

Sproat Outlines 2008 Yucca Mountain Activities, Future Funding Needs

According to Ward Sproat, director of the U.S. Department of Energy's Office of Civilian Radioactive Waste Management, in fiscal 2008, the DOE will:

- Certify the Licensing Support Network in accordance with U.S. Nuclear Regulatory Commission requirements and regulations.
- Complete the Regulatory Supplemental Environmental Impact Statement.
- Submit the License Application for construction authorization to the NRC by June 2008 and begin its defense (even if the U.S. Environmental Protection Agency has not finalized its radiation protection standard by then).

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- Design the Transportation, Aging and Disposal (TAD) canisters to be used by industry to package and ship spent fuel to the repository.
- Deliver the report to Congress required by the Nuclear Waste Policy Act on the need for a second repository.
- Resolve comments and issue the final environmental impact statement for the Nevada Rail Line, which is required to transport spent fuel to the repository.

The current funding levels are insufficient to build the repository and the transportation system, said Sproat, speaking at congressional hearings in early October, with the shortfall estimated at between \$1 billion and \$1.5 billion per year, and "funding from the annual Nuclear Waste Fund fees alone at the current 1 mill per kilowatt-hour level will not be sufficient to fund the program at the required levels." Sproat said annual funding levels will need to be two to three times the current appropriations starting in fiscal 2009.

According to Sproat's testimony, the program has spent \$11 billion in 2000 constant dollars since 1983. The 2001 total life cycle cost estimate for the program was \$57.5 billion in 2002 constant dollars, which includes costs already incurred. The program expects to release a revised total life cycle cost estimate "shortly." This estimate will in-

clude costs for accepting approximately 30 percent more spent fuel into the system, and will estimate costs through the repository's closing in year 2133.

DOE Issues Draft SEIS Statements on Yucca Mountain Project

In early October, the U.S. Department of Energy issued three draft environmental impact statements related to the Yucca Mountain Project:

- Draft Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada (a supplement to the YM Final EIS issued in 2002).
- Draft Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada—Nevada Rail Transportation Corridor (considers the potential environmental impacts of transport along the Mina corridor, which was analyzed in response to public comments, and updates the information and analysis for other Nevada rail corridors evaluated in the YM Final EIS).
- Draft Environmental Impact Statement for a Rail Alignment for the Construction and Operation of a Railroad in Nevada to a Geologic Repository at Yucca Mountain, Nye County, Nevada (evaluates the potential environmental impacts of constructing and operating a railroad along specific alignments for both the Mina and Caliente corridors, although Caliente is the DOE's preferred corridor).

The documents are available at the Yucca Mountain website, www.ocrwm.doe.gov.

Connecticut Yankee Decommissioning Completed

The Connecticut Yankee nuclear power plant has completed decommissioning work and has been granted its license termination (LT) by the U.S. Nuclear Regulatory Commission. With the exception of the independent spent fuel storage installation, the site has been released for unrestricted public use. No decisions have yet been made on future uses for the site, although the local town and the state have reportedly expressed interest in acquiring some

or all of the woodland site along the Connecticut River for open space and recreational use.

NAS: Focus on New Reactors, not GNEP

The National Academies of Science's National Research Council has released a report urging the U.S. Department of Energy to assign the highest priority to facilitating the startup of new commercial nuclear power plants rather than proceeding at its current pace to implement President Bush's Global Nuclear Energy Partnership (GNEP) program. The report stated that the technologies required for achieving GNEP's goal of sharing nuclear fuel with

partner nations and reprocessing spent fuel and burning it in advanced burner reactors is too early in the development phase to justify the DOE's accelerated schedule for construction of commercial facilities. The 144-page report, "Review of DOE's Nuclear Energy Research and Development Program," proposes that the DOE's Office of Nuclear Energy place a greater emphasis on the Nuclear Power 2010 program, key components of which include identifying sites for new nuclear power plants, completing the design engineering of advanced light water reactors, and assisting the U.S. Nuclear Regulatory Commission in its efforts to grant both construction and operating licenses in one action.

