

WASTE ISOLATION PILOT PLANT

Community Forum

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Waste Isolation Pilot Plant Mission



Our mission is to provide safe and compliant characterization, transportation, and disposal of the United States' defense transuranic (TRU) waste while protecting workers, the public, and the environment





One Team – Focused on Safety and Quality



U.S. Department of Energy

Carlsbad Field Office

- Leads the Transuranic Waste Program
- Science Program



Salado Isolation Mining **Contractors LLC**

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



National Laboratory

 Scientific advisor for waste characterization



Aleut Aerospace Engineering, LLC-TRANSCOM Satellite Tracking



CBFO Technical Assistance Contractor

 Technical and Quality Assurance support for the Carlsbad Field Office



CAST Specialty Transportation Transportation carrier





Sandia National Laboratories Scientific advisor for repository recertification



Overall Mission Accomplishments

- 22 sites completed legacy TRU waste cleanup
- 13,843 shipments received
- 16,577,170 loaded miles traveled
- 489 shipments received and emplaced in 2023
- Recent shipments:
 - November 2023: 30
 - December 2023: 44
 - January 2024: 50
 - February 2024: Annual Maintenance Outage



WIPP Overview





2024 Waste Emplacement Goals

Outlook

- Receive and emplace 450 waste shipments
- Minimum of 40 Los Alamos TRU shipments
- Carrier services increased to support up to 17 shipments per week

Challenges

- Available shippable inventory
- Maintenance outages (WIPP and generator sites)

Above: TRUPACT handling. Below: underground waste emplacement.







Safe Transportation

TRUPACT Testing Requirements

- TRUPACT-II, TRUPACT-III, HalfPACT & RH-72B CASKS must be certified to:
- 30 foot drop onto a flat, unyielding surface
- 40 inch drop onto a 6 inch diameter steel rod at least 8 inches long
- 1,475 degrees F for 30 minutes
- Immersion test equivalent to external pressure under 50 feet of water

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Weight 12,705 lbs. empty 19,250 lbs. loaded

Material Stainless Steel Polyurethane Foam Ceramic Fiber Insulation



Driver Requirements

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- Must be a U.S. citizen
- Must have 325,000 miles in last five years/100,000 per year in two of last five years
 - Must not have repeated chargeable incidents, moving violations, or a single DWI/DUI in their private vehicles
 - Must not have been charged with a moving violation in a commercial vehicle in last five years
- Must pass background check

Shipment Requirements



- Must pass Commercial Vehicle Safety Alliance Level VI inspection (100% defect free)
- Two drivers per shipment
- Driver inspects within first 50 miles
- Additional inspections every 3 hours or 150 miles
- Shipments not allowed to travel during weather warnings
- States can perform additional inspections (CO and NM)



Waste Emplacement and Mining Update



Panel 8, Room 6

- Room 6 approximately 88 percent filled
- Final Room 6 emplacement anticipated for early April, then begin Room 5

New Panel 11

Panel 11 mining began
 December 2023



Above: Panel 8, Room 7 waste emplacement. Below: Panel 11 first cut with continuous mining machine.



A Closer Look: The West Mains, Panels 11 and 12

- Mining done on just-in-time basis due to salt creep
- Currently mining access drifts to the west
- Drifts will tie into the Utility Shaft and replacement panels 11 and 12
- Preparing to equip west mains with infrastructure





WIPP TRU Waste Disposal

- WIPP Land Withdrawal Act (LWA)
- Defense generated transuranic
- Must meet WIPP Waste Acceptance Criteria
- WIPP transuranic waste capacity 6.2M ft³
 - Current volume capacity filled = 2.6M ft³ (~43%)







LWA remaining capacity



Infrastructure Investments

- Projects will:
 - Reduce maintenance down time
 - Improve operational efficiencies
 - Increase annual shipping rate
- New Utility Shaft
- Safety Significant Confinement Ventilation System (SSCVS)
- General Plant Projects



Capital Project – Utility Shaft



- Providing higher-capacity air intake for the underground in conjunction with SSCVS system
 - 30-foot diameter shaft
 - 2,275 feet deep
 - Shaft sinking and station development complete
- Transition from shaft sinking to horizontal excavation of drifts
- Delivery of underground mine power centers

Above: loading mining equipment down the Utility Shaft. Below: view of Utility Shaft underground drift mining.



