

WASTE ISOLATION PILOT PLANT



The Waste Isolation Pilot Plant (WIPP) is a deep-earth repository located in southeast New Mexico and developed by the U.S. Department of Energy (DOE) to dispose of defense-related transuranic (TRU) waste currently located at numerous facilities around the country. On October 27, 1999, following a long but important public participation process, the New Mexico Environment Department (NMED) issued the final hazardous waste facility permit for WIPP governing the daily operations of receipt, storage, management, and ultimate disposal of TRU mixed waste.

The NMED became one of the principal regulatory agencies for WIPP in July 1990, when the U.S. Environmental Protection Agency (EPA) granted mixed-waste regulatory authority to the NMED. Mixed waste is waste that contains both hazardous waste (as defined by the NM Hazardous Waste Act) and radioactive waste (as defined by the Atomic Energy Act).

To open WIPP, DOE needed to obtain 1) a certification from EPA that WIPP complies with radioactive waste disposal standards, as well as, 2) a hazardous waste facility permit from the NMED to store and dispose of mixed waste.

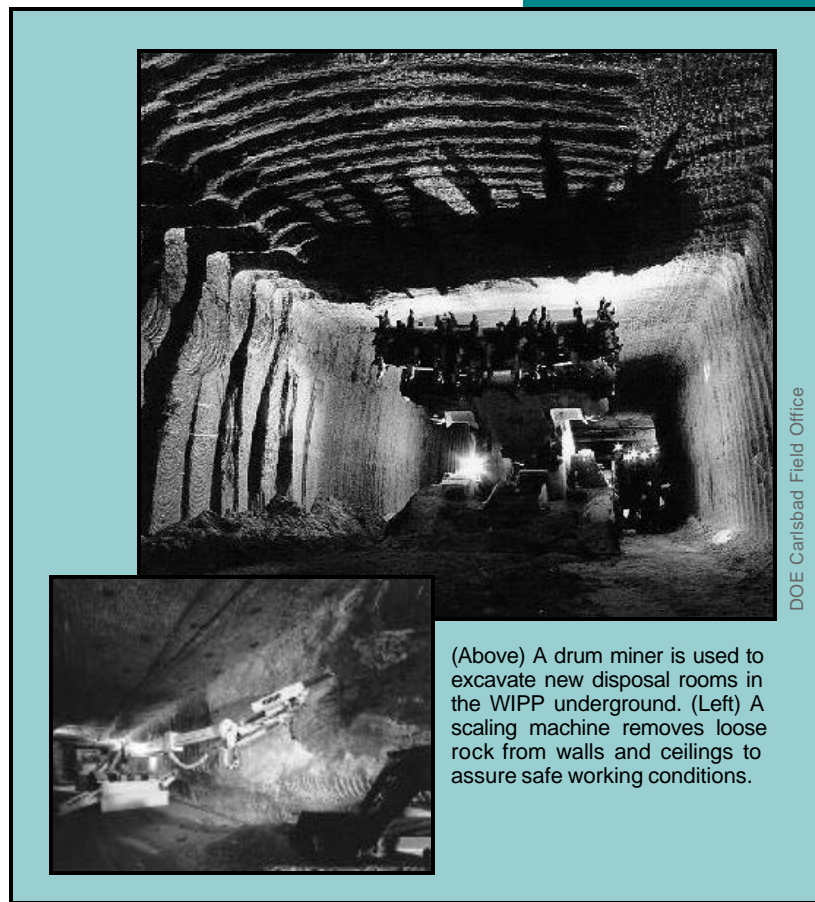
The NMED's involvement with WIPP began in 1991 with DOE's first appli-

cation for a permit to store TRU mixed waste underground for testing purposes. DOE submitted a revised permit application for mixed-waste storage and disposal to NMED in 1995, and a year later provided EPA with a compliance certification application for radioactive waste disposal. EPA issued their certification May 13, 1998 that WIPP complied with the radioactive waste disposal standards. The NMED issued the final hazardous waste facility permit for WIPP in October 1999.

During the time between EPA's certification and NMED's WIPP permit, there was a great deal of uncertainty regarding the disposal of non-mixed TRU waste. Shipment and disposal of this waste was delayed for nearly a year while a U.S. District Court Judge dealt with legal challenges to DOE's ability to dispose of TRU waste at WIPP under EPA's certification. The Judge ruled on March 22, 1999 that DOE could dispose of non-mixed TRU waste before NMED issued its permit. During this seven-month period before the WIPP permit was in place, WIPP receive 39 shipments of non-mixed TRU waste from Rocky Flats Environmental Technology Site (RFETS) in Colorado, Los Alamos National Laboratory (LANL) in New Mexico, and Idaho National Engineering and Environmental Laboratory

(INEEL) in Idaho. However, once the WIPP permit was issued in October 1999, all shipments stopped while DOE worked to ensure that all permit requirements were implemented at the generator/storage sites where the waste was located.

