

ECA Update: April 14, 2014



In this update:

K-25's hot stuff ends up at sewage plant

Frank Munger's Atomic City Underground

Attorney General Office: MOX statements are 'ambiguous'

Aiken Standard

Sen. Murray: Budget would put Hanford deadlines at risk

Tri-City Herald

Our Voice: Moving Hanford's radioactive capsules to dry storage past due

The Bellingham Herald

McConnell Advocates on Behalf of Paducah to DOE Secretary

SurfKY News

K-25's hot stuff ends up at sewage plant

Frank Munger's Atomic City Underground

April 11, 2014

[LINK](#)

Radioactive technetium associated with debris from the K-25 demolition project infiltrated a sewer line earlier this year and ended up at the city of Oak Ridge's Rarity Ridge Wastewater Treatment Plant on the other side of the Clinch River, where it became concentrated in the sludge.

The elevated radioactivity was discovered in February and steps were taken to block the sewer line at the Department of Energy site, known as the East Tennessee Technology Park, and slow the off-site migration of the radioactive material.

Technetium-99, a product of nuclear fission, is a long-lived radioactive material that is of concern because of its mobility in the environment. It is reportedly most hazardous if inhaled as dust, posing a cancer risk.

According to state and federal officials, the amount of technetium-99 leaving the K-25 demolition site did not violate any environmental limits. Nor did the treatment plant's effluents into the Clinch River.

"The levels of Tc-99 do not pose a public health risk," said Mike Koentop, a spokesman in DOE's Office of Environmental Management in Oak Ridge.

However, the sludge at the sewage-treatment plant is now considered radioactive waste, and the Department of Energy has taken ownership of it.

Koentop said DOE already has retrieved 5,000 gallons of the sludge and shipped it to a commercial disposal facility in Washington state. A few more shipments will likely be necessary, he said, with a cost expected to be about \$1.4 million.

"This allows the city to continue to process wastewater without

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interruption," the DOE spokesman said.

Kelly Brockman, a spokeswoman with the Tennessee Department of Environment and Conservation, said DOE notified the state that there's been a release of radioactive technetium from the K-25 site in February.

"Subsequent sampling indicated that stormwater from the K-25 demolition site had infiltrated the ETTP sewer system and enter the Rarity Ridge Wastewater Treatment Facility," Brockman said in an email response to questions.

"Current sampling data reflect that Tc-99 levels are decreasing in the sewer system," she said.

Based on sampling data provided to the state, there do no appear to be any health concerns, Brockman said.

Ken Glass, an official with the Oak Ridge wastewater-treatment program, said the city was told of the problem on Feb. 12 by UCOR, the Department of Energy's cleanup manager.

Glass said the treatment plant uses activated sludge to biologically treat the sewage with bacteria and microorganisms. City workers periodically use detection instruments to survey the sludge for the presence of radioactivity, he said. But the city's instruments are based on gamma radiation and wouldn't have picked up the presence of technetium-99, which emits beta radiation.

"Normally, technetium-99 is so soluble that it stays in the water rather than adhering to the solids, but indeed we have seen it concentrating in our digest sludge," Glass said.

The K-25 project is wrapping up at the DOE site after years of demolition activities involving hundreds of workers. There were numerous trailers at the site, including restrooms and showers, to support the workforce that was taking down the massive uranium-enrichment facility. The sanitary sewer lines reportedly ran parallel to the demolition site and hooked up to a line that runs underneath the Clinch River and connects to the city's Rarity Ridge treatment facility. The facility is a satellite operation that was set up to treat sewage from the nearby residential community, East Tennessee Technology Park and an industrial park, Horizon Center.

It's apparently not clear how the Tc-99 contamination infiltrated the sewer lines or if the amount the amount of radioactivity at the cleanup site was greater than expected.

Technetium-99 was introduced into the uranium-enrichment systems at Oak Ridge many years ago when reprocessed uranium was used as feed material. Only a relatively small section of the K-25 building contained the Tc-99, and those six units were segregated and treated with special care because of the known hazards.

