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Exchange Monitor

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The National Nuclear Security Administration is finalizing a record of decision announcing its intent to prepare 6 metric tons of excess plutonium

Upcoming Events

March 2016

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New Mexico Site Specific
Advisory Board (NMSSAB)
Meeting
1:15 PM MST

August 2016

9-10

Third Annual
Intermountain
Energy Summit
Idaho Falls, ID
[Visit website.](#)

September 2016

14-15

DOE National Cleanup
Workshop
Hilton Alexandria Mark
Center
Alexandria, VA
[Visit website.](#)

stored at the Savannah River Site in South Carolina for eventual disposal at the Waste Isolation Pilot Plant in New Mexico, agency chief Frank Klotz said this week.

Downblending and shipments of large amounts of plutonium could begin in the mid-2020s, based on the Department of Energy's plans to ramp up its processing capacity at Savannah River in coming years, Klotz said during a budget hearing Wednesday before the Senate Appropriations Energy and Water Development Subcommittee. Specifically, the agency expects by that time to have installed two additional glove boxes that would boost the site's plutonium dilution capabilities to over 1 metric ton annually.

After dealing with the initial cache of plutonium, NNSA could start processing 34 metric tons of U.S. plutonium that must be disposed of under a U.S.-Russian agreement finalized in 2010. Seven metric tons of that material is also at Savannah River, with the rest largely held at the Pantex Plant in Texas.

This material was to have been turned into fuel for nuclear reactors at the Mixed Oxide Fuel Fabrication Facility being built at SRS, but the Obama administration's fiscal 2017 budget plan calls for halting the MOX project in favor of a "dilution and disposal" method in which the plutonium is mixed with an inert material. Klotz said dilution of all the plutonium would likely occur at the Savannah River Site, after which it would be sent to WIPP.

Klotz said three DOE-mandated studies in the past year have found that the MOX program could cost \$30 billion to \$50 billion over its lifetime, and would need \$800 million to \$1 billion in annual funding for decades to advance its goal. Conversion into MOX fuel would not begin until the 2040s, and only then if Congress appropriates \$1 billion in annual funding to establish the project, the retired Air Force general said.

He agreed with subcommittee Chairman Lamar Alexander's (R-Tenn.) statement that the replacement system could save \$500 million or more per year and expedite the schedule. Klotz also noted that the downblending

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method has already been used for nearly 5 metric tons of plutonium that was then sent to WIPP.

“We have done it before, we understand how to do that process,” he said.

As he has in other recent hearings, Sen. Lindsey Graham (R-S.C.) lashed the Department of Energy’s plan to kill the sizable MOX program in midstream. In a brief face-off with Klotz, he noted the \$5 billion already spent on the conversion facility, wondered what would be done with the unfinished plant, and forced the NNSA chief to acknowledge that DOE does not yet have statutory authority to downblend and ship the 27 metric tons of plutonium now at Pantex that is covered under the U.S.-Russian deal. He was particularly critical of the department for changing direction on plutonium processing before securing Russia’s agreement to revise the term of the bilateral agreement, which specifically calls for using the MOX method.

“That’s a lousy plan. That is absolutely the dumbest friggin’ plan I could think of, to change course and hope the Russians would agree and not know what they’re going to charge you for it,” Graham said.

The Department of Energy in December formally cited processing and shipping the 6 tons of non-pit plutonium to WIPP as its preferred method for dealing with the material. The South Carolina government last month sued DOE for failing to meet a 2003 pledge to process or remove at least 1 metric ton of plutonium from the state by Jan. 1 of this year.

Further details of the record of decision, including when it will be issued, were not immediately available.

Keeping an Eye on Spending

The NNSA, a semiautonomous arm of the Department of Energy, has requested a nearly 3 percent bump in funding for fiscal 2017, to \$12.9 billion, to carry out its various missions, including sustaining the U.S. nuclear arsenal and promoting nuclear nonproliferation.

Alexander noted that the NNSA is overseeing three of the largest federal construction projects: the MOX plant, the Uranium Processing Facility at the Y-12 National Security Complex in Tennessee, and the Plutonium Facility at the Los Alamos National Laboratory in New Mexico, which combined could cost over \$20 billion to build.

“Over the past four years, Senator Feinstein and I have worked to keep costs from skyrocketing. We want to make sure our hard-earned taxpayer dollars are spent wisely, and that these projects are on time and on budget,” Alexander said, referring to subcommittee Ranking Member Dianne Feinstein (D-Calif.)

The Tennessee senator said he and Feinstein were holding NNSA to their demand that the Uranium Processing Facility be completed by 2025 for no more than \$6.5 billion, and that construction only begin once the design was 90 percent complete.

Klotz said the NNSA expects design to hit the 90 percent mark close to the end of 2017. He said construction might not begin that year, but did not discuss a firm date. The agency is implementing all recommendations of a Red Team of experts to ensure it meets the cost and schedule requirement, he said.

