

WIPP Recovery and Operational Safety

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US/GERMAN WORKSHOP
Salt Repository Research,
Design, & Operation





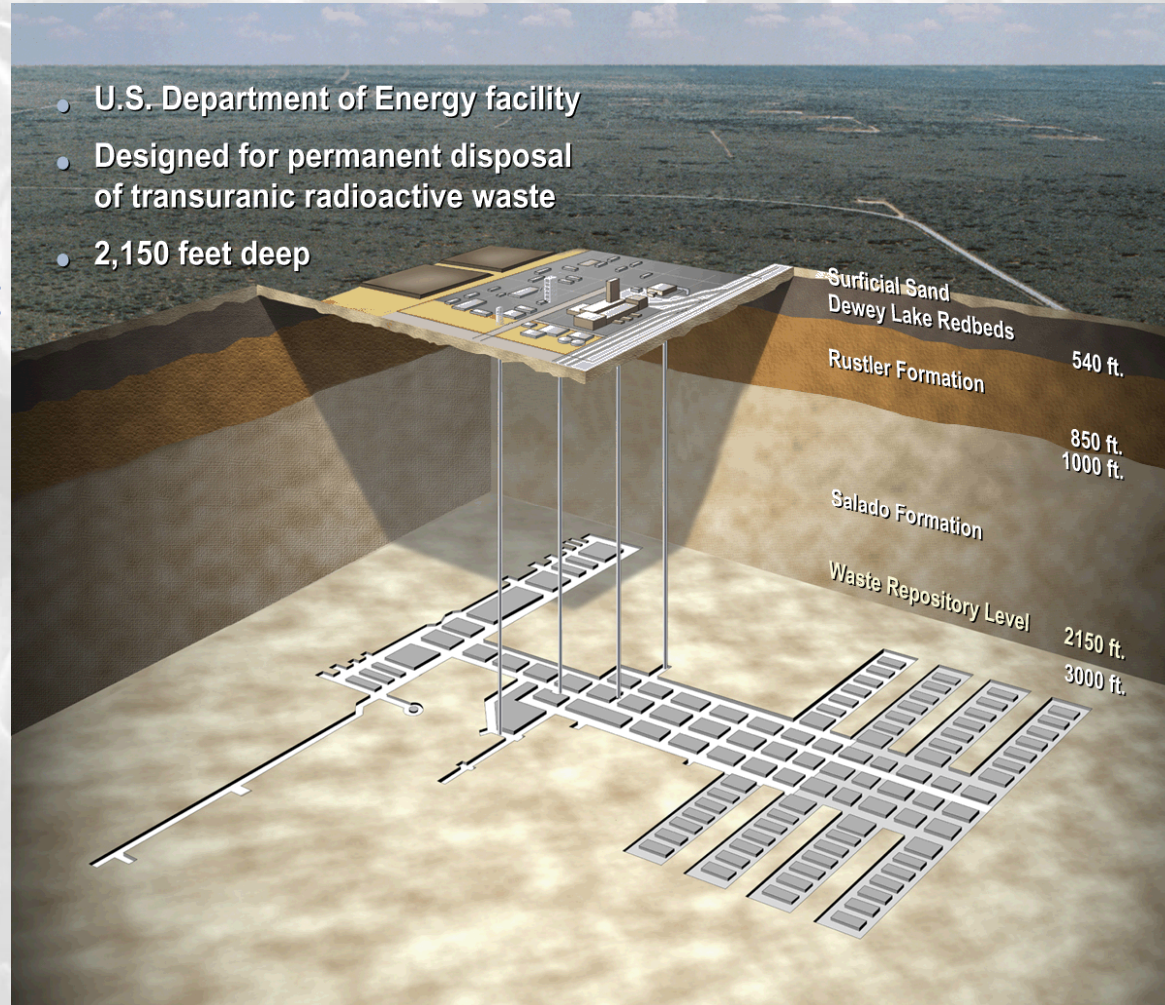




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Outline

- Recovery
- Ground Control Challenges
- Waste Emplacement
- Resumption of Shipments
- Mining
- Future Planning



- U.S. Department of Energy facility
- Designed for permanent disposal of transuranic radioactive waste
- 2,150 feet deep

