

Yucca Mountain Updates

Funding

At the end of September, Congress passed a continuing resolution to fund the U.S. Department of Energy and other federal agencies at fiscal 2004 levels after the new fiscal year began October 1. The continuing resolution was to expire on November 20, however, so that lawmakers were going to have to address the 2005 budget when they returned to work after the November 2 elections. The issue of Yucca Mountain funding will have to be addressed at that time.

- Nevada will not receive the \$13.75 million in financial aid it requested from the U.S. Nuclear Regulatory Commission to intervene in the licensing process for the Yucca Mountain high-level waste repository. The NRC said that making appropriated funds available to outside intervenors would interfere with the control Congress constitutionally maintains over agency budgets. With the 2005 DOE Yucca Mountain budget still in limbo, the state is also facing the prospect of greatly decreased DOE funding. The financial setback comes at a time when the state maintains it needs additional money the most because of increased spending on attorneys, technical experts, and research to prepare for the NRC licensing hearings.

Transport

In early September, the state of Nevada filed suit against the U.S. Department of Energy's Yucca Mountain transportation plan, announced last April (*Radwaste Solutions*, May/June 2004, p. 6). The suit, filed in the U.S. Court of Appeals in Washington, D.C., alleges that the DOE failed to perform adequate environmental studies before identifying a 319-mile rail corridor from Caliente, Nev., to Yucca Mountain. In addition, the suit charges, the DOE unlawfully designated itself the lead federal agency to develop the rail line when such power resides with another agency, the Surface Transportation Board. A third issue involved the DOE's backup strategy of loading rail cars with truck casks, after first rejecting the idea as being impractical, more expensive, and less protective of public health and safety.

U.S. Court of Appeals Decision

In September, the U.S. Court of Appeals in Washington, D.C., rejected, without comment, the Nuclear Energy Institute's August 23 appeal of its decision to vacate the U.S. Environmental Protection Agency's 10 000-year compliance period for the high-level waste/spent nuclear

fuel repository at Yucca Mountain. In July, the same court had ruled that the EPA's 10 000-year standard improperly deviated from a recommendation by the U.S. National Academy of Sciences (NAS) that the compliance period extend well beyond 10 000 years. The Court at that time gave the EPA two options: either promulgate a standard consistent with NAS recommendations, or seek congressional authorization for the 10 000-year compliance period. The U.S. Department of Energy has said that it is evaluating the steps it needs to take in the wake of this decision.

License Application

On August 31, a pre-licensing hearing board of the U.S. Nuclear Regulatory Commission's Atomic Safety and Licensing Board unanimously ruled that the electronic data base required for the U.S. Department of Energy's license application to build and operate a high-level waste repository at Yucca Mountain was seriously flawed. By law, the DOE must post the data base on the NRC's License Support Network six months before the NRC can docket the license application. The three-member board ruled that the DOE's submission was incomplete.

The decision was based on a July 12 motion filed by the state of Nevada that contained a number of complaints against the DOE, including the fact that it had failed to make all of its materials available. (For example, Nevada said, of the 2 million documents the DOE said it had made available, about half were without full text and contained only headers.) The DOE responded that its certification and document production fully complied with the regulations, but that ASLB ruled that the DOE's arguments were without merit.

The decision effectively "stopped the clock" on the licensing application process. The DOE is still maintaining that it will submit a license application to the NRC by the end of 2004, but with this ruling, the earliest that the NRC can docket the application would be March 2005.

The DOE has appealed the ruling.

Silicosis Lawsuit

Nevada may get involved in the Yucca Mountain silicosis issue, state Attorney General Brian Sandoval has said. The attorney general said he is troubled by an amended lawsuit filed September 1 in U.S. District Court in Las Vegas, on behalf of ten workers who have contracted silicosis and other lung diseases they claim stemmed from their work in the Yucca Mountain tunnels. The lawsuit alleges that the DOE contractors disregard-

ed early warnings about possible overexposure to dust laced with silica, a cancer-causing fibrous material. Sandoval is investigating whether any state laws were violated and whether there was a subsequent coverup.

