

Yucca Mountain Updates

● In early November, House and Senate appropriations conferees approved a \$27.3 billion energy and water development spending bill that allocates \$580 million for the spent fuel/high-level waste repository at Yucca Mountain, Nev. The appropriation is only slightly less than the administration's request (\$591 million), much less than the House-approved appropriation (\$765 million), but considerably more than the Senate's proposed \$425 million. (The low Senate appropriation reflected the influence of Nevada Sen. Harry Reid, who opposes the Yucca Mountain project.)

In related news, Illinois Reps. John Shimkus (R) and Bobby Rush (D) have introduced legislation in the U.S. House to improve the funding mechanism for the Yucca Mountain repository. The proposed bill would allow moneys collected in the Nuclear Waste Fund (NWF), a trust fund financed by customers using nuclear-generated electricity, to offset program spending. As a result, the fund would not be subject to general budget caps as long as annual revenues to the fund exceed appropriations from the fund each year. Since 1983, the NWF has collected more than \$22 billion, including interest. However, only about \$7 billion of that has been expended on the project, leaving nearly \$15 billion in the fund.

● The issue of a "hot" (greater than 95 °C) versus "cool" (less than 95 °C) repository resurfaced with an October 21 letter to Margaret Chu, director of the U.S. Department of Energy's Office of Civilian Radioactive Waste Management, from the Nuclear Waste Technical Review Board. The letter reported that brines arising in a hot repository would be likely to trigger corrosion of the waste package within the first 1000 years of repository life. The conditions that could cause the corrosion would not, however, occur in a cool repository, the letter said, so the waste package could be considered a defense-in-depth component only in such a case. The letter concluded by urging that "total system performance assessment should not be used to dismiss these corrosion concerns." (For some years, the DOE has been promoting the hot repository concept, while the Board has been an advocate of the cool repository approach.)

Chu responded immediately on October 27, stating that she was "deeply disappointed" by the premature release of the letter's contents, and that "the corrosion testing results cited in the Board's letter provide an incomplete representation of what we expect to occur in the likely environment inside the repository drifts. The Board's conclusions did not acknowledge the dependence of those results on the existence of extreme and unlikely environmental conditions, nor did the letter say whether the Board believes that such conditions are likely to occur. The outcome is an incorrect implication that the data show that localized corrosion and waste package perforation are 'likely to' or even 'will' occur." She added that the DOE will not "dismiss the Board's corrosion concerns."

● An October 28 federal appeals court ruling remanding to a U.S. District Court a challenge to the U.S. Department of Energy's selection of law firm Winston & Strawn for a legal services contract means the lower court must determine if the DOE's evaluation of the law firm's apparent conflict of interest was adequate. The challenge to the evaluation of Winston & Strawn, selected to assist the DOE with the repository license application, was made by the law firm of LeBoeuf, Lamb, Greene & MacRae, the only other bidder for the multimillion-dollar contract. Winston & Strawn had done similar work for a key contractor of the DOE repository project, TRW Environmental Safety Systems Inc., and had also worked as a lobbyist for the Nuclear Energy Institute. The firm withdrew as counsel in November 2001 after the allegations were raised. Government attorneys had 45 days from the ruling date in which to request a rehearing. Otherwise, the case was to return to the U.S. District Court for the District of Columbia in late December. The timing is critical, since the DOE is due to submit its license application for the repository to the U.S. Nuclear Regulatory Commission at the end of 2004.

● Breaking ranks with the rest of the state, three rural Nevada counties and the city of Caliente have proposed a cooperative agreement with the U.S. Department of Energy over the issue of spent fuel transportation through the state to the Yucca Mountain repository. Nye, Lincoln, and Esmeralda counties and the city of Caliente are considering a draft agreement to create a regional transportation authority. The Yucca Mountain repository is located in Nye County; the other two counties lie along possible transportation routes through the state. Under the agreement, the counties and city would receive federal or state funding to develop information, formulate proposals, recommend plans, and adopt policies regarding transportation corridors. "The counties are attempting to take control of their future by looking at options and possibilities," said a DOE spokesman. "They are looking at ways to participate in the process."

Proposed Uranium Mill Tailings Disposal Runs into Utah Opposition

The state of Utah's newly inaugurated governor, Olene Walker, has come out strongly against the disposal at the Envirocare of Utah site of uranium mill tailings originally from Congo and now stored at Fernald, Ohio, and Niagara Falls, N.Y. The tailings, as packaged, are expected to have a concentration of up to 100 000 picocuries of radium per gram, which would classify them as Class C low-level waste. A provision in the energy and water appropriations bill before the House of Representatives, however, would change the classification of the waste to allow it to be disposed of at Envirocare, which has a license to dispose of only Class A LLW.

