WIPP Gets Permit for Remote-Handled Waste

In mid-October, the New Mexico Environment Department (NMED) issued a revised hazardous waste facility permit for the U.S. Department of Energy's Waste Isolation Pilot Plant in Carlsbad, N.M. The revised permit allows WIPP to receive and dispose of remote-handled transuranic (TRU) waste currently stored at DOE cleanup sites across the country. Remote-handled waste is more radioactive than the contact-handled waste that the facility has been dealing with since its opening in 1999. WIPP expected to receive its first RH-TRU shipment early in 2007.

Other revisions to the permit include alternative methods for analyzing waste prior to shipment to WIPP, increased container storage areas aboveground, more efficient methods for monitoring volatile organic compounds in the repository, a new dispute resolution process, and an e-mail notification system to inform the public of various permit-related activities.

Fluor Declares Fernald Site Cleanup Complete

On October 29, Fluor Fernald, the contractor responsible for the environmental cleanup and restoration of the 1050-acre former uranium production plant that played a critical role in the U.S. nuclear weapons program, presented the U.S. Department of Energy, the site's owner, with its declaration of physical completion.

Contamination from the Fernald uranium foundry and machining operations first made national headlines in the mid-1980s. Citizens were outraged by the extent of offsite contamination, which worked its way into drinking water wells. Initial plans to tackle the cleanup came with a steep price tag. A 1992 government report forecasted completion in 2019 at a cost of $12.2 billion. Fluor Fernald carved 12 years off that schedule, at a final cleanup cost of $4.4 billion.

Major components performed by Fluor Fernald and its partner companies, Jacobs Engineering, Nuclear Fuel Services, and EnergySolutions, include:

- Safely removing, treating and shipping offsite radioactive waste from three large concrete silos, eliminating the largest source of radon gas in the world.
- Dismantling 323 buildings including 10 major uranium production complexes and administrative structures.
- Excavating and shipping 1 million tons of waste from six waste pits.
- Building an On-Site Disposal Facility to hold 3 million cubic yards of contaminated dirt and debris from facility demolition.

Fernald is one of the largest environmental restoration projects ever completed, but its legacy, according to Fluor, may be the DOE's and Fluor's success in healing fractured communications channels with local citizens, workers, and regulators after decades of secrecy during the Cold War.

- Treating a 225-acre plume of uranium contamination in the underlying Great Miami Aquifer.
- Removing more than 100 000 drums of waste and 31 million pounds of uranium product from the site.
- Designing, building, operating, and dismantling more than $300 million in waste treatment and handling infrastructure.

Fernald is one of the largest environmental restoration projects ever completed, but its legacy, according to Fluor, may be the DOE's and Fluor's success in healing fractured communications channels with local citizens, workers, and regulators after decades of secrecy during the Cold War. The DOE and Fluor Fernald worked closely with U.S. and Ohio Environmental Protection Agencies, the Fernald Citizens Advisory Board, the Fernald Resi-

dents for Environmental Safety & Health (FRESH), local elected officials, and plant neighbors to determine the extent of contamination, develop cleanup plans, and carry them through to the end of the project.

Reminders of the cleanup operations that will remain after closure include a water treatment plant to pump and treat remaining levels of uranium contamination in the Great Miami Aquifer until the drinking water standard is met, likely to take 10 years, and a 110-acre On-Site Disposal Facility that securely holds building debris and contaminated soil in between thick liners and caps consisting of strong synthetic material, clays, heavy rock, and clean soil.

Following soil cleanup, environmental engineers developed nearly 400 acres of woodlots, 327 acres of prairie, more than 140 acres of open water and wetlands, and 33 acres of savanna to restore the property to an undeveloped park with an emphasis on wildlife and education. In late 2007, the DOE Office of Legacy Management will open an education center near where Fernald's infamous silos once stood. The center will offer a place for visitors to learn about the history of the Fernald property from its first inhabitants all the way through environmental restoration and beyond.

After the turnover, the DOE must undertake a final comprehensive walk-down of the entire Fernald site to ensure that the cleanup meets all legal and contractual requirements. Any identified deficiencies will be corrected before the department can accept Fluor Fernald's declaration of physical completion. On November 17, the DOE determined that Fluor Fernald's Declaration of Physical Completion was "reasonable." The DOE then had 60 days to accept the Project as complete or to provide Fluor Fernald with a definitive list of material deficiencies of the completion.