One of the major requirements of the WIPP permit deals with the subject of



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(Above) A drum miner is used to excavate new disposal rooms in the WIPP underground. (Left) A scaling machine removes loose rock from walls and ceilings to assure safe working conditions.



TRU

Transuranic (TRU) wastes are specific, long-lived, radioactive wastes, including plutonium and americium.

waste characterization where, according to hazardous waste regulations, the facility must sample and analyze the waste to ensure that everything is known to safely store and dispose of such waste. Notably, the permit insists that all waste – both mixed and non-mixed TRU waste – must be characterized.

Another major requirement of the permit compels WIPP personnel to audit the waste characterization activities at each generator/storage site to ensure correct implementation of this waste analysis plan. NMED staff has traveled to the sites where WIPP-bound wastes have originated to observe characterization activities and make sure they meet permit requirements. As of November 2000, the NMED had approved three sites (RFETS, INEEL, and Hanford, WA) for waste characterization.

The permit also requires WIPP to monitor air, groundwater and specific activities at the facility that have the potential to adversely impact human health and the environment.

The WIPP hazardous waste facility permit is effective for ten years, and includes a requirement that the NMED review it after five years to see if any modifications are necessary to keep it current with changing regulations. The regulations also allow DOE to submit proposed modifications to the permit that are more substantial and are thus subject to public comment and NMED approval prior to implementation. DOE has submitted numerous modification requests requiring comment and approval since the permit was first issued.

Several modifications were the subject of a lawsuit by DOE against the NMED. The suit was subsequently settled.

In late 2000, the DOE publicly discussed several proposed modifications that would significantly change or expand WIPP's. The first modification would propose to allow partially characterized waste to be received at WIPP, with

WIPP personnel performing required confirmation sampling and analyses prior to disposal. The second modification would propose a program for

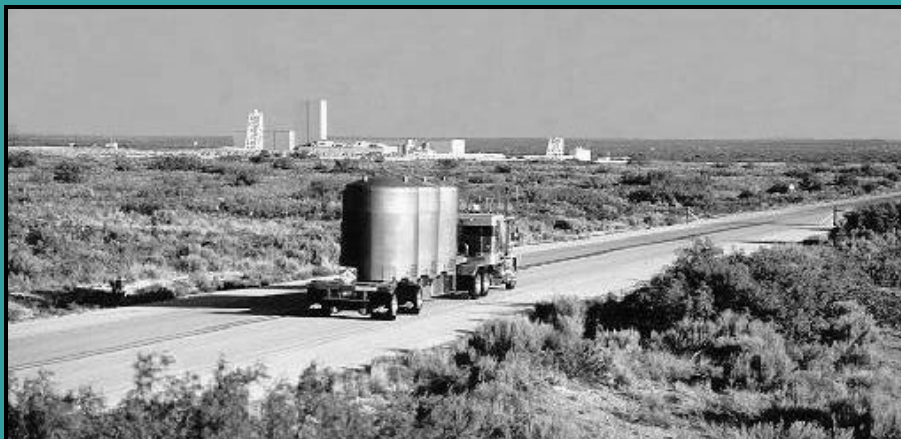
Waste Disposed at WIPP as of December 18, 2000

Originating Site	# of Shipments	Waste Containers Disposed in WIPP
National Lab (INEEL)	28	913
Hanford, WA	5	173
Los Alamos National Lab (LANL)	17	101
Rocky Flats, CO (RFETS)	75	2335

Total Waste emplaced since March 1999: 908 cubic meters (0.5% of ultimate WIPP capacity).

characterizing remote-handled (RH) TRU waste at the generator/storage sites, and would also specify the procedures used at WIPP to receive, manage, and dispose of it in the underground. RH TRU waste requires more shielding and special handling precautions to reduce exposure to workers and the public. Such modifications would most likely be subject to expanded public participation procedures under the permit modification regulations, including the opportunity for public hearings.

For further information regarding NMED's WIPP permit, please visit the NMED WIPP Information Page at <http://www.nmenv.state.nm.us/wipp/>. DOE's WIPP web site is at <http://www.wipp.carlsbad.nm.us/>.



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A truck carrying TRUPACT-II shipping containers for hazardous and radioactive waste approaches the WIPP facility, located 26 miles east of Carlsbad, New Mexico. Each reusable TRUPACT holds up to fourteen 55-gallon drums of waste, which are removed from the TRUPACT for disposal in the WIPP underground.