

ECA Update: September 8, 2014



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[The Annual](#)

[Decisionmakers' Forum](#)

Oct. 20-23, 2014
Amelia Island, Florida

[National Nuclear](#)

[Science Week 2014](#)

Oct. 20-24, 2014

In this update:

New Mexico nuclear waste site may be hobbled for years

The Washington Post

Flynn accuses feds of blocking WIPP probe

The Santa Fe New Mexican

EM's First Business Opportunity Forum Draws over 70 People

DOE EM

Portman calls on DOE to work for Piketon funding

The Highland County Press

2 more Hanford tanks declared empty of waste

Tri-City Herald

Inslee says no extension of Hanford deadline

The Associated Press

South Carolina denies request to postpone tank closures at Savannah River Site

The Augusta Chronicle

SRNS finishes L Area disposition of fuel

The North Augusta Star

MOX facility contractor requests construction extension for work at Savannah River Site

The Augusta Chronicle

Environmental Management Site-Specific Advisory Board Chairs Notice of Open Meeting

Federal Register

U.S. Department of Energy Advisory Board to Meet

DOE EM

Potential Manhattan Project park sites in Hanford, Part II

The Oak Ridger

Los Alamos' explosive history ushered in nuclear age

The Pueblo Chieftan

New Mexico nuclear waste site may be hobbled for years

The Washington Post

September 7, 2014

[LINK](#)

It may be years before an underground nuclear waste dump in New Mexico shuttered by a radiation leak is fully operational, and costs for decontamination and other activities to restore the facility are not yet clear, Energy Department officials said.

A recovery plan is being crafted for the Waste Isolation Pilot Plant near Carlsbad, but details are not expected to be finalized for weeks, Dana Bryson, the deputy manager

of the Energy Department field office that oversees the dump, said during a public meeting last week.

He said the primary issue tied to a Feb. 14 radiation incident at the plant, managed by contractor Nuclear Waste Partnership, was that requirements for disposal were not met in materials shipped to the facility.

"We are evaluating how we can really get out and make sure that for anything we accept in the future, we have solid evidence that the waste acceptance criteria are met, that we have those assurances," he said.

An investigation into the incident at the site, where contaminated refuse from nuclear labs and weapons sites is buried in a salt mine a half-mile below ground, has centered on a container whose contents included a chemically reactive mix of nitrate salts, organic matter and lead.

Preliminary findings from the probe indicate that a chemical reaction generated excessive heat and caused the waste drum from Los Alamos National Laboratory near Santa Fe to rupture, releasing high levels of radiation in the mine and low levels aboveground, where 22 workers were contaminated with amounts not expected to harm their health.

The plant intends to submit a recovery plan to regulators for comment in coming weeks, Bryson said. The Energy Department has said it will be two years or more before the plant is fully operational. The agency has asked Congress for more than \$100 million to underwrite initial cleanup efforts.

The head of the New Mexico Environment Department warned of "significant penalties" for the waste dump and Los Alamos for violations of state hazardous-waste permits.

The state was gathering information about the radiation release, the handling of radiological debris and other practices at Los Alamos to determine the extent of violations, a New Mexico Environment Department official said.

"Based on increasing information reported to the state from both sites, the state has already identified violations that could lead to penalties," agency spokesman Jim Winchester said.

Flynn accuses feds of blocking WIPP probe

The Santa Fe New Mexican

September 6, 2014

[LINK](#)

New Mexico's top environmental regulator lashed out at the U.S. Department of Energy this week, accusing it of impeding the state's investigation into the circumstances that led to a radiation leak earlier this year at the Waste Isolation Pilot Plant near Carlsbad.

During his keynote speech to an audience representing federal agencies, industry, academia, national labs and all levels of government at the annual Radwaste Summit in Summerlin, Nev., New Mexico Environment Department Secretary Ryan Flynn warned that Los Alamos National Laboratory and WIPP could face steeper sanctions

from the state because of what he characterized as Energy Department roadblocks that have protracted the probe.

"The problem is that Department of Energy headquarters back in Washington, D.C., is looking at this situation through a political or [public relations] lens, so they've put a noose around the scientific personnel who can answer our questions and move this process along," Flynn told The New Mexican.

On Feb. 14, a drum of nuclear waste that originated at Los Alamos burst at WIPP, the nation's only below-ground repository for waste generated during decades of Cold War nuclear weapons production. The cause of the chemical reaction that triggered the drum to rupture remains under investigation by several federal agencies and the New Mexico Environment Department, which holds permitting authority over both LANL and WIPP. WIPP has ceased receiving waste indefinitely since the release.

