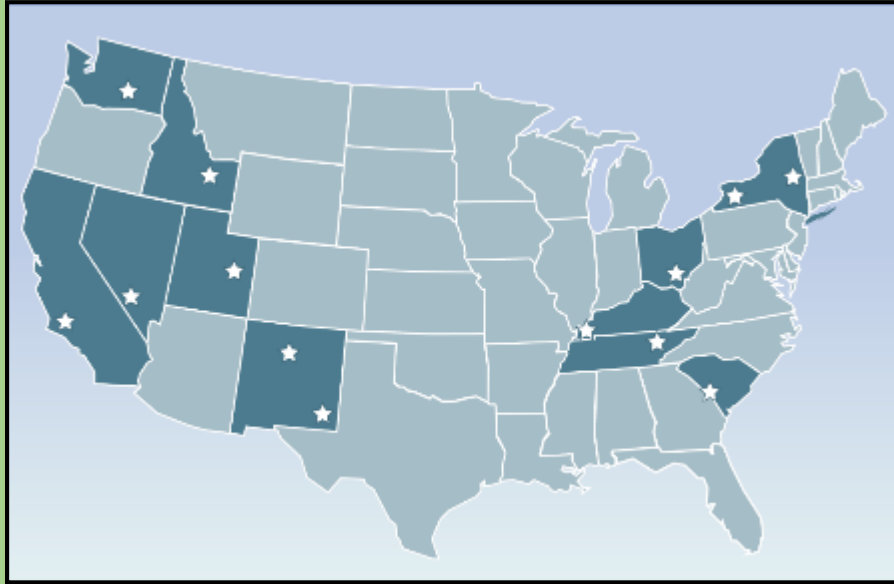


DOE OFFICE OF ENVIRONMENTAL MANAGEMENT 2015 YEAR IN REVIEW



"I am proud of all of the work we in EM—both at headquarters and in the field—have accomplished this year. While facing the most complex cleanup challenges, measurable progress was made in 2015—a testament to our skilled workforce. The considerable investment made in cleanup this year has led to strong results across the EM complex. The foundation and planning put in place this year will enable EM to hit the ground running in 2016. I was honored this year to be confirmed by the U.S. Senate to serve as Assistant Secretary of Energy for Environmental Management, and honored to be leading the EM program at this exciting time. I look forward to working with our cleanup partners to maximize our ability to meet shared cleanup goals, advocate for EM and safely advance our mission in the new year."

—Assistant Secretary of Energy for Environmental Management Monica Regalbuto

KEY EM-HQ ACCOMPLISHMENTS

- Launched a new five-year planning effort to help ensure better-informed cleanup decisions.
- Supported the new DOE excess facilities working group to analyze and develop alternatives for how DOE prioritizes and addresses numerous contaminated facilities owned by various program offices.
- Restructured the EM technology development program to target critical, near-term technology challenges, with a focus on reducing cost, increasing operational efficiency, and enhancing safety.
- Executed small business contracts valued at more than \$500 million.
- Supported the establishment of the new Manhattan Project National Historical Park, which consists of historical facilities at Hanford, Los Alamos National Laboratory and Oak Ridge.
- Held the first DOE National Cleanup Workshop, which brought together DOE officials, industry executives and other stakeholders to highlight and discuss EM's progress.



Assistant Energy Secretary for Environmental Management, Monica Regalbuto, speaks at the 2015 DOE National Cleanup Workshop.

LOOKING BACK...

The 2015 federal investment in EM has allowed significant progress in addressing the environmental legacy of the Manhattan Project and Cold War nuclear weapons production, thereby continuing risk reduction to the American people and to the environment. Throughout the year, EM demonstrated an ability to make measurable and meaningful progress towards cleanup goals, such as:

- Decontamination and demolition of facilities and waste sites along the Columbia River Corridor at the Hanford Site;
- Continuing progress on building the Salt Waste Processing Facility at the Savannah River Site, which is now over 90 percent complete;
- Completing demolition of a former uranium enrichment process building at Oak Ridge; and
- Standing up a new field office to help strengthen the legacy cleanup underway at the Los Alamos National Laboratory.

This year, EM established a new performance metric to evaluate recent management changes. Initiatives such as establishing smaller projects, achieving greater design maturity prior to the approval of baselines, and implementing best practices in cost estimating are helping EM stay on track and meet commitments.

A major EM focus in 2015 was a new strategic planning initiative to strengthen the program and set the stage for future success through responsible, common-sense budget planning that accounts for the multi-year lifecycle of most cleanup projects. The focus of this initiative is an aggressive yet achievable cleanup schedule that recognizes both unavoidable technical challenges and budget realities. Today, EM is better positioned to maximize every cleanup dollar by focusing first on the projects that are most likely to cause harm to people and the environment if left untreated – while developing workable solutions with regulators and stakeholders on remaining cleanup activities. This approach provides priority projects with the attention required for success and ensures accountability for all cleanup work.

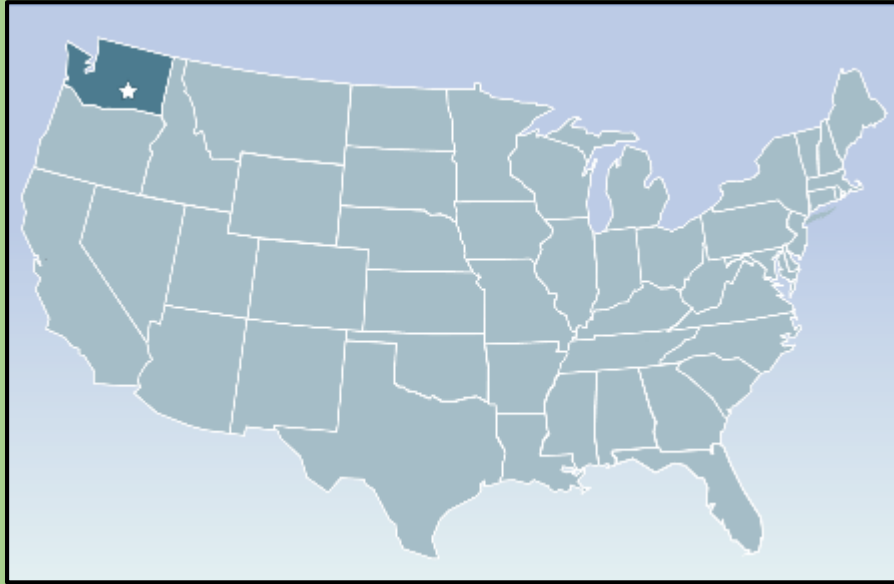
This means safer, cleaner sites and new opportunities in the communities that hosted defense nuclear sites and later cleanup sites for decades. EM is committed to working with these communities and its other cleanup partners to protect current and future generations from the risks posed by the nation's defense nuclear waste legacy.