Capital Project Safety Significant Confinement Ventilation System (SSCVS)

Increasing airflow to the underground to 540,000 cubic feet per minute

Progress

- Overall project about 85 percent complete to include:
 - New Filter Building (NFB)
 - Salt Reduction Building (SRB)
 - Overall commission about
 23 percent complete

Above: SSCVS large diameter duct work. Below: testing electrical circuits during SSCVS commissioning.





Re-Investing in Aging Infrastructure

- Our goal remains to keep WIPP capable and ready to meet its mission needs
- Much of infrastructure/equipment is 40+ years old
 - Requires frequent maintenance
 - Difficulty for vendors to service
- Priority List of Projects initiated
 - Includes over 100 upgrade projects
 - Electrical substations, control systems, utilities upgrades, security systems
- Refurbishing salt loading pocket
- Replacing seismic monitoring system





Legacy TRU Waste Disposal Plan

Define legacy TRU and TRU mixed waste

- Consulting with stakeholders and generator sites
 - Initial consultation with stakeholders
 - November 2023
 - WIPP Information Exchange
 - December 2023
 - Generator sites consultation
 - December 2023 April 2024
- Final plan to be submitted to NMED
 - November 2024
- 60-day public comment period
- More information at:

https://wipp.energy.gov/Legacy-TRU-Waste-Disposal-Plan.asp



Cleanup to Clean Energy

CLEANUP TO CLEAN ENERGY

- Energy Secretary Jennifer Granholm announced an initiative last summer to repurpose parts of DOE-owned lands for clean-energy generation.
- WIPP is one of five DOE sites participating in the initiative.
- DOE has identified about 9,000 acres of WIPP land that could potentially be used for the buildout of utility-scale (e.g., 200 megawatt or larger) clean energy projects.
- In November, representatives from DOE's Office of Environmental Management and the Carlsbad Field Office met with several area stakeholders, elected officials, and city and county personnel to get input on what type of clean energy projects might be suitable for WIPP land.
- In February, DOE issued a request for information on potential clean energy projects for WIPP land.
- On March 27, the DOE will host a Cleanup to Clean Energy Information Day in Carlsbad, NM.



Economic Impact on New Mexico

- **\$65.7 million** spent in subcontracts and procurements in 2023
- **\$6.3 billion** in project investment since WIPP began
- 1,700 jobs in New Mexico





Stakeholder Outreach

We strive to build trusted relationships through honest and transparent communication and active engagement with our communities.

2023 Accomplishments

- More than 125 stakeholder outreach and community involvement events
- Over 120 site tours
- Active in chambers of commerce

2024 Outlook

- Hosted first-ever DOE Regional Science Bowl
- WIPP 25th Anniversary

Above: National Museum of Nuclear Science & History ribbon cutting for the grand reopening of the WIPP exhibit. Albuquerque, Nov. 2023.

> Below: WIPP hosted southeast New Mexico's first-ever DOE Regional Science Bowl.





Career Opportunities



Carlsbad Field Office

https://wipp.energy.gov/cbfocareers.asp



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SIMCO wippnm.hrmdirect.com



NAVARRO https://careers.navarro-inc.com



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QUESTIONS?

Follow up from October 2023 Forum

What is the percentage of work breakdown among waste emplacement, mining, and surface activities at any given time?

- WIPP's workforce is about 1,700 people.
- Crews specialize in various activities (e.g. waste emplacement, mining, surface construction work).
- These activities are happening simultaneously throughout the work shift – both underground and on the surface.

What lessons learned are there from the waste shipment returned to the Savannah River Site (SRS) in August 2023?

- No transferrable contamination found above WIPP TRU Waste Acceptance Criteria limits.
- Radiation protection, waste characterization and shipment programs worked as designed to identify the presence of contamination.
- SRS to develop lessons learned for SRS/WIPP focused on:
 - Procedure consistency between the two sites.
 - Planning and communication for survey protocols and results for abnormal events.
 - Preserving data, reports, and equipment for investigative purposes.