Democratic Wins Mean Changes in U.S. House, Senate

The Democratic Party's successes in the U.S. mid-term elections in November resulted in that party taking over majorities from the Republican Party in both the U.S. House of Representatives and in the U.S. Senate.

Nevada Sen. Harry Reid, the Senate minority leader in the previous congress, moved to the majority leader position when the new congress convened in January. Reid is a committed opponent of the U.S. Department of Energy's proposed high-level nuclear waste repository at Yucca Mountain, which is located within the state of Nevada.

While the immediate impact of this change was unknown at this writing, at the November American Nuclear Society meeting in Albuquerque, New Mexico Sen. Pete Domenici (R) commented that he did not think that once Reid obtained more power, he would cut back on his opposition to the repository. The majority leader controls the Senate agenda and, for example, can prevent any "fix Yucca" bills from reaching the Senate floor for a vote, and can also influence the Yucca Mountain budget.

In the House of Representatives, Rep. John Dingell (D-Mich.) has become the new chairman of the House Energy Committee. In a telephone press conference held shortly after the elections, Dingell pledge to work with the White House on President Bush's Global Nuclear Energy Partnership (GNEP), under which the United States would resume spent nuclear fuel reprocessing. He also stressed that the committee would closely scrutinize federal stewardship of the Nuclear Waste Fund, which is intended to support efforts to open a high-level waste/spent fuel repository at Yucca Mountain in

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Nevada. Dingell had served for 12 years as chair of the Energy Committee before the Republicans captured the majority in 1994.

New Rail Line Being Considered for Yucca Mountain; Other YM Updates

The U.S. Department of Energy is considering a new rail line route for shipping nuclear waste to the proposed repository at Yucca Mountain. In a *Federal Register* notice published on October 13, the DOE expressed its intention to review the so-called Mina corridor, a 280-mile north-south rail route that goes through the western portion of the state. The DOE is taking the action after obtaining approval from the Walker River Paiute Tribe to review the environmental impacts of building the line through the Tribal reservation. The Mina route would be an alternative to the DOE's preferred 319-mile Caliente route to the repository. The DOE had considered the Mina route in the 1990s, but dropped the idea when the Walker River Paiute Tribe then refused access to the reservation. According to the DOE, the route offers the advantages of fewer mountain ranges, an existing rail bed, and a shorter distance to the repository.

- Some 72 percent of Nevadans polled oppose the U.S. Department of Energy's plans for building a nuclear waste repository at Yucca Mountain, Nev., according to a survey released in November by the Nevada Agency for Nuclear Projects. The survey said the level of opposition to the project is consistent with survey results from the past 17 years. Of the 402 Nevadans participating in the telephone survey, 23.9 percent supported the proposed repository.

NRC Issues Final Rule on Radioactive Source Tracking Program

The U.S. Nuclear Regulatory Commission has approved a final rule establishing a national tracking system for radioactive sources used in industry, medicine, and academia—material that is also often cited as potential raw material for radiological dispersion devices (RDDs), also known as "dirty bombs."

The rule requires companies holding licensed radioactive materials to report to a newly created National Source Tracking System any time the sources are manufactured, transferred, received, disassembled, or disposed of. Basic information to be collected includes manufacturer, model number, serial number, radioactive materials, activity levels, date of manufacture, and facilities involved in any transaction.

The tracking system will help the NRC and the 34 Agreement States conduct inspections and investigations and verify legitimate ownership and use of sources.

