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The Department of Energy will not be able to meet a legally binding deadline to have Hanford's Plutonium Finishing Plant demolished by the end of September, but demolition might be ready to start then.

DOE is in talks with its regulators, the Washington State Department of Ecology and the Environmental Protection Agency, to set a new Tri-Party Agreement deadline, said DOE spokesman Mark Heeter during a media tour of the nuclear reservation Monday.

The new deadline that DOE has proposed has not been made public.

DOE had long said that its contractor, CH2M Hill Plateau Remediation Co., would start tearing the main portion of the plant down in the spring of 2016 to meet the September deadline. Now it says demolition will start in the fall.

Preparing the plant for demolition has been some of the most hazardous work performed at any of DOE's cleanup sites, say officials on the project. The plant is the largest, most complex plutonium facility in the DOE cleanup complex, and parts of it were heavily contaminated with plutonium, including a form of plutonium that easily disperses into the air.

The emphasis has been on doing work safely, said CH2M Hill spokesman Destry Henderson. CH2M Hill revised its work schedule about five months ago to conduct no more than one high hazard project at a time. It wanted to allow attention to be focused on the hazards of each phase of work and to provide higher confidence in preparations for disposal of the plant.

The plant was the last stop in plutonium production at Hanford for most of the Cold War. Plutonium in a liquid solution was turned into buttons the size of hockey pucks there for the nation's nuclear weapons program. About two-thirds of the nation's supply of plutonium for its nuclear weapons program came out of the plant.

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Work has been under way to clean out the plant since the 1990s, when efforts began to stabilize plutonium in a liquid solution left there at the end of the Cold War. In recent years, workers have been cleaning out and removing tanks and contaminated glove boxes.

Demolition is expected to start with the Plutonium Reclamation Facility off one end of the main production portion of the plant. The facility was added to the plant as Cold War demand for plutonium increased. It increased output by recovering plutonium from scrap material that otherwise would have been wasted.

The Plutonium Reclamation Facility could start to come down this fall as work continues to prepare the main processing portion of the facility for demolition, Henderson said.

Work is being done at the Plutonium Reclamation Facility now to clean out four remaining glove boxes on two stories at the facility where skinny "pencil" tanks were hung in a tall central area called a canyon. The pencil tanks already have been removed, and the glove boxes are the last of 238 in the plant to be either removed or to be prepared and staged for removal during demolition.

Glove boxes were designed to allow workers to reach their hands through gloves attached to portals to work with radioactive material within the boxes while looking through thick lead glass windows.

Demolition would be done next on the Americium Recovery Facility, which connects the Plutonium Reclamation Facility to the main processing portion of the plant. The Americium Recovery Facility was the site of the glove box explosion that injured Harold McCluskey, who came to be called the Atomic Man, in 1976.

The facility was used to recover americium from waste material for possible industrial or other use.

Demolition is planned to be done next on the main production portion of the plant, where duct work continues to be cleaned out. The major work of cleaning out the majority of the building's glove boxes there has been completed.

The last piece of the building to be demolished will be its fan house and stack.

Demolition of the plant will be done carefully with the building pulled apart "piece by piece," Heeter said. What remains of the building will be disposed of either at a central Hanford landfill for low-level radioactive waste or eventually shipped to a national repository in New Mexico, the Waste Isolation Pilot Plant, for waste contaminated with plutonium.

How the Department of Energy became a major taxpayer liability
CNBC
July 6, 2016
LINK

If you were to guess which government agency has had to pay out the most in court in recent years, the Department of Energy probably wouldn't come to mind.

Yet the DOE is among the most prominent defendants requiring payment from the Judgment Fund, which pays for claims against the government. The department paid out more in legal claims than any other agency last year and the year before, according to the fund's records — more than $5 billion over the last decade.

And according to the department itself, the bloodletting as far from over. The DOE has failed to make good on some of its most important contractual obligations for years, and its private partners have been collecting billions in damages.

The Nuclear Waste Policy Act of 1982 requires that the DOE dispose of nuclear waste being produced at civilian energy plants around the country, which in turn pay fees for a long-term storage facility. The department's contracts with dozens of energy companies said it would start disposing of the waste in 1998.

The companies held up their end, feeding about $750 million into the Nuclear Waste Fund each year. But the department did not manage to set up any facility to receive the waste, forcing energy companies to store it themselves on-site.

All those partial breaches of contract haven't come cheap. As of the end of 2015, the DOE has paid $5.3 billion for failing to fulfill its obligations, and even if it manages to start disposing of waste in the next 10 years, it could still be on the hook for nearly $24 billion in additional liability.

