

WIPP'S 10TH BIRTHDAY... WHAT NEXT?



The Waste Isolation Pilot Plant (WIPP), the world's first and so far only nuclear waste repository, opened on March 26, 1999. The Department of Energy (DOE), at least under the Bush administration, had plans for new missions for WIPP. Now, President Obama has pledged to terminate the Yucca Mountain spent fuel and high-level waste repository, which would lead to major U.S. nuclear waste policy changes that also could affect WIPP. In addition, the "American Recovery and Reinvestment Act of 2009," the economic stimulus bill signed by President Obama on February 17, 2009, may provide significant additional

funds for WIPP. So 2009 apparently will be more than a birthday year for WIPP, which is showing its advanced age.

WIPP'S "AGING" PROBLEMS

During 2008, WIPP began to show negative effects of "aging." The number of shipments of transuranic (plutonium-contaminated or TRU) waste arriving from nuclear weapons sites was fewer than in any of the previous seven years (797 shipments) in Fiscal Year 2008 (October 1, 2007 to September 30, 2008). The amount of TRU waste received (5,944 cubic meters) also was less than in any of the previous six years. Those lower results were despite receiving an increasing

amount of remote-handled (RH) waste (47 cubic meters), which is more radioactive than the previous waste shipments. Also, the Oak Ridge, TN nuclear weapons site started shipments to WIPP. In requesting \$219.7 million for FY 2008, DOE had told Congress that WIPP would dispose of 10,765 cubic meters of waste. WIPP actually received \$234.6 million for the year. Thus,

WIPP received almost 107 percent of the money requested, but it disposed only about 55 percent of the expected amount of waste.

A significant reason for the declining performance in amounts of waste received was that the facility could not emplace any waste during three unscheduled shutdowns. A one-week shutdown in June 2008 was caused by a 55-gallon drum of waste from Los Alamos National Laboratory (LANL) that had to be retrieved and returned because it contained several liters of liquids, which are prohibited at WIPP. DOE determined that LANL personnel had not followed proper procedures that should have prevented the drum from being shipped.

However, the other two shutdowns were because of problems at WIPP. A 12-day

shutdown in April and May resulted from the discovery of a broken water line for the fire suppression system in the Waste Handling Building where all waste is received, unloaded, and sent to the underground disposal rooms. Waste shipments were suspended until an alternative water

underground. The repairs include: an electrical substation that provides power to about one quarter of the site, the grapple hook that hoists RH waste from the shipping cask into the disposal container, one of the five exhaust fans for the ventilation system, the ceiling was raised about five

While the facility is less than 10 years old in handling waste, the buildings and much of the equipment and the main underground tunnels are about 25 years old, as the major facility construction occurred from 1983 to 1988.

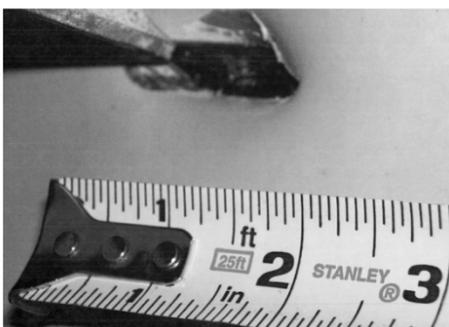
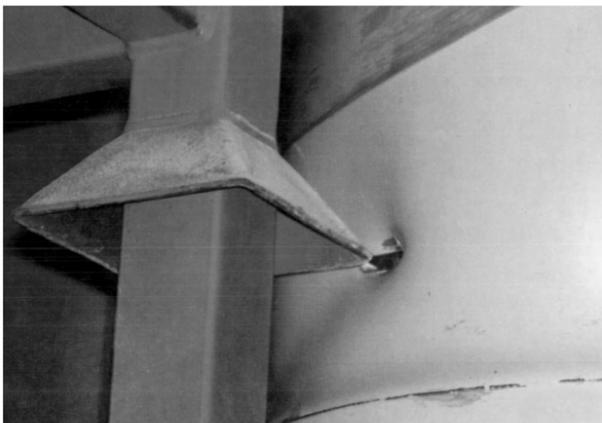
source was installed so that the building could be used during the five months needed to replace the 24-year-old water line. On August 3, 2008, a 55-gallon drum being emplaced in the underground disposal room from just-resumed shipments from LANL was damaged, resulting in an approximately two-inch gash. While no leaks from the damaged drum were detected, the container had to be patched and then overpacked into an 85-gallon drums (see photos). Waste emplacement was suspended for three weeks for a "safety pause" to retrain workers, and the damaged drum was overpacked.

From mid-November, 2008 to mid-January 2009, shipments were again suspended while numerous facility and equipment upgrades were done during what was called a scheduled "extended maintenance outage," most to address other aging problems. Six major projects were undertaken on the surface and in the

feet where waste arrives in the underground, an "overcast" which directs air through the underground was constructed, and additional rock bolts were installed in the ceiling along the main underground transport tunnel to address salt creep (as the floor and ceiling move toward each other). While the facility is less than 10 years old in handling waste, the buildings and much of the equipment and the main underground tunnels are about 25 years old, as the major facility construction occurred from 1983 to 1988.