LOOKING AHEAD TO 2016...

Achieving shared cleanup goals will not come without obstacles – and some of the most serious challenges are in the years ahead. In 2016, EM will use its newly developed multi-year planning tools to improve decision-making and better inform the continued dialogues with regulators and other stakeholders.

Improved prioritization will enhance EM's ability to provide priority projects with the focus and oversight required for success. This will lead to continued progress on tank waste retrievals and treatment systems at the Hanford and Savannah River sites, achieving major deactivation and decommissioning priorities across the complex, including at Building K-27 at Oak Ridge and Hanford's Plutonium Finishing Plant, and achieving continued progress toward resuming waste disposal operations at the Waste Isolation Pilot Plant.

RICHLAND 2015 YEAR IN REVIEW



“This year was a turning point for Richland. As we completed remediation of thousands of waste sites and demolition of hundreds of facilities to reduce risks closest to the Columbia River, we now shift focus to the enormous amount of cleanup required on Hanford’s Central Plateau. Richland has a significant amount of high-hazard work remaining in areas where the legacy of plutonium production has left hundreds of contaminated facilities, burial grounds full of waste, and contaminated soil and groundwater.”

– Stacy Charboneau, Manager, DOE Richland Operations Office

KEY ACCOMPLISHMENTS

- Removed pencil-shaped tanks from a highly radioactive area of the Hanford Plutonium Finishing Plant (PFP).
- Removed gloveboxes from PFP’s McCluskey Room.
- Moved forward on decontamination and disassembly of last gloveboxes in the PFP main building.
- Treated record amount of contaminated groundwater.
- Completed the bulk of the work along the River Corridor ahead of schedule and under budget.
- Completed chromium cleanup along Columbia River.
- Helped establish Hanford component of Manhattan Project National Historical Park.

LOOKING BACK...

In 2015, the Richland Operations Office at Hanford built on its legacy of protecting workers, the community, and the environment through risk reduction. Steady progress toward cleanup goals was achieved and work is underway to set the stage for the next decade of cleanup.

Two critical components to achieving demolition of the high-hazard Plutonium Finishing Plant (PFP) in 2016 were completed safely and successfully this year. Workers with site cleanup contractor CH2M Plateau Remediation Co. (CHPRC) finished removing 52 pencil-shaped tanks from the highly-contaminated processing canyon. This required extensive planning, remote equipment operation, and multiple layers of protective equipment for workers. Richland also completed one of the highest-hazard jobs on the entire site – removing the gloveboxes from the PFP McCluskey Room where a 1976 explosion contaminated workers and processing equipment from floor to ceiling. Before entering the room, employees traveled to the Idaho Site to learn about pressurized protective suits being worn by workers there.



Workers operate a crane remotely during the pencil tank removal process at the Plutonium Reclamation Facility.

Also at the PFP, workers are taking apart the last of 238 gloveboxes that housed processing equipment that produced plutonium. Some gloveboxes were as large as a living room, and removing them required intricate planning, strict controls, and careful disposal of equipment contaminated with chemical and radiological hazards.



Workers survey an auger for contamination levels at the 618-10 Burial Ground.

groundwater contamination.

Success Along the Columbia River Corridor

Richland marks more than a decade of success in the Columbia River Corridor cleanup. The work – achieved through a sustained focus by contractor Washington Closure Hanford, EM and its many cleanup partners – represents some of the best value in taxpayer cleanup dollars resulting in real risk reduction. This year, workers completed remediation of the largest source of chromium contamination near the river, keeping it from being driven into the groundwater. To date, more than 16 million tons of cleanup debris and waste have been moved away from the river and safely disposed. In the 300 Area, where production facilities fabricated more than 20

Record Amount of Groundwater Treated

In 2015, workers treated a record 2.4 billion gallons of groundwater – by removing chemical and radiological contaminants. More groundwater has been treated and contamination has been removed than any year in the past two decades of cleanup. The main treatment plant, known as 200 West Pump and Treat, now has the capability to remove uranium from groundwater closer to the center of the site – home to most of the processing facilities and associated waste tanks – as well as areas of



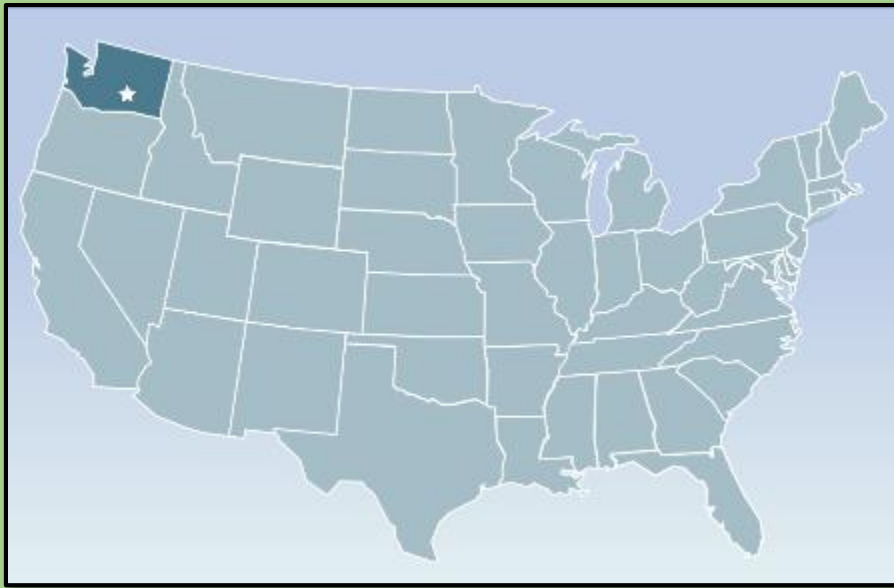
Ion exchange system for groundwater treatment.

million pieces of uranium fuel, workers have removed more than 200 buildings and cleaned up more than 300 waste sites.

Further up the river, six of nine reactors have been “cocooned,” placing them in an interim safe storage mode. A few cleanup projects in the River Corridor remain, including a former research facility called the 324 Building where a highly radioactive (yet contained) spill was recently discovered; a reactor area known as the K Area where preparations are under way to begin removing 35 cubic yards of radioactive sludge away from the river; and the 618-10 and 618-11 Burial Ground.

