

## Budgets, Licensing, Water, Transport: Yucca Mountain Updates

● Budget concerns dominated Yucca Mountain news stories at press time. The fiscal 2003 U.S. Department of Energy Yucca Mountain project budget is some \$130 million below request, and the agency is still studying that shortfall's impact on the project, even as it lobbies for a fiscal 2004 budget request of \$591 million.

The budget issue had led the Nuclear Waste Strategy Coalition and several other industry and public interest groups to make a stronger push for reform of the Nuclear Waste Fund appropriations process to ensure proper funding for the proposed spent fuel/high-level waste repository at the Nevada site. The groups have called on Congress to return the fund to its original classification as a separate account in the federal treasury. Such an account would earmark Nuclear Waste Fund revenues for development of the repository and would prevent their use for other federal programs. The fund, which has raised nearly \$21 billion since its inception in 1982, had a balance of \$13.4 billion at the end of 2002.

The fund accumulates more \$1 billion each year from rate-payer contributions (about \$740 million) and interest (about \$400 million). According to the nuclear industry, however, Congress has historically appropriated only about one-fourth of this amount for the Yucca Mountain program.

Some purported DOE musings about how to save money in case future budget appropriations do not match the department's request have drawn the ire of project opponents. At the end of March, during the ANS International High-Level Waste Management Conference in Las Vegas, local residents expressed strong concern that budget constraints might lead the DOE to postpone or abandon its plan to build a rail spur through the state to the Yucca Mountain site and to rely instead on truck transport into and through the state. Shelving the Nevada rail spur could delay up to \$1 billion in costs, industry experts estimated. As much as many Nevada residents dislike the idea of a DOE rail spur through the state, they like even less the idea that trucks carrying spent fuel casks would be using their highways.

● The DOE will not be submitting its license application to the U.S. Nuclear Regulatory Commission until at least December 2004, but already the licensing battle is raging. Recent developments include the following:

- The state of Nevada has asked the NRC to appoint experts from outside of the agency to act as administrative judges in a Yucca Mountain hearing. The state is concerned that members of the Atomic Safety and Licensing Board (ASLB) might not be independent

enough to give a "scientifically sound and credible initial licensing decision."

- The NRC's proposed Package Performance Study (PPS) is drawing criticism at public meetings. The NRC has proposed dropping a single truck cask and a single rail cask at impact speeds of 75 miles per hour. Each cask would then be set afire and engulfed in flames for more than 30 minutes. The test results would be compared to test predictions to determine the adequacy of computer modeling in estimating a cask's response to an improbable, extreme accident that might release radioactive materials. Plan critics want to test casks to failure, want impact limiters removed for some tests, and want to test every model of cask that might be used. The nuclear industry, on the other hand, wants casks tested only to regulation. The agency is taking public comments on the draft PPS until May 30.

- A decision on March 12 by the U.S. District Court of

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Nevada has reopened the water permitting process for the Yucca Mountain site. The court directed the DOE and Nevada's state engineer to reopen and conclude the water permitting process pursuant to state water law. The court also ordered that the temporary water use agreement between the DOE and the state remain in force, meaning that site activities can continue. The water permitting process had stopped following a 2000 decision by the state engineer denying the permits.

- The National Academy of Sciences is assembling a team of independent experts to examine the potential risks of shipping spent nuclear fuel and HLW to Yucca Mountain. The two-year study, expected to be completed in 2005, will analyze a broad range of matters, including transportation cask testing, selection of routes to the proposed disposal site, possible health impacts, and public perceptions of risk. The 15-person panel will include independent experts in risk assessment and risk communications, health physics, transportation operations, regulations and

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safety, public policy, social justice, and nuclear security. The \$850 000 study is being paid for by the DOE, the NRC, the U.S. Department of Transportation, and National Cooperative Highway Research Program (which is a state-administered fund), and the Electric Power Research Institute.