"Because the United States has no facility available to receive spent nuclear fuel (SNF) and high-level radioactive waste (HLW) under the Nuclear Waste Policy Act, it has been unable to begin disposal of SNF from utilities as required by the standard contract with utilities," said a DOE spokesperson in an email. "Significant litigation claiming damages for partial breach of contract has ensued as a result of this delay."

At the end of 2015, the DOE had settled 35 lawsuits and resolved 33 with judgments, with 19 cases pending, according to the Congressional Budget Office. A court ruling halted the collection of storage fees in 2014, but energy companies are still seeking to recoup the money they're spending every year on waste storage. Even after settlements for back pay are

reached, the department is usually required to reimburse those costs going forward.

The hang-up has been in finding a location for the centralized storage facility. For decades, Yucca Mountain in Nevada was the only location that could legally be considered, despite fierce opposition from state and local groups. The Obama administration eventually abandoned the site as "unworkable" in 2011.

"Significant litigation claiming damages for partial breach of contract has ensued as a result of this delay."-DOE spokesperson

At the recommendation of the administration's Blue Ribbon Commission (BRC), the department is now pursuing a "consent-based" approach, meaning that the DOE will seek the approval of relevant communities before construction, rather than trying to force all of the country's spent nuclear waste on a pre-decided site in Nevada.

"The administration concurs with the conclusion of the BRC that a fundamental flaw of the 1987 amendments to the NWPA was the imposition of a site for characterization," wrote then-Energy Secretary Steven Chu in the department's most recent guiding strategy document from January 2013. "In practical terms, this means encouraging communities to volunteer to be considered to host a nuclear waste management facility."

The DOE plans to have a pilot interim storage facility by 2021, initially to accept waste from reactor sites that were shut down years ago. Limiting the government's massive liabilities is a major focus of the department's strategy, according to the document.

The question isn't whether the DOE will continue to have to pay out an exorbitant amount of money, but just how exorbitant that sum will end up being. The department itself projects that its total liabilities based on

previous payouts will ultimately come to $29 billion in 2015 dollars, but that's assuming it manages to start accepting waste in the next decade.

Neither the Department of Energy nor the Department of Justice could provide a list of related judgments and settlements so far, and the DOE said an updated liability estimate will not be available until its fiscal 2016 financial report comes out later this year.

"The department is currently developing a consent-based siting process for storage and disposal of SNF [spent nuclear fuel] and HLW [high-level radioactive waste]," said the department spokesperson. "Since January, DOE has held a series of public meetings and received feedback on how best to develop this process."

The energy industry does not seem optimistic about a quick solution. According to the Nuclear Energy Institute, the department's total liabilities could stretch to more than $50 billion. But that's a more pessimistic figure that assumes a "total default" by the DOE.

The DOE's own documentation for the Yucca Mountain project forecasts that if it failed completely and waste had to stay at the current sites indefinitely, it would cost between $75 billion and $82 billion in 2015 dollars over the first 100 years (including the cost of decommissioning Yucca).

Jay Silberg, a prominent energy industry attorney, said his estimate for total liability is closer to the $50 billion figure.

"I think that number is going to bear out, because I unfortunately don't have much faith that the government will do what they promised to do in 1982," said Silberg. "We all hope they can get their act together, but whether that will actually happen and whether it will be at large enough scale to remove the

Hanford vit plant planning layoffs, new hiring

Tri-City Herald

July 7, 2016

LINK

Bechtel National, the Hanford vitrification plant operator, will lay off about 45 employees in the coming months, project director Peggy McCullough told staff Thursday.

At the same time, the Department of Energy contractor is continuing to fill about 300 new positions this year.

The change comes as construction on some of the plant's buildings nears completion and emphasis there shifts to start up and commissioning, requiring workers with different skills.

Workers who will be laid off from late August to October include mostly employees in the engineering department, as some of the more complex work on the Low Activity Waste Facility, Analytical Laboratory and support facilities at the vit plant is completed.

In addition, some of the layoffs will be in project services — which includes workers not assigned to engineering, procurement or construction — to increase efficiency.

Workers losing their jobs will be notified next week. All will be non-manual employees.

Bechtel already has filled about 100 of the 300 new positions being created this year as it moves forward with testing the plant and its systems to prepare to start operating part of the plant.

Openings are posted at www.hanfordvitplant.com/ job-opportunities.

The plant could be glassifying low-activity radioactive waste for disposal as soon as 2022, using the Low Activity Waste Facility, Analytical Laboratory and support faciities at the plant. Work will continue to resolve technical issues related to treatment of high-level radioactive waste elsewhere at the plant.