Cleanup achieved to date has enabled initiatives like the creation of the Manhattan Project National Historical Park, which includes Hanford’s historic B Reactor, as well as four facilities from the pre-war landscape. While extensive and complex cleanup remains, Richland will build on its proven record of success. Focusing on protecting the workers, public and environment through further risk reduction, Richland will provide necessary infrastructure for continued safe and effective cleanup operations, and restoring Hanford lands for access and use.

OFFICE OF RIVER PROTECTION 2015 YEAR IN REVIEW



"This year was key in positioning ORP for our future operational success. We have now built a strong foundation, capable of supporting us into direct feed of low-activity waste as soon as practicable, and as early as 2022."

— Kevin Smith, Manager, DOE Office of River Protection

KEY ACCOMPLISHMENTS

- Completed 15th single-shell tank retrieval.
- Increased double-shell tank storage space through use of the site's evaporator.
- Implemented path forward to begin tank waste treatment at the Waste Treatment and Immobilization Plant (WTP) as early as 2022.
- Resumed production engineering, continued construction on the WTP High-Level Waste Facility.
- Implemented plan to further improve worker safety at Hanford's tank farms.



Employees look at a melter at the Waste Treatment and Immobilization Plant's Low Activity Waste Facility.

LOOKING BACK...

In 2015, the Office of River Protection (ORP) made continued progress in addressing the 56 million gallons of nuclear waste stored in 177 underground tanks at Hanford.

Workers with Hanford tank farms contractor Washington River Protection Solutions (WRPS) continued to retrieve waste from the site's single-shell tanks for storage in double-shell tanks, completing the 15th

single-shell tank retrieval to date. This brings Hanford one step closer to completing single-shell tank retrievals at the C Tank Farm. WRPS is applying the lessons learned from the C Tank Farm work to the development and installation of infrastructure to prepare for retrieval of the next tank farms – A/AX. By applying lessons learned, ORP is maximizing opportunities to create a safer environment for tank farm workers, reducing risks by completing retrievals quickly, and making the best use of taxpayer dollars.



The evaporator at Tank T-111.

As part of efforts to effectively manage space in Hanford's storage tanks, a portable exhauster was installed on Tank T-111 this summer and has removed about 3,000 gallons of water from the tank. Operation of the 242-A Evaporator continues, creating nearly 2 million gallons of double-shell tank waste storage space this year.

To improve safety at the tank farms, ORP this year implemented the recommendations of experts of the Tank Vapor Assessment Team, including the hiring of over 100 industrial hygiene technicians and identification of new technologies for vapor monitoring and improved job planning. WRPS received two safety awards, including one for developing a tool that reduced worker exposure during surveys of radioactive equipment used to retrieve waste.



Employees tag non-radioactive liquid waste disposal system equipment for testing and initial operation.

WTP Direct-Feed LAW Initiative Moving Forward

ORP and contractor Bechtel National Incorporated also continued to make progress with the design and construction of the Hanford Waste Treatment and Immobilization Plant (WTP), which will process the waste taken from Hanford's tanks for eventual final disposal. Approvals were granted and contracts modified to start the design of facilities and structures to support low-activity waste processing prior to completion of the overall WTP. Detailed design of the Low-Activity Waste Pretreatment System is moving forward. The conceptual design of a

tank waste characterization and staging facility is also under way. This will be a critical component in the characterization and potential blending and conditioning of high-level waste streams, which will be fed from the tank farms to the WTP High-Level Waste Facility for vitrification.

At the WTP Pretreatment Facility, technical issue resolution continued with half-scale testing of pulse-jet mixing completed, and a purchase order was awarded to build the full-scale test vessel. Progress continues on other facilities not impacted by remaining technical issues. Fire- and heat- resistant brick now line the two 300-ton melters at the WTP Low-Activity Waste Facility. These melters will heat liquid radioactive waste to create a molten slurry that will solidify into glass. All major systems for three support facilities are now ready for operational testing. Civil engineering and construction continued at the High-Level Waste Facility, which reached the fifth of six elevations.

SAVANNAH RIVER SITE 2015 YEAR IN REVIEW



"This year presented a number of operational challenges to our workers, and the SRS team safely worked through them and accomplished our missions. We continue to reduce the greatest risk in South Carolina by closing another high-level liquid waste tank – the seventh tank closed at SRS – and completing activities to close an additional tank in 2016. The Salt Waste Processing Facility continues to make progress and is on schedule for construction completion in 2016. SRS workers continue to support the national security and nonproliferation needs of the nation in a safe and high quality manner. For another year, SRS has helped make the world a safer place."

— Jack Craig, Manager, DOE Savannah River Operations Office

KEY ACCOMPLISHMENTS

- Completed 90 percent of construction of the Salt Waste Processing Facility which will significantly increase liquid waste processing.
- Operationally closed Tank 16 by filling it with a cement-like grout.
- Created 2.7 million gallons of tank space through the site's two evaporators, the largest gain in tank space since 2010.
- Moved forward with deactivation and decommissioning activities at Building 235-F.
- Issued the report of the Waste Isolation Pilot Plant (WIPP) Technical Assistance Team, a Savannah River National Laboratory-led effort that provided independent scientific and technical evaluation of the cause and effect of the 2014 radiological event at WIPP.



Workers perform tank closure activities.

LOOKING BACK...

EM and its contractors at the Savannah River Site (SRS) continued cleanup progress in 2015. Notable accomplishments included closing another SRS underground high-level waste tank, nearing completion of construction of the Salt Waste Processing Facility and drawing from the expertise of Savannah River National Laboratory (SRNL), EM's national laboratory, to tackle challenges across the DOE complex.

EM and Savannah River Nuclear Solutions (SRNS), the SRS management-and-operating contractor, continued progress in decontaminating and deactivating Building 235-F and risk reduction cell restoration. SRNS also modified the site's L Area to receive National Research Universal/National Research Experimental fuel from Canadian Nuclear Laboratories' Chalk River Site.

Continued Progress in Tank Waste Remediation

The SRS liquid waste program, managed by contractor Savannah River Remediation (SRR), maintained a successful track record of reducing the risk of high-level waste stored at the site by achieving the operational closure of Tank 16 ahead of schedule. The tank is the seventh to be closed at SRS. SRR also made progress this year in emptying the site's underground waste tanks to prepare them for closure. That work involved producing 93 canisters of vitrified high-level waste at the Defense Waste Processing Facility and processing 752,000 gallons of salt waste at the Actinide Removal Process/Modular Caustic Side Solvent Extraction Unit.

SRR also completed the primary construction of Saltstone Disposal Unit 6 (SDU 6), the site's first 30-million-gallon, mega-volume salt waste disposal unit.



Saltstone Disposal Unit 6 (SDU6).