Increasingly in recent weeks, the federal Energy Department has thwarted attempts by the state Environment Department to gather information for its investigation, according to Flynn. Six weeks ago, at a legislative hearing in Los Alamos, Flynn lauded LANL's cooperation with the state investigation into the radiation leak, including the lab's confession to treating the suspected drum without a permit, a process that left behind a lead-laden glove that's being eyed as a contributing factor in the leak. On Friday, Flynn accused the Energy Department of muzzling scientists with crucial information about the waste stream.

He said at times during the state's investigation into the leak, LANL personnel have provided "outstanding communication" about the possible cause of the radiation release. But when the Environment Department has asked for documentation supporting the scientists' observations, the Energy Department has repeatedly refused to provide it.

"During those positive meetings, information will be referenced, and there's a willingness [by LANL personnel] to provide information that's referenced during those meetings or presentations," Flynn said. "After those meetings, information gets communicated up the chain of command and someone back at [Energy] headquarters decides that no, they're not going to provide that information to the state."

Flynn said his frustration with the Energy Department grew as its denials of his department's requests for information became more frequent.

"When it happens once, it's not really a big deal. When you start noticing a pattern and it happens repeatedly, that's when you start to get really concerned," he said. "You'd have to ask Department of Energy headquarters why they don't provide certain information and why they don't make staff available. It would be interesting to know how many people need to sign off before someone at Los Alamos National Laboratory can return a phone call to me or one of my staffers."

A Los Alamos spokesman referred questions to Energy Department officials on Friday.

In a written statement responding to Flynn's criticisms, a department spokesperson said: "The department is fully committed to reopening WIPP, and will continue to work with the state of New Mexico to do so safely and as expeditiously as possible."

Greg Mello, executive director of the watchdog organization Los Alamos Study Group, echoed Flynn's angst that the Energy Department hasn't openly shared details with regulators about the radiation leak and the waste suspected of causing it. "Anything else is a sign of a poor safety culture and could be a danger signal for workers and the public," Mello said. "Mislabeling drums and withholding information can be criminal. That's one way serious accidents can happen."

Already, regulatory penalties from the state are likely for both Los Alamos and WIPP, according to Flynn. Potential penalties range from fines to suspension of operations at the sites.

At Los Alamos, treating waste without a permit and labeling waste as less volatile than it actually is, then shipping it to WIPP are among the violations already identified, and WIPP, at a minimum, faces regulatory action for failing to verify the volatility of the waste before accepting it.

"The more we investigate, the more we're discovering at Los Alamos," Flynn said.

The state's first sanctions against the permit-holders could be meted out within the next 60 days, Flynn said. Regulatory actions against LANL and WIPP are likely to be imposed in a series of steps, as each of the violations is verified.

The Energy Department's reticence to cooperate could lead to stiffer penalties, Flynn said.

"When you're less responsive, you're making us have to work and fight just to get information we need in order to our job," he said. "We're less likely to provide them with any type of a downward adjustment or credit for being upfront. We won't do it."

The Energy Department's refusal to provide information raised suspicions among Flynn's investigators, and regaining their trust will be difficult, he said.

"It takes time in order to establish credibility, and you do that by being upfront, by being candid and by answering questions. It takes time to establish credibility, and it can be lost in an instant," he said. "And the Department of Energy headquarters refuses to provide certain information. Withholding information from our staff, for whatever reason, that really erodes their credibility."

EM's First Business Opportunity Forum Draws over 70 People

DOE EM

September 4, 2014

[LINK](#)

WASHINGTON, D.C. - More than 70 people gathered on Thursday, September 4th at a public forum to gain insight into EM's federal procurement process and upcoming business opportunities in the legacy nuclear cleanup program.

EM Acquisition and Project Management Deputy Assistant Secretary Jack Surash led the interactive outreach event, guiding the audience through a "wealth of information" about EM's many contract opportunities publicly available on EM's website -- including a "Doing Business with DOE/EM" section -- and on FedBizOpps.gov.

Surash stressed that the cleanup program works to be transparent, providing as much information about acquisitions as possible while choosing proposals that represent the best value to taxpayers.

"I want to be as open and transparent as possible," Surash said, adding that people can schedule visits with him at his office to discuss questions about working with EM. "I do my best to ensure the playing field is level."

