Why WIPP?

Transuranic, or TRU, waste began accumulating in the 1940s with the beginning of the nation's nuclear defense program. As early as the 1950s, the National Academy of Sciences recommended deep-geologic disposal of TRU radioactive wastes in stable formations, such as deep salt beds. Sound environmental practices and strict regulations require such wastes to be isolated to protect human health and the environment.

WIPP is located in the Chihuahuan Desert, far from major population centers.

Bedded salt is free of fresh flowing water, easily mined, impermeable and geologically stable – an ideal medium for permanently isolating long-lived radioactive wastes from the environment.

Throughout the 1960s, government scientists searched for an appropriate site for radioactive waste disposal, eventually testing a remote desert area of southeastern New Mexico where, 250 million years earlier, evaporation cycles of the ancient Permian Sea had created a 2,000-foot-thick salt bed.

In 1979, Congress authorized the U.S. Department of Energy's (DOE) Waste Isolation Pilot Plant (WIPP). The WIPP facility, located 26 miles southeast of Carlsbad, N.M., was constructed during the 1980s. Congress limited WIPP to the disposal of defense-generated TRU wastes, prohibiting disposal of commercial, low-level and high-level radioactive wastes. In 1998, the U.S. Environmental Protection Agency (EPA) certified WIPP for safe, long-term disposal of TRU wastes.

Generally, TRU waste consists of clothing, tools, rags, residues, debris, soil and other items contaminated with radioactive elements, mostly plutonium. These man-made elements have atomic numbers greater than uranium, thus trans-uranic, or beyond uranium on the Periodic Table of Elements.

There are two categories of TRU waste. Contact-handled (CH) TRU waste can be handled by workers under controlled conditions without any shielding other than the container itself. CH TRU waste will account for approximately 96 percent of the total volume of waste to be disposed at WIPP. The remaining four percent will be remote-handled TRU waste, which emits more penetrating radiation than CH-TRU waste and must be handled and transported in lead-shielded casks.

Prime regulators at WIPP are the EPA and the New Mexico Environment Department. A number of other agencies, committees and panels monitor WIPP progress and contribute to project success.

The DOE Carlsbad Field Office, which leads the nation's TRU waste disposal effort, has coordinated TRU waste cleanup at a number of generator sites around the country. Since 1999, WIPP has set the standard for safe, permanent disposal of long-lived radioactive defense wastes.

For more information

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Did you know ...

WIPP's disposal rooms are nearly a half mile below the surface (2,150 feet). By comparison, the Empire State Building is only 1,454 feet high.