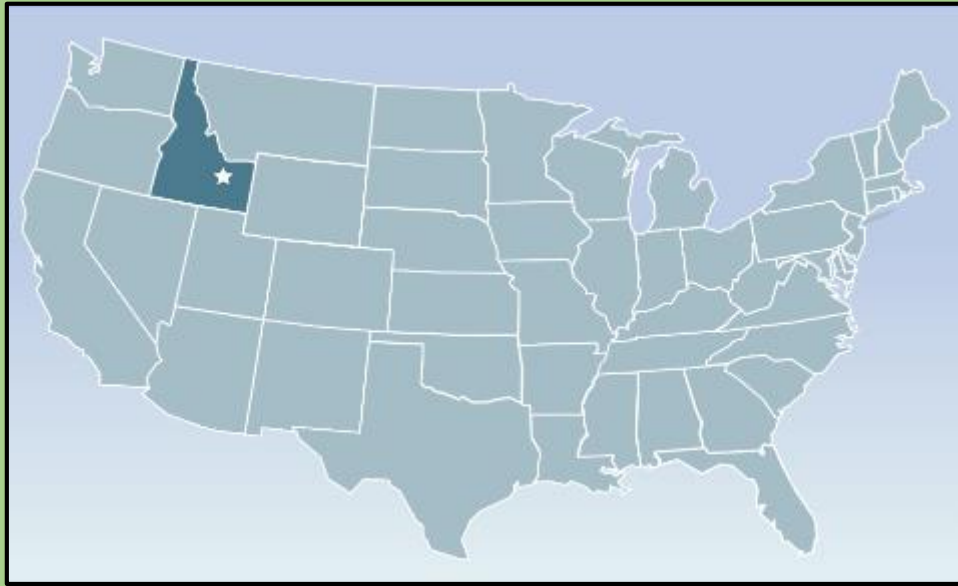
SRNL Assists EM Throughout the DOE Complex

SRNL performed critical work for EM to support sites and programs across the DOE complex. One of SRNL's notable achievements was issuing the report of the Waste Isolation Pilot Plant (WIPP) Technical Assistance Team. The team, made up of personnel from five DOE national laboratories, provided the independent scientific and technical evaluation of the cause and effect of the 2014 radiological event at WIPP. SRNL also led a team of independent experts that provided a review of tank vapor concerns at Hanford and assumed leadership of the National Analytical Management Program as the central point of contact for large-scale radiological emergencies.

Strong Site Safety Records

The significant progress achieved at SRS this year occurred with strong safety records from the site's contractors. SRNS Environmental Management Operations delivered its fiscal year 2015 work scope with no recordable injuries and no contamination cases, and SRNL continued to be the safety performance benchmark for DOE's national laboratories, with the lowest total recordable case rate of 0.15 through August 2015. SRR employees worked the greatest number of hours without a days-away injury in the more than six years of the SRR contract, logging more than 9.8 million hours without a days-away injury at one point.

IDAHO CLEANUP PROJECT 2015 YEAR IN REVIEW



"We understand that the success of the EM cleanup program in Idaho is a key contributor to the future of the Idaho National Laboratory, and that it is important that we meet our cleanup and waste management commitments to support the Idaho National Laboratory's current and future research missions."

- Jack Zimmerman, Deputy Manager for the Idaho Cleanup Project, DOE Idaho Operations Office.

KEY ACCOMPLISHMENTS

- Removed 0.80 acres of targeted buried transuranic waste from the Radioactive Waste Management Complex and initiated construction of the ninth enclosure to support buried waste exhumation.
- Received and treated more than 1,000 drums of sludge-bearing transuranic waste and 11 waste boxes from the Advanced Mixed Waste Treatment Project (AMWTP) in support of the Idaho Settlement Agreement.
- Completed grouting of the Experimental Breeder Reactor-II (EBR-II) subgrade areas, effectively entombing the reactor in place.
- Began removing waste from the final AMWTP Transuranic Storage Area Retrieval Enclosure storage cell.

LOOKING BACK...

The Idaho Cleanup Project (ICP), managed by CH2M-WG Idaho (CWI), made significant progress removing targeted buried transuranic waste from the Radioactive Waste Management Complex. Having completed a contract milestone of exhuming and processing waste from a .51-acre area early, workers were able to complete an additional .30-acre area in support of the 2008 Record of Decision that requires removal of 5.69 acres of targeted transuranic waste from the site's Subsurface Disposal Area.

In addition to buried waste remediation, ICP treated over 1,000 drums of sludge-bearing transuranic waste and 11 waste boxes from the Advanced Mixed Waste Treatment Project (AMWTP.) ICP also completed the examination and repackaging of 30 containers of remote-handled transuranic waste and certified 834 cubic meters of waste as suitable to ship to the Waste Isolation Pilot Plant. During the execution of this project scope, ICP developed a first-of-its-kind waste-treatment system that utilized distillation technology to separate the reactive metal sodium from the rest of the remote-handled transuranic waste to aid in safe disposal.



The waste face of the Transuranic Storage Are-Retrieval Enclosure.

Completing Work Safely, Under Budget, Ahead of Schedule

ICP completed a majority of its work under budget and ahead of schedule. As a result, additional funding was available to complete new work scope. ICP was able to complete grouting of the Experimental Breeder Reactor-II (EBR-II) subgrade areas, effectively entombing the reactor in place. ICP also completed demolition of the EBR-II-related Sodium Processing Facility. Overall, both projects were completed on schedule and more than \$300,000 under budget.

Paramount to the exceptional cleanup progress in 2015, CWI continued its exemplary safety record with its employees working one million hours without a recordable injury for the fifth time over the last 10 years.



Demolition of the EBR-II-related Sodium Processing Facility.

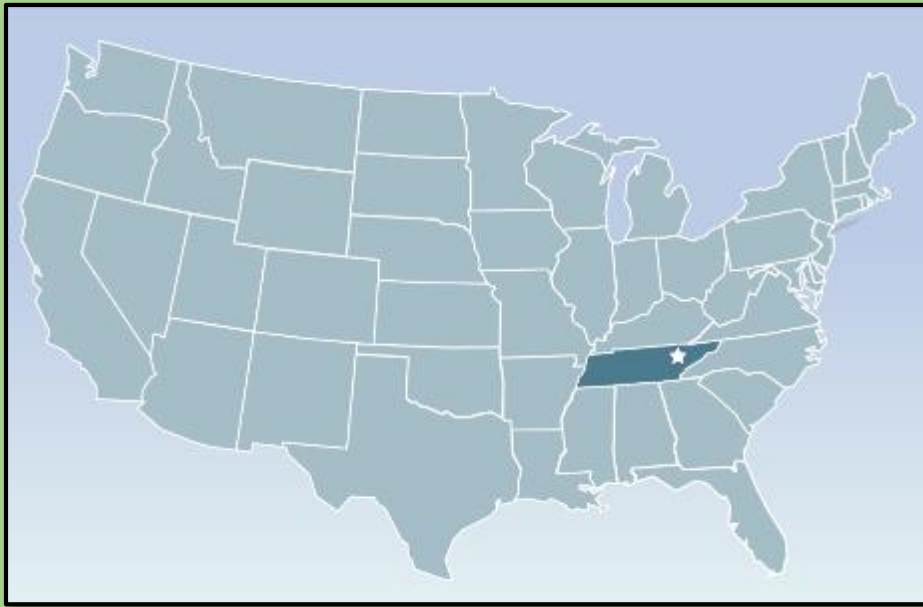
AMWTP Waste Retrieval on Track to be Completed Next Year

