WIPP Site Project Update

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November 18, 2021
Major Accomplishments

- Shipments: 199
- Shipments from Los Alamos National Laboratory (LANL): 56
- Loaded shipping miles: 224,304
- Mining in panel 8 complete
- Salt reduction building walls
- 700-C fan balancing complete
- Central Monitoring Room upgrade
- Approval to resume work on underground Shaft #5
Shipping Projections Aligned with Additional WIPP Capabilities

SHIPPING PROJECTIONS ALIGNED WITH ADDITIONAL WIPP CAPABILITIES

Start Panel 11 Emplacement (Planned)

Potential Capacity (Up to 20/week)

FY21 FY22 FY23 FY24 FY25 FY26 FY27 FY28 FY29 FY30

- EMLA
- SRS-EM
- SURPLUS PU
- OREM
- IDAHO
- IDAHO-RH
- PIT-LA
- PIT-SRS
- SRS-RH
- SMALL QTY
- Extra Capacity - TBD
- Extra Capacity - Potential EMLA

100 6 56 22 15
Transportation Routes

New Mexico Communities along the northern WIPP route
- Los Alamos
- Santa Fe
- Albuquerque
- Vaughn
- Roswell
- Artesia
- Carlsbad

New Mexico Communities along the southern WIPP route
- Jal
- Eunice
- Loving
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
Driver Requirements

- 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
- Fully automated, nationwide satellite tracking
- Five-minute updates
- States and tribes have access to password-protected Web site
- Drivers in constant communication with WIPP’s Central Monitoring Room
**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)
Emergency Responder Preparedness

In coordination with states and tribal nations, first responder training and full scale accident preparedness drills (WIPPPTREX) are provided along WIPP routes.

- Trainings include:
  - Modular Emergency Radiological Response
  - Transportations Trainings (MERRTT & CMERRTT)
  - RAD Technician, RAD Specialist, Hospital and Coroner classes are also provided
Safe Transportation

- Over 13,000 shipments received
- Over 15.5 million loaded safe miles traveled
- Averaging 5-7 shipments per week
- Consistent shipments from
  - Los Alamos National Laboratory
  - Idaho National Laboratory
  - Savannah River Site
Panel 7 Emplacement Status

Panel 7 Projected fill date: July 26, 2022

Room 2 Projected fill date: January 6, 2022
Panel 8 Status

Mining completed
- 09/29/2021

Outfitting completion date
- 02/15/2022

Class 2 Permit Modification Request – Update Volatile Organic Compound Room Based Limits
- Submitted 10/15/2021
- Decision Expected by 2/15/2022

Expected New Mexico Environment Department Certification & Ready for Emplacement
- 4/30/2022
Mining Progress

- Began mining drifts to the west on September 26th, meeting EM calendar year 2021 goals
- Achieve continuous mining to the west on 03/31/2022
- Widen access drift to Panel 8
- Prepare access drifts for panel 11 emplacement
  - W170 drift widened from S550 – S850: Began 10/15/2021
  - W170 Floor removal from S90 – S850: Began 10/27/2022
Air is the lifeblood of the WIPP underground. Current filtered airflow is limited to 146,000 cubic feet per minute, making operations limited.

The Fix: Safety Significant Confinement Ventilation System (SSCVS) will pull 540,000 cubic feet per minute of filtered air through underground.

Utility shaft provides higher-capacity (26 feet diameter) air intake for SSCVS system.

In the interim: 700-C fan bridges need for more air until start of SSCVS with 240,000 cubic feet per minute for non-emplacement activities.

SSCVS allows simultaneous mining, rock bolting, emplacement and other activities.
700-C Fan Restart Status

- Bringing the 700-C legacy fan (unfiltered) online will increase airflow in the WIPP underground during non-waste handling operations
  - Increased comfort to our workforce
  - The 700-C fan will act as a bridge until the SSCVS is online
- We have successfully conducted the initial 4 hour startup test
- Environmental monitoring data shows no impact to human health or the environment
- Next Steps Restarted (balancing) October 26th
- 700-C fan will not operate during waste emplacement activities
- Approximately half of the data has been evaluated from the 40 hour sampling period for 700-C Fan restart. At this point, the Radiological data is well below the pre-established limits in the Sampling plan.
- [https://wipp.energy.gov/700c-restart.asp](https://wipp.energy.gov/700c-restart.asp)
Safety Significant Confinement Ventilation System (SSCVS)