While most of the K-25 demolition rubble was shipped to DOE's low-level radioactive landfill a few miles away, the equipment contaminated with Tc-99 was separated and shipped to the Nevada National Security Site for burial.

Glass said when the city first learned that radioactive material had infiltrated the sewage treatment system, some of the workers were concerned about their safety. He said the city hired a consultant specializing in radiation protection to talk with the workers about the risks.

According to Glass, the health physicist told the workers that the normal gear they wear to protect themselves when working around sewage should be good enough.

He said the message was that they should be more concerned about the pathogens in sewage than the levels of technetium-99.

"We take any radioactivity seriously, although we do try to put it into the right perspective," he said.

Glass said the city has been monitoring the discharges from the treatment plant to make sure they don't exceed the acceptable limits for technetium.

Attorney General Office: MOX statements are 'ambiguous'

Aiken Standard

April 11, 2014

[LINK](#)

COLUMBIA -- A lawyer from the S.C. Attorney General's office said discussions from Department of Energy officials concerning the Savannah River Site's MOX facility are ambiguous, or seem to have double meanings.

During the Governor's Nuclear Advisory Council meeting in Columbia on Thursday, Randy Lowell - a lawyer affiliated with the S.C. Attorney General's office - said congressional, DOE and National Nuclear Security Administration officials have discussed issues regarding the lawsuit South Carolina filed against the DOE and NNSA.

The lawsuit came after news that the federal government was planning to place the Mixed Oxide Fuel Fabrication Facility in a cold stand-by while NNSA officials explored cheaper options.

Lowell said information was limited due to the fact that the issue is still open; however, he said statements from DOE and NNSA are sending mixed signals about when NNSA would issue a stop work order to begin the cold stand-by.

"One official said the stop work order would come sooner than later, and another said they may pause it due to the support of MOX from Congress," Lowell told members of the Council and the public.

Gov. Nikki Haley announced that South Carolina was suing DOE during a news conference on Tuesday, April 18 - exactly two weeks after President Barack Obama's proposed federal budget was released.

Lowell said DOE has 60 days to respond to the lawsuit, which would put the deadline in mid-May.

He said the state is predicting a response in one of two ways: Either with a decision to go ahead with an order to stop work, or with a written response to the lawsuit.

"If they do issue a stop work order, we'd go to the judge and say 'Listen. We've received this stop work order, and DOE needs to pause the order while this issue is pending.'"

Lowell added that DOE officials already have acknowledged some of the

holes in the cold stand-by attempt.

DOE Secretary Ernest Moniz, for example, has admitted that the MOX alternatives that the DOE already has looked at would be either nearly as expensive as MOX, or would not meet the necessary requirements.

Another premise the state is using in the lawsuit is the fact that federal funds already were granted for MOX construction and not for a cold stand-by.

In the complaint, officials wrote, "The use of appropriated funds in this manner is unauthorized and violates the Constitution and federal law."

Attorney General Alan Wilson added, "Our complaint asserts that the administration's misuse of federal funds violates the fundamental tenet of separation of powers, and it explicitly violates a federal statute prohibiting executive agencies from expending funds for purposes unauthorized by Congress."

The MOX project is part of a nonproliferation agreement with Russia to dispose of 34 metric tons of weapons-grade plutonium.

The project has undergone cost overruns, although the amount of the cost overruns is in question. A DOE study that has yet to be released to the public priced the entire program at \$30 billion.

Officials from AREVA - a partner of the MOX contractor - said that estimate is incorrect and that the life cycle cost of the MOX project is closer to \$17 billion.

Sen. Murray: Budget would put Hanford deadlines at risk

Tri-City Herald

April 9, 2014

[LINK](#)

At least four and possibly more legal deadlines for environmental cleanup at the Hanford nuclear reservation could be at risk under the administration's proposed 2015 Hanford budget, according to Sen. Patty Murray, D-Wash.

She questioned Energy Secretary Ernest Moniz at a hearing Wednesday of the Appropriations Subcommittee on Energy and Water Development about how deadlines can be met if the budget is reduced and about the need for a comprehensive plan for the Hanford vitrification plant.