AMWTP, currently managed by Idaho Treatment Group (ITG), continued its record as DOE's most prolific transuranic waste treatment site in 2015. Through September, the project had characterized, certified, shipped or temporarily stored more than 12,000 cubic meters of legacy- and process- generated waste since the ITG contract began.

Originally, some 65,000 cubic meters of transuranic and mixed low-level waste was taken to the Department's Idaho site from the now-closed Rocky Flats nuclear weapon production site. Of that amount, more than 56,000 cubic meters (approximately 85 percent) has been safely processed and shipped out of Idaho.

When the waste was brought to Idaho in the early 1970s, it was stored above ground, on an asphalt pad, in a series of 14 storage cells. These cells were later covered with soil to form a protective berm. This summer, AMWTP retrieval crews reached the final storage cell where wood boxes and metal drums containing the Rocky Flats waste have remained for the past four decades. Work continues to retrieve the final estimated 6,000 metal drums and 200 wood boxes, many of which are in a degraded, tenuous condition. Retrieval work at AMWTP is on track to be completed in 2016.

OAK RIDGE 2015 YEAR IN REVIEW



“The Oak Ridge Office had another tremendously successful year in 2015. We made steady progress on all our priorities, and are well on our way towards achieving our vision of completing demolition of all the gaseous diffusion plant buildings at ETPP in 2016. Most importantly, we completed our work safely, and that is a testament to the outstanding federal and contractor workforce we have in Oak Ridge.”

– Sue Cange, Manager, DOE Oak Ridge Office of Environmental Management

KEY ACCOMPLISHMENTS

- Completed demolition of the K-31 Building at East Tennessee Technology Park (ETTP).
- Prepared K-27 Building for demolition.
- Continued transuranic waste processing.
- Identified and addressed radiological risk at the Oak Ridge National Laboratory.
- Helped establish Oak Ridge component of Manhattan Project National Historical Park.

LOOKING BACK...

The top priority for the Oak Ridge cleanup program is the East Tennessee Technology Park (ETTP), formerly known as the K-25 site. This year, the program completed demolition of Building K-31, the fourth of five demolitions of buildings once used to enrich uranium in support of nuclear weapons development and the commercial nuclear power industry. As buildings are demolished and remediation takes place, the former federal assets are transferred to the private sector for regional economic development. In 2015, the DOE Oak Ridge Office of Environmental Management (OREM) prepared the



Demolition activities at Building K-31.

necessary documentation to support transfer of another 250 acres of land to the local community reuse organization.

To continue processing transuranic waste without interruption in 2015, OREM and its contractor procured specially-designed casks to safely store the waste, and then identified space on the Oak Ridge Reservation where the casks can sit safely and securely until shipments out of Tennessee resume. Also this summer, a new contract was awarded for waste processing services at the Oak Ridge Transuranic Waste Processing Center (TWPC).

Responding to Challenges Safely, Quickly and Efficiently

Using the Department's occupational injury and illness safety performance criteria of days away, restricted or transferred (DART) and total recordable rate (TRC), OREM and its contractors achieved safe and measurable cleanup progress in 2015. In two cases, contractors for the U-233 Disposition Project and the TWPC completed this year's work with DART and TRC rates of zero. In addition, the Environmental Management Waste Management Facility project performed work for nearly 5,000 consecutive days without a lost work-time incident. OREM, in collaboration with its contractors, achieved these outstanding safety performance milestones by working to understand project risks and develop solutions.

In addition to scheduled environmental cleanup activities, this year brought unanticipated challenges. OREM was able to react to these challenges safely, quickly and effectively.

For example, a seep was discovered at the decommissioned Oak Ridge Research Reactor during a routine maintenance check. To ensure the health and safety of workers and the environment, four highly irradiated components were removed from the reactor pool, the water was drained, and the facility was placed in a more stable condition until it is demolished. Addressing aging facilities is a growing focus area for OREM, and successfully remediating the seeping reactor pool demonstrates that Oak Ridge is up to the task.

This extremely successful year positioned OREM to achieve its vision of completing demolition of the K-27 Building at ETPP in 2016. K-27 is the last of all gaseous diffusion plant buildings at ETPP to be removed from the Oak Ridge Reservation, representing a significant success for the EM program.

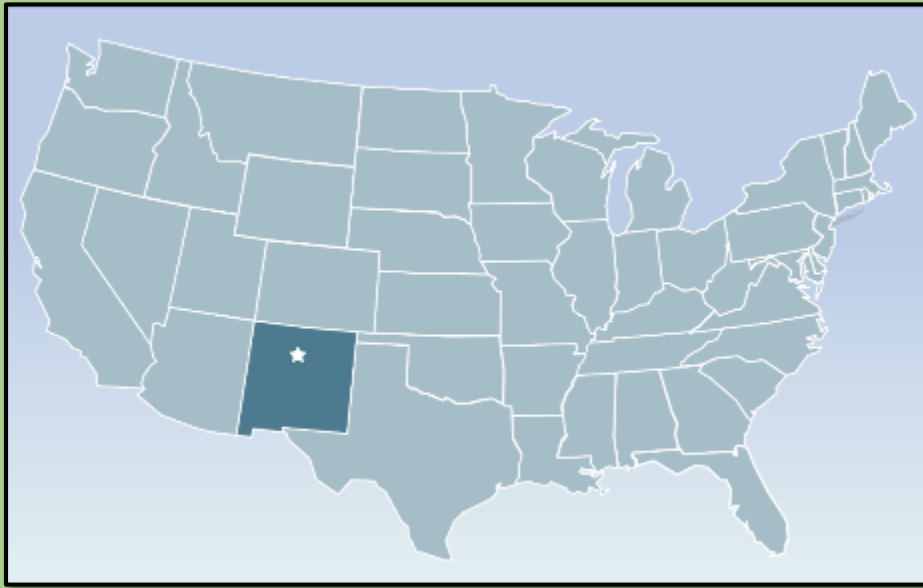


Waste processing activities at the Oak Ridge TRU Center.