Abe Zeitoun, a forum participant, said Thursday's event was a step in the right direction for EM's new forum series.

"It was a very good start to give a good, transparent forum to contractors to tell them the future, the forecast, and what's expected in the future of contracting with EM," Zeitoun said. "It's a good way of communicating with contractors."

Throughout the forum, Surash answered dozens of questions from participants about upcoming procurements, EM's various contract vehicles, and other topics.

Surash told the attendees EM has a significant amount of work for contractors, and that the cleanup program is seeking the best companies that provide the best value to taxpayers.

"There is a lot of work to do here in the Office of Environmental Management," he said. "We want the firm that actually provides the best proposal." He later added: "Let the best proposal win, period."

Displaying a timeline on a large screen, Surash explained several important steps EM has taken over the years to improve EM's contract and project management, such as when EM launched construction project reviews in 2009.

"This is a journey, not a destination. There have been lots of improvements and there are more to come," he said.

Surash also showed the participants EM's major procurements webpage, which has a "huge amount of information."

He emphasized that small businesses are an important component of EM's accomplishments, as more than \$400 million, or 7 percent, of its obligated funds went to small business prime contract awards in fiscal year 2014, which closes at the end of this month.

The event was organized by EM's Office of Acquisition and Project Management.

EM plans to host the forum approximately each quarter. Topics will focus on how DOE is improving its acquisition and contract management and the status of ongoing and upcoming procurement opportunities.

Portman calls on DOE to work for Piketon funding

The Highland County Press

September 3, 2014

[LINK](#)

U.S. Senator Rob Portman (R-Ohio) has called on Department of Energy (DOE) Secretary Ernest Moniz to work with Senate and House Appropriators to request the necessary funding in the upcoming Continuing Resolution to prevent the layoff of up to 700 employees working on the cleanup of the Portsmouth Gaseous Diffusion Plant in Piketon.

In a letter to Secretary Moniz, Portman urged the Administration to fulfill its 2010 commitment for an accelerated cleanup of the site that completes the project by 2024.

The Administration's accelerated cleanup plan had called for reducing the completion date by 20 years, improving the site's environmental footprint, preparing it for re-industrialization, and saving \$5.9 billion in taxpayer dollars.

"In my discussions on the issue with the Senate Appropriators last month, I was told that they have not received an anomaly request from DOE for additional funding for the cleanup work at Piketon," Portman wrote.

"I strongly encourage your office to reach out the Appropriations Committees immediately to make such a request. Please let me know if there is anything further I can do to assist these efforts."

Last week, Portman brought DOE Acting Assistant Secretary for Environmental Management Mark Whitney and Senior Advisor to Secretary Moniz David Foster to the facility in Piketon.

Portman urged the Administration to move forward with efforts to restore the \$110 million funding shortfall for the cleanup work at the Portsmouth Gaseous Diffusion Plant and the future for re-industrialization of the site. Portman also met with the Southern Ohio Diversification Initiative (SODI) board, including local elected officials, business leaders and union representatives.

Portman has been supporting the re-industrialization of the Piketon site since his time serving in the U.S. House of Representatives.

2 more Hanford tanks declared empty of waste

Tri-City Herald

August 31, 2014

[LINK](#)

Hanford workers have emptied waste to legal requirements from two more of the nuclear reservation's leak-prone underground tanks, including the first tank emptied with the Mobile Arm Retrieval, or MARS, system.

"MARS performed extremely well," said Tom Fletcher, the Department of Energy's assistant manager of the Hanford tank farms, where 56 million gallons of waste left from weapons plutonium production is stored.

They are the first two tanks declared emptied to regulatory requirements this calendar year and bring the total of tanks considered empty to 13 of 149 single-shell waste tanks.

However, DOE still looks to fall short of a court-enforced consent decree requirement to have all 16 tanks in the group called the C Tank Farm emptied of hazardous chemical and high level radioactive waste by the end of September. All but one of the emptied tanks are in the C Tank Farm, bringing the total emptied there to 12, with four more to go.

DOE earlier notified the state of Washington that it was at risk of not having all of the C Farm tanks emptied by the end of September, and negotiations are under way between DOE and the state on possible revisions to consent decree requirements on emptying tanks and finishing the Hanford vitrification plant to treat the waste for disposal.

Waste is removed from leak-prone single-shell tanks and stored in newer double-shell tanks until it can be treated for disposal.

Washington River Protection Solutions had proposed a larger and more robust system to empty waste from underground tanks when it won the tank farm contract and started work at Hanford almost six years ago.