D&D Updates

- The last of the materials at the Savannah River Site identified under Defense Nuclear Facilities Safety Board recommendations for stabilization have been stabilized. The materials include about 100 000 gallons of plutonium solutions, about 20 000 reactor targets and assemblies, more than 3700 containers of plutonium residues, 3800 gallons of americium/curium, 1600 gallons of neptunium solutions, and 150 000 gallons of uranium solutions. The last to be stabilized was the pre-existing neptunium solutions, which was recently converted into a more stable oxide form. The neptunium-237 is a legacy from previous H Canyon processing. It has been stored in H Canyon in liquid form since the 1980s and represents most of the U.S.'s last remaining neptunium inventory.
- The cleanup of the U.S. Department of Energy's Rocky Flats site has been named the 2006 Project of the Year by the Project Management Institute. The cleanup of the former nuclear weapons facility was completed at the end of 2005. The majority of the 6200-acre Rocky Flats site is being transferred to the Interior Department for use as a wildlife refuge.
- The U.S. Department of Energy's Savannah River Site shipped its 20 000th drum of transuranic (TRU) waste to the Waste Isolation Pilot Plant in early October. SRS has disposed of approximately 5500 cubic meters, or about half, of its original 11 800 cubic meters of legacy TRU waste. The Site started with about 33 000 drums and containers and nearly 2000 planned shipments. At the current rate, SRS hopes to disposition the remaining inventory by 2012, 12 years sooner than earlier estimates.

PG&E Awarded $42 Million for Spent Fuel Storage Costs; Other SF Storage Updates

A federal court has awarded Pacific Gas and Electric Co. $42.7 million for its spent fuel storage costs. The amount awarded is less than half of the $92.1 million the utility sought. PG&E is the fifth utility the court has ruled should be paid damages after the failure of the U.S. Department of Energy to take possession of spent nuclear fuel in January 1998, as outlined in the Nuclear Waste Policy Act of 1982. PG&E was pleased that the court recognized that the federal government had failed to meet its responsibility, but believes that the court erred in determining the compensation. At press time, the utility was considering its options, including filing an appeal or a second claim. Both the utility and the U.S. Department of Justice, which represented the U.S. government in the case, had 60 days from the mid-October ruling in which to appeal the judgment.

PG&E was pleased that the court recognized that the federal government had failed to meet its responsibility, but believes that the court erred in determining the compensation.

- The board of directors of the Nebraska Public Power District approved initial phase funding of $19.7 million for the design, engineering, and key components of a dry spent fuel storage system for the Cooper nuclear power plant. Cooper will lose its full-core offload capability in 2009. The entire project is expected to cost $45 million.

International Briefs

- In October, the United Kingdom government announced plans for a deep geological repository to hold the nation's spent nuclear fuel and high-level waste. The government also said it is looking to partner with local communities to select a site for the facility. David Milibrand, U.K. environment secretary, said that the facility would be built only in a geologically suitable area, and that the government is not seeking to impose radioactive waste on any community. The Nuclear Decommissioning Authority will be responsible for the geological disposal program, replacing Nirex, which will be subsumed into the NDA. The government hopes to announce a site in late 2007 or 2008.
- The staff of the Canadian Nuclear Safety Commission has told the commissioners that they do not foresee any significant environmental effects from a deep geological repository for low- and intermediate-level waste at Ontario Power Generation's (OPG's) waste management site near Lake Huron. OPG's proposed underground storage facility would be located on the Bruce Power property. Plans call for storage chambers to be constructed 2150 feet (660 meters) below the surface, about a mile (1.5 kilometers) from the shore of Lake Huron. Once environmental assessment and licensing processes are complete, if the project is licensed, construction is projected to start in 2012, and the storage of waste from Bruce, Darlington, and Pickering would begin some five years later.
- A government-sponsored study in Norway concludes that Norway should consider stopping state aid for the cleanup of nuclear waste and spent fuel in northwest Russia. According to the study's author, Arve Johnsen, a former chief executive with Statoil, the Norwegian oil company, instead of cleanup aid, the country should set up a 1-billion-kroner ($153-million) fund for environment, resource conservation, and industrial projects, along with an enterprise zone to promote commercial projects in the region. Norway has been providing aid for nuclear cleanup in northwest Russia since the collapse of the Soviet Union in 1991.
- A group of 14 Russian cleanup experts from Atomflot visited the Dounreay facility in October to study U.K. radwaste cleanup techniques. Atomflot carries out maintenance and refueling of the nuclear icebreaker fleet at Murmansk. The United Kingdom and the former Soviet Union once worked closely on fast reactor technology development, so cooperation in decommissioning work is seen as a natural continuation of this partnership.