

### **Commissioners: Test One Cask for the NRC Cask Testing Performance Study**

The U.S. Nuclear Regulatory Commission commissioners have directed the NRC staff to do a single test on a spent fuel rail cask for the Package Performance Study, with a future truck cask test a possibility if the U.S. Department of Energy funds it.

The commissioners' solution to the several testing options proposed was to come up with one of their own: "a demonstration test with sufficient instrumentation to collect data which confirms the validity of appropriate key analytical methods and assumptions, including scaling methodology, that serve as a basis for NRC regulations and regulatory review of transportation cask applications." The cask model tested is to be representative of other cask designs so that there will be no need for additional tests. The test should be "realistically conservative" (based on a train traveling 75 miles per hour), and should include exposure of the cask to a "fully-engulfing fire."

The staff had until mid-July to provide the commission with detailed test plans and projected costs. And the staff was directed to commence purchase of a certified cask that is currently in use or could be used in the near future.

### **Fernald Silos Project in Limbo Because of Nevada Actions, EPA Response**

Fernald's plans to begin removing uranium currently stored in three silos at the former uranium processing plant may have to be put on hold. The state of Nevada has threatened a lawsuit to block the U.S. Department of Energy's plan to ship the wastes for disposal at the Nevada Test Site. And the U.S. Environmental Protection Agency in early June wrote a letter to the DOE stating that it cannot go ahead with its plan to start removing the wastes from the silos and holding it at Fernald until it can be shipped. Storing the waste at Fernald for any length of time after it is removed from the silos would violate a cleanup agreement the DOE reached with federal and state environmental regulators some years ago, the EPA said.

Nevada's lawsuit threat is based on its premise that the uranium wastes are different from the low-level wastes that are typically disposed of at the NTS. Fernald has already shipped some 6000 truckloads of LLW to the Nevada site since the 1980s. The uranium wastes consist of remnants of very pure uranium ores, and include other radioactive metals including lead and radium.

The DOE has said it is trying to negotiate with federal and Ohio regulators, because any lengthy delays in the silos project could jeopardize the planned 2006 completion

of the 1050-acre site. A new facility for processing the silos waste has been built at the site, and work was expected to begin in mid-June.

### **Yucca Mountain Funding at Risk**

In early June, the House Appropriations Subcommittee on Energy and Waste Development allocated \$131 million for the Yucca Mountain project for fiscal 2005. The amount is consistent with the administration's budget request, which assumed that Congress would reclassify \$749 million in annual fees paid into the Nuclear Waste Fund as an offsetting expense for the project, for a total expenditure of \$880 million in fiscal 2005. Neither house of Congress has acted on the reclassification issue, however, so no funds have been allocated from the Waste Fund, and the \$131 million is coming from defense funds.

Subcommittee Chairman Rep. David Hobson (R-Ohio) said that the Office of Management and Budget had "played Russian roulette when they assumed that the House and Senate would pass the proposed reclassification language. By assuming the offset of \$749 million, OMB reduced the total request for discretionary spending by that amount. The House Budget Resolution reduced it even more."

Hobson continued: "I don't like going forward with so little money for Yucca Mountain, but we are playing the hand that we were dealt. I remain supportive of the proposed reclassification language, and hopeful that the administration will come to its senses or that the Senate will find a way to keep Yucca alive."

The budget debate, of course, is far from over, with additional action expected from the full House Appropriations Committee in June, by Senate appropriators this summer, and by the full Congress this fall. In the meantime, a substitute House bill, H.R. 3981, has been approved. It would reclassify nuclear waste fees as user fees for a period of five years. At press time, members were now trying to get the bill through the House before it approves the energy appropriations bill. The reclassification bill might also be attached to the funding bill as an amendment, making increased waste program funding an issue for a House-Senate conference committee later this year.

Energy Department officials have made the rounds on the Hill, noting the "turmoil" a \$131 million appropriation would have on the project. Energy Secretary Spencer Abraham estimated that the DOE would be forced to lay off about 70 percent of the federal/contract work force at the project, and would remove any prospect that the repository could open in 2010.

The Nuclear Waste Strategy Coalition, composed of nuclear utilities, state regulators, and state attorneys general from 25 states, noted that "the administration was short-

sighted in not fully funding this program. However, that is no excuse for the Congress to be equally shortsighted.”

### Yucca Mountain Updates

- Presumed Democratic presidential nominee Sen. John Kerry (D-Mass.) stated in May that, as president, he would “fight against” opening the proposed spent fuel/high-level waste repository at Yucca Mountain. Writing in an op-ed printed in the *Las Vegas Review Journal*, Kerry called for “putting a stop to the dump once and for all,” without proposing any alternative.