In the past, systems to empty the tanks had to fit down 12-inch-diameter risers, or pipes that extend from the ground into the enclosed, underground tanks. But Washington River Protection Solutions used remotely operated equipment to cut a 55-inch hole into the top of Tank C-107 and then installed a 42-inch-diameter riser, showing that opening a high-level radioactive waste tank could be carefully done without harming workers or the environment.

The larger riser allowed a bigger and more powerful robotic arm equipped with multiple technologies to be inserted into the tank to remove waste.

The MARS robotic arm can be raised or lowered in the tank, rotated 360 degrees and unfolded and lengthened to reach 40 feet to the tank sides or bottom. The operating head, with multiple low- and high-pressure spray nozzles, is articulated, allowing it to reach around obstructions encountered in the tank.

The use of MARS was considered a demonstration project, and it began removing waste in fall 2011. Since then, its operation has been shut down multiple times, but mostly because of issues unrelated to MARS, including equipment problems at the double-shell tank used to receive waste from Tank C-107. Equipment can deteriorate quickly in the harsh environment of radioactive waste.

The first technology used by MARS in Tank C-107, which held 253,000 gallons of waste after pumpable liquids were removed, was a sluicing system. It sprayed liquid waste on the sludge in the tank to break it up and move it toward a pump for removal. It was able to remove about 90 percent of the waste in the tank.

Then MARS used high-pressure liquid to attack the hard waste beneath the sludge.

However, that stopped being effective with about 7 percent of the waste in the tank remaining.

Hard chunks of waste at the bottom of the tank were too large to be pumped out and a "bathtub ring" remained of hard, crusted waste on the tank's wall.

Hot water was used next to dissolve waste that had high levels of phosphates.

The goal was to have 2,700 gallons or less of waste remaining in the tank, which amounts to about one inch of waste if it were spread evenly across the bottom of the large tank. However, the consent decree also allows a tank to be considered emptied to regulatory standards if three technologies have been used to remove as much waste as possible.

In the case of Tank C-107, about 12,000 gallons of waste remains after three technologies were used.

"MARS has retrieved all the mobile components of the waste," Fletcher said. The remaining waste is too hard to break up or in chunks that cannot be pumped out.

Before the tank is closed in a future step of cleanup, the remaining waste will be analyzed to make sure that the closure is protective of human health and the environment.

The second tank now considered empty is Tank C-101, which has about 5,000 gallons left in it after two technologies were used to remove waste.

The tank had 77,500 gallons of solid waste when work to retrieve the waste started in December 2012. Hanford workers used a telescoping sluicing system and then a high-pressure spray as a second waste-retrieval technology.

DOE asked the state to approve the tank as meeting the consent-decree requirements for waste retrieval, believing it did not have a third technology that would substantially reduce the risk from the remaining waste in the tank. The state recently agreed, DOE said.

Waste now is being emptied from Tank C-105 using a MARS system equipped with a vacuum, rather than a sluicing system, because the tank might have leaked waste in the past.

Inslee says no extension of Hanford deadline

The Associated Press

September 5, 2014

[LINK](#)

RICHLAND, Wash. -- Gov. Jay Inslee and Attorney General Bob Ferguson said they will not extend Friday's deadline for resolving a dispute with the U.S. Department of Energy over cleanup of the Hanford Nuclear Reservation, the nation's most polluted nuclear weapons production site.

The state has agreed to extend the deadline twice already since negotiations began in March.

The state now has 30 days to file a motion in federal court, or reach an agreement with the Energy Department.

Under a 2010 consent decree, the Energy Department has deadlines to build a plant to treat Hanford's most dangerous radioactive wastes, and to retrieve wastes contained in single-walled tanks. Since 2011, the Energy Department has repeatedly told the state it cannot meet those deadlines.

Hanford for decades made plutonium for nuclear weapons, and the wastes are left over from that work.

The state has threatened to take the department back to court in an effort to get the decades-long cleanup back on track. The cleanup costs taxpayers about \$2 billion per year.

A major problem with the cleanup is that construction of a unique facility called the Waste Treatment Plant, which is designed to turn the most dangerous wastes into glasslike logs for eventual burial, has been indefinitely delayed by technical and safety concerns.

The consent decree also set deadlines for emptying some of Hanford's underground waste tanks.

The Energy Department has said most of the remaining deadlines are at risk of being missed, including having the plant fully operational by 2022.