Significant progress has been made at Hanford to clean up land along the Columbia River, keeping contaminants out of the river, Murray said. The Department of Energy plans to have most of the work completed by next year.

"However, several high-risk projects close to the city of Richland, Columbia River and the Energy Northwest facility remain to be completed," she said.

Those include the highly radioactive waste spill under the 324 Building just north of Richland and the 618-11 Burial Ground just off the parking lot of Energy Northwest's nuclear power plant near Richland.

The proposed fiscal 2015 budget would cut \$98 million from the current spending level for work under the DOE Hanford Richland Operations Office, which could hamper progress, Murray said.

"It is unacceptable for DOE to kick the can down the road," she said. "Nor is it acceptable to me and the Tri-Cities community to put near-term Tri-Party Agreement milestones at risk."

Less than 24 hours after the Obama administration released its proposed 2015 budget, Sylvia Mathews Burwell, director of the Office of Management and Budget, told Murray that "legal commitments are something that are very important and the administration takes very seriously and has put forward a budget that we believe enables us to do that."

Murray on Wednesday asked Moniz to confirm Burwell's commitment to meet legally binding deadlines in the Tri-Party Agreement and asked him how he could do that despite a \$98 million cut.

"I would have to look in detail at the specific milestones and get back to you," Moniz said.

Tri-Party Agreement and court-enforced consent decree deadlines are both very important, he said.

"The issue is how do we best fit all of this into the available resources and that's something I would love to be able to brainstorm on," he said.

DOE has already said that it may not be able to meet most of the remaining deadlines in the consent decree, including all of the deadlines for the vitrification plant. The DOE Hanford Office of River Protection, rather than the Richland Operations Office, is responsible for work to meet the consent decree deadlines for emptying waste from underground tanks and having the vitrification plant at full operation in 2022 to treat the waste for disposal.

As the deadlines are renegotiated, DOE is trying "to bring discipline and realism to the process," Moniz said. DOE wants to propose a new schedule in phases as technical issues are resolved at the vitrification plant.

DOE is considering starting to treat low-activity radioactive waste at the plant as work continues to resolve issues related to high-level radioactive waste and build the facilities needed for that waste. Construction is stopped at the plant on a portion of the High Level Radioactive Waste Facility and all of the Pretreatment Facility, which will separate waste into high-level and low-activity waste streams for separate treatment.

Treating the low-activity waste before the Pretreatment Facility is operating will require a new facility to be built to remove some high-level waste from liquid that is primarily low-activity waste.

But starting treatment early of the low-activity waste will provide valuable experience in operating the vitrification plant, Moniz said.

Other changes are proposed, including simplifying the design of the Pretreatment Facility, to resolve issues to keep waste well-mixed. Some large, complicated mixing tanks would be replaced with smaller and uniform tanks.

"Are you confident on the technology on this?" Murray asked.

DOE is preparing a full-scale demonstration of waste mixing, which should answer many questions, Moniz said.

"If that comes out as we expect, then I will say I'm very confident," he said. "But we have to address these technical issues. We have been very up front -- they have not been resolved."

Our Voice: Moving Hanford's radioactive capsules to dry storage past due

The Bellingham Herald

April 10, 2014

[LINK](#)

It's highly unlikely that an earthquake or other natural disaster will seriously damage Hanford's Waste Encapsulation and Storage Facility, where 13 feet of water keep 106 million curies of radioactivity, or 32 percent of the total radioactivity at Hanford, safely contained.

But it is the Department of Energy facility at the greatest risk of failing if there is ever a natural disaster beyond what it was designed to sustain, according to a memo released last week by the Department of Energy's Office of Inspector General.

"Weakened concrete in the walls of the pool increases the risk that a beyond-design earthquake would breach the walls, resulting in the loss of fluid, and thus, loss of shielding for the capsules," the memo said.

That's a troubling, if unlikely, scenario. A loss of water or cooling in the pool could cause the capsules to corrode or be breached. The resulting environmental hazard and cleanup costs would be horrendous.

But while such an event is hypothetical, DOE's failure to adequately mitigate the risks is real.

