2004 Funding for Yucca Mountain: A Tale of Two Houses

In July, by a vote of 377–26, the U.S. House of Representatives approved an energy and water development appropriation for fiscal 2004 that provides $765 million for the Yucca Mountain project and the U.S. Department of Energy's nuclear waste disposal program, $174 million higher than the Bush administration request and $308 million more than the fiscal 2003 figure. "The program has been starved for funding," noted Rep David Hobson (R-Ohio), the chairman of the House Appropriations Subcommittee on Energy and Water Development. He added that the deadline of 2010 for acceptance of spent fuel at Yucca Mountain is a "pipe dream" at existing funding levels.

The U.S. Senate, on the other hand, has endorsed an energy and water spending bill for 2004 that cuts funding for the project. The Senate spending bill appropriates $425 million for the repository project, some $32 million less than 2003 funding, $166 million below the administration's request, and $340 million less than the House appropriation. Senator Harry Reid (D-Nev.), ranking member of the Appropriations Committee's energy and water subcommittee, called the House's $765 million budget for the project outrageous and pledged to cut the number. Reid is adamantly opposed to the siting of a repository in Nevada.

The differences will be hashed out in conference committee meetings this fall.

NRC Releases Final Yucca Mountain Review Plan

On July 22, the U.S. Nuclear Regulatory Commission released the final version of the Yucca Mountain Review Plan, which the NRC will use to guide its evaluation of the expected Energy Department application to construct and operate the high-level radioactive waste repository slated for Nevada's Yucca Mountain. The final NRC plan can be found at: http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1804.

In March, in response to a U.S. Department of Energy request, the NRC had released a draft version of the plan, so that the department could use it in the development of its license application. Under the Nuclear Waste Policy Act, although the DOE must apply to the NRC for a license to build and operate the high-level radioactive waste repository, the DOE is responsible for the design and construction of the facility. The NRC expects the DOE application by the end of 2004.

● In other Yucca Mountain news, the U.S. Department of Energy is jump-starting its spent fuel transport program by seeking advice and input from state and industry experts, according to Margaret Chu, director of the DOE's Office of Civilian Radioactive Waste Management. The department is stepping up its activity on a national transport program, and will issue a strategic plan later this year, Chu said.

NRC Report on Burnup Credit in Spent Fuel Casks

An NRC report released in early August has found that radionuclide uncertainties associated with spent fuel burnups of more than 40 gigawatt-days per metric ton of uranium (GWd/MTU) and enrichments above 4 percent uranium-235 are likely to be the same as those observed for spent fuel with lower enrichments and lower burnups. "Strategies for Application of Isotopic Uncertainties in Burnup Credit," NUREG/CR-6811, compiled at Oak Ridge National Laboratory, includes new data on pressurized water reactor radiochemical assay from Takahama-3 in Japan.

Finding a satisfactory methodology for recognizing the reduction in fuel reactivity caused by irradiation—known more widely as "burnup credit"—has long been an industry and NRC challenge. The NRC's current guidance for spent fuel transport recognizes burnup, but only for a limited number of actinides and with large conservatisms built in. The allowable burnup credit is limited to 40 GWd/MTU, even for fuel with higher burnups. And it recommends a loading penalty for fuels with initial enrichments between 4 percent and 5 percent. Those limits were based largelyon the lack of radiochemical assay data on fuel that exceeds those parameters.

The new Takahama-3 data include high-enrichment and high-burnup samples, and well as extensive actinide and fission product measurements. The results, states the NRC report, suggest that nuclide uncertainties for spent fuel exceeding 4 percent enrichment and 40 GWd/MTU are expected to be similar to spent fuel below these limits. This may provide a technical basis to support increased utilization of burnup credit for transportation and storage casks, the report said.