DOE says no layoffs, but proposed Hanford cut draws ire

Tri-City Herald

March 18, 2016

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No layoffs are anticipated at Hanford despite a sharp decrease in some funding proposed for the next fiscal year, the Department of Energy’s top environmental cleanup official said.

That's welcome news for Hanford workers. However, Washington Gov. Jay Inslee remains "extremely concerned" about what a drastically reduced budget would mean for crucial cleanup work at Hanford, he said.

The fiscal 2017 budget proposed by the Obama administration would cut spending for the DOE Hanford Richland Operations Office from \$991 million this fiscal year to \$800 million in fiscal 2017.

"The work conducted by (the Richland Operations Office) protects the Columbia River, a resource of incalculable value to the residents of the Pacific Northwest," Inslee wrote in a letter to leaders of the House Energy and Water Development Appropriations Subcommittee.

Monica Regalbuto, the DOE assistant secretary for environmental cleanup, answered questions at a hearing of the congressional subcommittee this week.

Some carryover from the current fiscal year would help fill in some of the gaps in next year's budget, and no layoffs are expected to result, Regalbuto said. The budget was not passed until the third month of this fiscal year, which slowed the start of some work it funds.

The proposed 2017 budget includes more money for Hanford's second DOE office, the Office of River Protection, which is responsible for Hanford radioactive waste stored in underground tanks and the vitrification plant being built to treat it.

The proposed 2017 budget for River Protection is \$86 million more than current spending, and \$287 million more than spending a year ago.

The additional work is already creating opportunities for union workers to move from some Richland Operations Office projects, such as the final stages of cleaning out the Plutonium Finishing Plant, to work at the Hanford tank farms where radioactive waste is stored underground.

Vit plant costs to rise significantly

Regalbuto also was questioned about the Hanford vitrification plant and its escalating costs. She reconfirmed that costs are increasing.

The last complete and audited cost estimate for the plant — \$12.2 billion — was completed in 2006, an increase from the \$5.5 billion that had been projected in 2003.

Federal officials have said a new estimate for the plant is necessary after technical issues were raised in parts of the plant handling high-level radioactive waste. The former energy secretary, Steven Chu, said during a visit to Hanford in 2012 that he was “very concerned” about the cost.

Asked this week by Rep. Marcy Kaptur, D-Ohio, if the cost of the plant will go up a lot, Regalbuto said it would.

More about the cost could be known very soon, when DOE completes contract renegotiations with the vitrification plant contractor, Bechtel National, Regalbuto said.

The contract will be changed as DOE moves toward a way to treat low-activity radioactive waste at the plant about a decade before other parts of the plant affected by technical issues begin operating.

Inslee said he appreciated the commitment to Office of River Protection work in the fiscal 2017 budget proposal. It would put spending at almost \$1.5 billion.

But other priorities, including completion of cleanup along the Columbia River shoreline, would be dramatically affected by the cut for the Richland Operations Office, he said.

“Projects that are extremely important to the state of Washington, and that are moving forward to completion, would be severely impacted and, in many cases, halted completely as a result of the budget reduction that has been proposed,” he said in his letter.

Examples include cleanup of the highly radioactive spill under the 324 Building just north of Richland, completing cleanup of the high-hazard 618-10 Burial Ground six miles north of Richland, cleanup of the K Reactors area along the river, and improvements to groundwater treatment near the river, he said.

The Environmental Protection Agency, one of the Hanford regulators, is not happy with the disparity between the proposed budget of \$800 million for one Hanford office and almost \$1.5 billion for the other, said Craig Cameron of the EPA.

The deep cut proposed at Richland Operations would mean too much money spent just for maintenance rather than progress on environmental cleanup, he said.

Plans outlined for fiscal 2018

DOE provided more information this week on the fiscal 2017 budget proposal for Hanford and a first look at the money needed for fiscal 2018 in a public hearing and all-day workshop of the Hanford Advisory Board.

Key projects planned by the Office of River Protection for fiscal 2018 include five operating campaigns of the Hanford evaporator facility to create more space in double-shell storage tanks to empty waste from leak-prone single-shell tanks.

Work would move on from the C Tank Farm to start emptying two single-shell tanks in the AX Tank Farm.

At the vitrification plant, construction would be completed on the Low Activity Waste Facility, which could start vitrifying low-activity radioactive waste for disposal as soon as 2022. That would require a new facility to be built to prepare the waste, the Low Activity Waste Pretreatment System. Construction on it would start in fiscal 2018.

DOE has not released an estimated cost for the proposed fiscal 2018 work under the Office of River Protection.

For the Richland Operations Office, the work outlined for fiscal 2018 would require a little more than \$1 billion, or about \$200 million more than the Obama administration wants to spend in fiscal 2017.

Removal of contaminated material would not start at the 324 Building even in fiscal 2018 under the proposal, but the 618-10 Burial Ground cleanup could finally be completed that year.

Demolition of the Plutonium Finishing Plant, which is supposed to be done by the start of fiscal 2017, would be completed that year, freeing up the \$30 million needed annually to keep the complex in a safe condition.

