A publication of the U.S. Department of Energy Carlsbad Field Office

November 2013

WIPP Quick Facts

(As of 11-21-13)

11,750
Shipments received since opening
(11,035 CH and 715 RH)

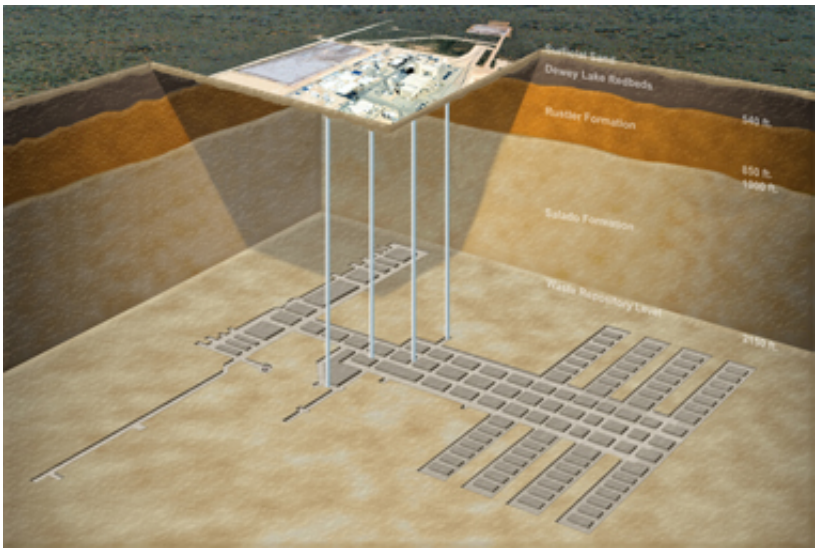
89,780
Cubic meters of waste disposed
(89,425 CH and 355 RH)

170,094
Containers disposed in the underground
(169,370 CH and 724 RH)

*CH - Contact-handled transuranic waste
RH - Remote-handled transuranic waste

Veterans Day ceremonies held at WIPP

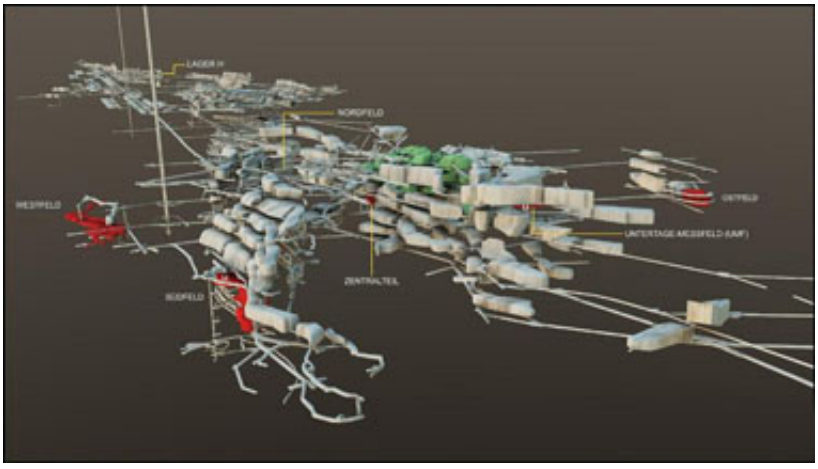
WIPP - A model repository



The WIPP underground consists of panels used for the disposal of defense-related transuranic waste.

For more than 14 years, the Waste Isolation Pilot Plant (WIPP) in Southeastern New Mexico has safely disposed of transuranic, or TRU, waste deep within a salt formation. As America's only operating deep geologic repository for defense generated transuranic waste, WIPP is a model for future repository sites throughout the world.

WIPP was not the first site to use rock salt as the medium for a nuclear waste repository. Between 1967 and 1978 radioactive waste was placed in storage in the Asse II mine in Germany. A second German salt mine, Morsleben, received waste as early as 1971 and continued to receive waste shipments until 1998. Since these mines were not initially planned as nuclear waste repositories, as was WIPP, there have been significant challenges. One of the primary challenges is with sealing and maintaining the repository structure given the numerous open drifts and chambers from prior mining activities.



The Carlsbad Field Office (CBFO) and WIPP marked the occasion of Veterans Day with two ceremonies, one at the WIPP Site and one at the project's office building in Carlsbad, NM.

Those gathered recited the pledge of allegiance and heard the National Anthem performed by CBFO's Director of Site Operations Casey Gadbury and Nuclear Waste Partnership (NWP) President and Project Manager Farok Sharif. A Color Guard raised the flag at both locations. One was comprised of Richard Virgen and Nick Worthington from the local National Guard. At the WIPP site the Color Guard was comprised of CBFO's Don Galbraith and NWP's Wayne Stensrud.