Radioactive components are loaded in a cask for transport.

EM-LOS ALAMOS 2015 YEAR IN REVIEW



"We are proud of the progress EM-LA has made since it was established in March. We will continue to focus on safety, transparency and efficiency as we execute our work scope in 2016 and beyond."

- Doug Hintze, Manager, DOE EM-Los Alamos Field Office

KEY ACCOMPLISHMENTS

- Established the new EM Los Alamos Field Office to assume management responsibility for the legacy cleanup at Los Alamos from the National Nuclear Security Administration.
- Negotiated and awarded a new "bridge" contract with Los Alamos National Security, LLC to allow for direct oversight of the legacy cleanup at Los Alamos while a new separate cleanup contract is competed.
- Completed a final Environmental Assessment for the Chromium Project, which will enable work to begin on the interim measure and plume-center characterization.
- Finished ahead of schedule the removal of mercury-contaminated soil from DOE property just south of Smith's Marketplace in Los Alamos.



Workers use a Spider Excavator to remove contaminated soil.

LOOKING BACK...

This year saw the creation of the EM Los Alamos Field Office (EM-LA) to help implement DOE's shift of management of the legacy cleanup work at Los Alamos National Laboratory (LANL) to EM from the National Nuclear Security Administration (NNSA). DOE transferred management responsibility to EM to enable increased efficiencies in the environmental cleanup through employment of specialized contractors and synergies with other EM operations. These changes will enable the LANL management-and-operating M&O contractor to strengthen its focus on the core national security missions at the site.

EM-LA became operational on March 22, 2015 under interim manager Christine Gelles, and is now headed by Doug Hintze. Hintze came to Los Alamos after serving as Assistant Manager for Mission Support at the DOE Savannah River Operations Office. EM has also made progress in fully staffing EM-LA this year. Several federal staff positions are filled, including a senior contracting officer and site counsel. EM and NNSA also signed a memorandum of understanding that documents accountabilities and authorities, regulatory responsibilities, infrastructure ownership, nuclear safety oversight, and landlord functions related to the transition.

This year, EM also awarded a short-term "bridge" contract to Los Alamos National Security, LLC, (LANS) the laboratory's current M&O contractor, for the legacy cleanup work at Los Alamos. This allows EM to directly manage and oversee LANS in its performance of the legacy cleanup work because the laboratory's M&O contract is managed by NNSA. The bridge contract is in place for up to two years, and will provide EM time to compete and award a new contract for the Los Alamos legacy cleanup work. This year, EM announced its acquisition strategy for this future contract at Los Alamos, and is moving forward with the development of a request for proposals to seek bids from interested companies.

Making Progress on Addressing Chromium Contamination

This year saw significant progress in several cleanup efforts under way at the laboratory, including the Chromium Project, one of EM-LA's most important initiatives. A key monitoring well near the LANL boundary is used to measure the movement of a chromium plume in a regional aquifer. Work for the next few years is intended to hydraulically control plume expansion while a final remediation strategy is developed. The interim measure will include installation and operation of up to three extraction wells and six injection wells.

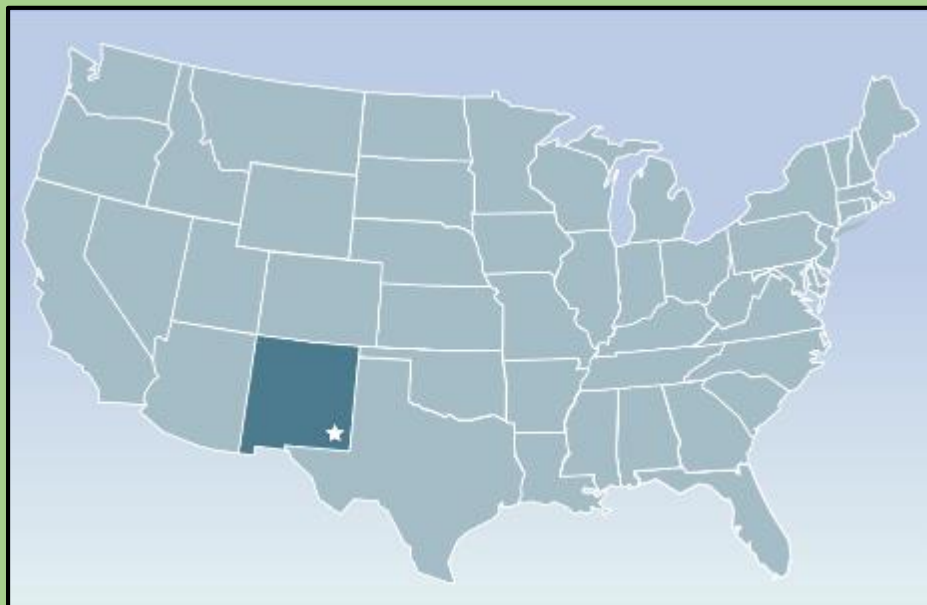
EM-LA completed a corrective action plan (CAP) in response to the radiological event that occurred last year at the Waste Isolation Pilot Plant (WIPP) – one of five CAPs developed in response to the event. The EM-LA CAP addresses the judgments of need identified in the DOE Accident Investigation Board's report that directly pertain to the EM and NNSA Los Alamos field offices.

In addition, LANL is developing safe methods to remediate the remaining nitrate salt waste at the site. They include temperature control methods and determining appropriate amounts of inert material to use for the safe and compliant transportation and disposal at WIPP.



Sonic drill rig in Mortandad Canyon preparing to install a piezometer to measure the depth and pressure of groundwater.

WASTE ISOLATION PILOT PLANT 2015 YEAR IN REVIEW



“During 2015, the Carlsbad Field Office remained focused on recovery operations, including improving contractor oversight and development and implementation of corrective actions from Accident Investigation Board recommendations. Our contractors are making steady progress in a number of areas, including ground control, radiological risk reduction, mine maintenance and improvements in safety management programs and conduct of operations with the goal of resuming waste emplacement operations as soon as practicable. These efforts will enable WIPP to support the EM cleanup mission nationwide for many years to come.”

-Todd Shrader, Manager, DOE Carlsbad Field Office

KEY ACCOMPLISHMENTS

- Completed closure of Panel 6 and Panel 7 in Room 7.
- Began radiological risk reduction activities in the WIPP underground.
- Procured and installed additional ventilation systems.



DOE Assistant Secretary for Environmental Management Monica Regalbuto discusses the operation of an underground bolter during a visit to WIPP.

LOOKING BACK...

