

ECA Update: July 22, 2015



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Hintze Named EM Los Alamos Manager
DOE-EM
July 20, 2015

Dear Colleagues,

I am pleased to announce that Douglas Hintze has been named the manager of the new EM Los Alamos Field Office. Doug currently serves as assistant manager for Mission Support at the DOE Savannah River Operations Office (DOE-SR), a position he has held since September 2012.

He has more than 22 years of experience in engineering, safety, health, process development, and management of DOE nuclear facilities, including chemical processing, waste management, and information technology. His previous DOE-SR positions include

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Events of Interest

[SRS CAB Meeting](#)
July 27-28

[NNMCAB Meeting](#)
July 29

[Nuclear Fuel Cycle Legislation Hearing](#)
August 4

[National Cleanup Workshop](#)
September 29-30

assistant manager for Integration and Planning, acting chief financial officer; and director of the Nuclear Materials Operations, Waste Disposition Programs, and Information Management and Technology divisions.

Prior to joining DOE, Doug served nine years with the U.S. Navy, with assignments including Project Officer for Strategic Systems Programs, and Division Officer onboard the submarine USS Florida. He retired from the U.S. Navy Reserve with the rank of captain after 30 years of active and reserve service.

Doug earned two master's degrees, one in business administration from Virginia Tech and the other in national security-strategic studies from the U.S. Naval War College. He holds a bachelor's degree in mathematics from the U.S. Naval Academy. He is qualified in the DOE Technical Qualification Program as a Senior Technical Safety Manager and certified as a Level III Federal Project Director.

Please join me in congratulating Doug on his new position. Let's also thank Christine Gelles for her service as acting manager and her efforts to stand up the new office and guide associated transition activities. Doug and Christine will work collaboratively to ensure a smooth transition.

Sincerely,

Mark

Whitney

Peach Bottom nuclear power plant could run out of spent fuel storage space in 2019

YDR Local News
July 18, 2015

[LINK](#)

Most people will never get a chance to stare down at nuclear fuel rods submerged in the eerie blue water of a spent fuel pool.

For Peach Bottom Atomic Power Station employees, however, working near tens of thousands of used fuel rods — still lethally radioactive — is business as usual.

Some of those rods have been in the fuel pool since 1976, according to Krista Connelly, spokeswoman for the southern York County power plant.

But with nowhere off-site to store the fuel, Connelly said Peach Bottom is running out of places to put it.

"In its current configuration, Peach Bottom has enough storage space in its existing spent fuel pools and its dry cask storage facility to accommodate normal refueling operations until 2019," Connelly said.

In addition to posing problems for power plants, the Union of Concerned Scientists say the lack of a national storage site also poses safety risks, while a few business owners are proposing solutions to the growing storage problem.

Nuclear Waste Policy Act

When Peach Bottom's two boiling-water reactors went online in 1974, the industry hadn't developed a plan for where to put the high-level radioactive waste.

In 1982, Congress passed the Nuclear Waste Policy Act, mandating that the Department of Energy establish a place to store the spent fuel. The act set a deadline of 1998 for the project to start moving waste from power plants to storage at Yucca Mountain, Nevada.

That date came and went. The Department applied to the NRC to authorize construction in 2008 but canceled the project in 2010 before the NRC completed its review.

Throughout the process, plant operators have been stuck with the task of managing ever-increasing stockpiles of used fuel.

How does fuel storage work?

When workers remove depleted fuel from a reactor, it's still hot and radioactive. That fuel goes into an above-ground pool of circulating water, about 40 feet deep, located in a building near the reactor. The water helps to cool the rods and keeps radiation contained.

After several years, the fuel rods are cool enough to move to "dry casks," big steel containers rated to withstand missile strikes and remain intact for 100 years or longer. The casks are stored outside on a concrete pad, designed to absorb earthquakes, within the power station's high-security perimeter.

No long-term plan

Mike Callahan, a nuclear industry consultant who leads efforts to remove fuel from closed power plants, said dry casks are a fairly recent storage option, a result of the government's failure to build a central repository.

"Plants were constructed with the spent fuel pool with the understanding that the Fed would be transporting that fuel away," Callahan said. "That never happened."

Ryan Nawrocki, spokesman for U.S. Rep. Scott Perry, R-York County, said Congress's biggest obstacle is that Senate Minority Leader Harry Reid, D-Nev, has blocked development of Yucca Mountain.