The underground openings of the Morsleben mine are very extensive and complex. Waste disposal areas are highlighted in red.

In September 2013, Carlsbad Field Office's International Programs and Policy Advisor Dr. Abe Van Luik saw these challenges first-hand during a tour of the Morsleben repository. "One of the advantages of using salt as a medium for disposal is that salt formations will slowly and progressively move in to fill mined areas and safely seal radioactive waste from the environment, said Van Luik. "However, in a mine that has many levels and chambers, keeping the mine stabilized and the waste secure in the intended chamber requires a planned and thoughtful effort."

At Morsleben, several key locations were identified where seals will be placed to keep radioactivity from migrating away from emplacement rooms. The design involves backfilling with crushed salt, erecting three barriers, and spraying a salt-cement mixture into the areas between the barriers. Because of the natural tendency of salt to deform over time, the barriers against which the salt-concrete is sprayed will deform, assuring a seal between the salt rock and the salt-concrete mixture.

In addition to experiencing the challenges associated with Morsleben, Van Luik also gained insight into some of the work involved in closing/sealing a repository. This experience provides information for CBFO to consider as it plans for the future closure and sealing of WIPP.

Unlike the Asse II and Morsleben repositories, WIPP was initially designed to safely isolate defense-related transuranic waste in salt rooms mined 2,150 feet below the surface. WIPP's panel design optimizes the storage of TRU waste and enables the efficient closure of each room and panel as it is filled. WIPP's responsibility includes protecting the environment and ensuring the safety of its workers and the public.

James Mason – CBFO Emergency Management Program Manager

On October 20, 2013, EM's Carlsbad Field Office (CBFO) welcomed James Mason as the Emergency Management Program Manager. In this position, Mason will work to assure that the WIPP program is prepared and capable to meet all regulations and requirements in the event of an emergency.

Mason most recently worked for the DOE/NNSA Office of Secure Transportation in Albuquerque in support of the safe and secure transport of nuclear materials.

Annual EPA monitoring inspection yields no findings or concerns

The U.S. Department of Energy's (DOE) Waste Isolation Pilot Plant (WIPP) was inspected October 22-24 when three representatives of the Environmental Protection Agency (EPA) were on site to take a close look at how WIPP is complying with radioactive waste disposal

"I enjoy working with others and building upon their experiences and capabilities," said Mason. "We have a great team at WIPP and I am excited to be part of that team."

Mason will work closely with others to ensure WIPP personnel follow all programmatic requirements associated with the Emergency Management program. During his career, Mason has served as a police officer, a firefighter, an emergency medical technician, and has worked in leadership roles as the Director of Emergency Services for Lincoln County and Program Manager of New Mexico Task Force 1 – a FEMA Urban Search and Rescue Team. Mason has also worked as a Preparedness Coordinator for the State of New Mexico.

CBFO is pleased to welcome James Mason as part of the team. Mason's capabilities and experience will contribute to the outstanding performance at WIPP.

standards.

After completing the annual inspection, the team met with WIPP management and staff to provide preliminary feedback at a closeout meeting. The team's feedback was very good, as there were no findings or concerns and only two observations.

"I'm pleased with the overall outcome of the inspection," said DOE Carlsbad Field Office Manager (CBFO) Joe Franco. "We not only make sure we are meeting our regulatory obligations, but also see inspections as another opportunity to look at what we do and identify ways we can continually improve."

The EPA inspectors had positive things to say about their inspection at WIPP. Specifically, they noted the support from personnel, the positive attitude of employees, ease in accessing the site and the staff's readiness for the inspection.

"These results are due to the hard work of everyone at WIPP," added Franco. "Great job to the entire WIPP team."

The photo above was taken in the WIPP underground near the Exhaust Shaft. Pictured left to right are WIPP employees John Doherty and Rey Carrasco with Kathy Economy, Trais Kliphuis (observing on behalf of the New Mexico Environment Department), Jonathan Walsh and Nick Stone.

Phil Theisen participated on a WIPP tour for University of New Mexico students. Behind him is a shield plug where remote-handled transuranic waste is disposed in the wall of the underground WIPP repository.

Carlsbad Field Office benefits from ORISE Fellowships

The DOE Carlsbad Field Office (CBFO) offers a unique learning experience for science and engineering graduates who apply for and receive fellowships through the Oak Ridge Institute for Science and Education (ORISE). Importantly, the ORISE fellows bring a fresh perspective and impressive talent to the DOE and other federal agencies.

