Overview

WIPP is the nation’s only deep geologic repository for the disposal of transuranic (TRU) waste generated by atomic energy defense activities. WIPP is located 33 miles southeast of Carlsbad, New Mexico, in the Chihuahuan Desert, far from major population centers. Waste is disposed of in a set of panels located nearly one-half mile below the surface (2,150 feet) in a deep geologic salt bed formed 250 million years ago. Construction of WIPP started in the early 1980s. The facility began operation in 1999 and celebrated 20 years of operations in 2019. To date, WIPP has received nearly 13,000 shipments. Those shipments were safely transported more than 15 million cumulative miles.

The WIPP Land Withdrawal Act (LWA), Public Law 102-579 as amended by Public Law 104-201, limits the amount of TRU waste which can be disposed of in the repository to 6.2 million cubic-feet (about 176,000 cubic-meters). Approximately 2.44 million cubic-feet (69,000 cubic-meters) of TRU waste, or about 39 percent of the LWA TRU volume limit, has been emplaced in the underground repository to date. WIPP is currently anticipated to operate beyond 2050.

A number of diverse stakeholder groups closely monitor all aspects of WIPP and the National TRU Program. WIPP has pursued significant engagement with local area stakeholders in the city of Carlsbad and Eddy and Lea counties with an interest in WIPP events, progress, and the role WIPP has in the overall cleanup of the DOE complex. WIPP engages routinely with state and federal regulators, and advocacy groups that tend to serve a watchdog role in their interest in WIPP. DOE provides technical, training, logistical, and funding support to six Tribal Nations and state regional groups and their 25-member states which focus on the safe transport of TRU waste through their jurisdictions. The Carlsbad Field Office continues to work with its stakeholders and foster the ongoing collaborative relationships developed since the inception of WIPP.
Calendar Year 2021 Accomplishments

- Completed mining of Panel 8
- Substantial construction progress on the two primary buildings of the Safety Significant Confinement Ventilation System (SSCVS), including the 25,000 square-foot Salt Reduction Building and the 55,000 square-foot New Filter Building – an EM priority for 2021
- Restarted the 700-C ventilation fan, increasing air movement in WIPP underground from 170,000 cubic-feet-per-minute to 240,000 cubic-feet-per-minute during mining, bolting and maintenance activities
- Maintained a shipping rate from EM sites of five shipments weekly

Planned Cleanup Scope 2022–2032

It is anticipated during the next 10 years, approximately 883,000 cubic-feet (25,000 cubic-meters) of TRU waste from EM, NNSA and small quantity sites will be emplaced at WIPP. To support planned waste emplacement activities, much of the work to be performed at WIPP over the next decade focuses on necessary infrastructure improvements to ensure the facility can continue to play its important role in the EM complex for the long term. By the end of 2025, a set of key infrastructure projects will be completed, improving WIPP’s capabilities in mining and waste emplacement. These include the new SSCVS, which provides 540,000 cubic-feet-per-minute of ventilation to the underground, allowing concurrent mining, waste emplacement, and ground control operations throughout the life of the facility. In addition, the new utility shaft serves as an air intake entry point to support the SSCVS, and house a new, larger capacity hoisting capability to transport materials in and out of the repository.

EM completed mining Panel 8 in 2021 and is expected to begin emplacing waste in Panel 8 in 2022. WIPP has applied to the state of New Mexico for approval to mine Panels 11 and 12 to replace emplacement space lost from the abandonment of Panels 9 and 10.
Additional site infrastructure improvements scheduled for completion during the next decade include:

- Recapitalization of key safety systems
- Replacement/refurbishment of shaft and hoist systems
- Upgrades to monitoring and site network systems
- Replacement of electrical substations
- Installation of additional backup generators
- Modernizing underground equipment to zero-emission, battery-electric vehicles, or very low-emission Tier IV diesel-powered equipment
- Replacement of underground electrical system switch stations
- Modernization of WIPP’s Central Monitoring Room
- Installation of a new digitally based geotechnical monitoring system in the WIPP underground

**Regulatory Milestones 2022–2032**

- None

**Post-2032 Cleanup Scope**

WIPP continues mining and waste emplacement operations to dispose of a total of 6.2 million cubic-feet of TRU waste, supporting key NNSA and SC missions, along with the remaining EM cleanup mission. Initially, it was assumed that WIPP would complete its mission and cease operation in 2030. However, based on revised TRU waste estimates, it has been determined additional time is required for WIPP to fully complete its mission. The expected life of the project is limited by the volume of waste allowed under the LWA, which does not specify an operating period for WIPP. Before taking any actions outside the scope of DOE’s existing NEPA analysis and decisions, DOE will determine the need for and conduct, as appropriate, further NEPA analyses.