"The home state senator can exert a great deal of influence over what happens in their state," Nawrocki said.

Reid, in a statement on his website, said he opposed the Yucca Mountain site because it would pose a threat to human health and safety. "Yucca Mountain, which is 90 miles northwest of Las Vegas, is simply not a safe or secure site to store nuclear waste for any period of time," Reid said.

But with Reid set to retire in 2016, Nawrocki said, it's possible that there will be a renewed effort to build there.

Safety concerns

As a result of the impasse, plant operators have had to get creative in finding ways to store the spent fuel.

Callahan said engineers analyzed their spent fuel pools to see if they could fit more fuel rods in them than what the pools were designed to hold.

Neil Sheehan, Nuclear Regulatory Commission spokesman, said the NRC did its own studies and authorized the technology, which has more than doubled most fuel pools' capacity.

At Peach Bottom, Connelly said, the fuel pools can now store 3,819 fuel rod "assemblies," with each assembly containing 92 rods. The two pools at the power plant — one for each reactor — contain 2,848 and 2,781 fuel rod assemblies, making the pools about 75 percent full.

Everett Redmond, director of fuel cycle and technology policy at the Nuclear Energy Institute, said fuel stored in the pools is just as safe as fuel stored in casks. Sheehan also said that "both methods are considered to be safe."

The Union of Concerned Scientists would like to see more fuel moved to the casks, however, a step they say will decrease risk.

Dave Lochbaum, the director of the Union's nuclear safety project, said that the 2011 Fukushima disaster proved the advantages of dry cask storage compared to spent fuel pools.

Citing NRC records, he said that after the disaster, the NRC's biggest problem was keeping the Unit Four spent fuel pool from melting down and releasing radiation.

Lochbaum said that, during the earthquake, water sloshed out of the spent fuel pool, and the fuel rods caused the remaining water to boil. The Unit Four reactor exploded, punching a hole in the building and risking damage to the nearby spent fuel rods, which would have caused radiation to escape the site.

"Had there been a release of radioactivity, there would have been no barrier to prevent it from threatening people downwind," Lochbaum said.

The only good thing about the blown up reactor building, Lochbaum said, was that it allowed emergency crews to shoot water into the fuel pool by helicopter.

In contrast, Lochbaum said, dry casks that were submerged by the tsunami remained fully intact and posed no safety concerns.

Other storage options

Though experts may disagree about the safety of spent fuel pool storage, they all agree that removing the waste from the power plants is a priority.

Every year, Peach Bottom and other power plants across the country sue the federal government for breaching the Nuclear Waste Policy Act. Thomas Kauffman, NEI spokesman, said those 72 lawsuits have resulted in \$3.7 billion in federal tax dollars paid to power plants.

Lochbaum said that, even if the government were to fund and initiate

construction at Yucca Mountain today, it would take decades before the facility would be ready to accept the fuel.

In the meantime, Chuck McDonald, spokesman for Waste Control Specialists, said his company is pushing for another solution: interim storage at his facility in Texas.

McDonald said the company has been storing low-level radioactive waste there for more than 20 years. Now, it's seeking the needed permissions to transport and store the high-level waste that comes from power plants.

It's a move he said would free up space for plants and cut federal lawsuit costs.

"If we could get this interim storage facility going — the federal government is already spending \$500 million a year in those damages — it would actually be a tremendous savings to taxpayers." McDonald said.

Waste Control Specialists isn't the only company, either, Redmond said. At least two other companies have written proposals for launching interim storage facilities.

Meanwhile at Peach Bottom, Connelly said, the company is discussing how it might be able to store more waste at its facility.

"We're definitely looking at what our options would be if we have to continue on site," she said.

Keep MOX project going forward
The Post and Courier
July 19, 2015
[LINK](#)

Halting construction of a facility to turn weapons-grade plutonium into fuel for commercial reactors would be a major waste of time and money. And it would again signal that the Obama administration is at sea when it comes to dealing with nuclear waste — whether commercial or defense related.

Billions of dollars and years of planning and construction are at stake. The mixed oxide plant at Savannah River Site already has cost \$4.5 billion and is nearly 70 percent complete. A sudden shift to a different method of neutralizing plutonium for weapons use would

be a highly questionable change in policy. And the purported cost savings cited in one report have been convincingly challenged, as noted in the column by Llewellyn King on our Commentary page.