WIPP Incidents



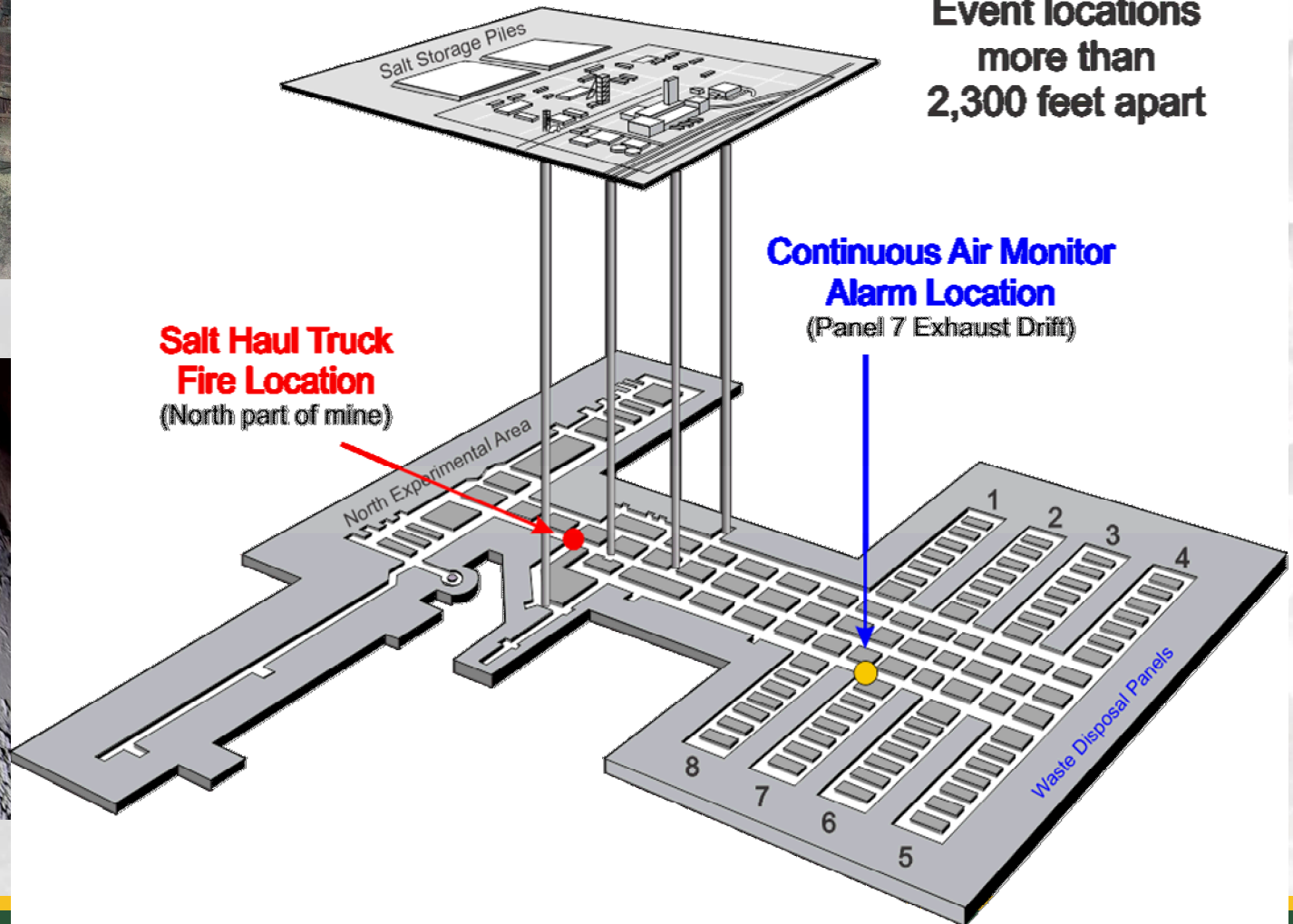
February 5, 2014 Truck Fire:

- All operations at the repository ceased following salt haul truck fire in the WIPP underground.
- An investigation team was deployed to determine the cause of the fire.