Setting deadlines that likely will be missed created false expectations in the community and with the state, and eroded confidence in the cleanup work, the Energy Department has said.

South Carolina denies request to postpone tank closures at Savannah River Site

The Augusta Chronicle

September 2, 2014

[LINK](#)

The state of South Carolina isn't giving any leeway to the U.S. Energy Department's deadlines for cleaning up Cold War-era, nuclear waste storage tanks at Savannah River Site.

S.C. Department of Health and Environmental Control denied a request from the Energy Department to postpone the closure date for two tanks from Sept. 30, 2015, to the last day of 2016. Despite "technical problems and funding issues" cited by the federal government, South Carolina once again threatened fines if the deadlines are not met.

Instead of a proposed 15-month extension, South Carolina agreed to grant an additional 27 days to close tanks 12 and 16 in return for days lost during government furloughs and restoring operations at the facilities after the delays.

Cleaning up the tanks has been at the center of a dispute between South Carolina and the federal government. S.C. DHEC Director Katherine Templeton previously warned Energy Secretary Ernest Moniz that delays at SRS could trigger \$154 million in fines if it does not meet cleanup deadlines.

The site has 51 radioactive-waste tanks, six of which are no longer in use. Many of the tanks, which have been used since the 1950s and 60s when the site helped make nuclear weapons, are cracked, have rusted or leaked.

Two tanks - each holding about 730,000 gallons of liquid waste - were closed in December, two years ahead of the deadline set by DHEC.

In a Thursday letter denying the schedule extension, DHEC said technological issues had not been cited by regulators as a cause for a significant delay and the Energy Department did not make "timely efforts to obtain sufficient funding" for tank closure in fiscal year 2014.

SRNS finishes L Area disposition of fuel

The North Augusta Star

September 2, 2014

[LINK](#)

The Savannah River Site's management and operations contract recently completed the Sodium Reactor Experiment used nuclear fuel campaign at H Canyon by dissolving 147 bundles of used nuclear fuel from the Site's L Area Disassembly Basin.

In a press release, Savannah River Nuclear Solutions explained that the project was an experimental nuclear power reactor and became the first nuclear reactor in the United States to produce electrical power for a commercial power grid.

The reactor functioned from 1957 to 1964.

The Sodium Reactor Experiment, or SRE, fuel slugs were prepared for disposition in the late 1970s and then shipped to SRS for storage in L Basin.

The fuel was dissolved with other high-aluminum fuel from L Area and the resulting solution will be transferred directly to the Defense Waste Processing Facility at SRS for disposition.

The Department of Energy evaluated the fuel stored in L Area and determined the SRE fuel was not suitable for long-term wet storage.

As a result, the Energy Department authorized the processing of the fuel.

George Zachmann, Savannah River Nuclear Solutions acting environmental management business manager, further explained that the fuel was made of a thorium-uranium alloy.

He added that the high uranium-233 content made the uranium not suitable for feed material at other nuclear energy power plants, which is why the disposition option was chosen.

"DOE made the decision to dissolve the SRE fuel and directly disposition the resulting solution as waste," Zachmann said.

Savannah River Nuclear Solutions is a Fluor-led company whose members are Fluor Federal Services, Newport News Nuclear and Honeywell, responsible for the

management and operations of the Department of Energy's Savannah River Site, including the Savannah River National Laboratory.

MOX facility contractor requests construction extension for work at Savannah River Site

The Augusta Chronicle

September 3, 2014

[LINK](#)

The contractor of the mixed-oxide fuel fabrication facility at Savannah River Site has quietly requested from the U.S. Nuclear Regulatory Commission a 10-year extension for construction activities.

Shaw Areva MOX Services' current construction permit expires March 30, 2015. The contractor made the request to extend the permit to 2025 in a May 12 letter that surfaced this week.

No decision has been reached on the extension request, NRC spokesman Joey Ledford said Wednesday. A public notice on the request and details of an environmental assessment that has been prepared on the proposed extension will be issued "soon" in the Federal Register, he said.

Ledford said the MOX contractor can continue with construction activities beyond March 30, 2015, if the NRC has not reached a final decision on the extension request by the expiration date.

The MOX construction permit was issued in March 2005, and construction began in August 2007. About \$4 billion has been spent so far on construction of the facility, which is being built to convert 34 metric tons of weapons-grade plutonium into commercial reactor fuel.

