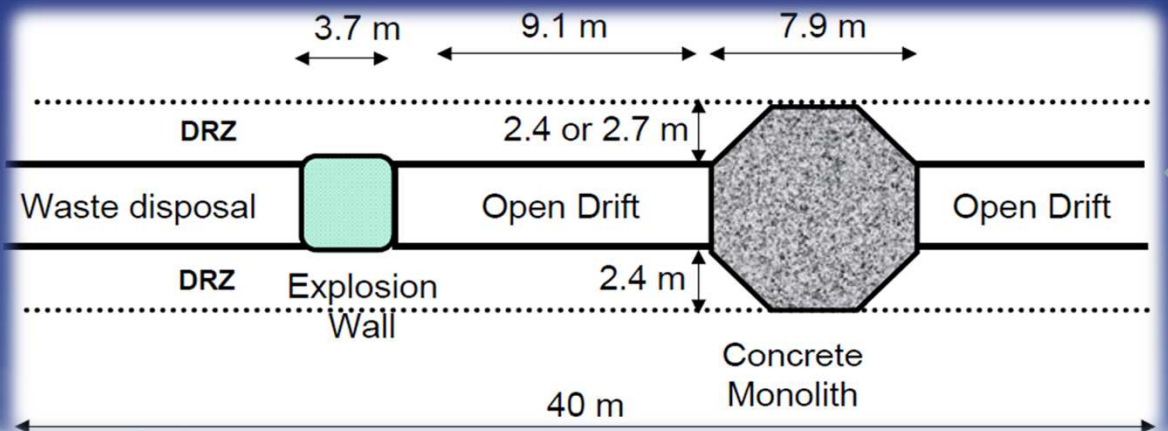

[1]Nuclear Regulatory Commission; [2]Environmental Protection Agency; [3]New Mexico Environment Department

Optimization and Regulatory Changes - WIPP Panel Closures



- WIPP panel closures proposed during licensing phase (1980's).
- Purpose: protect workers during operational phase.
- Included in performance assessments as feature of disposal system, not because they inhibit releases: *Not designed or intended for improving long-term repository performance.*
- **Monitoring of gaseous releases from waste suggest that these 28 very costly closures would play no role in providing worker safety.**

Optimization &Regulatory Changes - WIPP Panel Closures



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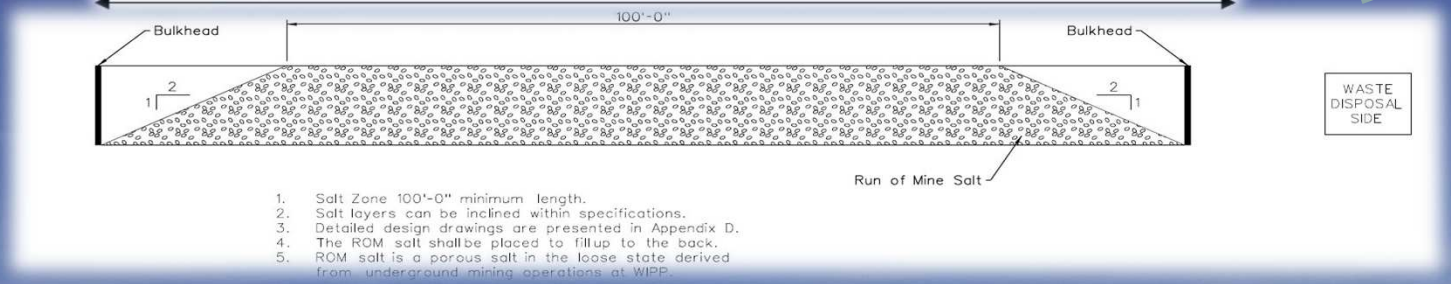