Inspector General Report

The U.S. Department of Energy's Office of the Inspector General issued a report in early October accusing the department's repository program of giving some 9000 metric tons of excess equipment, some of it never even used, to a contractor to sell, and that the DOE received no monetary benefit from the sale of the "potentially reusable property." Normal DOE procedures involve first offering to sell the equipment to other DOE sites, the report noted.

Polls

The percentage of Nevadans who say the state should accept a nuclear waste repository and try to deal for benefits in return is growing, according to a September poll, which found that 46 percent of citizens said deal, while 50 percent said continue to fight. A similar poll in July had 39 percent favoring a deal, while 54 percent voted to continue opposition.

First "Sellers Club" Case Against the DOE Goes to Court

The first "Sellers Club" case went to trial in August in the U.S. Court of Federal Claims in Washington, D.C., with Boston Edison Co. arguing that the U.S. Department of Energy's 1998 default on its agreement to take ownership of spent fuel hurt the selling price of the Pilgrim nuclear power plant. In 1999, Boston Edison received \$14 million from Entergy for the plant and \$67 million for the plant's fuel. Other former nuclear plant owners with similar cases against the DOE are Consolidated Edison Co., Delmarva Power & Light, Canal Electric Co., and Atlantic City Electric Co. Those cases are awaiting government response to utility briefs.

● In a related story, a Senate staffer told a National Academy of Sciences nuclear waste board that the government's liability in the default cases against it could total about \$2 billion, a figure low enough that budget officials might find it cheaper to terminate the U.S. Department of Energy's waste program and just pay the damages to U.S. nuclear utilities. He noted that the DOE's attempt to reclassi-

fy defense high-level waste as low-level waste, allowing the DOE to leave the waste in place, could trigger questions about whether commercial spent nuclear fuel really needs to be moved to a federal repository.

D&D Progress

● In mid-September, the state of Washington fined the U.S. Department of Energy \$270 000 for violations at Hanford. The violations include failing to report that mixed wastes sent to Hanford from the Savannah River Site were shipped without appropriate manifests; allowing untrained personnel to sign waste verification documents; failing to maintain records verifying the contents of waste containers sent to Hanford from Savannah River; and failing to visually verify the contents of waste containers before they were sealed shut. Compliance inspectors from the state's Department of Ecology discovered the violations during a routine inspection in April and through the course of a follow-up investigation. The penalty is the largest the state has ever issued to the DOE. Ecology also issued an order requiring the DOE to verify that it knows the contents of more than 83 drums of waste store at Hanford, to maintain original documentation of this verification, and to tamper proof its records system.

● In late September, Fluor Fernald began the transfer of radium-bearing waste from Silos 1 and 2 at the Fernald site. The process is expected to take four months to complete. The waste represents the residues produced from the extraction of uranium from high-grade ores received in the late 1940s and early 1950s from the Belgian Congo. Before the end of 2004, Fluor Fernald plans to initiate the final treatment and processing of this material for offsite disposal.

● The 5000th gondola railcar of contaminated soil has been shipped from a 22-acre FUSRAP site at the St. Louis, Mo., airport. Since 1998, some 750 000 cubic yards of contaminated soil have been shipped offsite. The Shaw Group is the cleanup contractor; MHF Logistical Solutions Inc. is the packaging and transportation subcontractor.

● BNFL Inc. officially extended the completion date for its cleanup of the K-29, -31, and -33 buildings at the U.S. Department of Energy's Oak Ridge site from August 2004 to March 2005. Although it had been apparent for some time that the project could not be completed by the earlier date, BNFL had continued to use the earlier completion date on official work reports. On the plus side, the delay will give the DOE more time to find tenants for the

old buildings, but on the negative side, the delay may in turn delay the cleanup of the K-25 and -27 building, being managed by Bechtel Jacobs, because the BNFL workers on the K-29, -31, and -33 project who already have security clearances are considered prime candidates to work on the K-25 and -27 cleanup project.