### **ASLB Deals Setback to PFS; Consortium to Challenge Decision**

The U.S. Nuclear Regulatory Commission's Atomic Safety and Licensing Board (ASLB) dealt a blow to the nuclear industry when it issued a preliminary ruling March 10 indicating that the Private Fuel Storage (PFS) project "has not provided reasonable assurance that F-16 aircraft crash accidents do not pose a significant threat" to a proposed spent fuel storage facility planned to be built on Native American land in Utah. PFS is a consor-

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tium of utilities attempting to license, construct, and operate a centralized temporary facility to store spent nuclear fuel until a federal repository is ready for operation. The proposed site of the facility is near several U.S. Air Force bases. The ASLB particularly rejected the PFS "pilot avoidance" assertion (that is, that a military pilot would be careful to avoid the site before ejecting in an emergency situation), stating that a military jet crash into spent fuel casks at the facility is a "credible" accident.

In issuing the decision, the board added that the Air Force might agree to reduce the number or pattern of flights so as to decrease the threat of potential aircraft crashes, but expressed the view that such an agreement was relatively unlikely.

On March 31, PFS responded to the decision by filing (1) a petition to the NRC requesting a review of the ruling; (2) a report to the ASLB outlining PFS's intent to exercise an option presented by the Board to demonstrate

that the consequences of a hypothetical F-16 crash at the facility would fall within the NRC's safety regulations; and (3) a motion to the ASLB asking for a favorable licensing decision conditioned on a limit to the size of the facility so that even using the ASLB's probability assumptions, an F-16 crash would still be a "non-credible" event.

PFS requested an NRC review because, it says, the ASLB improperly excluded PFS testimony on the record showing that even if an F-16 were hypothetically to crash into the facility, the aircraft would not penetrate a cask and cause a radioactive release. PFS also contends that the ASLB did not consider substantial conservatism in PFS's analysis of crash probability, but instead rigidly applied the "one in a million" criterion. Finally, PFS's motion to the Board states that the ASLB's concerns about aircraft crash probability would be satisfied by a license condition limiting the number of casks at the site to 336, rather than the maximum 4000 in the PFS application.

"If we received a conditional license to operate a smaller site, we would be able to proceed with planning and construction while continuing to address ASLB concerns and make our case for a larger facility," said John Parkyn, PFS chairman. "Our goal is still a license for a 4000-cask facility."

### **International Updates**

- Ontario Power Generation has been granted a five-year renewal of the operating license for its Pickering Waste Management Facility, located next to the Pickering generating station. The license will be valid until March 31, 2008. The five-year license is only the second approved by the Canadian Nuclear Safety Commission since the regulator adopted a policy of longer terms for established operations.

- The United Kingdom's Radioactive Waste Management Advisory Committee would like the country to adopt a new category of Very Low Radioactive Material (VLRM), which would enable simpler disposal and relieve the pressure on low-level waste disposal facilities. The new VLRM category would cover materials containing on the order of 10 Bq/g, or 0.01 GBq/MT or less. The activity levels proposed by the United Kingdom Atomic Energy Commission are less than 0.04 GBq/MT for beta/gamma and 0.001–0.002 GBq/MT for alpha activity. This material could be buried at many of the 40 sites throughout the country currently producing low-activity solid waste, in "suitably located, engineered and, possibly access-controlled" facilities, at a cost of about one-tenth the cost to dispose of such waste at the Drigg LLW disposal facility.

- The \$108 million (Australian) cleanup of the Maralinga

phase expected to be completed in August 2004 and the second phase finished in August 2005. Once the facility is operating, all the Chernobyl fuel can be removed.

### Spent Fuel Transport: A Potential Revenue Source for States?

Several states have begun to pursue policies that would increase fees for shipments of radioactive materials through their territory, including Illinois, Indiana, Nebraska, Utah, and Wyoming so far.

A bill before the Utah legislature would have set of fee of \$1500 for a single-trip permit to transport high-level radioactive waste through the state, but the legislature adjourned March 5 without Senate action on the bill. About 10 such trips currently travel through the state each year, but that number would increase substantially if Private Fuel Storage were to open a spent fuel storage facility in the state, and when the Yucca Mountain HLW repository opens.

A bill introduced in Nebraska would set a \$2000 fee on each container of radioactive waste shipped through the

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state, until January 1, 2005. After that date, the fee would be set by the state's Department of Regulation and Licensure. The fee would not apply to government shipments for military, national defense, or national security purposes. The state estimates about five shipment per year.