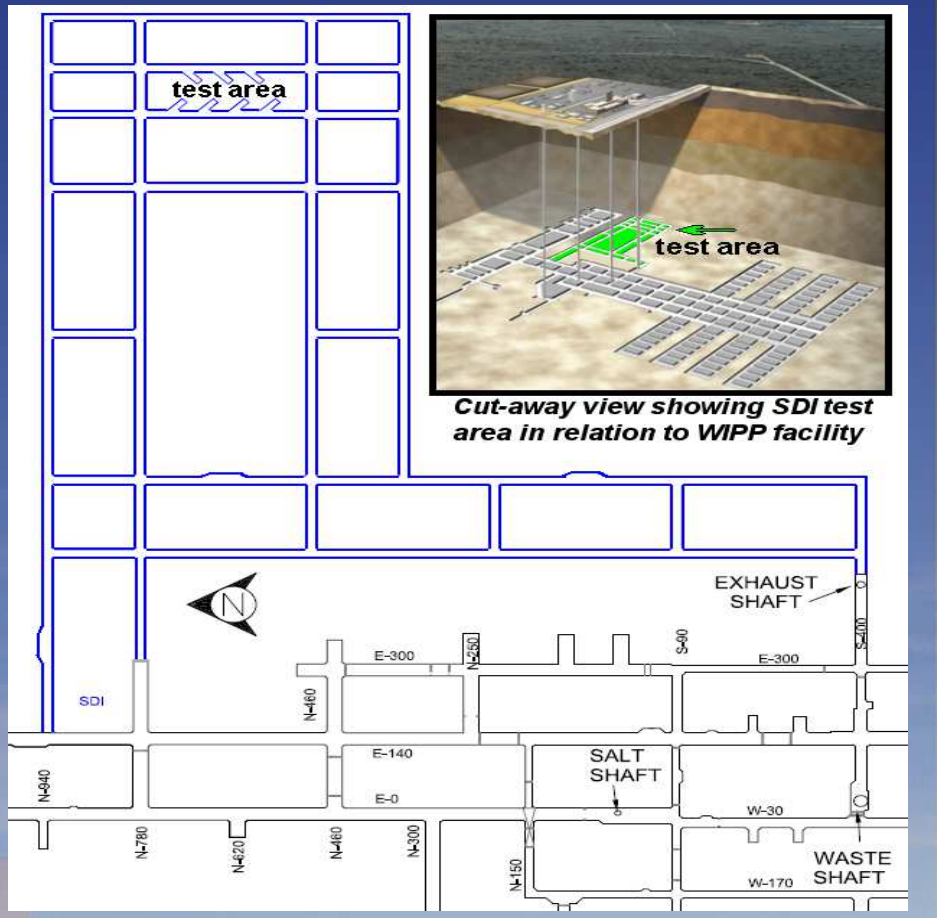
- EPA rulemaking
- New Mexico Hazardous Waste permit modification

See: Session 057, Paper 13192
Room 102A, Tuesday, Feb. 26

In-Situ Testing and Performance Assessment of a Redesigned WIPP Panel Closure

Salt Disposal Investigations (SDI): Effects of Heat-Generating Wastes in a Salt Repository

- **Location:** Proposed SDI project is for testing and experimentation at WIPP
- **Purpose:** Investigate use of salt formations for disposal of thermally elevated waste types
- **Status:** Mining in experimental area began December 2011, with planned completion in 2014
- **Re-Entry:** 1980s heater test area for forensic sampling



Cut-away view showing SDI test area in relation to WIPP facility

SDI Timeline and Expected Results

FY12 – FY14
Mining, preparation of test area(s), developing test plans, starting laboratory tests