In the meantime, BNFL is dismantling the world's largest nuclear supercompactor, now that the last piece of material has been crushed from the buildings' demolition. The facility operated for three years, processed up to 2.3 million pounds of metal each week, and saved the DOE an estimated \$100 million in disposal costs. BNFL was holding discussions with its parent company, British Nuclear Group, in the United Kingdom, on the possibility of re-assembling the supercompactor in the United Kingdom for use there.

- The Pit 4 retrieval project at the Idaho National Engineering and Environmental Laboratory (INEEL) began this fall. The project, aimed at protecting the Snake River Aquifer, involves removing select waste containing uranium, plutonium, and americium and volatile organic compounds (from nuclear weapons production between 1954 and 1970 at Rocky Flats).

- Babcock & Wilcox (B&W) has received permission from the U.S. Nuclear Regulatory Commission to terminate its license to possess radioactive material at the Apollo site in Pennsylvania and to release the site for unrestricted use. B&W and its predecessors used a facility on the site from 1960–1996 for nuclear fuel fabrication, research and development, and service work.

- BNFL Inc.'s Advanced Waste Treatment Facility at the Idaho National Engineering and Environmental Laboratory (INEEL) began treating radioactive waste in August, a few days shy of four years since the August 21, 2000, groundbreaking ceremony for the facility. The facility will process approximately 65 000 cubic yards of transuranic waste stored at INEEL and prepare it for shipment out of the state.

- Xcel Energy has applied to finish decommissioning the Pathfinder nuclear plant in eastern South Dakota. Plans are to remove remaining contamination at the last building associated with the plant. Repeated surveys have detected no radiation in groundwater, surface water, or soil. The plant has been shut down since 1967, and the two most contaminated buildings were taken down in 1992.

- In eight years of operation, Hanford's Environmental Restoration Facility (ERDF) has disposal of about half of the estimated 10 million tons of contaminated materials from the waste sites, burial grounds, and contaminated facilities located along the Columbia River corridor. The

four-cell facility is operated by Bechtel Hanford, the U.S. Department of Energy's Environmental Restoration contractor at Hanford. Two more cells are under construction at the facility. Each day, about 150 truckloads, or 3000 tons, of radioactive and hazardous waste, rock, soil, and debris—from excavation of old cleanup sites and from demolition of Hanford's old production reactors and other facilities—are disposed of at the ERDF. Recently, drivers of the trucks reached a milestone of their own when they logged 8 million miles in the cleanup effort.

International Briefs

- Canadian citizens want to “take responsibility and act now on waste created in generating electricity they have used, but they also want to make it possible for future generations to revisit today's choices in the light of new knowledge and technologies,” according to a new report prepared for the country's Nuclear Waste Management Organization (NWMO), an organization set up by the nuclear industry at the request of the federal government to advise on long-term management options for spent nuclear fuel. Therefore, Canadians want the waste stored within reach, not buried deep in the rocky Canadian Shield. And they do not believe that government, the industry, and existing regulators can do the job right. NWMO must make a recommendation to the federal government by November 2005 on options for spent fuel management, choosing among deep disposal in the Canadian Shield, accessible “mausoleum” storage at a central site, or continued storage at nuclear plant sites.

- Energy Resources of Australia (ERA) has suspended operations at the 24-year-old Ranger mine to concentrate on addressing issues related to a report issued earlier this year on water contamination from the mine. ERA has deployed three teams to oversee health and safety improvements in the areas of radiation controls, safety, and a major and sustainable improvement in general housekeeping standards across the Ranger site.

- South Korea's mid-September deadline passed for finding an applicant to host a national facility for the disposal of the country's low-level waste and interim storage of spent nuclear fuel, with no host candidate coming forward. Korea Hydro and Nuclear Power Co. Ltd. (KHNP) has said it will run out of at-reactor storage space in 2008. Some Korean experts say that it is doubtful that a suitable candidate site can be found in time to take care of KHNP's needs, and that another solution for the waste will have to be found.