For its part, in mid-November Envirocare decided to defer the decision on whether or not to accept the waste until a state Legislative Task Force that has been formed to study waste issues has had an opportunity to review the issue. The company said that although it believes that the waste can be safely transported by rail and disposed in Utah, public concern and "confusion" led to its decision to defer acceptance. The delay will also allow time for the U.S. Nuclear Regulatory Commission to transfer oversight for by-product material to the state of Utah, so that the state will be responsible for the Envirocare by-product license.

The company expressed concern, however, that the decision to allow Utah to have the final say on whether Envirocare can receive this material "will weaken the company's competitive position." It is now more likely that the U.S. Department of Energy will choose other options for this waste at a significant increased cost to the U.S. taxpayer, Envirocare noted.

International Updates

- Queen Beatrix of the Netherlands officially opened the HABOG intermediate storage facility for high-level waste on September 30. The facility is located near the Borssele nuclear power plant. It will be operated by the Central Organization for Radioactive Waste (COVRA) and is designed to be store the waste for up to 100 years. The Netherlands has made no decision on permanent disposal of the HLW, but is studying retrievable disposal in rock formations deep underground. Spent fuel from the country's two nuclear power plants, Dodewaard (now closed) and Borssele, is reprocessed abroad. The new facility will store the returned HLW, as well as spent fuel from the research reactors in Petten and Delft.
- Gas-cooled reactors cost about five times more to decommission than water-cooled reactors, according to a recent survey by the Organization for Economic Cooperation and Development's Nuclear Energy Agency. Most water-cooled reactors can expect to be decommissioned for less than \$500 per kilowatt, the survey said, while gas-cooled reactors can expect to pay up to \$2500 per kilowatt. The high cost of decommissioning the gas reactors is due primarily to their large physical size and the need to disposal of large amounts of graphite. The survey, "Decommissioning Nuclear Power Plants: Policies, Strategies and Costs," based on responses from 26 countries, including several that are not members of the OECD, is available on the Internet at <http://www.nea.fr>.

Project Progress

- Fernald completed the 100th rail shipment of waste pit material from the Ohio site in fall 2003. Every two to three weeks since 1999, workers at the Fernald Closure Project

have loaded a 55-60-railcar train containing thousands of tons of low-level waste and shipped it 1700 miles to Envirocare of Utah. (See "And the Train Pulls Out from . . . : Fernald's Waste Pits Cleanup," *Radwaste Solutions*, Mar./Apr. 2000, p. 32.) At the current pace, Fernald will complete waste processing and shipping activities in 2004, and begin soil remediation of the waste pits area later in the year. After soil remediation and certification, site ecologists will create new wetlands where possible to meet the U.S. Department of Energy obligations to replace wetlands that have been disturbed.

During its history of producing uranium metal products for the nation's defense program, Fernald disposed of solid and liquid processing material and refining residues in a 37-acre area that contains six waste pits, a burn pit for incinerating materials, and a clearwell to collect process water. The waste pits, which were not designed or intended for long-term storage, became a potential threat to the environment and the underlying aquifer.

- Five decommissioning reactors are expected to have their licenses terminated in the next five years, according to the U.S. Nuclear Regulatory Commission's most recent update on the decommissioning program. The Saxton license was expected to be terminated by the end of 2003, with Yankee Rowe to follow in 2005, Connecticut Yankee in 2006, Fermi-1 in 2007, and Rancho Seco in 2008. License termination dates for most of the other 14 permanently shutdown reactors have not been set, although Big Rock Point is expected to have its license terminated in 2012.

- On September 19, three months ahead of an accelerated schedule, the final shipment of spent fuel from the Idaho National Engineering and Environmental Laboratory's Power Burst Facility underwater storage canal was safely moved to an aboveground dry storage facility. In total, 2425 spent fuel units were transferred from the 30-year-old basin to the storage facility located at the Idaho Nuclear Technology and Engineering Center (INTEC), reducing a threat to the Snake River Aquifer.

In addition, contaminated soil excavation from a former disposal pond has been completed at the INEEL Central Facilities area. The soil is contaminated with low levels of mercury and radionuclides. The pond received laboratory waste from the Chemical Engineering Laboratory between 1953 and 1969. Much of this waste was generated from experiments with the INEEL liquid waste calcining, or solidifying, process. The pond also received runoff water until 1995.

Also at INEEL, a newly installed aquifer-monitoring well near the INEEL tank farm where liquid radioactive wastes have been stored showed that levels of technetium-99 were higher than expected. The routine monitoring at the INTEC facility also revealed that contaminant levels for tritium, strontium-90, and iodine 129 in the Snake River Plain Aquifer are decreasing. The suspected source of the technetium is soil contaminated in the tank farm area, as a result of transfer line leaks that occurred at times between 1959 and 1986. ■