Wyoming is considering a radioactive materials transportation bill that calls for an emergency response fee of \$1500 for each shipment of materials transported through the state, increase from the current \$200 per container fee.

A proposed Indiana bill changes the fee for the shipment of nuclear materials from a total shipment fee to a \$1000 per-container fee. Finally, an Illinois bill would assess fees at the rate of \$3500 per truck, up from a current \$2500 per truck, while for rail shipments, the fee would increase from \$3000 to \$5500 for the first container and

from \$3000 to \$4000 for each additional container per rail shipment. Truck shipments of greater than 250 miles in Illinois are subject to a surcharge of \$50 per mile, up from the current \$25 per mile.

### Xcel Energy, Prairie Island Tribal Council Reach Agreement on Onsite Spent Fuel Storage

Xcel Energy and the Prairie Island Tribal Council have reached a preliminary agreement to increase spent fuel storage at the Prairie Island nuclear power plant in Minnesota. The agreement was pending a full Tribal referendum at press time.

The agreement would be an important step toward expanding onsite spent fuel storage at the plant, which by a 1994 state law is limited to 17 containers (the site is federally licensed to hold 48 containers). The 1994 law gives the Tribe a legal say in whether the site can be expanded. If it is not, the plant will be forced to shut down in 2007.

The deal calls for Xcel to pay for infrastructure improvements, a health study, and additional land for the Tribe. In return, the Tribe will support state legislation allowing Xcel to expand storage at the site. More specifically, Xcel would pay the Tribe \$1 million per year until plant operations cease; \$450 000 per year for the placement of spent fuel storage canisters filled during plant operations (but not during decommissioning); \$700 000 per year for 10 years for land acquisition related to infrastructure; \$100 000 per year for 10 years for a health study and emergency management activities; and \$25 000 to conduct a preliminary engineering study to construct a railroad overpass.

### NRC Moves Ahead with Materials Release Rulemaking

On February 28, the U.S. Nuclear Regulatory Commission published a *Federal Register* notice seeking public comment on a proposed rulemaking on the control of solid materials with little or no radioactivity. The agency currently decides on releases of these types of materials, such as furniture, metal equipment, concrete, and soil, on a case-by-case basis.

The notice said the NRC was particularly interested in receiving comments on two alternatives: conditional use of such materials, or their disposal in landfills regulated

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by the U.S. Environmental Protection Agency. The notice includes several questions on these options.

The rulemaking would look at such alternatives as release for unrestricted or conditional uses, or disposal, the

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notice said. The notice repeated earlier NRC statements that the agency has not made a decision on the details of a regulation, but that the Commission favors releasing solid materials when there are no significant health consequences.

Comments are due by June 30 and can be submitted to the NRC's rulemaking website (<http://ruleforum.llnl.gov>) under "Information/Comment Requests."

### Dueling Lawsuits Over Hanford TRU Waste Shipments

On March 4, Washington state's Department of Ecology filed suit to stop the U.S. Department of Energy from shipping additional quantities of transuranic waste to the Hanford site near Richland. The suit results, the state said, from the DOE's "failure to develop a plan for the eventual removal of the waste from the state." In December 2002, the state says, the DOE had agreed in principle to provide enforceable assurances that TRU waste currently at Hanford and that planned to be shipped to the site would ultimately be disposed of at the Waste Isolation Pilot Plant in New Mexico, but the DOE failed to provide these assurances by the state's March 1 deadline. The suit requests a federal court to enjoin the DOE from shipping additional quantities of TRU waste to Hanford, and to declare the DOE in violation of the National Environmental Policy Act and other environmental laws and regulations.

In response, on April 9, the DOE, through the U.S. Department of Justice, filed a countersuit against the Ecology Department. Jessie Roberson, assistant secretary of Environmental Management, said, "Recent actions by the state of Washington could have a chilling effect on cleanup operations at Hanford and elsewhere. The Department of Energy has fundamentally changed the cleanup program for every site in the country. Our balanced and integrated cleanup approach is making progress. Washington's recent actions run counter to our accelerated cleanup goals. . . . we are not sure the state understands the unintended consequences of its recent actions, which could call shipments of transuranic waste around the country into

question, not just shipments of waste into Washington, but also shipments of waste out of Washington."