DOE CHANGING PLANS FOR WIPP

DOE has plans for expanding WIPP to include wastes currently prohibited, including high-level and commercial wastes. (See *Voices from the Earth*, Summer 2008). What the Obama administration policies will be remains to be seen. However, many people and current political leaders in New Mexico have long opposed



A 55-gallon drum was damaged during emplacement. It was patched in place.

VOICES from the EARTH

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efforts to expand WIPP. Senator Jeff Bingaman, chairman of the Senate Energy Committee through which any nuclear waste legislation must pass, was a primary sponsor of the WIPP Land Withdrawal Act of 1992 (LWA, Public Law 102-579), which established what waste could come to the repository. On various occasions since then, he has expressed opposition to expanding WIPP's mission. Newly elected Senator Tom Udall was New Mexico Attorney General from 1991 to 1998 and was instrumental in supporting LWA restrictions and in bringing litigation to ensure that the law was enforced. He has frequently stated his opposition to expanding WIPP.

The tenth anniversary of WIPP does require two major documents to be issued by DOE to its federal and state regulators in 2009. The LWA requires that each five years, the Environmental Protection Agency (EPA) must recertify that WIPP continues to meet standards that set the amount of radioactivity that might be released for the 10,000 years after WIPP is filled with waste. The New Mexico Environment Department (NMED) operating permit was issued for ten years in 1999, and it must be renewed. DOE intends to submit its recertification application (RCA) on March 28 and its permit renewal application on May 30, both of which will be thousands of pages and references.

A primary reference for the RCA is the WIPP Waste Inventory Report, which details the wastes that have been emplaced at WIPP, wastes to be emplaced in the future, and wastes that might come though it currently does not meet requirements. In the waste inventory for the 2004 RCA, DOE considered as acceptable the contents of several high-level waste tanks at the Hanford, WA site.

Strong public objections to such wastes resulted in that recertification taking two years, rather than the planned six to nine months. EPA's April 10, 2006, recertification decision reiterated that it "will not allow high-level waste or spent nuclear fuel to be shipped to WIPP." But the decision also said that it is DOE's responsibility for "waste determinations" —

the classification given to waste materials. DOE has not yet started its promised public process for such classification, and its 2007 Waste Inventory Report, which is the basis for the 2009 RCA, includes the Hanford tank waste as "potential," rather than as acceptable for WIPP.

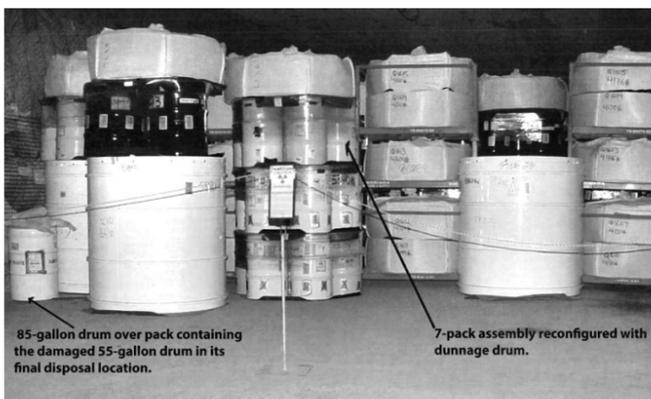
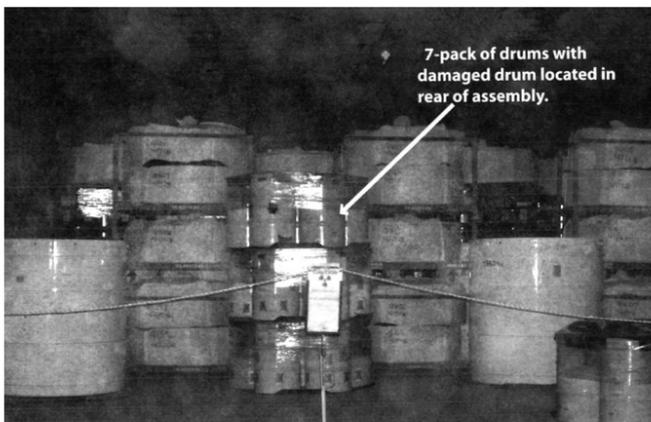
But at least one change that DOE wants to incorporate into the 2009 RCA will be controversial. The design of the underground waste rooms provides that the

contact-handled (CH) waste is stacked floor to ceiling after the RH waste is placed into the walls so that the salt shields workers from the higher levels of radioactivity. DOE now wants to put a significant, but undetermined, amount of the RH waste

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into "lead shielded containers" so that the waste could be stacked in the rooms.