- The SSCVS will increase air volume flow throughout the underground, allowing for improved working conditions and increased worker comfort.
- Total project expected to be operational in 2025.
Safety Significant Confinement Ventilation System (SSCVS) Project

Critical Path Items include:

- Completion of the New Filter Building (NFB) Safety Significant Cast in Place concrete walls
- Complete New Filter Building (NFB) precast walls to complete building structure
- Install 22 HEPA Filter Units
- Install 6 Exhaust Fans

Key Performance Measurement Baseline (PMB):

- Salt Reduction Building (SRB) Complete
- New Filter Building (NFB) Complete
- Construction Complete
Ground work – May 2019

Concrete slab for the Fabrication Building – June 2019

Installing the walls on the Fabrication Building – October 2019

Pouring the slab for the Salt Reduction Building – October 2019
SSCVS overview, showing the concrete forms for the walls of the Salt Reduction Building – July 2020

Concrete walls of the Salt Reduction Building – January 2021  Concrete slab work for the New Filter Building – May 2021  Roof supports on the Salt Reduction Building – October 2021
SSCVS overview, showing the concrete walls and rebar of the New Filter building and the roofed in Salt Reduction Building (Right) – November 2021

Concrete walls of the New Filter Building – November 2021

Interior of the Salt Reduction Building – November 2021

Exterior of the Salt Reduction Building – November 2021
SSCVS - New Filter Building

- Safety Significant slab-on-grade concrete placements: Completed August 4, 2021
- Safety Significant cast in place concrete wall placements commenced, 50 of 153 cast as of October 22, 2021.
- Received all 22 HEPA Filter Units to Site that will be installed in the New Filter Building
The walls and roof on the Salt Reduction Building are scheduled for completion by the end of the year.

Work on the walls of the New Filter Building continues.
SSCVS - Salt Reduction Building

- Completed all concrete housekeeping pads
- Have received all 6 of the Salt Reduction Units to Site
- Walls and roof have been installed
Utility Shaft Sinking

- New air intake shaft, allowing for a separate mining circuit reducing the salt load on the Safety Significant Confinement Ventilation System
- Completed the installation of the plenum, associated ductwork and the completion of the shaft liner to the underside of the temporary collar
Utility Shaft

- Completed the Infrastructure
  - #5 Salt Pond & Salt Pile
  - Power feed
  - Fire Loop
  - North Access Road Bypass
- Completed excavation of the Exhaust Stack plenum to 20 feet below ground elevation and placed the concrete for the bottom, east and west plenum sides.
- Commenced installation of Exhaust Stack ductwork structural supports and saddles.
- Key Milestone dates
  - Resume shaft sinking: August 2022
  - Install Galloway and erect headframe
    - Install Galloway begins: May 2022
    - Head frame complete: May/June 2022
Utility Shaft & Discharge Permit Status

Class 3 PMR, Excavation of New Shaft and Associated Connecting Drifts

- Class 3 PMR approved on October 27, 2021

Ground Water Discharge Permit DP-831

- Public Hearing held September 7-8, 2021
- Findings of fact, conclusions of law and closing arguments submitted October 19, 2021
- Decision on permit modification request anticipated in early 2022
Crews install one of three sections of the plenum for the Utility Shaft project.
Salt Hoist Refurbishments
Salt Hoist Refurbishments

Salt Hoist
Headframe
Structural Repair
and Painting
Fire Protection

Laying pipe for the Fire Loop

Fire Water Tanks
Electrical Upgrades

South 90 Switch Station

Floor Milling at the South 90 Switch Station

Design and Fabrication of Electrical Substations

New Electronics Inside Buildings
Air Line Replacement
New Air Compressors
WIPP has a variety of electric vehicles in its fleet including continuous miners, forklifts and hybrid bolters. Currently there are 17 fully or partially electric vehicles/mobile equipment in the WIPP underground with plans to buy 12 more this year.
The RH borehole emplacement approach, which we call traditional emplacement, has initiated a startup evaluation. The evaluation is comprised of various system and equipment operational tests. The plan is as follows:

- Initial system and equipment reviews
- System equipment repairs, refurbishments, replacements, procedure revisions and developments
- Training, qualifications, testing and operational checks
- Preparations for operational readiness and preparations for first shipment at site
We received our 13,000th shipment on November 11.

We will continue to strive to maintain the Voluntary Protection Program Star Status.

We appreciate the support of our state, regulators and local communities, without their support none of this would be possible.
Questions?

For More Information: https://wipp.energy.gov
1-800-336-WIPP (9477)