Addressing the shipments of such waste, Roberson said, "Some groups would like for you to believe that the shipment of waste is unsafe. It is not. Shipments are highly regulated and safe. In fact, it is disingenuous for those groups to make statements that shipments of waste going into Washington are not safe, but those going out of Washington are safe."

Concluded Roberson, "We believe we can work with the state on this issue to an eventual agreement, but in light of Washington's actions, we felt we had to file this lawsuit to protect our interests."

### INEEL's Advanced Mixed Waste Treatment Facility Begins Operations

The Advanced Mixed Waste Treatment Facility at the Idaho National Engineering and Environmental Laboratory received authorization to begin operations at the end of March, and its first shipment of transuranic waste to the Waste Isolation Pilot Plant, consisting of two TRUPACT II containers, arrived at the WIPP site April 1. Regular shipments to WIPP from the facility are planned for the next 10 years. The shipments are of plutonium-contaminated waste sent to INEEL for storage in the 1970s and 1980s.

In addition to initiating waste shipments, work is beginning on the removal of the soil covering the waste stored in the Retrieval Enclosure. Approximately 54 000 cubic meters of waste is stacked on an asphalt pad and covered with three to five feet of soil. The next four to six weeks will be spent in uncovering a large section of the waste stack. Then, the containers will be removed and will undergo a series of tests, including real-time radiography, gamma spectrometry, and sampling to determine the exact contents. Following the tests, the waste containers will either be directly shipped to WIPP or will be processed and repackaged prior to shipment.

### Southwestern Compact Seeks New Federal Solution for LLW

Maintaining that states "lack the necessary political will" to open new low-level waste disposal facilities, Alan Pasternak, technical director of the California Radioactive Materials Management Forum (Cal Rad Forum), suggested that Congress intervene once more to solve the problem. The Cal Rad Forum is an organization of radioactive waste users and generators in the Southwestern Compact, which has as members California, Arizona, North Dakota, and South Dakota.

There are three commercial LLW disposal facilities operating in the United States today, but all have some re-

restrictions. The site in Barnwell, S.C., will close to all but member states of the Atlantic Compact in 2008; the site in Richland, Wash., is limited to states in the Northwest and Rocky Mountain Compacts; and the Envirocare of Utah site is limited to Class A waste, the least radioactive kind of LLW. Once Barnwell closes, most waste generators will have nowhere to send their Class B and C waste.

Congress acted on the issue in 1980 with the Low-Level Waste Policy Act and again a few years later with the Amended Act. These acts directed states to form "compacts" to deal with LLW generated within their own borders. Since the passage of the two acts, Pasternak said, "the Act has yielded ten interstate compact commissions, three ongoing lawsuits, and no new disposal facilities."

Speaking at the annual Waste Management conference in Tucson, Ariz., Pasternak suggested some options that Congress could consider. In the short term, he said, Congress could have the U.S. Department of Energy make some of its LLW disposal facilities available for commercial waste for a limited time. In the long term, Congress could authorize the DOE to open one or two new LLW disposal facilities, under U.S. Nuclear Regulatory Commission regulation, on federal land.

Pasternak said his presentation was intended to interest other LLW generators in pursuing "a federal solution" to new disposal capacity.

● In a somewhat related issue, US Ecology lost a round in its legal battle to salvage its investment in the failed Ward Valley LLW disposal project. The project was abandoned by the state of California several years after the Clinton Administration declined to transfer federal land at Ward Valley to the state for the project.

The company had filed suit against the state, Gov. Gray Davis, and other parties in Superior Court in 2000, seeking more than \$162 million in direct costs, interest expenses, and lost profit. A March 26 ruling by California Superior Court Judge E. Mac Amos Jr., however, stated that the

company did not prove that its damages were caused by the state's abandoning its efforts to obtain Ward Valley land. The evidence does not support the conclusion that the federal government would have transferred property if requested to do so by Gov. Gray Davis, he ruled.

US Ecology parent company American Ecology said it plans a \$21 million writedown of Ward Valley assets during its first quarter. American Ecology said the ruling means the company can no longer conclude that, from an accounting standpoint, it will recover its investment. ■