

## Obama Budget Limits Work at Yucca Mountain

President Obama has made good on his campaign promise to stop work on the Yucca Mountain project. Under the budget blueprint released by the Obama administration in February, the Yucca Mountain program will be “scaled back to those costs necessary to answer inquiries from the U.S. Nuclear Regulatory Commission, while the administration devises a new strategy toward nuclear waste disposal.” According to most industry experts, this means that the Yucca Mountain project, which would have disposed of the nation’s spent nuclear fuel and high-level defense waste in a deep geological repository located in the Nevada desert, is effectively dead.

The administration cannot actually kill the project directly. Yucca Mountain was being developed under the terms of the Nuclear Waste Policy Act of 1982 (and subsequent amendments made in 1987) which mandate the development of such a repository for disposal of the nation’s spent fuel and HLW. Absent legislation that specifically cancels the project, it must, by law, continue to exist. However, there is no law that demands that the project be *funded*, and that is the route the administration is currently taking—cutting funding to the point that the only staffers left are those necessary for responding to NRC requests for additional information.

One of the proposals being discussed is appointing a “blue ribbon” commission to investigate long-term options for the management of spent fuel and HLW. Options under consideration include establishing one or more centralized spent fuel storage centers and instituting spent fuel reprocessing. In early April, Senate Majority Leader Harry Reid (D-Nev.) stated that the commission will be convened by Energy Secretary Steven Chu, not Congress.

● In the wake of work stoppage at Yucca Mountain, the legislatures of several states with nuclear power plants are considering stopping or reducing payments to the federal Nuclear Waste Fund (a fund raised by a 1 mill/kilowatt-hour tax on nuclear-generated electricity, paid by the ratepayers). In early April, Maine legislators passed a resolution asking the federal government to reduce fees paid by electricity customers for managing spent fuel. The resolution also calls for the establishment of two federally licensed interim storage facilities to take possession of the spent fuel, and the creation of a panel to assess long-term prospects for handling military and civilian nuclear waste. Maine has no operating nuclear power plants, but has one decommissioned plant, Maine Yankee, which is currently storing its spent fuel on the plant site.

In Minnesota, legislation has been introduced that would hold Minnesota waste fee payments in escrow until the DOE “can show that a federal repository is operating and currently accepting such material.” Minnesota

contributes some \$13 million per year to the waste fund. Michigan is also considering a bill to establish a nuclear waste escrow account, as well as a resolution supporting operation of Yucca Mountain. South Carolina has also proposed a resolution supporting the qualification of a repository at Yucca Mountain. In addition to commercial nuclear power plants, South Carolina is home to the Savannah River Site, a major DOE nuclear reservation.

● On the national level, Sen. Lindsey Graham (R-S.C.) has proposed the Rebating America’s Deposits Act in the Senate. The bill specifies that within 30 days of its passage, the president would have to either confirm that Yucca Mountain remains the preferred choice for spent fuel and HLW disposal or begin to rebate all funds currently in the Nuclear Waste Fund. Graham’s plan would also authorize annual payments starting in 2017 of up to \$100 million to states holding military wastes (South Carolina, home of the Savannah River Site, would benefit from this provision).

● Also at the national level, at the end of April, 17 Republican senators sent a letter to Energy Secretary Steven Chu asking why Yucca Mountain is no longer an option for waste disposal. The letter asks the reasons for Chu’s “not an option” comment, as well as the legal basis for that decision and whether new research has come up that discredits all the research that came before on Yucca. The letter reminds Chu that he, as head of the Lawrence Berkeley National Laboratory, signed an August 2008 letter on the essential role of nuclear energy, which advocated continuing the licensing of a geologic repository at Yucca Mountain.

● A majority of U.S. citizens support recycling and reprocessing of spent fuel, according to a survey, released in March, conducted by Bisconti Research and GfK NOP on behalf of the Nuclear Energy Institute. The survey found that 84 percent of respondents thought that nuclear energy will be important in meeting the nation’s future energy needs; that 89 percent thought a panel of experts should be established to advise the president and Congress on managing the country’s nuclear waste; that 77 percent thought the country should continue to develop the Yucca Mountain project as long as it meets federal regulations; and that 83 percent of respondents said they supported U.S. plans to recycle spent fuel to generate more electricity and to reduce the amount of waste that must be disposed of. Only 13 percent were opposed to this plan. The survey also found that 62 percent of people surveyed agreed that the U.S. should definitely construct more nuclear power plants, while 34 percent were opposed to more plants. These numbers agree closely with those of a survey by the Gallup polling organization, which found

that 59 percent of Americans favored the use of nuclear energy as a means of generating electricity. This, Gallup said, is the highest level of support ever found in its polls.

● The NRC is not counting on Yucca Mountain being successful, according to NRC Chairman Dale Klein, speaking before a Senate Energy and Natural Resources Committee in mid-March. Klein said the agency does not expect the project to move forward—even though the NRC is currently conducting the licensing of the project. Klein's comments also will not likely have any effect on the NRC's waste confidence rule, which is central to the agency's issuing operating licenses for new nuclear power reactors and renewing the licenses of currently operating plants. The proposed revised waste confidence rule, which states that the agency is confident that a repository will be available 50 to 60 years after reactor operating licenses expire, already takes into account the possibility that Yucca Mountain will not operate any time soon, if ever, according to an NRC spokesman.