- The U.S. Department of Energy has accepted the U.S. Nuclear Regulatory Commission’s conclusion that the DOE must improve the quality of the technical information supporting the Yucca Mountain repository license application (see “Headlines,” *Radwaste Solutions*, May/June 2004, p. 8). According to DOE officials, the department is now focusing on making those improvements. The department is still confident that the August deadline for addressing the 293 key technical issues (KTIs) can be met.

On a related issue, the DOE was highly critical of a General Accounting Office (GAO) report on quality assurance problems with the Yucca Mountain project, while the NRC tended to be in agreement. Stated Office of Civilian Radioactive Waste Management Director Margaret Chu: “It is understood by the Department, by the NRC, and by knowledgeable outside observers that the repository program must meet rigorous quality assurance expectations for our license application to be acceptable to the commission. The fact is, we are on schedule to submit our license application in December 2004, and we have an effective quality assurance program in place that will enable us to meet that objective.”

Chu said the report did not acknowledge recent improvements the DOE has made to its QA program, did not consider the full range of performance indicators used by OCRWM to manage QA-related issues, and mischaracterized the result of several independent reviews.

Among the NRC comments contained within the GAO report, the agency noted that the DOE needs “flexibility to choose alternative approaches to achieve and measure improved QA program performance, since the alternatives may be more suitable for the situations as DOE nears, then moves beyond, submittal of the license application.”

The April 30 report, “Yucca Mountain: Persistent Quality Assurance Problems Could Delay Repository Licensing and Operation,” prepared at the request of Yucca opponent Sen. Harry Reid (D-Nev.), is available at the GAO website, [www.gao.gov](http://www.gao.gov).

- A class action lawsuit against the U.S. Department of Energy contractors at Yucca Mountain over dust exposure is widening. The original suit, filed in March with

only one plaintiff, charged that site contractors knowingly exposed site workers and visitors to carcinogenic dust without providing them with proper personal protection. Five additional plaintiffs were added to the petition in April: three former workers and two Yucca Mountain opponents who work for the state of Nevada.

- The DOE needs to develop a better fundamental understanding of the behavior of geological features of a nuclear waste repository, according to a May 3 Nuclear Waste Technical Review Board letter to OCRWM director Margaret Chu. Writing in response to DOE presentations made in March, the letter said, “An enhanced technical basis for the performance of the natural barriers is an important part of an overall repository strategy that uses multiple barriers to provide defense-in-depth.” Relying on conservative estimates of the uncertain features and processes geology provides in the area of radionuclide transport could skew results on how geology might behave, the letter said.

### Industry Briefs

- Two spent fuel rod segments are missing from the Vermont Yankee spent fuel pool, Entergy disclosed in late April. In a case reminiscent of the missing Millstone-1 rods, Entergy revealed that the two segments, one about 8 or 9 inches long, the other around 17 in. long, were not in a stainless steel container in the pool, as station records from 1979 had indicated. Entergy and the U.S. Nuclear Regulatory Commission believe that the rods are either elsewhere in the pool or have been disposed of at a low-level waste disposal facility. The NRC earlier had concluded that the Millstone-1 rods had inadvertently been disposed of either at the Hanford LLW facility in Washington State or at the Barnwell site in South Carolina.

- Three U.S. Nuclear Regulatory Commission-licensed decommissioning projects are at a state where the NRC might have to bring in the U.S. Environmental Protection Agency for consultation about the cleanup. The NRC and the EPA signed a memorandum of understanding in 2002 that sets up protocols for cooperating on the cleanup of radiologically contaminated sites. The three sites in question are the Connecticut Yankee nuclear plant, Kirkland Air Force Base, and the Saxton reactor. In most cases, according to the MOU, the EPA will continue to defer listing sites subject to NRC licensing as a Superfund cleanup priority, a practice that has helped the agencies avoid dual regulation.

- The U.S. Environmental Protection Agency has begun an evaluation of whether the Waste Isolation Pilot Plant still meets EPA radiation protection standards. The review comes five years after WIPP began operations in 1999. The review could take up to six months, the EPA

stated in a *Federal Register* notice.

- The U.S. Nuclear Regulatory Commission has approved the intentional mixing of contaminated soil on a case-by-case basis to allow licensees to meet site release criteria in the License Termination Rule. The staff had recommended this approach, stating that it would provide a licensee with options for developing decommissioning plans for complex sites. The staff will now be allowed to decide whether to allow, in rare cases, the blending of clean soil from outside the contaminated area with contaminated soil.