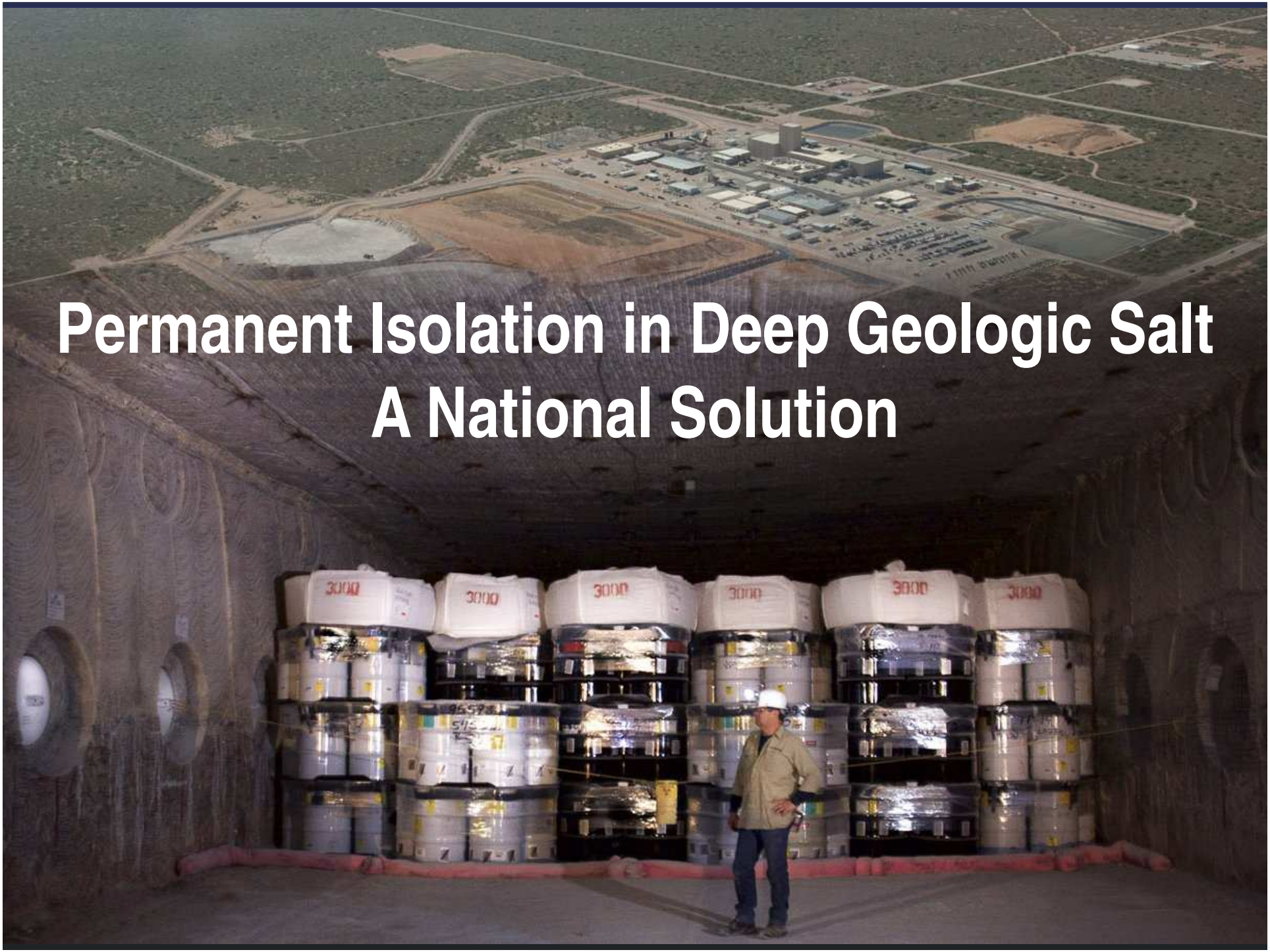
FY14
Installing field heaters and instrumentation

FY15 – FY20
Field heater test and post-test forensics

Expected Results: Will expand knowledge, could confirm earlier studies regarding some aspects of heat effects on salt, and will provide foundation for future salt repositories for heat-generating nuclear waste.

An Operating Repository has both Opportunities and Challenges

- Budget
- Meeting New Mexico Framework Agreement goals for cleanup of Los Alamos TRU wastes
- Permit Modification Requests
  - Additional disposal panels
  - Panel closure redesign
- Carlsbad bypass reconstruction
- Infrastructure Revitalization


Permanent Isolation in Deep Geologic Salt
A National Solution