Bechtel National at Hanford will work with employees who face layoffs to look for potential new Bechtel jobs.

The plant is planned to turn up to 56 million gallons of radioactive waste into a solid glass form for disposal. The waste, now held in underground tanks if left from World War II and Cold War production of plutonium for the nation's nuclear weapons program.

Los Alamos ScienceFest to reveal secret world of espionage during Manhattan Project
Santa Fe New Mexican
July 10, 2016
LINK

Sitting just outside the security fence that surrounded the top-secret area where American scientists feverishly worked to create an atom bomb in Los Alamos, Ellen Bradbury Reid was ready to betray her country by revealing a secret.

There were, by her count, 11 ducks in Ashley Pond within the heavily guarded secret city on the hill, and the 6-year-old was convinced that if she passed on this information to anyone who asked, she could break into the exciting and clandestine world of spying.

But back in 1944, no one cared about the ducks. Instead, just down the hill in Santa Fe, Soviet spies and FBI agents swarmed about the city, spying on the American scientists who came to town to drink and dance at La Fonda on the Plaza.

Bradbury Reid is something of an expert on the topic, which is why she is leading a Santa Fe Spy Tour on Friday and Saturday as part of the Los Alamos ScienceFest — five days of science-related activities and fun on the Hill. This year's theme is The Secret City Unlocked, with tours, talks, screenings and more centered on espionage.

It's easy for Bradbury Reid — whose father worked in the high explosives unit of the Manhattan Project some 70 years ago — to point out the places where all the spies hung out in Santa Fe, because they were almost always operating within a one-mile range of downtown.

"Of all the places in the United States, Santa Fe seems to have had a very high concentration of espionage," Bradbury Reid said one day last week while giving a tour.

The Soviets chose many of the locales as easy-to-find landmarks for someone not familiar to the area: La Fonda, the now-gone Castillo Street Bridge off East Alameda Street — where pro-Soviet couriers exchanged information on the building of the bomb — and the Scottish Rite Center, known to the Soviets and their agents as "the pink church."

On the other side, the FBI agents — denied access to Los Alamos by the Manhattan Project's military leader, Lt. Gen. Leslie Groves — were, for the most part, reduced to following the activities of the American scientists in downtown Santa Fe from the top floor of what was then called St. Francis Cathedral. FBI agents would peer through the oculus above the front door to see who was going in and out of La Fonda and the nearby post office opposite the cathedral, where the Manhattan Project kept a post office box — P.O. Box 1663 — to handle mail.

There was nary a Nazi spy in sight, Bradbury Reid said.

“If there were any Nazis around, they were on a very low level,” she said.

Bradbury Reid loves spy literature and stories and thinks she understands why other people do, too.

“Why are the James Bond movies so popular? Because there’s something sexy about dealing with danger. And having a secret city right next to Santa Fe that really is still a secret is very interesting. You go to Los Alamos today, and you still can’t see much of anything,” she said.

Bradbury Reid takes tourists to all of these places as well as to 109 E. Palace Ave., once a nondescript and very secret office run by Dorothy McKibben, assistant to the Manhattan Project’s civilian architect, Robert Oppenheimer. There, McKibben greeted new scientists, gave them their aliases, helped them get settled and pretty much kept the spies away from the door.

Bradbury Reid’s father, Edward Wilder, went to work for the Manhattan Project in 1944, when she was 5 years old. Despite government promises of plentiful housing, many who went to work in Los Alamos found that wasn’t true, she said. Her family ended up living in a large tent in the Bandelier National Monument, which she loved because they got to enjoy nature and get in trouble far from the prying eyes of adults.

“As kids, we were really connoisseurs in explosions,” she recalled. “We got to where we liked the really big ones. From a kid’s point of view, they didn’t hurt anything. They just had a lot of them. They blew up explosives because they had to figure out how to detonate the plutonium for the bomb.”

For all of the Manhattan Project’s security measures, with the help of inside operatives like Klaus Fuchs, Theodore Hall and David Greenglass, secrets

did easily pass through the gates and make their way to Soviet operatives in Santa Fe and elsewhere.

For all that, the Soviets messed up, too, as Bradbury Reid relates on the tour. They were so paranoid and distrustful that even when they received solid information, they discounted it as unreliable. And when they got upset with their operatives in Santa Fe, they invited them back to their native country for a friendly visit and promptly killed them, thinning the ranks of good agents.

“They never did get it together,” Bradbury Reid said with a laugh.

Is Santa Fe still riddled with spies?

“Yeah, probably,” she said. “But how would you ever find out?”