EM's Carlsbad Field Office (CBFO) and Nuclear Waste Partnership (NWP), the managing contractor for the Waste Isolation Pilot Plant (WIPP), made significant progress this year in recovering WIPP from the 2014 haul truck fire and radiological release. This spring, Panel 6 and Panel 7 in Room 7, the location of last year's radiological release, were closed. These panel closures isolated the waste stream that caused the radiological release, providing additional protection for underground workers and fulfilling a New Mexico Environment Department administrative compliance order commitment. The panel closures included installation of chain link, brattice cloth, a 10-foot run of mine salt and steel bulkheads. In addition, continuous air monitors were installed outside the bulkheads on the intake and exhaust sides.

EM and NWP began radiological risk reduction activities in the WIPP underground, which have proven successful. Activities include applying a fine water mist to the walls and floor. As the mist evaporates, the salt recrystallizes and encapsulates the contamination. In addition, brattice cloth and a layer of previously-mined salt is being laid along contaminated portions of the floor to trap any contamination and to provide a durable surface for vehicle traffic. These radiological risk mitigation techniques are intended to prevent the resuspension of any surface contamination and protect workers. In September, zone recovery activities along the pathway from the waste hoist to the entrance of Panel 7, where waste will be disposed when operations resume, were completed.

New DOE Site Manager Named

In 2015, DOE named Todd Shrader from EM headquarters the new manager for the Carlsbad Field Office. He previously was director of the headquarters office responsible for supporting the Hanford Site's Office of River Protection. Among other positions, he also served as project manager for the Office of Civilian Radioactive Waste Management, where he led key components of the Nuclear Regulatory Commission licensing process for the Yucca Mountain Project.

'Catching Up' on Site Maintenance

As part of maintenance efforts, significant progress was made this year on catching up with rock bolting activities in the WIPP underground. This involves installing steel bolts into the roof (back) and walls (ribs) of underground drifts (tunnels). Bolting helps control and support the salt that separates or sags,



WIPP's recently purchased Hybrid Bolters (diesel/electric)

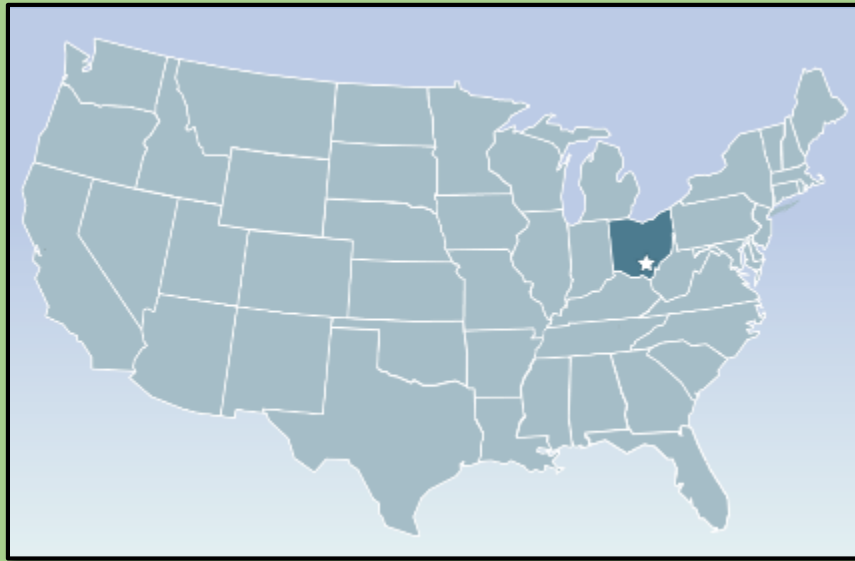
are shown here as part of the recovery ground control activities.

preventing rockfalls and allowing the mine drifts to remain open long enough for waste placement. Catch-up bolting in the underground is now 85 percent complete. To accelerate this work, WIPP recently added two diesel/electric (hybrid) bolting machines. The hybrid bolters increase the capacity for bolting crews without requiring higher ventilation rates.

To provide sufficient air flow to allow WIPP to return to waste disposal activities, two new ventilation units were procured and installed this year.

One of the units is a surface fan/filter unit known as the interim ventilation system. The other is an additional fan unit, known as the supplemental ventilation system that has been placed in the underground.

PORTSMOUTH 2015 YEAR IN REVIEW



At the Portsmouth site this year, it was critical to have alignment among regulatory decisions and agreements, deactivation, shipping, and preliminary work on the on-site waste disposal facility. In 2015, we made significant progress in all of those areas. Our workforce performed admirably in 2015 and we look forward to continuing our momentum in 2016.”

- Dr. Vincent Adams, Portsmouth Site Director, DOE Portsmouth/Paducah Project Office

KEY ACCOMPLISHMENTS

- Completed and received approval for key regulatory documents for site cleanup and waste disposition activities.
- Moved forward with site preparatory activities for the planned on-site waste disposal facility.
- Continued progress in deactivating and removing old equipment from one of the site’s three former uranium enrichment process buildings.
- Treated more than 30 million gallons of contaminated groundwater.



One of three former enrichment process buildings at Portsmouth.

LOOKING BACK...

The deactivation and decommissioning (D&D) project at the Portsmouth Gaseous Diffusion Plant in Piketon, Ohio, made significant progress in 2015. At Building X-326, one of the three former massive uranium enrichment process buildings at the site, “cut-and-cap” activities to remove old equipment continued to prepare the building for eventual demolition.

This year, nearly 1,500 process gas components were removed, bringing the total removed to date to 6,536 of 7,057 components – making this portion of the project 93 percent complete. Nearly 6,000 of those removed components have been shipped to approved off-site facilities for disposition.



Cut-and-cap activities underway.

Shipping of process gas equipment ramped up in 2015 with more than 3,000 components shipped to an off-site disposal facility. This exceeded the site’s yearly shipping goals and was more than the previous two years combined.

This summer, DOE and the Ohio Environmental Protection Agency agreed through a record of decision to demolish the massive Portsmouth process buildings and other facilities. The decision followed approval of a waste disposition record of decision that calls for construction of DOE’s second largest on-site waste disposal facility (which will be able to hold more than 5 million cubic yards of waste) as part of the remedy for more than 2 million cubic yards of D&D waste. Waste that does not meet the approved acceptance criteria for the on-site facility will be shipped off site for disposal at appropriately licensed federal or commercial disposal facilities.