Cost overruns and schedule delays have led the Obama administration to slash funding for the project and propose shutting down construction to search for cheaper alternatives. Congressional support for the project, however, has backed funding for fiscal year 2015, although a budget has not been passed.

In 1999, the MOX plant was projected to cost \$1.7 billion. The estimate rose to \$4.9 billion, and in 2013, the cost was revised to \$7.7 billion.

In its letter to the NRC, Shaw Areva MOX Services said completing the MOX facility - which was about 60 percent complete in May - "is highly dependent upon annual congressional funding," which has been less than projected for several years.

Other reasons for the extension include a shortage of qualified vendors that led to delayed delivery of components; shortage of qualified construction workers; and the two-year difference between issuance of the construction permit and actual start of construction.

The fuel fabrication building is "substantially complete, including roof and exterior structure," according to the letter. More than 200,000 pounds of HVAC duct work, 1,000 fire dampers, 70 tanks and 20 gloveboxes have been installed.

Remaining construction includes the emergency generator building, the Reagents Processing Building and completion of ventilation systems. The final completion

date is unknown. The extension request does not authorize any additional work.

Tom Clements, director of watchdog group SRS Watch and a critic of the MOX project, said the extension request highlights ongoing problems with the construction project and plant design.

"A 10-year license extension could mean that the MOX project will just slowly drag on with no clear schedule and that the endless costs overruns will continue," he said.

Clements said the NRC needs to hold a public meeting to inform taxpayers about problems associated with the project.

The NRC is not required to hold a public meeting for the extension of a construction permit, although "interested parties" can petition for a hearing, Ledford said.

Environmental Management Site-Specific Advisory Board Chairs Notice of Open Meeting

Federal Register
September 3, 2014
[LINK](#)

SUMMARY:

This notice announces a meeting of the Environmental Management Site-Specific Advisory Board (EM SSAB) Chairs. The Federal Advisory Committee Act (92, 86 Stat. 770) requires that public notice of this meeting be announced in the Federal Register.

DATES:

Wednesday, September 17, 2014; 8:00 a.m.-5:00 p.m. Thursday, September 18, 2014; 8:00 a.m.-12:15 p.m.

ADDRESSES:

The Shilo Inn Convention Center, 780 Lindsay Boulevard, Idaho Falls, Idaho 83402.

Purpose of the Board: The purpose of the Board is to make recommendations to DOE-EM and site management in the areas of environmental restoration, waste management, and related activities.

Tentative Agenda Topics

Wednesday, September 17, 2014

- EM Program Update
- EM SSAB Chairs' Round Robin: Topics, Achievements, and Accomplishments
- EM SSAB Chairs' Roundtable: Setting Budget Priorities
- EM Acquisition and Project Management Presentation
- Public Comment Period

Thursday, September 18, 2014

- DOE Headquarters News and Views

- EM Headquarters Waste Disposition Strategies
- Public Comment

U.S. Department of Energy (DOE) Advisory Board to Meet

DOE EM

September 5, 2014

[LINK](#)

A public meeting hosted by the Nevada Site Specific Advisory Board (NSSAB) will begin at 4 p.m., Wednesday, September 10, 2014, at the National Atomic Testing Museum, 755 East Flamingo Road, Las Vegas, Nevada. The agenda will focus on developing the Board's fiscal year 2015 work plan and finalizing a recommendation on how radioactive waste management facility evaluations could be improved.

The NSSAB is a federally-chartered board comprised of rural and urban southern Nevada residents who provide recommendations to the DOE Environmental Management Program regarding environmental cleanup activities at the Nevada National Security Site, formerly known as the Nevada Test Site.

To learn more, call (702) 630-0522, or visit the NSSAB website at www.nv.energy.gov/nssab.

Potential Manhattan Project park sites in Hanford, Part II

The Oak Ridger

September 2, 2014

[LINK](#)

Continuing to recount our experiences the week of July 21, when Fanny and I journeyed to Hanford, Wash., to explore future Manhattan Project National Historical Park potential sites.

Continuing to recount our experiences the week of July 21, when Fanny and I journeyed to Hanford, Wash., to explore future Manhattan Project National Historical Park potential sites.

Our tour started at the Manhattan Project B Reactor Hanford, Wash., Tour Headquarters building on the outskirts of Richland, Wash. Fanny and I arrived early and were able to see the B Reactor public tour gathering for the pre-tour briefing. I have to admit that I felt jealous they were able to provide these tours all year long and that they had a special building for their tour headquarters.