In its original public discussion in November 2007 about the shielded containers, WIPP officials said that the reasons for using the new containers were to reduce the number of shipments, realize faster cleanup at the storage sites, and safe transportation and management. However, they provided no data to support those assertions. For years before WIPP opened, there have been questions about whether there would be enough wall space for the 7,079 cubic meters of RH waste that is allowed at WIPP. The lack of space has been exacerbated by the fact that more than one-fourth of the underground disposal area contains no RH waste because DOE began trucking waste to WIPP long before any RH waste could be shipped. DOE officials have not shown how all of the planned RH waste could be accommodated in the remaining wall space.



Damaged drum (see photos on page 2) was overpacked into an 85-gallon drum.

Although the design of the underground rooms was developed about 30 years ago and shielded containers were never contemplated until less than two years ago, DOE now wants EPA to allow shielded containers as part of the 2009 RCA. It will then also need to have NMED modify the operating permit to allow those containers. There is still no technical analysis about shielded containers, including their impacts on the storage

sites, shipments, and in their handling and disposal at WIPP. Shielded containers also have never been included in any of the three WIPP environmental impact statements. Questions and controversy about those containers could dramatically slow

the 2009 RCA process and could also affect the NMED operating permit.

For several months, WIPP officials have been saying that the only major change in the operating permit application would be to add an eighth underground panel of seven rooms to the underground emplacement area. The new panel would have the same dimensions and disposal capacities as the other seven panels. However, at recent public meetings, WIPP officials have stated that they may want to "clarify" some of the existing requirements in the permit.

Many New Mexicans have long been concerned that if the nation's nuclear waste policy is to be revisited, New Mexico and WIPP may be considered for new missions.

DOES WIPP NEED ECONOMIC STIMULUS FUNDS?

Over the past seven years, WIPP has received \$1,353,968,000, or almost \$70 million more than its budget requests. During that time, it has disposed of 49,083 cubic meters of waste, or 78 percent of what it said it would dispose. Despite that performance, DOE may propose that some of the \$5.127 billion included in the "American Recovery and Reinvestment Act of 2009" for the cleanup of nuclear weapons sites be provided to WIPP, instead of allocating all of the funds to other sites that have budget shortfalls and are not meeting milestones in their legal cleanup agreements. If WIPP funding is proposed, questions will be raised as to whether such funds are needed and reward poor performance.

WOULD THE DEMISE OF YUCCA MOUNTAIN AFFECT WIPP?

In 1987, Congress decided that Yucca Mountain in Nevada would be the repository for spent fuel and high-level waste. At that time, the repository was to open by 1998. However, many technical problems with the site, and strong opposition from the large majority of Nevadans, as well as some people around the country, have delayed the scheduled opening. The Bush administration estimated opening date was 2020. On June 3, 2008, DOE submitted a repository license application to the Nuclear Regulatory Commission. However, during the presidential

campaign, Barack Obama consistently said that, as president, he would cancel Yucca Mountain. Nevada Senator Harry Reid, who is the Senate Majority Leader and a strong opponent of Yucca Mountain, has repeatedly stated that there will be little funding for Yucca Mountain in future Obama administration budgets and that the site is dead. What will happen with the license application has not been disclosed. The Nuclear Waste Policy Act, the law that Congress used to select Yucca Mountain in 1987, provides that if DOE Secretary decides that Yucca Mountain is insuitable, he must (among other things):

...notify the Congress, the Governor and the legislature of Nevada of such termination and the reasons for such termination [and] report to Congress not later than 6 months after such determination the Secretary's recommendations for further action to assure the safe, permanent disposal of spent nuclear fuel and high-level radioactive waste, including the need for new legislative authority.

If Yucca Mountain is stopped, the waste would continue to be stored at

existing powerplants. The longer-term options would be to leave spent fuel at those locations for decades or longer, move it to one or more storage sites, or begin the search for new repository site or sites.

The Bush administration also began the environmental impact statement (EIS) process for Greater-than-Class-C (GTCC) waste, which has been considered too radioactive for shallow land disposal, the method used for other "low level" wastes. In 2007, DOE said that the alternatives in a draft EIS would be Yucca Mountain, WIPP, or other major DOE sites. The draft EIS has not been issued, so it is another major nuclear waste decision for the Obama administration.

At various times in the past, WIPP or some nearby location have been suggested for spent fuel, high-level, and GTCC waste. For decades, such possibilities have been opposed by the majority of New Mexicans in public opinion polls and by many politicians. But many New Mexicans have long been concerned that if the nation's nuclear waste policy is to be revisited, New Mexico and WIPP may be considered for new missions. The significant activities this year could have a lot to say about such decisions. ✈

FOR MORE INFORMATION

WIPP website: www.wipp.energy.gov/

EPA WIPP website: www.epa.gov/radiation/wipp/index.html

NMED WIPP website: www.nmenv.state.nm.us/wipp/index.html

SRIC website: www.sric.org

Yucca Mountain website: www.ocrwm.doe.gov/ym_repository/index.shtml

GTCC EIS website: www.gtccis.anl.gov/