DOE Assistant Secretary for Nuclear Energy Dennis Spurgeon disagreed with the report. As he noted: "The re-

port errantly assumes that DOE has pre-selected the separations technologies to be deployed and the scale of the facilities to be built. A series of critical findings are based on these incorrect premises.” He went on to acknowledge that “fast reactor recycle will take many decades to fully implement.”

The report can be found in the Internet at www.nas.edu/morenews/20071029.html. Assistant Secretary Spurgeons's remarks can be found at www.doe.gov/news/5670.htm.

- In other GNEP news, in November Italy became the 17th member of the partnership, and Canada and South Korea joined in December.

NRC Issues Proposed Rule on Decommissioning Planning; Other Regulatory News

The U.S. Nuclear Regulatory Commission has issued a proposed rule on decommissioning planning, in an effort to “reduce the likelihood that facilities under its jurisdiction will become legacy sites.”

To achieve this goal, one set of complimentary amendments has been proposed that would revise 10CFR20.1406 to make it applicable to licensees with operating facilities as well as to license applicants, and revise 10CFR20.1502(a) by replacing its undefined term “radioactive material” with “residual radioactivity,” a term already defined in 10CFR20. This defined term includes subsurface contamination within its scope. These changes are consistent with NRC policy that licensees conduct operations to minimize the generation of waste, to facilitate later facility decommissioning.

A second set of proposed changes to improve decommissioning planning addresses decommissioning financial assurance requirements.

The proposed rule can be found at www.nrc.gov/reading-em/doc-collections/commission/secys/2007/secy2007-0177/2007-0177scy.pdf.

- The launch of the U.S. Nuclear Regulatory Commission's National Source Tracking System will be delayed more than a year, the NRC announced in October. The new reporting deadline for initial inventory and for new transactions involving both Category 1 and Category 2 radioactive sources is January 31, 2009 (pushed back from the original dates in November 2007). Category 1 sources are those contained in radiothermal generators, irradiators, and teletherapy devices; Category 2 sources are found in industrial radiography devices or high-dose-rate brachytherapy devices. The delay was attributed to “emergent security issues.”

Xcel Energy, Entergy Arkansas Awarded Damages over Spent Fuel Contracts

Add Xcel Energy and Entergy Arkansas to the list of utilities that have successfully sued the U.S. Department of Energy over the DOE's failure to take title to spent nuclear fuel by a 1998 contract date.

Xcel Energy had sought roughly \$172 million from the DOE related to costs associated with spent fuel storage at the two-unit Prairie Island station and the single-unit Monticello plant between January 31, 1998 (the contract date) and December 31, 2004. On September 26, the U.S. Court of Federal Claims awarded the utility the \$24.7 million it actually spent on the development and licensing of the Private Fuel Storage away-from-reactor storage facility in Utah, plus the \$23.1 million spent to develop biomass energy production. (The Minnesota legislature had required Xcel Energy predecessor company Northern States Power Co. to develop and construct alternative energy generation in exchange for authorization for additional spent fuel storage capacity.) The court excluded the nearly \$55 million the utility sought for security upgrades and for the cost of capital.

In October, the court awarded Entergy Arkansas some \$48.6 million for spent fuel costs incurred at the Arkansas Nuclear One plant from the DOE contract breach date through June 30, 2006.

Operations Resume at SRS's Saltstone Facilities

Operations have resumed at the Savannah River Site's Saltstone Processing and Disposal Facilities, an important step toward the closure of additional radioactive waste tanks at the site. To date, SRS is the one site within the DOE complex to have processed and permanently dispositioned salt solutions removed from waste tanks, and more than 100 000 gallons of low-activity salt solution had been processed by March 2007. Further processing of the low-activity salt waste was suspended, however, due to an appeal of the modified permit needed to operate the facilities. In August, a settlement agreement was reached, allowing operations to resume.

Saltstone consists of two facility segments: the Saltstone Production Facility and the Saltstone Disposal Facility. Operations began in June 1990, and since that time the facilities have operated on an intermittent, as-needed basis to immobilize and dispose of low-activity liquid waste from the Effluent Treatment Project and from H Canyon.