In Oak Ridge, we must use the American Museum of Science and Energy (AMSE) as the tour headquarters and our public tours only run from June through August. A request has been submitted to the Department of Energy (DOE) to extend our tours to run most of the year. As I write this, I have just received feedback from that indicating a positive response may be forthcoming!

I also saw a review written by Raina Regan about her recent road trip to visit Oak Ridge: http://blog.preservationnation.org/2014/08/26/road-trip-secret-city-atomic-history-oak-ridge-tennessee/#.U_6in_ldXNk. She took the DOE Public Tour and visited our AMSE, as well as toured the historic "Townsite" or Jackson Square portion of our city. The review reflects proof of much of what I am trying to

convince us to appreciate about Oak Ridge!

Okay, now back to the Hanford Site tour.

We allowed the B Reactor public tour bus to load and leave before our special and personal tour began. We were loaded into an sports utility vehicle and set out on our day's journey. To put this tour into proper perspective, you need to understand that the Hanford Site consists of 586 square miles, which is about the same size as half of the state of Rhode Island. For comparison, Oak Ridge is approximately 90 square miles less than 15 percent the size of Hanford.

Rattlesnake Mountain is 3,600 feet high and is the highest mountain in the United States without any trees. The last part of the Columbia River that doesn't have a dam is at Hanford. That is the 51-mile stretch of water called a "reach" of water, thus the name for the REACH Museum featuring this section of the mighty free-flowing Columbia River on the Hanford Site. The REACH National Monument was created in 2000.

Two towns, Hanford and White Bluffs, were located on the land that is now the Hanford Nuclear Reservation. All the townspeople had to leave their homes when the Manhattan Project effort to produce plutonium took the land.

Today, there are only three buildings still standing from these two towns. The Hanford High School is the last building standing in old Hanford. At White Bluffs, the last building still standing is the old White Bluffs Bank, which is undergoing restoration. The Bruggemann warehouse still remains at the original family homestead and is an amazing rock constructed structure with faces made of uniquely shaped rocks on the chimney.

We visited all these potential Manhattan Project National Historical Park remaining structures. They form a unique story of the Hanford Site.

Additionally, we visited the B Reactor, which is the primary visitor attraction with tours filling almost immediately when they are posted online. More than \$3 million has been spent to upgrade the reactor building in preparation for the large number of visitors they are now experiencing.

The B Reactor was constructed in secrecy and in a hurry starting in October 1943 and was completed in September 1944, just 11 months later. Operation began when Enrico Fermi and a team of engineers started the reactor on Sept. 27, 1944.

The B Reactor operated until February 1968, except for a two-year period beginning in March 1946. The B Reactor is said to be the world's first large-scale nuclear reactor. The fact sheet for the B Reactor states, "Although somewhat similar to the X-10 Graphite Reactor at Oak Ridge, Tennessee in terms of loading and unloading fuel, B Reactor was built on a much larger scale and used water rather than air as a coolant."

The fact sheet continues, "The X-10 had an initial design output of 1,000 kilowatts, the B Reactor was designed to operate at 250,000 kilowatts. Consisting of a 28-by-36-foot, 1,200-ton pile of graphite blocks, the reactor was penetrated horizontally by 2,004 aluminum tubes. More than three hundred tons of uranium slugs the size of rolls of quarters and sealed in aluminum cans went into the tubes."

There were three original reactors built along a six mile section of the Columbia

River during the Manhattan Project which produced the plutonium used in the Trinity device, the Nagasaki weapon and contributed to the Cold War. Six more plutonium production reactors were later built at Hanford to support the large amount of plutonium production for the Cold War.

The combination of the uranium produced in the gaseous diffusion plants in Oak Ridge, Paducah, Ky., and Portsmouth, Ohio, and the plutonium production of the nine reactors in Hanford, changed the global balance of power for all time. The United States emerged from the World War II as a nuclear power and a world leader and through winning the Cold War established itself as the primary world power leader.

The B Reactor, as it is now open to the public on a routine tour basis, allows the public to better understand and appreciate the role Hanford has had in creating the world we live in today. The size of the face of the reactor will astound the visitor when they walk in the room -- it sure did me and I thought I was prepared for it. Climbing to the top of the huge reactor further impressed me of the massive size of the reactor.

It makes me think that we here in Oak Ridge have a Graphite Reactor and Beta 3 Calutrons, as well as Building 9731 with its Alpha Calutron magnets (the only ones in the world) and the K-25 footprint. We hope to figure out how to provide routine access to the public to promote heritage tourism and thus a better understanding of our historic heritage. Hanford has it figured out, maybe we can too? The efforts now being initiated at K-25 give me considerable hope.