### Stimulus Act Provides \$6 Billion for DOE Environmental Management Office

Some \$6 billion in new funding under the American Recovery and Reinvestment Act (sometimes known as the Stimulus Package) will be targeted toward environmental cleanup work, in the process creating thousands of jobs in 12 states, according to Energy Secretary Steven Chu. This money is over and above the annual appropriations for DOE cleanup work contained in the congressional budget resolutions. Projects identified for funding will focus on accelerating cleanup of soil and groundwater, transportation and disposal of waste, and cleaning and demolishing former weapons complex facilities. These projects and the new funding are being managed by the U.S. Department of Energy's Office of Environmental Management.

The states and DOE sites that will receive this funding include the following:

- Washington (total funding \$1.961 billion): The Richland Operations Office (which oversees cleanup work at the Hanford site) will receive \$1.635 billion, while the Office of River Protection (which is responsible for Hanford the tank farms and for efforts to vitrify the high-level waste in the tanks) will receive \$326 million.
- South Carolina (\$1.615 billion) for decontamination and decommissioning work at the Savannah River Site.
- Tennessee (\$775 million) for D&D work at the East Tennessee Technology Park, Oak Ridge National Laboratory, and the Y-12 site.
- Idaho (\$468 million) for D&D work at the Idaho National Laboratory.
- New Mexico (total funding \$384 million), including

\$172 million for acceleration of transuranic waste preparation and shipments to the Waste Isolation Pilot Plant and \$212 million for D&D work at Los Alamos National Laboratory.

- New York (total funding \$148 million), including \$42 million for D&D work at Brookhaven National Laboratory, \$32 million for the Separations Process Research Unit cleanup, and \$74 million for work at West Valley.
- Ohio (total funding \$138 million), including \$20 million for remediation work at Miamisburg and \$118 million for D&D work at Portsmouth.
- Utah (\$108 million), for uranium mill tailings cleanup at Moab.
- Illinois (\$99 million) for D&D and waste cleanout activities several years early at Argonne National Laboratory.
- Kentucky (\$79 million) for D&D work at Paducah.
- California (total funding \$62 million), including \$54 million for radiological assessments at ETEC, and \$8 million for contaminated soil cleanup at the Stanford Linear Accelerator Center.
- Nevada (\$44 million) for D&D work at the Nevada Test Site.
- Multiple States (\$69 million) for Uranium Thorium Payments and Statutory Reimbursement.
- Management & Oversight/Reserve at Headquarters and Sites (\$70 million).

### DOE Inspector General Questions DU Disposal Plans

The U.S. Department of Energy's Office of the Inspector General (IG) has found that the department is not doing enough to find uses for the depleted uranium (DU) remaining from uranium enrichment activities and should do more to avoid having to treat the entire inventory as waste.

The DOE has an inventory of some 700 000 tonnes of uranium hexafluoride tailings and is currently converting it back to an oxide form. In the past, some of this material has been used to blend down highly enriched uranium from decommissioned nuclear weapons for use in nuclear power plant fuel. Other uses have been as radiation shielding material (its high density makes it a more effective shield than lead). The IG report says that the DOE has not adequately followed through on promising potential applications, and instead plans to dispose of the material as low-level waste.

The DOE maintains that there is little commercial interest in the DU, so further investigation is not warranted. However, with DOE plants currently being built to carry out the reconversion in Paducah and Portsmouth, the department said it is willing to reassess the situation. An expression of interest will be issued in early 2010 to gauge industry interest in the uses of DU, the DOE said.

## D&D Updates

- The first M2 flask of fuel containing 116 fuel elements from the United Kingdom's four Chapelcross reactors left the site in early April, headed for reprocessing at Sellafield. Over the next three years, between 270 and 300 flasks will embark on a similar journey until all 38 075 fuel elements are removed from the Chapelcross reactors. Chapelcross is one of 10 Magnox sites in the U.K. at various stages in their operations lifecycle, being managed by EnergySolutions on behalf of the owner, the U.K. Nuclear Decommissioning Authority.

- At the U.S. Department of Energy's Savannah River Site, the cleanup of Tank 18, with a capacity of 1.3 million gallons, was nearing completion in early April. The majority of the final 6700 gallons of residual waste remaining at the bottom of the tank after conventional cleanout efforts has been removed with the aid of a robotic device, the Sand Mantis. The 8-foot-long, 800-pound Sand Mantis removes the waste through a water-jet system that transfers the waste to a milling machine and grinds it into smaller particles that can easily be removed for future processing and treatment.

Also at Savannah River, another robotic device, the wall crawler, is being used to clean tank annulus space and tank walls. The waste tanks that have an annulus are built to have a cup-and-saucer arrangement, with the annulus area serving as the saucer with five-ft-high concrete walls. Over time, some waste leaked from the tanks into the annulus, where it was trapped, because the annulus serves as a barrier to keep the waste from the environment. The annulus and tank wall cleaning is taking place on Tank 6, and will move over to Tank 5 once the first tank is finished.