The department planned to start putting the capsules in dry storage in Hanford's T Plant in late 2005, but the work was canceled after DOE decided it had more pressing environmental cleanup concerns.

The Obama administration hasn't helped. The capsules had been destined for permanent disposal at the proposed Yucca Mountain, Nev., national repository, which the president unilaterally decided to abandon after \$13 billion had been spent on the site.

Legal challenges might yet force DOE to continue pursuing a repository at Yucca Mountain, but that's far from certain. DOE plans to pick a new site for a repository in 2048, but there's no reason to think an alternative location won't fall victim to the same sort of political shenanigans as Yucca Mountain.

At any rate, the Obama administration is responsible for extending the risks posed by Hanford's capsules for years, at least, and probably decades.

Moving the wastes to safer dry storage ought to be a priority. It is certainly a moral obligation. But instead of providing money to accelerate the project, the administration has proposed cutting spending for projects under the Hanford Richland Operations Office by almost \$100 million in fiscal 2015.

The government's inertia in dealing with the capsules defies logic for more than one reason. Besides posing additional environmental risks, the failure to act also is fiscally irresponsible.

Moving the capsules to dry storage would cost an estimated \$83 million

to \$136 million. But then the storage cost would drop to \$1 million a year compared to the current underwater storage cost of \$7.2 million annually.

DOE eventually must move the capsules to dry storage, so the sooner that is done, the more money can be saved in reduced operating costs, the memo said.

DOE agrees that dry storage would reduce operating costs and improve safety, said Ray Corey, DOE assistant manager for Hanford river and plateau work.

Cheaper, safer, inevitable and the right thing to do. Why hasn't it been done already?

McConnell Advocates on Behalf of Paducah to DOE

Secretary

SurfKY News

April 9, 2014

[LINK](#)

U.S. Senate Republican Leader Mitch McConnell advocated on behalf of Paducah to Secretary of Energy Ernest Moniz.

During a Senate Energy and Water Development Appropriations Subcommittee hearing Wednesday, Senator McConnell closely questioned the Secretary about the future of the cleanup operations at the Paducah Gaseous Diffusion Plant.

At the hearing on Capitol Hill, Senator McConnell inquired about the Department of Energy's long-term plans for cleanup and expressed frustration with DOE's lack of communication with the community.

During the hearing, Senator McConnell thanked Secretary Moniz for the attention he has given the Paducah site and in particular, his work on future energy development opportunities there. McConnell added, that he remained "deeply concerned, however, with the Department's long-term plans for cleanup at the site. As you know, the administration's decision to cease enrichment at the facility has already led to hundreds of layoffs of hard working, highly-skilled Kentuckians and has created a great deal of hardship and anxiety in the community. As I have noted in previous conversations, there are certain steps that I hope you will take to help mitigate the impact of the facility's eventual closing by moving forward with vital cleanup work."

Senators McConnell and Rand Paul, along with Congressman Ed Whitfield (KY-01), are working to expedite DOE's awarding the major cleanup contract in the hopes that it will create some job opportunities in the community. DOE is expected to award the contract in September, but Senator McConnell and the Kentucky federal delegation have urged DOE to begin this vital work sooner. The members also are urging DOE to hire a dedicated site manager for Paducah, which has remained unfilled for some time.

"Helping the workers and the families impacted by the transitioning of the Paducah Gaseous Diffusion Plant has been and remains one of my top priorities," Senator McConnell said. "I will continue to work closely with Senator Paul and Congressman Whitfield and those in the community to help ensure DOE keeps its commitment to cleaning up the site in a timely manner. We'll also continue to press DOE on long-term economic development opportunities for the site, which will help create jobs for those living in the Paducah area."

Last week, Congressman Ed Whitfield (KY-01), Chairman of the House Subcommittee on Energy and Power, questioned Secretary Moniz during a hearing in his subcommittee. Following the hearing, Representative Whitfield said, "Senators McConnell, Paul and I have spoken to DOE at all levels to ensure they know we are committed to ensuring they expedite cleanup efforts in Paducah."