- In a report that may bring the current U.S. low-level waste disposal situation to greater congressional attention, the General Accounting Office, the congressional investigative unit, released a report in June that notes that most states will not have a place to dispose of Class B and C wastes after 2008 if disposal conditions do not change. Most states rely on the Barnwell LLW disposal site for disposing of their Class B and C waste, the report noted, and Barnwell will close to all but three states in mid-2008. Nonetheless, the report concluded, any disposal shortfall

that might arise is unlikely to pose an immediate problem because generators can minimize, process, and safely store the waste. The report, "Low-Level Radioactive Waste: Disposal Availability Adequate in the Short Term, but Oversight Needed to Identify Any Future Shortfalls," is available at [www.gao.gov](http://www.gao.gov).

The GAO also thinks the U.S. Nuclear Regulatory Commission needs a tracking system for commercial LLW stored in the United States. Such a system might involve information pinpointing the location and amount of LLW stored. The NRC says, however, that it's unclear that the regulatory agency has the legal right to take such an action.

- The Connecticut Siting Council has approved Millstone's dry storage plans, which will allow Dominion to construct enough onsite dry spent fuel storage to maintain the spent fuel pool's full-core reserve through 2025. Construction of the facility, which will use Nuhoms storage casks, was expected to begin early this summer.

- The U.S. Nuclear Regulatory Commission staff's proposal to revise the License Termination Rule (LTR) does not include a rulemaking plan. In a memorandum to the

commission, the staff said they believed the objectives of a rulemaking plan, including descriptions of the regulatory problem and resolution, have been met in earlier documents. The commission asked the staff in 2002 to look into the LTR, adopted in 1997, for the purpose of making some of the rule's provisions more available for licensee use.

● The Central Interstate Low-Level Radioactive Waste Compact Commission has rejected Nebraska's offer to settle a \$151 million lawsuit. The offer was rejected by four of the five member states of the compact. (Member states are Arkansas, Louisiana, Kansas, Nebraska, and Oklahoma.) The judgment against Nebraska came after the state was sued by the Commission for blocking the siting of an LLW disposal facility within the state. If a settlement cannot be reached, Nebraska is prepared to appeal the judgment to the U.S. Supreme Court.

### Court Dismisses Damages Request in First Spent Fuel Claims Suit

The U.S. Court of Federal Claims in Washington, D.C., has dismissed Indiana Michigan Power Co.'s claim for damages resulting from the U.S. Department of Energy's breach of contract in its failure to take possession of spent fuel by January 31, 1998. Judge Robert Hodges's decision was issued May 21.

This was the first case to be decided of the more than 60 lawsuits filed by companies and utilities against the DOE for failure to begin taking spent fuel by the date established in the Nuclear Waste Policy Act and by the standard contract utilities have with the DOE. Indiana Michigan had asked for more than \$100 million in damages, including \$24 million for past damages and \$84 million for future costs. The court concluded that although the DOE had, indeed, breached the contract, Indiana Michigan did not show that it had incurred any damages caused by the breach.

Among other rulings, the court found that, because the company had claimed only a partial breach of contract, it was not entitled to any damages before 1998 or after the trial date. Indiana Michigan had claimed only partial breach of contract because the utility expects that the DOE will eventually take possession of the spent fuel. The utility "incurred costs between January 1998 and the March 2004 trial date, but it did not show that these costs were related to the breach," the court ruled.

At press time, the utility was weighing an appeal. Industry sources have stated that this decision should have little bearing on any of the other lawsuits pending against the DOE, saying that each case will be decided on its individual merits. Indeed, only a few weeks later, on June 2, the same court concluded that the Tennessee Valley Authority is owed damages "accrued between the government's initial alleged breach in January 1998 and the con-

clusion of TVA's fiscal year ending September 30, 2004." TVA is seeking costs incurred in building onsite dry spent fuel storage facilities. The court ordered that the case should proceed to trial on damages in a timely fashion.

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TVA anticipates proceeding quickly to discovery this year and to trial perhaps as early as next summer.

### International Briefs

● The public consultation process has begun on the new Swiss nuclear law, and will last until mid-August. One of the many provisions in the new law, which was passed by the Swiss legislature in March 2003, denies the country's cantons the right to veto the siting of a final nuclear waste repository in their territory. The law is expected to go into effect January 1, 2005.

● It will cost at least 10 million kronor (\$1.22 million) to improve the physical protection system at Sweden's CLAB central interim spent fuel storage facility, the Swedish Nuclear Fuel and Waste Management Co. (SKB) has stated. The Swedish Nuclear Power Inspectorate is expected to mandate such improvements in new regulations it plans to issue before year's end. Among other things, SKB officials said, the improvements would include searching the trucks bringing the spent fuel to the facility, and more security for visitors to the site.