- At the Hanford Site in Washington state, workers have begun demolishing and excavating the K East Basin, a million-gallon concrete basin that once held more than 1100 tons of uranium metal fuel rods, as well as radioactive sludge. Workers finished removing the fuel from the basin in 2004; the sludge was removed in 2007; and the K East Basin superstructure—the concrete walls and roof above the basin—was demolished in 2008. Removing the basin will give workers access to contaminated soil under the basin later this year. The excavation work is expected to be completed in July.

Also at Hanford, tests have begun at the Pretreatment Engineering Platform (PEP) to check how efficiently the site's \$12.2 billion vitrification plant will be able to separate radioactive waste into low-activity and high-level radioactive waste streams prior to treatment. The goal of the tests is to discover any problems that might occur at the vitrification plant's Pretreatment Facility and correct them through testing processes before the plant begins operations in 2019. The \$30 million PEP facility is the size of a basketball court and two levels high. It was assembled inside a building on the Pacific Northwest National Laboratory campus in 2008.

## Legislation Filed to Stop Disposal of Foreign-Origin Waste in the U.S.

In January, legislation was introduced into the U.S. House and Senate that would prohibit the importation of low-level radioactive waste into the United States. The bills are a reaction to the contract under which EnergySolutions would process and dispose of about 20 000 tonnes of low-level waste from Italy. The move comes after a long battle between EnergySolutions and various local officials unhappy about this contract, even though EnergySolutions and its predecessor company, Envirocare of Utah, had disposed of foreign-origin waste with little or no opposition in the past.

The House legislation, H.R. 515, the "Radioactive Import Deterrence Act," was sponsored by Rep. Bart Gordon (D-Tenn.) and 30-some co-sponsors. The Senate bill, S.232, with the same title, introduced by Sen. Lamar Alexander (R-Tenn.), was read twice and referred to the Committee on Environment and Public Works.

## International Briefs

- The U.K. Nuclear Decommissioning Authority has outlined its spending forecasts for fiscal 2011. The agency expects to spend £2.88 billion (\$4.28 billion) on dismantling legacy nuclear facilities from the U.K.'s national program to develop nuclear power. The funding comes from the U.K. government, but a large portion of that will be repaid to the government from the commercial income from some of the NDA's properties. The NDA's fiscal 2009 income is expected to reach £1.34 billion (\$1.98 billion), so the government's share will be £1.54 billion (\$2.26 billion). Figures for fiscal 2009 spending are £2.79 billion, with £1.15 billion from operations and £1.63 billion from the government; in fiscal 2010, spending is estimated to reach £2.77 billion, with £1.06 billion from operations and £1.71 from the government.

- Fourteen European countries have resolved to set up a European Repository Development Organization (ERDO) to collaborate on nuclear waste disposal. The countries backing the proposal are Austria, Bulgaria, the Czech Republic, Denmark, Estonia, Ireland, Italy, Latvia, Lithuania, the Netherlands, Poland, Romania, Slovakia, and Slovenia. The proposal results from the European Community-sponsored SAPIERR Project, which considered organizational and legal issues, economic impacts, safety and security considerations, and public and political attitudes to multinational repositories. The ERDO proposal will involve forming a consensus on what the ERDO should look like, using the SAPIERR findings as a starting point. This model will then be presented to potentially interested countries in about two years.

## Industry news ▼

- The United Kingdom has set up the Nuclear Liabilities Financing Assurance Board to provide assurance that appropriate financial arrangements to meet the costs of decommissioning and waste management are being put in place by the operators of any new nuclear power stations built in England, Wales, or Northern Ireland. The board, chaired by Lady Balfour of Burleigh, includes an attorney, a fund manager, an environmentalist, an economist, an actuary, and a nuclear engineer. Among the duties of the board will be deciding the amount of a surcharge on nuclear-generated electricity to fund the decommissioning and waste management costs.
- The head of Germany's Federal Ministry of Environmental and Nuclear Safety (BMU), Sigmar Gabriel, has said that German power reactor owners should pay a 1 euro-cent per kilowatt-hour surcharge on the nuclear fuel they burn to cover the cost of decommissioning two discontinued low- and intermediate-level radioactive waste repositories at Asse and Morsleben. Decommissioning both facilities is estimated to cost at least €4.2 billion (\$5.5 billion). Reactor owners are opposed to the proposal, asserting that the tax violates the nuclear power phase-out agreement between generators and the government. Most observers feel there is little chance that BMU can introduce legislation and get it passed before the national election scheduled for late September.
- The Swedish radioactive waste management organization, SKB, has drawn up a cooperation deal worth \$240 million for Oskarshamn and Östhammar, the two communities in the running to host the Swedish high-level waste repository. The final choice is expected to be made this summer. About 25 percent of the funds would go to the community chosen to host the waste facility, with the rest going to the other region. About 20 percent of the funds would be spent between 2010 and 2015, with the remainder coming over the several decades of repository operation. In addition to this money, the host region would benefit from infrastructure upgrades, an influx of spending during construction and operations, and a long-standing supply of high-quality local jobs. ■