

## Yucca Mountain Updates

- The U.S. Department of Energy will be spending its fiscal 2006 budget of \$450 million for the Yucca Mountain high-level waste repository on license application preparation, science and technology, and improving safety infrastructure, not on license application defense, leading industry experts to conclude that the department does not plan to submit the license application to the U.S. Nuclear Regulatory Commission in fiscal 2006, which ends September 30 of this year. The application was originally to have been submitted by the end of December 2004, but problems with certifying materials to be posted on the NRC's Licensing Support Network (LSN), among other things, have pushed the application back into unknown territory. An additional cause for delay, according to the DOE, has been the department's recent policy shift to operating the repository as a "clean" facility, with no spent fuel handling at the site (see "Headlines," *Radwaste Solutions*, Jan./Feb. 2006, p. 8).
- In late December, the Bureau of Land Management withdrew some 308 000 acres of federal land in Nevada from public use. This land withdrawal prohibits any new drilling or mining claims along a mile-wide, 319-mile-long corridor between Caliente and Yucca Mountain for 10 years, which gives the U.S. Department of Energy time to evaluate the land for the potential construction and operation of a rail line through the state to the high-level waste repository at Yucca Mountain. The rail line would be used to transport spent fuel and government HLW to the repository site. A new cost estimate for the proposed rail line has been put at \$2 billion.
- The peak radiation dose from a high-level waste repository at Yucca Mountain would most likely occur some 125 000 to 150 000 years after the facility closes, the U.S. Nuclear Regulatory Commission has said. Therefore, the agency acknowledged, it would make sense to have a

200 000-year regulatory period for the facility, but the agency maintains that analyses would have to go out to one million years to make sure that a higher radiation release does not occur later. The NRC radiation protection proposal for Yucca Mountain has a one million year regulatory period, as does the Environmental Protection Agency standard it is based on.

- The U.S. Chamber of Commerce has named ensuring adequate Yucca Mountain funding as among its priorities for 2006. The chamber will work with the nuclear industry to get full funding for the repository project, according to the organization's executive vice president for government affairs.

- Nevada's two senators have proposed Senate Bill S.2099, which requires onsite storage of spent nuclear fuel, thereby eliminating the need for

the repository at Yucca Mountain. The proposed legislation, introduced by Sens. Harry Reid (D) and John Ensign (R), would amend the Nuclear Waste Policy Act to require commercial nuclear facilities to transfer spent nuclear fuel into dry storage casks within six years after enactment of the legislation or after the fuel is removed from the reactor, whichever occurs first. The U.S. Department of Energy would be required to take title of all spent fuel now in onsite dry cask storage and also to take responsibility for the spent fuel at reactor sites after it has been transferred to dry cask storage. The state of Nevada and its elected officials, including its two senators, are vehemently opposed to the Yucca Mountain repository.

- In early January, according to press reports, the U.S. Department

of Energy's Office of Civilian Radioactive Waste Management announced plans to reorganize and streamline the Yucca Mountain project. The reorganization will result in a "flatter" organization, according to DOE officials, that will also focus on the transportation plan needed to move spent fuel and high-level waste from its current locations to the Yucca Mountain site. No federal layoffs were planned at the Office of Repository Development sites in either Nevada or Washington, D.C., the DOE said. About 170 federal employees of the project work in Nevada and Washington, D.C. In addition, about 2000 other Yucca Mountain employees work for project contractor Bechtel SAIC Co., as well as four national laboratories and a few other companies.

## DOE Cancels Procurement for FFTF Cleanup

Citing higher priority cleanup work at the Hanford site, in late December the U.S. Department of Energy notified three affected offerors that it is canceling the solicitation of work for the Fast Flux Test Facility (FFTF) cleanup at Hanford. Original proposals for the work at FFTF were received in February 2004; an award was made to SEC Closure Alliance in September 2004, but a protest of the award by an unsuccessful bidder was upheld by the Government Accountability Office, and revised proposals were submitted to the DOE in June 2005.