February 14, 2014 Radiological Incident:

- A continuous air monitor detected airborne radiation in the underground.
- WIPP's ventilation system automatically switched to high-efficiency particulate air (HEPA) filtration mode when airborne radiation was detected
- Underground and the WIPP mine remains in filtration mode at this time.
- Extensive sampling and monitoring conducted by DOE, New Mexico, and Carlsbad Environmental Monitoring Research Center
- Efforts by the DOE and Nuclear Waste Partnership are ensuring workers are fully protected during recovery and restart.

WIPP Incidents



Key Steps Toward Recovery



- Documented Safety Analysis Revisions
- Safety Management Program Revitalization
- Underground Restoration
 - Re-Establish Degraded Equipment
 - Fire Protection
 - Maintenance and Ground Control
 - Radiological Roll-back
 - Soot cleaning of electrical panels
- Expedite mine stability
- Initial Panel 6 and Panel 7, Room 7 Closure
- Interim Ventilation

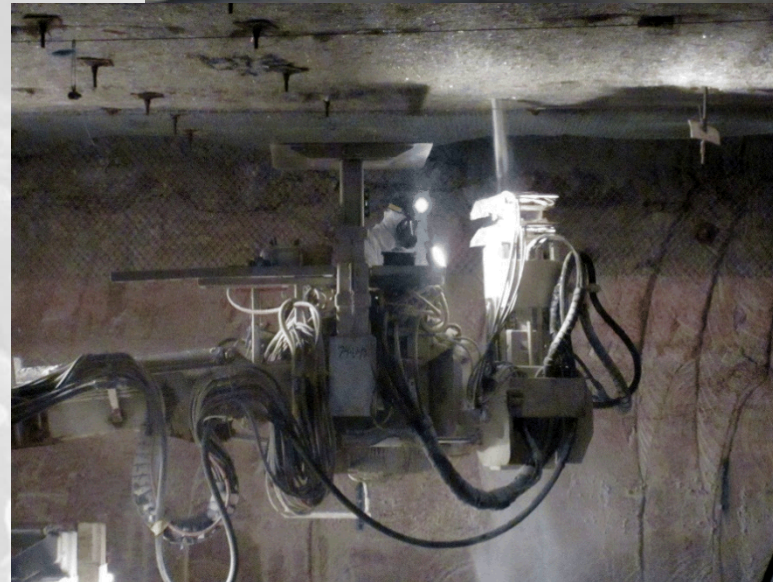


Ground Control Challenges



Limitations:

- 9 – months with no ground control following incidents
- Low ventilation rates limited bolting operations
- Need for workers to operate in personal protective clothing and respirators



