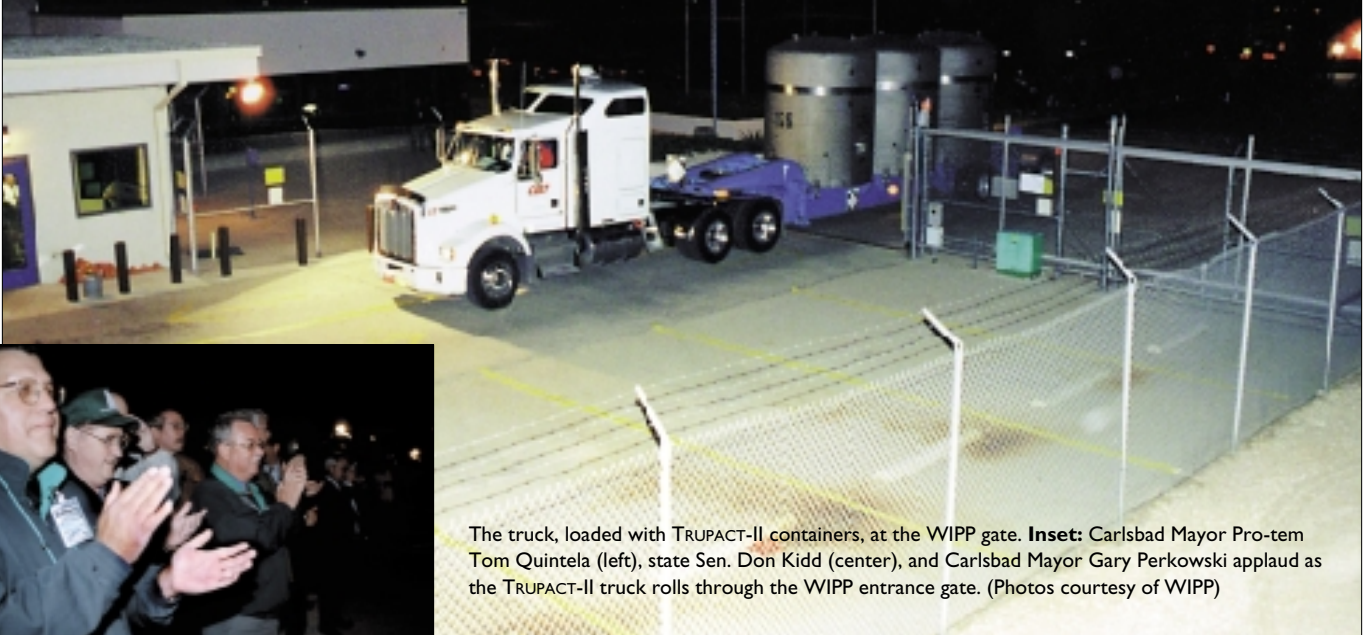


WIPP

## World's first deep geologic waste repository opens



The truck, loaded with TRUPACT-II containers, at the WIPP gate. **Inset:** Carlsbad Mayor Pro-tem Tom Quintela (left), state Sen. Don Kidd (center), and Carlsbad Mayor Gary Perkowski applaud as the TRUPACT-II truck rolls through the WIPP entrance gate. (Photos courtesy of WIPP)



*It has been 20 years since development of the WIPP facility was approved—at long last, it is operational, with the first shipment of TRU waste safely transported, delivered, and emplaced.*

**A**T 7:49 P.M. on March 25, 1999, to the cheers of workers, the first shipment of transuranic (TRU) radioactive waste left Los Alamos National Laboratory, at Los Alamos, N.M., destined for the Waste Isolation Pilot Plant (WIPP) in southeastern New Mexico, 26 miles east of the city of Carlsbad. WIPP is a U.S. Department of Energy repository designed to dispose of TRU waste resulting from the research and production of nuclear weapons. WIPP facilities include disposal rooms excavated in an ancient salt bed 2150 ft underground (*NN*, Dec. 1998, p. 47).

The shipment had originally been scheduled to leave Los Alamos just after midnight on March 25, but heavy fog prevented its departure. According to Chris Wentz, coordinator of New Mexico's Radioactive Waste Task Force (also called the Governor's WIPP Task Force), "The events of the last few days speak for themselves. . . . DOE was very anxious to get this first shipment under their belt," he noted, "yet they held the shipment at Los Alamos after consulting with us on the weather. It was a joint decision made in accordance with our precedures and in the interest of safety—both that of the drivers and the citizens of New Mexico." He added, "We felt that going the

extra mile was important to assure people that we had their interests at heart."

Not everyone, however, was happy about the initial shipment and the opening of the WIPP facility. Last-minute requests filed by several environmental groups were routinely denied by the presiding judges, and a number of protesters—some from out of state—gathered along a newly constructed bypass at state capital Santa Fe, some 25 miles southeast of Los Alamos. Demonstrations were generally peaceful.

Nevertheless, the first shipment for permanent disposal arrived safely at WIPP on March 26, at approximately 4 a.m. MST. Local dignitaries and WIPP employees gathered to greet the truck that carried three TRUPACT-IIs containing two standard waste boxes (SWBs) each. (TRUPACT-II is the abbreviation for "Transuranic Packaging Transporter Model 2." The containers are designed to prevent any radioactive release, even in the event of an accident or other emergency.) The TRU

waste had been analyzed and certified to contain no hazardous materials (*NN*, Feb. 1999, p. 43).