In the future, waste from other facilities will be treated. The facilities will remain in operation until the opening of the Salt Waste Processing Facility, which is under construction.

International Briefs

- Active testing began last November in the radioactive waste vitrification line at the Japan Nuclear Fuels (JNFL) Rokkasho reprocessing plant. Active testing in other sections of the plant began nearly two years ago. The facility is expected to begin full operations in February. JNFL is also in the process of developing a neighboring facility to produce mixed oxide (MOX) fuel using the reprocessed uranium and plutonium. Completion of that plant is expected in 2012. Historically, Japanese utilities have contracted with British and French companies to undertake reprocessing of Japanese spent fuel. French company Areva cooperated with JNFL to build the Rokkasho facility based on its own La Hague plant.
- The International Atomic Energy Agency is conducting an onsite peer review of South Korea's planned low- and intermediate-level waste repository, to be located in Gyeongju in North Gyeongsang province. The design concept for the facility is based on underground silos located deeper than 80 meters below sea level. The concept largely precludes human intrusion as a safety issue, and the safety case and supporting safety assessment gives prominence to evaluating the possible migration of radionuclides by waterborne pathways. As such, the suitability of hydrogeological modeling of the site and related items described in the safety analysis report will be a major focus of the IAEA review. Construction of the first phase of the repository is expected to be completed by the end of 2009.
- The United Kingdom Atomic Energy Authority will be spending nearly £25 million (more than \$52 million) to recover hot particles from the land, beaches, and ocean floor close to Dounreay over the next several years. The particles were released between 1963 and 1984, and since 1983, more than 1400 have been found near the reprocessing complex on the Scottish coast. The UKAEA has been involved in studies, monitoring activities, fragment mapping surveys, and public consultations on cleaning up the particles, which are about the size of a grain of sand and are high in cesium-137.
- Officials from the Swedish communities of Oskarshamn and Oesthammar, which are being considered for hosting a spent fuel repository in Sweden, said that discussions on financial compensation for the host commu-

nity need to begin now rather than later. They also expressed the desire to bring the decision process to a quick end. The Swedish National Fuel and Waste Management Co. (SKB) hopes to make a final decision on the site for the repository in 2009.

- The Materials Test Reactor fuel pond at Dounreay has been drained, the latest step in the decommissioning of the pool, the United Kingdom Atomic Energy Authority announced in early November. The pond was used from 1964 to 2001 to store fuel from materials test reactors from around the world. Final decommissioning work, including cutting up and removing the stainless steel pond liner, is expected to be completed by the end of March 2008.

- The United Kingdom's Committee on Radioactive Waste Management (CoRWM) has been reformed to study plans for the long-term management of the country's radioactive wastes. The new CoRWM, composed of 12 experts from the geoscience, radiological protection, environmental science, law, waste immobilization, and strategy and local planning areas, will examine plans proposed by the U.K. government and the Nuclear Decommissioning Authority regarding a long-term underground disposal facility for intermediate- and high-level radioactive wastes, as well as plans for storage of the materials in an above-ground facility until the final disposal facility is ready.

- Russian President Vladimir Putin has ratified the law authorizing the formation of a revitalized Rosatom. Rosatom, with the same name as the existing Federal Atomic Energy Agency, will be a high-level state corporation that will assume many of the roles currently held by the existing Rosatom agency, including overseeing the country's commercial nuclear power industry as well as the extensive military complex, and will control some scientific organizations and nuclear safety and radiation authorities as well. Its existence as a state corporation will provide greater access to funding from the federal budget. The old Rosatom had been handicapped by its relatively low status in the political system.

- Lithuania has approved a site for a near-surface disposal facility for short-lived low- and intermediate-level radioactive waste. The site, at Stabatiske in the Visaginas Municipality, is located a short distance from the Ignalina nuclear power station. Design work on the disposal facility should begin this year, with construction starting in 2012, and operations scheduled to start in 2015.

- The United Kingdom expects to spend about £8.5 billion (\$17.4 billion) dismantling old nuclear power and research facilities between 2008 and 2011, according to a plan released in November. The bulk of the spending will go to clean up and decommission several facilities at the Sellafield and Dounreay sites. ■