The removal of radioactive sludge for the K West Basin near the Columbia River could begin in fiscal 2018, following more preparations for the project in fiscal 2017.

Nearly 2,000 cesium and strontium capsules would still be stored in an underwater pool in central Hanford in fiscal 2018, but a design for a canister storage pad for them should be completed and work to purchase casks to hold them on the pad should have started.

With most contaminated buildings near the Columbia River demolished, decontamination and demolition work would move to some support buildings near huge processing plants in central Hanford in fiscal 2017.

DOE is accepting comments until April 18 as it starts work on the fiscal 2018 Hanford budget. Send them to 2018HanfordBudget@rl.gov or to Department of Energy; Attn: 2018 Budget Priorities; P.O. Box 550, A7-75; Richland, WA 99352

DOE's remote site has unusual history

Knoxville News

March 18, 2016

[LINK](#)

OAK RIDGE — Atop Copper Ridge near the southwest border of the U.S. Department of Energy's Oak Ridge reservation lies a remote site that's been used for a series of unusual — and sometimes secret — projects over the past 60 years.

Most recently, Oak Ridge National Laboratory used the ridgetop location for a project that's associated with government efforts to prevent the spread of nuclear weapons and special nuclear materials. However, the DOE will not provide details because the "non-proliferation-related" research is classified.

DOE officials declined a request to visit the site, and the entrance gate off Highway 95 is locked and barricaded, with lots of signs warning would-be trespassers.

The site is best known for its 1950s role in a government program to develop nuclear-powered airplanes. Two-hundred-foot towers were constructed at the ridgetop facility, and a small nuclear reactor was hoisted high into the air to allow radiation measurements and to evaluate the effectiveness of cockpit shielding for the pilot and crew.

The Aircraft Nuclear Propulsion program was ultimately abandoned as impractical, but the Oak Ridge test site remained.

The towers were used in the 1970s and '80s to conduct drop tests to demonstrate the sturdiness of casks for transporting highly radioactive spent nuclear fuel. The containers were dropped onto a concrete pad to simulate the impact of a severe traffic crash.

The remote site on federal property also allowed researchers to use a series of open-air reactors to test the radiation effects on components or various materials, including projects sponsored by Japan's atomic energy institute. The reactor was operated from a protected bunker, and fences were in place to keep animals away from the fields of radiation during operations. Some of the experiments were done with the reactor on the ground, not in the air.

Over the years, the reactor was used to study nuclear power technologies and radiation shielding for space applications, as well as missile silo protection.

The DOE announced in 2003 that it had completed removal of fuel from the nuclear reactor, thus reducing the security and maintenance costs at the site by about \$2 million annually.

In response to questions about its current use, agency spokeswoman Claire Sinclair said, "ORNL is no longer conducting environmental studies at the Tower Shielding Reactor site."

When asked what kind of environmental studies had been done, Sinclair said, "The nature of the research activities is classified."

She said the research was related to nonproliferation.

"Currently, ORNL is storing materials from previous research," Sinclair said.

Responsibility for the site has shifted back and forth between the DOE's Office of Science and the DOE's Office of Environmental Management, which plans to conduct a final cleanup of the site in the mid-2030s.

It's not clear if there are plans for other projects at the Tower Shielding Reactor site. Sinclair declined to comment, although she noted that materials stored there must be removed before the site is turned over to the DOE's cleanup team.

The two DOE programs signed a new memorandum of agreement last year, with the Office of Science taking ownership of the site for the next five years.

"Due to ongoing research and development work supported by this facility, an extension through Sept. 30, 2020, is requested," Johnny Moore, the DOE's Oak Ridge science chief, wrote in a May 29 memo.

House GOP keeps up pressure for Yucca nuclear site

The Hill

March 18, 2016

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House Republicans are trying to make sure the Obama administration doesn't completely close off the possibility of a nuclear waste site at Yucca Mountain in Nevada.

House Energy and Commerce Committee Chairman Fred Upton (R-Mich.) and Rep. John Shimkus (R-Ill.), chairman of the environment subcommittee of that panel, wrote to the administration Thursday to determine whether officials are complying with their obligations regarding Yucca.

While the administration has stopped the process of formally planning to construct the waste site and Congress has stopped appropriating new funds for it, the GOP wants to ensure that the federal government is ready to restart the planning process as soon as the money is available.

"The federal government must fulfill statutory obligations as soon as possible," they wrote to Energy Secretary Ernest Moniz. "Expediently

resuming work on the Yucca Mountain license application would do just that.”

Upton and Shimkus said they’re planning a hearing on the status of Yucca, which Congress designated in the 1980s as the country’s site for permanent storage of nuclear waste from energy production and defense activities.

In the meantime, they’re grilling Moniz on the administration’s policies regarding nuclear waste, including the strategy of planning for interim storage sites and seeking out places that would consent to hosting a waste site.

The congressmen are challenging the administration’s authority to implement its strategy, saying it contradicts congressional directives and law on nuclear waste.

Upton and Shimkus formally asked in February for a Government Accountability Office investigation into how the administration is complying with its obligations regarding Yucca.