After a security inspection and radiological survey, the SWBs were unloaded from the TRUPACT-IIs and transported to underground Room 7 of Panel 1 for final disposal. (Underground areas for the disposal of waste are laid out in eight sections, or panels. Seven rooms branch off each panel; currently, one panel is fully mined.) The two SWBs in TRUPACT-II #128 were emplaced in the underground disposal room at about 1:30 p.m. on March 26. The remaining four SWBs from TRUPACT-IIs #126 and #131 were emplaced at approximately 9:30 a.m. on March 30. This event marked an important milestone in the DOE's efforts to manage the nation's nuclear wastes.

John Heaton, New Mexico state representative, exclaimed, "This is a very exciting event. What a great day for Carlsbad! This shipment marks a very historic point, the opening of the first repository of its kind in the world," he



A TRUPACT-II container with its lid removed to facilitate inspection of the standard waste boxes (SWBs) inside

added, as the transport truck passed through the city of Carlsbad at approximately 3 a.m.

“This is truly a historic moment—for the Department of Energy and the nation,” said Secretary of Energy Bill Richardson. “This shipment to WIPP represents the beginning of fulfilling the long-overdue promise to all Americans to safely clean up the nation’s Cold War legacy of nuclear waste and protect the generations to come.”



Richardson

TRU waste—clothing, tools, rags, debris, residues, and other disposable items contaminated with radioactive TRU elements, mostly plutonium—began accumulating in the 1940s with the beginning of the nation’s nuclear weapons program. A by-product of the nuclear weapons production, this waste remains radioactive for thousands of years.

### Background

In 1956, the National Academy of Sciences recommended disposal of radioactive waste in stable geologic formations, such as deep salt beds. Researchers, scientists, and engineers searched for an appropriate site during the 1960s, ultimately testing southeastern New Mexico in the 1970s. Congress authorized construction of the WIPP facility near

Carlsbad in 1979. The DOE completed excavation of the first disposal panel of the facility in the late 1980s.

Originally scheduled to begin receiving waste in 1988, WIPP’s opening was delayed because of several lawsuits and the lack of a specific regulatory framework. That changed in 1992, when Congress named the U.S. Environmental Protection Agency (EPA) as WIPP’s primary regulator, as specified in the WIPP Land Withdrawal Act (Public Law 102-579). The EPA certified in May 1998 (*NN*, June 1998, p. 17) that WIPP meets all applicable federal standards for disposal of TRU waste (see also *Federal Register*, Vol. 63, No. 95, May 18, 1998).

Approximately 40 percent of the United States’ TRU waste does not contain hazardous materials and is therefore subject to EPA environmental standards set forth in 40 CFR Part 191, “Environmental Radiation Protection for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Wastes.”

The remaining 60 percent of TRU waste is mixed waste—that is, it contains hazardous constituents as well as radioactive materials. Mixed wastes are subject to the Resource Conservation and Recovery Act of 1976 (RCRA). The New Mexico Environment Department (NMED) is authorized by the EPA to review WIPP’s RCRA permit application and to issue the permit. NMED recently concluded its public hearing on the draft RCRA permit, and is expected to issue a final permit in late 1999.



The six SWBs, comprising the initial TRU waste shipment to WIPP, in Room 7 of underground disposal Panel I

In spring 1998, prior to EPA certification of the facility, WIPP completed a thorough operational readiness review (see article by Joe Epstein, *Radwaste Magazine*, Mar./Apr. 1999, p. 67). In May 1998, DOE announced that WIPP was ready to receive nonmixed TRU waste for disposal (*NW*, May 1998, p. 55). Waste disposal did not occur, however, due to a court injunction entered in 1992.

### **Making history . . .**

A March 22, 1999, ruling by Judge John Garrett Penn, of the U.S. District Court for the District of Columbia, cleared the way to open

the repository (*NW*, Apr. 1999, p. 17). The judge's ruling states that the 1992 court injunction does not prevent the shipment of TRU waste from LANL that is not hazardous under RCRA.

WIPP project participants, as well as local citizens, rejoiced at Judge Penn's decision. "Let's move forward and let the truck roll," said U.S. Rep. Joe Skeen (R., N.M.), who called the decision "a victory for environmental protection and public safety."

Sen. Pete Domenici (R., N.M.) noted, "This is a most welcomed decision for one of the most rigorously reviewed projects in the

world." He added, "This is a very important day in the history of WIPP, the state of New Mexico, and the nation."

In a March 26 video message, Energy Secretary Richardson praised the DOE and contractor employees for a job well done. "To the thou-



Domenici

sands of employees of DOE and its contractors who helped make this a reality, I want to say at the outset: thank you, and congratulations. This has been a top objective for a number of Energy Secretaries, and for the nation. We would not be celebrating this achievement," he added, "without your unwavering dedication and hard work over many years.

"And perhaps most important," he said, "I want to thank the local community of Carlsbad, which welcomed the DOE and WIPP and has patiently cooperated with us to see today's event come to pass. I want this achievement . . . to show America and the world that the DOE is moving to get things done for the betterment of America," he declared. "And we're not finished yet. We will work even harder to ensure that we operate WIPP in a manner that realizes the full extent of its capability to be a safe facility."—*Senior Editor Betsy Tompkins and WIPP Scientific Adviser Chuan-Fu Wu*

*Note: Readers who are interested in more information on the WIPP project and its first shipment are invited to visit the project's Web site at <<http://www.wipp.carlsbad.nm.us>>* 