The deactivation work currently under way at the FFTF, including cleaning and removing fuel, draining liquid sodium from the facility's coolant and storage systems, and shutting down all remaining systems, will be completed by the current contractor, Fluor Hanford, and the facility will transition to a surveillance and maintenance

mode. The DOE expects the remaining deactivation work to be completed by the end of 2006.

"Given the current budget constraints, we had to take a hard look at where we are with this project compared to the higher priority work remaining to be done at Hanford," said James Rispoli, DOE assistant secretary for Environmental Management. "We will focus on completing the key risk reduction activities at FFTF over the next year and placing the facility in a long-term low-cost surveillance and maintenance mode—freeing up critical funding to invest in higher priority work at Hanford in the years ahead."

## D&D Progress Reports

- On December 30, the last fuel element was removed from the Bradwell-2 nuclear power reactor in the United Kingdom, marking the completion of reactor defueling three months early. The 33-month defueling program began in March 2003, after the unit shut down in March 2002.

Defueling of Unit 1 at the Bradwell plant was completed in mid-September 2005. Staff at the plant will now begin to concentrate on sending fuel stored in the site's pools to the reprocessing plant at Sellafield. In addition, verification checks to confirm that all fuel has been removed have to be completed and verified by the U.K. Nuclear Installations Inspectorate. These checks should be completed by mid-2006. Once all nuclear fuel has been removed, 99 percent of the radioactivity at the site will be gone as well.

● BNG America Savannah River Corp. has successfully completed shipping more than 5.5 million pounds of contaminated soils and debris from the TNX Closure Project at the U.S. Department of Energy's Savannah River Site for permanent disposal offsite. The cleanup work and shipping campaign involved the use of 123 waste containers and 21 railcars and occurred over a five-month period, beginning in July 2005 and concluding in December. The TNX facility was first used in the 1950s as a research and development facility to demonstrate and test equipment and systems in support of key SRS missions. The cleanup and shipment of this waste offsite allows TNX to prepare for capping.

● The U.K. Atomic Energy Authority has completed decommissioning of the Zebra research reactor at the Winfrith site. Zebra, the Zero Energy Breeder Reactor Assembly, served to simulate the properties of fast reactor cores. The reactor was shut down in 1982; it was placed under care and maintenance from 1989 to 2001, when decommissioning and dismantlement began.

● Cleanup of the Rocky Flats Site is complete, the U.S. Department of Energy certified in December. In 2006, the DOE said, it will transfer most of the site property to the Interior Department for use as a national wildlife refuge.

● In December, the U.K. Nuclear Installations Inspectorate formally cleared the implementation of the Post Operation Safety Case for the United Kingdom's Chapelcross power station, which marks the true start of decommissioning work at the site. Modifying safety equipment on the site to develop the safety case required a team of 20 people working on the project full time for two years, with up to 100 people involved during the peak period of work. Major steps ahead include emptying the fuel storage pools and defueling the reactors, demolishing the

cooling towers, and removing the huge heat exchangers that stand at the corners of each reactor building. The first of the Chapelcross units started operation in 1959. Electricity production at the site formally ended in June 2004.

### Homeland Security Dept. Issues RDD, IND Protective Action Guides

The Department of Homeland Security (DHS) on January 3 published its draft guidelines for responses to radiological dispersion device (RDD or “dirty bomb”) and improvised nuclear device (IND) incidents. The protective action guides (PAGs) provide recommendations to assist federal officials dealing with the consequences and cleanup and restoration efforts.

An RDD spreads radioactive material through the detonation of a conventional explosive. An IND is a crudely fabricated nuclear weapon or a nuclear weapon stolen or illicitly purchased from a nuclear state.

The guide divides the response to an RDD or IND incident into three phases. In phase one, the Early Phase,

the protective action guide is 5 rem (or greater—up to 25 rem—under extraordinary circumstances) for emergency worker exposure, and 1 to 5 rem for sheltering and evacuation of public.

In the Intermediate Phase, which could be hours or days later, during which officials begin to work on such items as restoring infrastructure and recovering from the incident, worker exposure is limited to 5 rem/year, while those members of the public who are relocated should not be exposed to more than 2 rem the first year, and 500 millirem thereafter. The food and drinking interdiction level is 500 mrem/yr.