International Briefs

● The government of the United Kingdom has published draft legislation to enable the creation of a Nuclear De-

commissioning Authority (NDA) to clean up the country's legacy of nuclear waste. The NDA will be the first decommissioning authority of its kind in Europe. It will be responsible for the cleanup of the nuclear facilities currently managed by British Nuclear Fuels plc (BNFL) and the U.K. Atomic Energy Authority. It is expected to be operational by April 2005. Cost estimates for the U.K. cleanup work ranged from £48 billion to £85 billion, or around $80 billion to $140 billion.

- Russia will build a low- and intermediate-level nuclear waste disposal storage facility in a remote, hard-to-reach area of the Kola Peninsula, an Arctic region bordering on Norway, the ITAR-Tass news agency reported in July. Over the past six years, officials evaluated more than 30 sites on the peninsula, and have now narrowed the site search to three areas of rocky ground deep inside the peninsula.
- Norway refused to pay for reprocessing of spent nuclear fuel from Russian submarines, reported a top Norwegian official, causing Russia to back out of an agreement on dismantling of its submarines. The agreement would have covered the removal of the fuel from the subs, transporting it to a storage facility, and dismantling the subs. The Russians, stating that they did not know what to do with the fuel other than reprocess it, tried to add fuel reprocessing to the agreement, but Norway refused to underwrite the process. The project would have been one of the first under the G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. The G8 countries have pledged to raise $20 billion for the program over ten years, with half coming from the United States.
- German protesters failed to seriously disrupt the shipment of 14 containers of spent nuclear fuel across Germany en route to reprocessing plants in Britain and France. Three trains carrying spent fuel rods from five German nuclear power plants arrived safely at the French border. From there, the fuel was to be shipped to the La Hague reprocessing plant, or to Sellafield, in the United Kingdom. Small groups of anti-nuclear protesters managed briefly to stop one of the trains before the protestors were cleared from the tracks.
- South Korea has selected Wido Island, Puan County, to be the site of the country's repository for all radioactive wastes. The southwestern county, which has high-tech aspirations, including hosting a proton accelerator, was the sole bidder among four potentially suitable locations. It will receive $1.7 billion (U.S.) in compensation and aid from the national government. A low- and intermediate-level waste facility is scheduled to be built by 2009 and a 20 000-ton-capacity centralized store for spent fuel by 2016.
- The International Atomic Energy Agency has released a report that dismisses the argument that geologic disposal of long-term spent nuclear fuel should be postponed until a better scientific solution is developed. The report, "The Long-Term Storage of Radioactive Waste: Safety and Sustainability," finds that after several decades of research on the disposal of nuclear wastes, "geologic disposal is the only approach that has gained widespread credibility in the scientific community, and therefore, it is highly unlikely that some completely new idea will be forthcoming." In addition, the report states that it is both unnecessary and fiscally irresponsible to expend further resources on the development of disposal alternatives. The full report is available at http://www.iaea.org/worldatom/.

Appeals Court Upholds Connecticut Yankee ISFSI Ruling

The U.S. Court of Appeals for the Second Circuit in New York City has upheld a lower court's ruling that allowed Connecticut Yankee Atomic Power Co. to build an independent spent fuel storage installation on a site near its decommissioned power plant. The ruling combined several cases contesting a settlement between CY and the town of Haddam, Conn. Because all of the five consolidated appeals came from the related proceedings, the court chose to consider them together.

The cases developed from CY's plan to transfer spent fuel from its spent fuel pool to an ISFSI to be built on plant property less than a mile from the shutdown plant. After the town planning and zoning commission denied CY's application for rezoning the plot of land, the company sued the town for the right to build the facility. A settlement was reached with the town board of selectmen in January 2002. (See "When Good Intentions Meet Strong Resistance: Forging a Path to Dry Fuel Storage at Connecticut Yankee," *Radwaste Solutions,* March/April 2003, p. 46.)