● The National Nuclear Security Administration is taking over the U.S. Department of Energy's research reactor fuel "takeback" program, which had been managed by the DOE Office of Environmental Management. The program is responsible for bringing back U.S.-supplied fuel from foreign research reactors. The Office of Civilian Radioactive Waste Management will take custody of the fuel once it is returned to the United States. Energy Secretary Spencer Abraham added that he had instructed the appropriate offices within the DOE to work to extend the 2009 deadline for U.S. acceptance of the fuel, an action that other countries had been supporting.

● The U.K. Atomic Energy Authority is making reductions in the estimates of cleanup time for its facilities being decommissioned. Decommissioning work at the Dounreay complex is now expected to be completed in 2047, 16 years ahead of earlier estimates, while work at Winfrith is expected to be done by 2020, 30 years ahead of the pre-

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vious schedule.

● Russia will have between 17 000 and 17 500 tons of spent fuel by the end of 2004, according to the Russian Federal Atomic Energy Agency. The country's spent fuel inventory increases by about 850 metric tons each year.

● Doubts are being raised that Italy will be able to select a site for the storage and disposal of spent fuel and high-level waste by the end of this year, as stipulated in the law passed at the end of last year. Expressing national security concerns, the government originally declared the town of Scanzano Ionico, in southern Matera province, as the national storage site for all categories of nuclear waste, but strong opposition from local and regional residents forced the government to retreat. The law was passed because the government became concerned that terrorists might be able to access the country's radioactive waste for use in radiological dispersal devices, also known as dirty bombs. The facility is to be operational by 2008, the law states.

● Ten counties in two provinces have applied to be considered as the host location for South Korea's low- and intermediate-level radioactive waste repository. The country is offering the prospect of financial compensation to the host community. Bids are open until September. A choice for a final site is expected to be made by the end of the year.

● An International Atomic Energy Agency peer review panel has endorsed Australia's site selection process for a low- and intermediate-level waste repository. The reviewers said the process was thorough and resulted in a site with good prospects for meeting international safety objectives and criteria. Additional work will be needed, however, the panel stressed, to gain regulatory approvals for construction and operation. The Australian site is about 20 kilometers east of Woomera in the state of South

Australia. LLW and short-lived ILW is currently stored in about 100 sites around the country.

● The Canadian Nuclear Safety Commission has approved the environmental report on the Ontario Power Generation (OPG) plan to expand spent fuel storage at its Pickering plant. OPG plans to apply to the Commission for authorization to construct buildings for dry storage of the Pickering spent fuel. The environmental report is required before the CNSC can consider the license amendment application.

● The European Commission has increased its grant for the new spent fuel storage facility at Chernobyl by 12.43 million euros (about \$15 million), bring the total to 155.63 million euros (about \$188 million). The increase was needed to cover rising prices and construction delays. The storage facility is expected to be in operation before 2008.

● BNFL has begun an effluent treatment innovation at the U.K. Sellafield site to cut technetium-99 discharges by 90 percent. Trials last year showed 95 percent removal of <sup>99</sup>Tc from the waste stream from magnox spent fuel reprocessing, the major source of the radionuclide. No adverse health effects (or regulatory infringements) have been noted from the discharge, but Ireland and Norway have expressed concern about the discharges into the Irish Sea. The new treatment uses tetraphenylphosphonium bromide to solidify the radionuclide waste stream. The process will enable an accelerated reduction in the amount of radioactive liquid wastes onsite.

● Canada's Nuclear Waste Management Organization (NWMO) has narrowed its spent fuel/high-level waste disposal recommendations down to three: (1) building a permanent, sealed repository in the Canadian Shield area of Northern Ontario for roughly 70 000 tonnes of waste, with the actual burial site located at least a kilometer underground; (2) building a centralized retrievable storage facility, with containers located above ground or in caverns some 30 meters deep; or (3) leaving the spent fuel at the reactor sites, which would require the construction of some additional dry storage facilities. NWMO, an industry-financed entity, was formed in 2002. It must recommend to the government by November 2005 how Canada should deal with its spent fuel/HLW inventory. The agency stressed, however, that the final decision will be made by the Canadian government.

● A Nagra safety report on disposal of spent fuel and high-level waste has received high marks from an independent peer review panel. The panel said the Nagra report on waste disposal in the Opalinus Clay of the Zuercher Weinland was a "remarkably mature document" considering the current stage of development of the Swiss program, and that it presents a sound and practical disposal project based on a specific realization of the multi-barrier concept. The review was carried out at the request of the Swiss Federal Office of Energy. ■