In the Late Phase, characterized by cleanup actions, the DHS did not recommend pre-established numeric guidelines, but instead recommended an “optimized” approach whereby officials consider the societal objectives for expected land uses and approaches available, with input from stakeholders.

The guides were published in the January 3, 2006, *Federal Register*. Comments are due by March 6, 2006. The guide can be viewed on the Internet at [wais.access.gpo.gov](http://wais.access.gpo.gov).

## Supreme Court Rejects Utah Request on PFS Case; ACHP Says Facility will not Harm Historical Properties

Private Fuel Storage LLC (PFS), a utility consortium attempting to license and build an away-from-reactor spent fuel storage installation in the Utah desert, moved closer at the beginning of the year to receiving its license from the U.S. Nuclear Regulatory Commission.

In December, the U.S. Supreme Court rejected a request by the state of Utah to review a ruling by the 10th U.S. Circuit Court of Appeals striking down several state laws that had been passed to prevent the PFS facility from being constructed. The appeals court had said the laws were preempted by the Atomic Energy Act, and that the federal government, not states, has jurisdiction over nuclear safety.

In early January, the Advisory Council on Historic Preservation (ACHP) said in a letter to the NRC that the PFS's proposed rail spur would not harm eight historical properties because the company had a plan to minimize any adverse impacts. The ACHP added that the NRC

should require PFS to protect any additional historical sites that might be discovered during construction of the rail line. The NRC had been waiting for the ACHP comments before issuing the facility's construction and operation license.

## International Briefs

- The International Atomic Energy Agency released a report on the financial aspects of decommissioning in November. The report was prepared by an international expert committee. It contains recommendations on cost estimating and on short- and long-term planning for decommissioning of nuclear power plants, government facilities, and commercial facilities. It can be accessed on the Internet at [http://www-pub.iaea.org/MTCD/publications/PDF/te\\_1476\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/te_1476_web.pdf).
- The Japan Atomic Energy Agency has begun construction of the underground shafts and galleries at the Horonobe Underground Research Centre in Hokkaido. The facility, researching disposal of high-level waste in

sedimentary rocks, has been under development since 2000. A similar facility, the Mizunami Underground Research Laboratory, in Gifu Prefecture, is studying disposal in igneous rock.

- The Korean city of Gyeongju (population around 300 000) can expect to see benefits greatly in excess of 300 billion won (around \$300 million) for hosting the country's repository for low- and medium-level waste, according to officials involved in the site search. Some critics in both government and industry are expressing the fear that the decision to award such a high benefit to a community for an LLW/MLW disposal site bodes ill for siting a spent fuel repository in the future. They fear the cost to taxpayers for local benefits for the spent fuel repository will be expected to be even greater, and therefore prohibitively expensive.

- The first fuel assembly was removed from the Chernobyl-3 core in early December, but the internationally funded project to build a long-term spent fuel storage facility at the Chernobyl site is still the subject of a cost dispute between contractor Framatome ANP and the plant management at the site. The dispute centers

around some heavily damaged fuel that Framatome maintains will require additional funds for handling. For now, the Unit 3 spent fuel will be moved to an old pool storage facility onsite, which has been reracked to make room for the fuel.

- Russia will complete the dismantling of its decommissioned nuclear submarines by 2010 if the current level of state funding is maintained, according to the head of Russia's Atomic Energy Agency (Rosatom), Victor Akhunov, speaking in late December. He said that 126 of 196 submarines have been dismantled so far, and dismantlement of 18 more has been funded for 2006.

- France has established a high-level committee for economic accompaniment for a potential high-level waste repository at Bure. The committee is to coordinate initiatives for economic development around the Bure site, which lies in a rural area east of Paris. Membership in the committee includes heads of the country's major nuclear waste producers (Electricité de France, Areva, and the Commissariat à l'Energie Atomique) plus Andra (the country's waste agency) and a regional development agency. ■