Oba Vincent, CBFO Senior Strategist, initiated the CBFO program two years ago. "ORISE offers a premier program that allows us to bring in talent from some of the top schools in the nation," he said. "We provide these fellows with challenging and meaningful work and instill in them the value of service to the federal government. It is our hope that these bright, young graduates will become future employees."

ORISE programs include research experiences at DOE national laboratories and other federal research facilities located across the country. Vincent said ORISE pays its fellows a stipend, which is funded by the host agency, as well as business travel. He said 50 applicants, including six new PhDs, applied for CBFO's most recent opening.

ORISE fellow, Phil Theisen, said his CBFO experience has been invaluable. "I've learned more in the past six months than I learned in three years of college." Theisen graduated from Illinois Institute of Technology with a bachelor's degree in architectural engineering and a minor in physics. Since his arrival, Theisen has worked on a variety of CBFO projects that include cost estimating, conceptual shaft designs for deep-geologic mines and subcommittee coordination for the DOE National Analytical Management Program.

Nuclear physicist and post doc fellow, Jeff Wood, reports to CBFO Chief Scientist, Roger Nelson. Wood conducted his dissertation research at

Jeff Wood is photographed in front of a clean room located in the experimental area

room located in the experimental area underground at WIPP.

CERN, Europe's Center for High Energy Particle Physics.

"CBFO is delighted to have this advanced academic resource available," said Nelson. Wood recently toured ongoing particle physics experiments being conducted deep underground at the Waste Isolation Pilot Plant (WIPP). See http://www.wipp.energy.gov/science/index.htm

In addition to Theisen and Wood, CBFO hosts Karen Simmons, a graduate of New Mexico Institute of Mining and Technology, and a new fellow, James Kustritz, is expected to arrive in December. Vincent said CBFO is now working through ORISE to develop a work program for local high school students.

The Oak Ridge Institute for Science and Education is a national leader in science and education research. The institute was officially established in 1992 as a Department of Energy institute.
A broad range of programs for science and engineering graduates are available through ORISE and include internships, scholarships, fellowships and research experiences. For more information, see http://orise.orau.gov/science-education/internships-scholarships-fellowships/

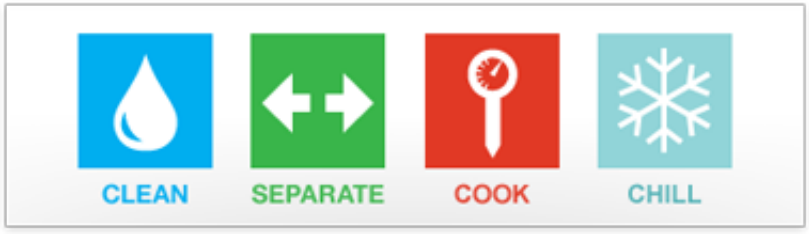
CBFO has responsibility for WIPP and the National Transuranic (TRU) Program.

Safety Minute: Avoiding foodborne illness

Each year, millions of people in the United States get sick from contaminated food. In fact, one in six Americans will get sick this year by consuming contaminated foods or beverages. Symptoms of food poisoning include upset stomach, abdominal cramps, nausea and vomiting, diarrhea, fever, and dehydration. Symptoms may range from mild to severe and can affect anyone.

Although most food poisoning symptoms resolve themselves within 24 to 48 hours, symptoms may last longer and the affected person should contact their doctor. In some instances, food poisoning can cause long term health effects such as kidney failure, chronic arthritis, and brain and nerve damage. In the United States, approximately 3,000 people die each year of illnesses associated with food poisoning.

According to Foodsafety.gov, there are four basic precautions people can take that will reduce the risk of foodborne illness: Clean, Separate, Cook, Chill.



Clean

- Wash hands the right way—for 20 seconds with soap and running water
- Wash surfaces and utensils after each use
- Wash fruits and veggies—but not meat, poultry, or eggs

Separate

- Use separate cutting boards and plates for produce and for meat, poultry, seafood, and eggs
- Keep meat, poultry, seafood, and eggs separate from all other foods at the grocery
- Keep meat, poultry, seafood, and eggs separate from all other foods in the fridge

Cook

- Use a food thermometer to ensure food has been heated to a safe minimum internal temperature
- Keep food hot after cooking (at 140 ˚F or above)
- Microwave food thoroughly (to 165 ˚F)

Chill

- Refrigerate perishable foods within two hours
- Never thaw or marinate foods on the counter
- Know when to throw food out (Refer to: www.foodsafety.gov/keep/charts/storagetimes.html)

The U.S. Department of Energy
Waste Isolation Pilot Plant

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