- The European Commission is proposing revised versions of proposed directives on nuclear safety and radioactive waste management, having failed earlier to get sufficient support for its proposed legislation. The EC supports European Community-wide harmonization of safety standards, and also wants each country to set up a final waste management program with deadlines. Several EU countries, most notably the United Kingdom and Germany, are strongly opposed to any binding EU legislation in the fields of nuclear safety and waste management.
- As part of a 1.05-billion-euro (nearly \$1.3 billion) package approved by the European Commission in early October, Slovakia would receive 237 million euros (\$284 million) for shutting down the Bohunice-1 and -2 nuclear power plants, while Lithuania would receive 815 million euros (\$978 million) for shutting down its two Ignalina reactors. Shutting down the plants is the price the two countries must pay to receive acceptance into the European Union. The funds will cover not only actual decommissioning costs, but the cost of replacement generation as well.
- SSI, the Swedish radiation protection authority, want further investigation of the Hultsfred municipality as a potential site for the country's final spent fuel repository. The Swedish Nuclear Fuel and Waste Management Co. (SKB) is currently investigating only two sites, Oskarshamn and Oesthammer, with Hultsfred being held in reserve. SSI has said that SKB has not sufficiently considered the effects of groundwater movement and the salt content of groundwater on a repository and that Hultsfred

might prove to be a better site because it is inland, and water movement and salt content are limited compared to the other two sites.

In other news about the Swedish program, Oskarshamn has asked for an additional 1 million kronor (\$133 000) to monitor SKB's site testing work. Under Swedish law, municipalities can apply for money from the waste handling fund, which is funded directly by nuclear utilities, to independently review SKB's plans.

- A master plan for the cleanup of nuclear waste and spent fuel in northwest Russia was expected to be delivered to the European Bank for Reconstruction and Development (EBRD) in October. The plan will allegedly include a clean priority list of projects, including the above-ground interim storage facility on the Kola Peninsula for nuclear submarine fuel. Once the plan is approved, money can be released from the Northern Dimension Environmental Partnership, administered by the EBRD.

- According to reports, German federal regulator Jürgen Trittin was to introduce legislation this fall that would force German utilities to abandon two established repository projects (at Konrad and Gorleben) and instead fund development of a third repository at a site yet to be determined. Government accountants have estimated the cost of this new repository to be 6.8 billion euros (about \$8.2 billion). German utilities are totally opposed to such legislation, having already paid about 3.5 billion euros (\$4.2 billion) for the Gorleben high-level waste repository project and for the intermediate-/low-level waste repository at Konrad, which is licensed and could begin accepting waste in 2005.

- Some one thousand Swiss and German protesters demonstrated in September against a proposal by the Swiss nuclear waste management agency Nagra to site a high-level waste repository in the Zurich Vineyard area only a few kilometers from the German border. Nagra chose the Opalinus clay sedimentation in the area as a feasible host medium for HLW after drilling some 1000 test boreholes. The government's executive council will probably decide on the next step in the process in 2006. A law due to take effect in 2005 gives the authority to decide on waste disposal options to the central government, not the cantons.

- The first shipment of 28 canisters of Dutch high-level waste from the La Hague reprocessing complex in France arrived in early October at the new Habog interim storage facility operated by the Dutch radwaste agency, Covra, in Vlissingen. The vitrified waste had been stored at La Hague until construction of the vaults at Habog was completed. The waste will remain there for at least 100 years. Several more shipments are planned. ■

Correction

Radwaste Solutions sort of miscounted the radiation calculations in the article, "Finding (and Counting) the Needles in a Haystack: Estimating the Radioactivity in the XC1 Hot Cell at West Valley," which appeared on pp. 31–35 in the September/October 2004 issue.

The radiation readings listed on page 32 should read: "In March 2000 . . . with a range between 0.002 sieverts/hr (200 millirem/hour) near the ceiling to 0.063 sieverts/hr (6300 mrem/hr) . . ."

The readings on page 34 should read: "We took a total of 25 radiation readings . . . ranging from 6.5E-5 to 1.25E-3 Sv/h (6.5 to 125 mrem/hr)."

Finally, the readings on page 35 should read: "While localized variability . . . that ranged from 2.2E-4 to 0.014 Sv/hr (22 to 1400 mrem/hr) . . ."

Radwaste Solutions regrets the errors.