Ground Control Challenges



Ground Control Challenges



Ground Control Challenges



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U.S. DEPARTMENT OF
ENERGY

NNSA
Nuclear Non-Proliferation and
Counterterrorism

RTCA
Research Triangle Corporation
1205 High School Rd.
Durham, NC 27709

COVRA
CORPORATION



Ground Control Challenges



Reopening



WIPP Officially Reopened with a ribbon cutting ceremony held on January 9, 2017

Waste Emplacement Resumes

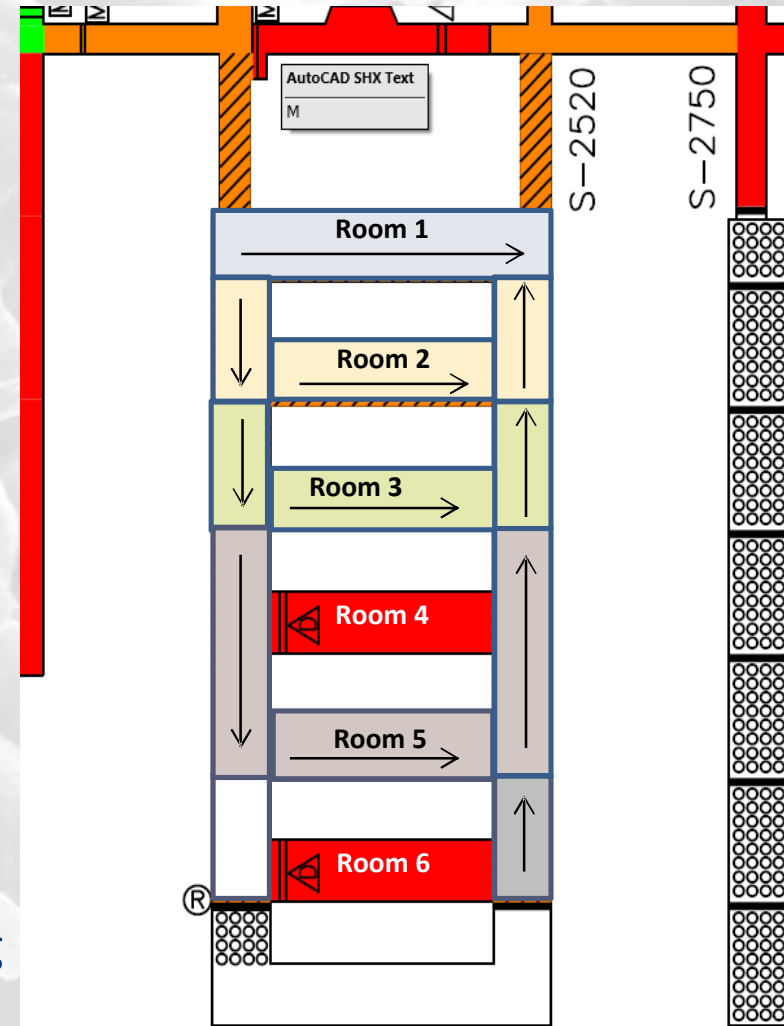


- Waste emplacement operations resumed in Panel 7 – transition point between clean and contaminated area is necessary

Panel 7 Status



- Bulkhead were placed at both ends of Room 7 to isolate waste following events – remains closed
- Rock fall occurred in Room 4 on November 3, 2016 – fall was predicted and room was already prohibited
- Room 6 is prohibited due to ground control – also contains abandoned equipment
- Rooms 1, 2, 3 and 5 are safe and usable for waste emplacement
- Waste emplacement has started in S2520 moving west to east
- Currently available disposal capacity in Panel 7 should last approximately 3-4 years, depending on shipping rates



Shipments Resumed



- First shipment since incidents was received from Idaho on April 8
- Shipment rate started at 2/week, with goal of ramping up to 4/week by the end of 2017
- WIPP anticipates receipt of approximately 128 shipments between April of 2017 and the end of January 2018
- Currently receiving shipments from Idaho, Savannah River, Waste Control Specialist, and Oak Ridge.



Projected Shipping



Key considerations in the development of the shipping estimate and points of origin included:

- WIPP waste emplacement rate;
- Available waste to ship;
- Regulatory commitments and agreements;
- WIPP transportation/waste acceptance capabilities;
- Flexibility for changing technical and policy constraints.

Site	Projected Shipments
Idaho	61
Los Alamos	24
Oak Ridge	24
Savannah River	8
Waste Control Specialists	11
TOTAL	128

Mining Panel 8



Mining of Panel 8:

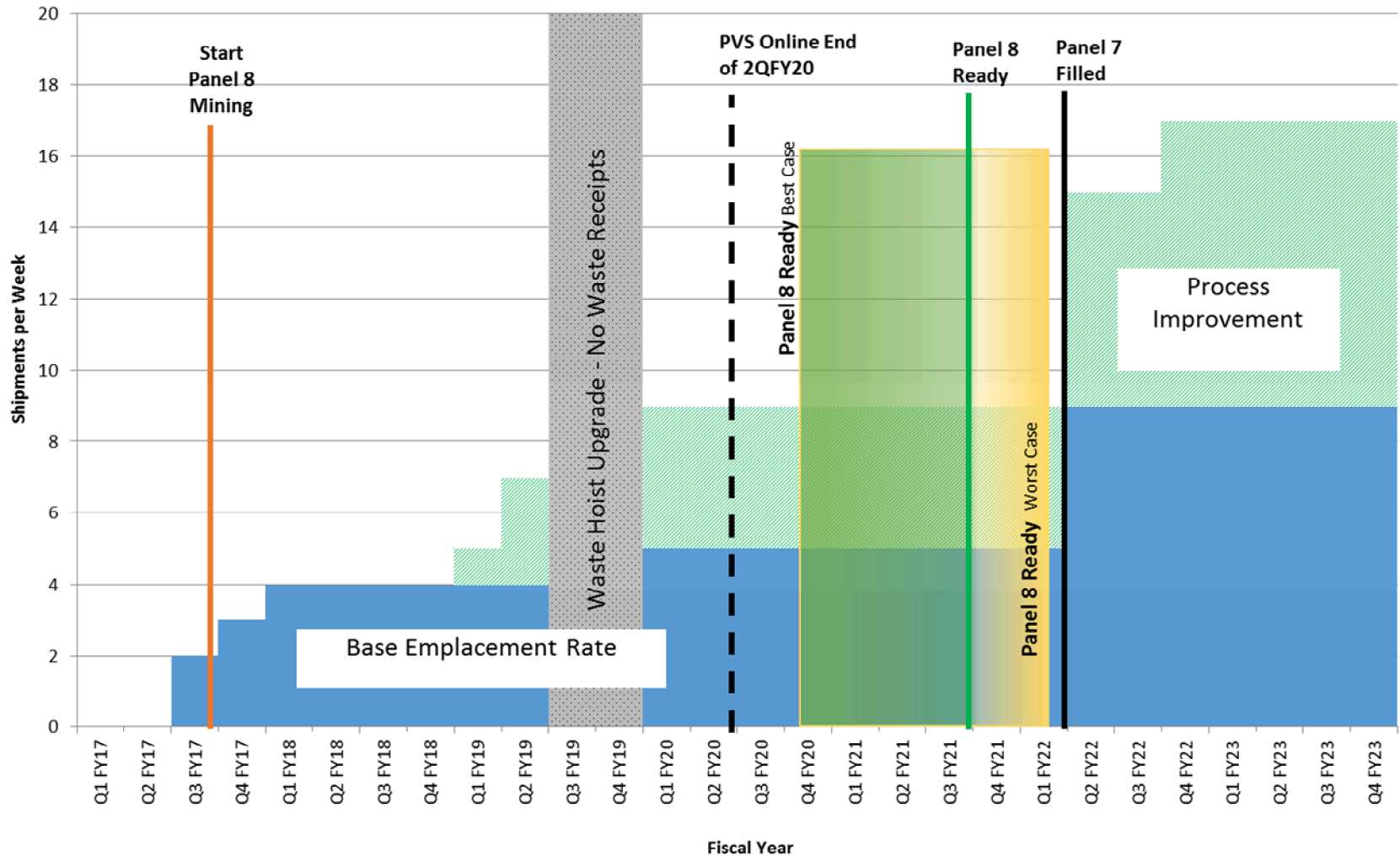
- Planned to begin in October 2017
- No contamination present
- Required to bolt our way into the panel to remove equipment that has remained there since events
- Mining operations are expected to take approximately 3 years