With the passage of the Manhattan Project National Historical Park bill pending in the U.S. Senate, more study may bring to light the importance of these unique artifacts in association with the park. The park headquarters hub to be located in Oak Ridge will include AMSE and maybe even the Oak Ridge Room of the Oak Ridge Public Library with tours of Jackson Square, The Guest House lobby, examples of alphabet houses, in addition to the federal sites may help us recognize the economic development value of Heritage Tourism.

Gary Petersen, of the Tri-Cities Development Council in Kennewick, Wash., has an economic development study that shows the value of National Parks to the regions where they are located. http://www.nature.nps.gov/socialscience/docs/NPSVSE2013_final_nrss.pdf.

So, the future looks bright for Oak Ridge, in my opinion. Regarding our ability to capitalize on our heritage and to create economic growth from the history here in Oak Ridge, we just have to take the action. We can do it just as it has already been done to some degree at the Hanford Site. We just need to focus on developing those assets we have.

I believe we should move ahead now and when the national park becomes a reality, we will already be moving in the direction of an effective heritage tourism implementation. All of the experts who look at our tremendous heritage and studies that have been completed about Oak Ridge's potential for heritage tourism indicate that we have a gold mine of opportunities. Let's just do it!

Los Alamos' explosive history ushered in nuclear age

The Pueblo Chieftan
September 6, 2014

[LINK](#)

LOS ALAMOS, N.M. -- Sprawled across the vast mesas of the Pajarito Plateau with the Jemez Mountains looming darkly in the background, it looks, at first glance, like many other isolated backwaters in the American West.

But looks can be deceiving.

In the early 1940s, as World War II raged across Europe and the Pacific, this remote, sparsely inhabited area 32 miles northwest of Santa Fe was being converted into a top-secret government complex to create what was, at that time, the most powerful and destructive military weapon ever known.

Soon, hundreds of scientists and researchers from around the world had gathered at this military-controlled community to work on the Manhattan Project to develop and build the world's first atomic bomb.

On July 16, 1945, just two years, three months, and 16 days after Los Alamos was formally established, the first man-made nuclear explosion in history took place at a site in south-central New Mexico that was code-named "Trinity."

Less than a month after this successful test, atomic bombs were dropped on the Japanese cities of Hiroshima and Nagasaki. These blasts immediately killed an estimated 110,000 people (thousands more died later from bomb-related injuries and radiation sickness), precipitated Japan's unconditional surrender and the end of World War II -- and opened a Pandora's box of ongoing social, political and environmental issues.

Some thought the war's end might also signal the end of Los Alamos. Instead, the site continued to evolve into what is now Los Alamos National Laboratory, a premier scientific-research institution. The Los Alamos community itself also survived, capitalizing on its wartime heritage by creating a downtown district containing related scientific and historic attractions, along with cultural and entertainment venues, and a lushly landscaped, sculpture-filled park surrounding Ashley Pond, whimsically named for Ashley Pond Jr., founder of the Los Alamos Ranch School.

Pond, who fought in the Spanish-American War under the command of future President Theodore Roosevelt in the volunteer cavalry regiment known as the "Rough Riders," opened his boys boarding school in 1917.

In 1943, the ranch school's buildings and grounds were acquired for the Manhattan Project. Fuller Lodge, an imposing structure built using 771 massive pine logs, was converted from a dining hall into meeting space and housing for project employees. After the war, it was used as a hotel for visiting government officials (Los Alamos remained a "closed" community, accessible only by authorized individuals, until 1957). Today, the lodge houses an art gallery and community center.

A gateway to year-round, outdoor recreational opportunities, Los Alamos is also a side trip off the 120-mile-long Jemez Mountain National Scenic Byway, which includes destinations like Bandelier National Monument, where visitors can explore the remains of Native American cliff dwellings and underground kivas dating to the 13th century, and Valles Caldera National Preserve.

One of three "supervolcanoes" -- volcanoes capable of causing massive and

widespread devastation -- in the United States and seven in the world, Valles Caldera is now a collapsed volcanic system. It last erupted some 1.2 million years ago, spewing ash as far distant as present-day Iowa.

It's oddly coincidental that this remnant of one of the most violent forces in nature stands in such proximity to Los Alamos, where humankind first developed the ability to unleash its own form of widespread, explosive destruction.