The proposal bears striking similarity to the unwarranted shift by the administration on the federal Yucca Mountain (Nev.) project — a move that cost \$15 billion in expended project costs and left the nation without a permanent repository for high-level nuclear waste.

Indeed, the decision left Savannah River Site as the primary disposal site for defense waste, including 34 metric tons of plutonium that was shipped to SRS under a non-proliferation treaty with Russia.

From all appearances, SRS is the administration's favored site for long-term — and possibly permanent — disposal of high-level waste. Needless to say, that idea is strongly opposed by South Carolina and Aiken County, where SRS is located.

The closure of the Yucca project left no exit plan for the large volume of highly radioactive waste now stored at SRS, a by-product from its years as a production facility for nuclear weapons material. The termination of the MOX facility offers no certain prospect for the transfer of the plutonium shipped there from other Department of Defense locations.

Meanwhile, the abandonment of the MOX project could jeopardize the treaty with Russia, designed to keep its weapons-grade plutonium out of the hands of terrorists. That would be a dangerous outcome, and a cruelly ironic turn of events by an administration that just reached an agreement with Iran, purportedly to limit its nuclear capability.

Congress has managed to keep the MOX project on track with the support of South Carolina's congressional delegation. That commitment recognizes SRS is a production facility, not a dump site for nuclear waste.

Meanwhile, the state of South Carolina and Aiken County have successfully taken the federal government to court over its abandonment of the Yucca Mountain nuclear waste repository, which was closed by the administration as a political favor to then-Senate Majority Leader Harry Reid, D-Nev.

Congress should take the necessary steps to reopen Yucca Mountain and provide the necessary support for the MOX facility, recognizing that the administration's policy on nuclear materials management is

incoherent at best.

Abandoning the MOX project would create another risk to the safe disposal of dangerous nuclear waste.

Frank Munger: Oak Ridge cleanup estimate rises to \$18 billion

Knoxville News Sentinel
July 17, 2015

[LINK](#)

About a year ago, a U.S. Department of Energy spokesman estimated it would cost about \$12 billion to complete the government's environmental cleanup responsibilities in Oak Ridge by 2047.

That number apparently was far too low.

In a meeting with the News Sentinel's editorial board earlier this week, DOE Environmental Manager Sue Cange said the "to-go" figure — the amount of funding needed to finish the scheduled cleanup projects — is actually about \$18 billion.

That's a huge difference, of course, but Mike Koentop, executive officer of the DOE's cleanup program in Oak Ridge, said it doesn't mean there was a 50 percent growth in costs over the past year — as it would appear.

Instead, he said he simply made a mistake last year and provided an incorrect cost estimate based on insufficient information.

"It was my fault," Koentop said.

The \$6 billion error does, however, seem to illustrate and underscore the many uncertainties associated with environmental cleanup of the DOE's Oak Ridge reservation. The sprawling site was created during the World War II Manhattan Project for work on the first atomic bombs, and it was contaminated by decades of nuclear research and production.

The cost of cleanup, now and in the future, depends not only on the complexity and scope of the work — which can range from excavation of radioactively contaminated soils to demolition of old and dirty buildings to capping and containing leaky landfills — but also the schedule for doing the work.

The longer the cleanup takes, the more it costs. Each year's allotment for cleanup has to be appropriated by Congress — and that's never a certainty. If appropriations decline for a year or more, the schedule for cleanup usually gets extended.

As I reportedly recently, an official with the Tennessee Department of Environment and Conservation acknowledged the Oak Ridge cleanup — based on federal budget projections — could be extended until 2067. That would add 20 years to the current deadline for finishing the cleanup.

There are other uncertainties, too.

Even though the DOE's total cleanup cost and schedule are based on a long list of Oak Ridge projects, the list is not necessarily comprehensive.

For instance, the 9212 uranium complex at the Y-12 nuclear weapons plant is not on the list. The government has vowed to vacate the dirty Cold War facility no later than 2025. That's when the multibillion-dollar Uranium Processing Facility is supposed to come on line.

But Cange confirmed 9212 is not included in the cleanup plans or a part of the cost estimates.

And that's just one example.