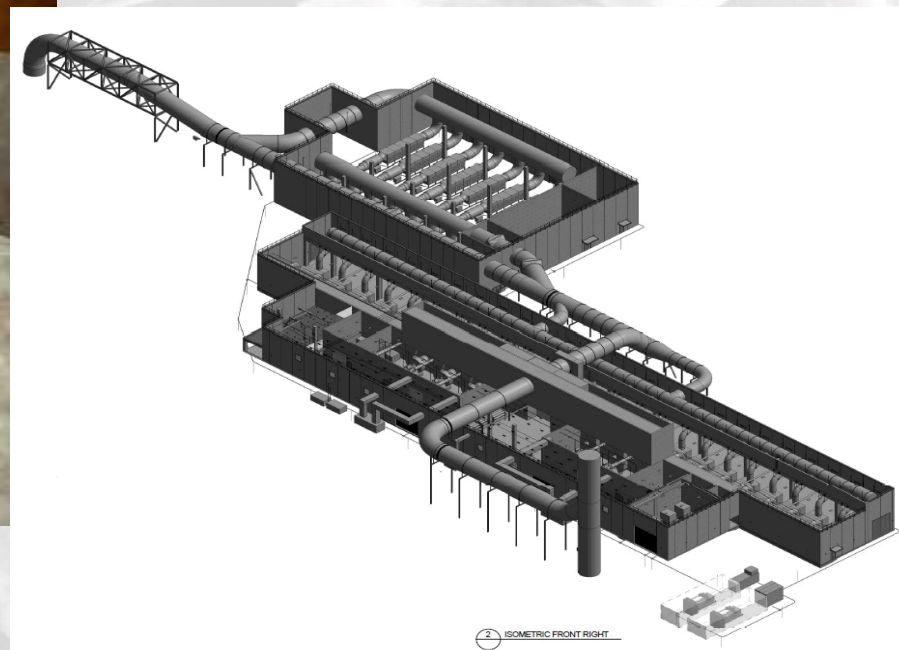
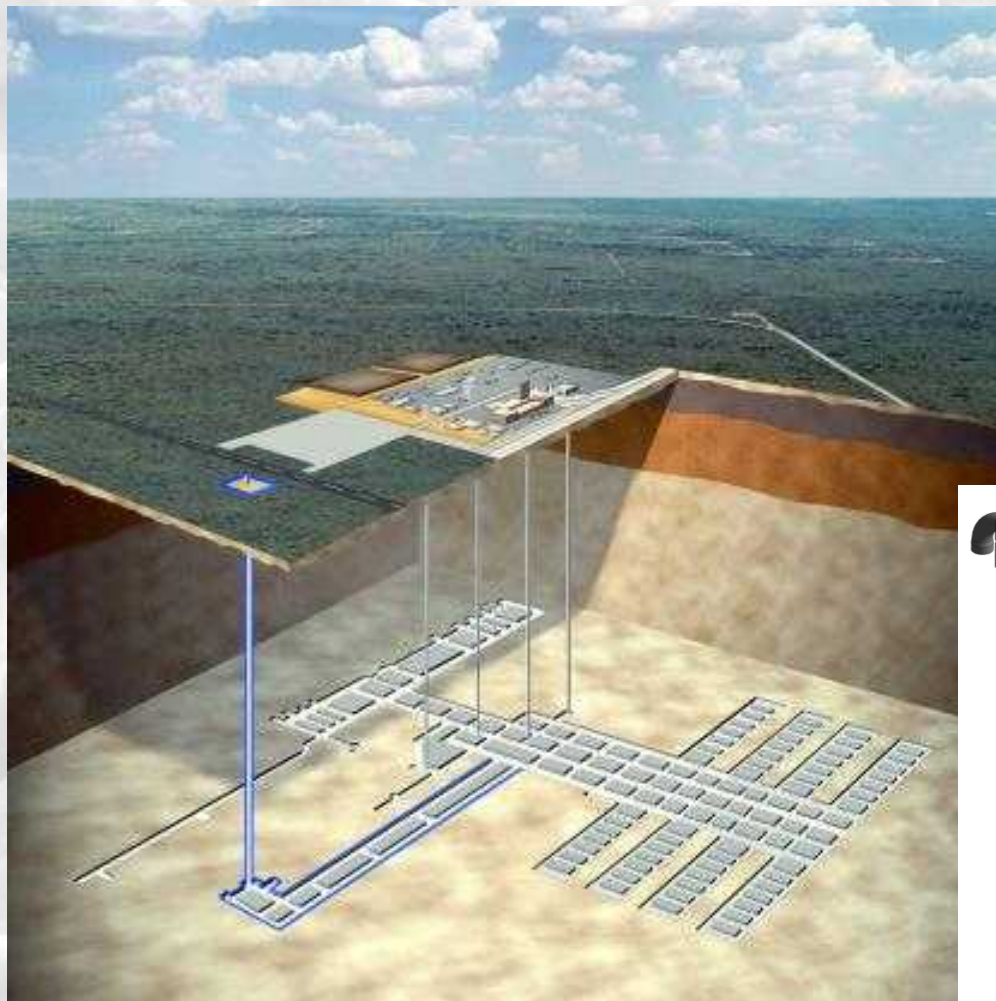
WIPP Mining and Emplacement Model



Waste Emplacement Rates FY17 - FY23



New Shaft and Ventilation





Questions