The court also upheld a contempt order and a $171 000 charge for fees and costs against Nancy Burton, an attorney for several area residents and groups opposing the ISFSI, for violating a permanent injunction issued by the federal district court, in connection with appeals she filed after the agreement was reached. A separate U.S. District Court for the District of Connecticut, ruling on a second order of contempt against the attorney, issued an escalating fine of $1000 for each 24-hour period in which she has not withdrawn the documents filed. The court said the

same fine will apply if Burton files any new documents. In addition, the court fined Burton $2500 to compensate CY for attorney fees.

Nebraska Ejected from Central Interstate LLW Compact

Nebraska has been voted out of the Central Interstate Low-Level Waste Compact, which it has belonged to since the compact was approved by Congress in 1985. The other four states in the compact—Arkansas, Kansas, Louisiana, and Oklahoma—also imposed financial and legal sanctions against the state amounting to $125 000. One sanction requires Nebraska not to interfere with the Compact Commission's plans to license and develop a disposal site. Nebraska had already notified the compact of its intention to withdraw from the group.

In a court ruling eights months ago, U.S. District Court Judge Richard Kopf ruled that Nebraska officials acted in bad faith in attempting to halt the licensing and construction of an LLW disposal facility in Boyd County in the state. Kopf ordered the state to pay $151 million in damages to the compact. Nebraska appealed that decision and is awaiting a ruling from the Eighth Circuit Court of Appeals in St. Louis.

A provision in the compact agreement states that if the compact revokes a state's membership, its obligations to host the waste facility continue. Thus, if the revocation sanction is upheld, the commission could still build a disposal site in Nebraska.

High-Level Waste By Any Other Name Is Still High-Level Waste

A federal judge has overturned a U.S. Department of Energy regulation that the department planned to use to reclassify some highly radioactive waste in Idaho, South Carolina, and Washington State as low-level waste, so that it would not have to be permanently removed. Judge B. Lynn Winmill, from the U.S. District Court for the District of Idaho, declared the 1999 DOE rule, known as Order 435.1, "invalid," saying the regulation violated the 1982 Nuclear Waste Policy Act. The court ruling will required the DOE to remove all 85 million gallons of high-level liquid waste now stored in hundreds of tanks in the three states, and process the waste for permanent disposal at a federal HLW repository.

The DOE had planned to remove and treat most of the liquid, but it wanted simpler handling of about 1000 gallons of residual material left in each tank after the rest of the liquid was removed. It planned to mix the waste, which it termed "incidental waste" that can be treated like low-level waste, with grout and leave it in place.

"You can't just call a monkey a turkey and say it doesn't need to be in a cage," said Sheryl Hutchinson of the Washington Department of Ecology, one of the parties to the lawsuit, commenting on the ruling.

For its part, the DOE said the ruling could thwart plans the department has for accelerating cleanup of tank wastes at the sites. The DOE expressed disappointment in the ruling, especially given the fact that the U.S. Nuclear Regulatory Commission had agreed with the DOE plans.

California Officials Ask for Halt to DOE Waste Shipment

A plan to ship transuranic waste from the Nevada Test Site to New Mexico by way of southern California has met with opposition from California officials, the U.S. Department of Energy said. The shipments were to have begun in early July, but have been put on hold because of the state's resistance.

Ironically, the waste originated in California before it was shipped to the Nevada Test Site. From there, it was to be shipped on a 300-mile route through California and Arizona to the Waste Isolation Pilot Plant in New Mexico. The material would have been trucked from the Test Site across the California line, where it would travel 90 miles south on Highway 127 to Baker. There, the shipment was to go southwest on Interstate 15 and travel 65 miles to Barstow before heading east for 140 miles on Interstate 40 into Arizona.

The primary objection was the roundabout route, most particularly the segment along State Highway 127, which California officials say is a former wagon road that was not designed for heavy trucks, is poorly maintained in places, and is popular with tourists heading to Death Valley.

The DOE planned the route to avoid sending the waste through the Las Vegas area. DOE officials said the California route was used 259 times in 2002 and was used this year to carry waste from Lawrence Livermore National Laboratory in California to the Test Site.

This marks the first time that a DOE shipment has been halted because of a state's resistance, a DOE spokesman said. ■