Follow-up on Nuclear Safety: Safety Basis and Quality Assurance at the Los Alamos National Laboratory
DOE IG
July 16, 2015
[LINK](#)

A primary mission of the Department of Energy's Los Alamos National Laboratory (LANL) is to ensure the safety, security, and reliability of the Nation's nuclear stockpile. As such, LANL employees and subcontractors work closely with special nuclear materials, explosives, and hazardous chemicals. To protect its employees, the public, and the environment, LANL is required to identify site hazards and controls, and to update formal documentation as its work processes change (activities collectively known as "safety basis"). Our report Nuclear Safety: Safety Basis and Quality Assurance at the Los Alamos National Laboratory (DOE/IG-0837, August 2010) identified problems in fully

implementing a number of critical nuclear safety management measures. National Nuclear Security Administration management generally agreed with the report and stated that work was underway to address the concerns raised in the report. In addition, a May 2012 external corporate review identified the need to ensure core skills and competencies for the safety basis analysts and improve the alignment between LANL and the Los Alamos Field Office during safety basis development.

LANL had acted to improve nuclear safety, including seismic-related risks, at its Plutonium Facility (PF-4); established a Safety Basis Quality Review Board; and implemented an institutional Quality Assurance Program to assign responsibilities and authorities, define policies and requirements, and provide for the performance and assessment of laboratory work processes. However, LANL continued to have problems in fully implementing a number of critical nuclear safety management requirements. This contributed to multiple safety basis iterations and lengthy update, review, and approval processes. Specifically, LANL had not always developed safety basis documents that met NNSA's expectations to ensure that nuclear hazards had been fully identified and that mitigation controls had been implemented; resolved issues identified in the annual updates to the safety bases for two nuclear facilities; and resolved significant and long-standing nuclear safety deficiencies.

We found that LANL had not effectively implemented its Safety Basis Improvement Plan, which was designed to enable LANL to build upon lessons learned and assessment findings. In addition, nuclear safety deficiencies were not always resolved because corrective actions were not effectively designed to prevent recurrence. Further improvements in nuclear safety are essential if the Department is to be in a position to ensure workers and the public that safety risks associated with nuclear facility operations have been effectively mitigated.

The National Nuclear Security Administration's Management of Support Service Contracts
DOE IG
July 10, 2015
[LINK](#)

The National Nuclear Security Administration (NNSA) is responsible for enhancing national security through the military application of nuclear energy. To help fulfill its responsibilities,

NNSA makes use of Support Service Contracts (SSCs). In March 2013, NNSA's Office of Defense Programs (Defense Programs) initiated a self-assessment on the use of non-Federal personnel. The Defense Programs self-assessment identified potential issues with the management of its SSCs related to the performance of personal services and inherently governmental functions, as well as potential issues with funding sources. Management generally concurred with the self-assessment's recommendations, including nine recommendations related to SSCs. According to NNSA procurement officials, the recommendations are being addressed and implemented on an NNSA-wide basis.

On September 11, 2014, the Chairman of the House Subcommittee on Strategic Forces expressed concern to the Inspector General that NNSA may be utilizing SSCs in ways that are contrary to policy, regulation, and statute. The Chairman's letter cited the agency self-assessment and requested an investigation of the matter. Therefore, we conducted a special review to determine whether NNSA was effectively managing its SSCs.

We discovered activities that could lead observers to question NNSA's management of SSCs. Specifically, we confirmed issues similar to those identified in NNSA's self-assessment. We found SSCs that exhibited characteristics of a personal services contract, contracted services that approached being inherently governmental functions, and NNSA's use of program funds for some SSCs was questionable.

Subcritical Experiment Activities at the Nevada National Security Site
DOE IG
June 26, 2015
[LINK](#)

The National Nuclear Security Administration's (NNSA) Stockpile Stewardship Program seeks to maintain confidence in the safety, security, and reliability of U.S. nuclear weapons without nuclear testing. As part of the program, NNSA conducts subcritical experiments to obtain scientific data on the behavior of nuclear weapon materials. These experiments are conducted at the Nevada National Security Site's U1a Complex.

In the past decade, Los Alamos National Laboratory (Los Alamos) has been the design authority responsible for overseeing subcritical experiments, while National Security Technologies, LLC, (NSTec)

has been responsible for fielding and executing the experiments. Twenty-eight subcritical experiments have been performed between 1997 and 2014.

Nothing came to our attention to indicate that the Department of Energy had not effectively managed the subcritical experiment activities at the U1a Complex. To the contrary, we noted that both Los Alamos and NSTec used project management tools to plan and track the cost, scope, and schedule of the two most recent subcritical experiments. Although both organizations used project management tools for planning and conducting the subcritical experiments, we found there were some inconsistencies in budgeting methods for the treatment of contingency/management reserves between Los Alamos and NSTec.