Recycling and Reuse

This year, the Portsmouth Site transferred a total of 376,857 pounds of personal property to the designated local community reuse organization in support of the Asset Transition Agreement for Economic Development between DOE and the Southern Ohio Diversification Initiative (SODI). This effort generated more than \$40,000 in proceeds to assist SODI in its economic development mission in Jackson, Pike, Ross and Scioto counties. It also allowed DOE to save more than \$300,000 in disposal costs. Recycling and reuse efforts are intended to advance cleanup goals, maximize the value of assets, reduce waste management and disposal costs, and support beneficial community reuse.

PADUCAH 2015 YEAR IN REVIEW



"2015 has been a pivotal year at the Paducah Site. Now that we have successfully transitioned the gaseous diffusion plant from NRC oversight to DOE oversight and DOE has the entire site back for the first time in almost 20 years, major deactivation activities are under way to prepare the site for future decontamination and decommissioning. We are fortunate to have a highly skilled federal and contractor workforce in place to safely and successfully continue this vital cleanup project as we prepare for future site missions and community reuse of this asset."

- Jennifer Woodard, Paducah Site Lead, DOE Portsmouth/Paducah Project Office

KEY ACCOMPLISHMENTS

- Transitioned site cleanup to new deactivation contractor Fluor Federal Services.
- Completed the demolition of the C-410/C-420 UF₆ Feed Plant, the largest building demolished to date out of a set of 32 inactive site facilities.
- Completed several projects to "right-size" site infrastructure to reduce costs.
- Continued an aggressive groundwater treatment program.
- Completed a key step needed to begin removing uranium deposits in 2016.



Demolition in progress at the C-410 UF₆ Feed Plant.

LOOKING BACK...

In 2015, major deactivation activities prepared the Paducah Gaseous Diffusion Plant for future decontamination and decommissioning. Efforts to stabilize production and associated support facilities within the plant began. These tasks included the removal of R-114 refrigerant and lube oil from the process buildings, and facility modification to support the removal of uranium hold-up material from equipment in the large uranium enrichment process buildings.

The removal of these uranium deposits is key to making the buildings inherently safe and ready for demolition in the future. This will be accomplished using portable equipment specially designed and fabricated in 2015, to reduce risks to workers and costs by allowing most of the equipment to be decontaminated in place rather than having to remove it from the buildings prior to demolition.



Worker removing PCB oil.

As part of its ongoing environmental management and remediation efforts, the Paducah Site removed and disposed of waste, and demolished its largest building to date among the 32 inactive facilities already removed – the C-410/C-420 UF6 Feed Plant. EM also continued its aggressive groundwater remediation program. Deep-soil mixing to remove trichloroethene (TCE) from the soil at a historic oil land-farm was completed in 2015, and steam treatability study fieldwork at the site's largest TCE source was completed as well.

“Right-Sizing” Site Infrastructure

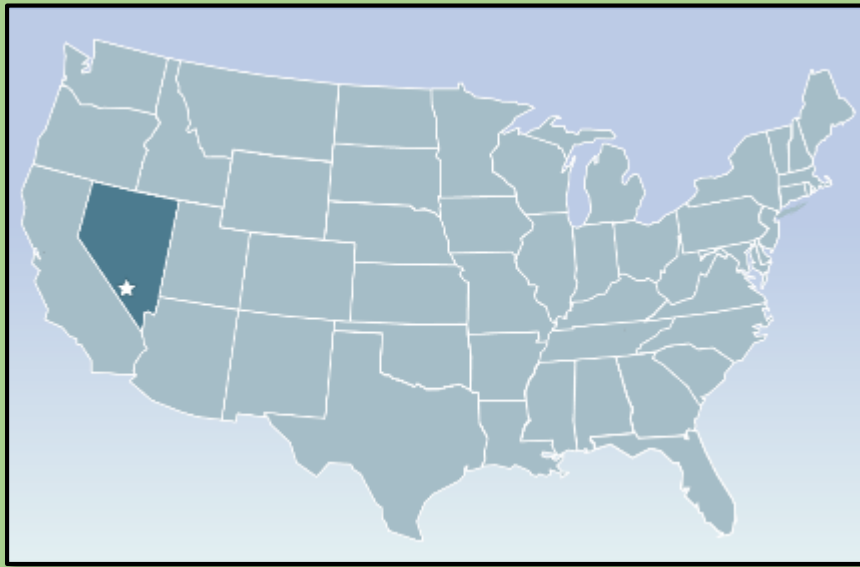
EM continued to “right-size” the Paducah Site’s infrastructure this year to conserve energy and reduce utility costs. Four oversized and outdated electrical switchyards were consolidated into a single



New natural gas package boilers.

switchyard, improving the efficiency of the electricity distribution system that will result in cost savings over time. The site’s coal-fired steam plant was replaced with five new natural gas package boilers to save energy costs and provide environmental benefits. EM and its contractor, Fluor Federal Services, also replaced more than 52 of over 74 acres of roofs, reducing hazards and avoiding future costs of heating and piecemeal repairs, while improving worker safety.

NEVADA 2015 YEAR IN REVIEW



"Our technical work in support of EM headquarters on the Palomares cleanup initiative demonstrates our successes across the board, which are facilitated by strong collaboration amongst our contractors, federal partners, stakeholders, and government agencies."

- Scott Wade, Assistant Manager for Environmental Management with the National Nuclear Security Administration's Nevada Site Office.

KEY ACCOMPLISHMENTS

- Disposed of 1,326,332 cubic feet of low-level, mixed low-level and classified waste at the Area 5 Radioactive Waste Management Site from 23 approved generators to support cleanup initiatives and milestones across the DOE complex.
- Achieved a significant milestone when the draft Frenchman Flat Closure Report was submitted to the State of Nevada for approval. It is the first Underground Test Area Corrective Action Unit to attain closure and represents a validation of the characterization approach spanning 20 years of investigation, and the success of open, transparent work with the state.
- Supported EM headquarters coordination with the State Department and Spain's environmental agencies on the technical aspects and remediation options for the Palomares site. The successful technical discussions supported the White House administration in achieving a diplomatic agreement with Spain on the Palomares cleanup initiative.



Disposal of Hussman irradiators at Nevada National Security Site Area 5 Radioactive Waste Management Site.

LOOKING BACK...

In 2015, more than 1.3 million cubic feet of low-level waste (LLW), mixed LLW, classified non-radioactive waste, and classified non-radioactive hazardous waste were safely, securely, and effectively disposed at the Area 5 Radioactive Waste Management Complex (RWMC).



DOE and USAF personnel collect soil samples and data for analysis.

NFO-EM successfully partnered with the U.S. Air Force (USAF) to ensure effective environmental management on DOE soils sites at the Nevada Test and Training Range, a 4,500-square-mile USAF-controlled area surrounding the Nevada National Security Site (NNSS), and at the Tonopah Training Range.

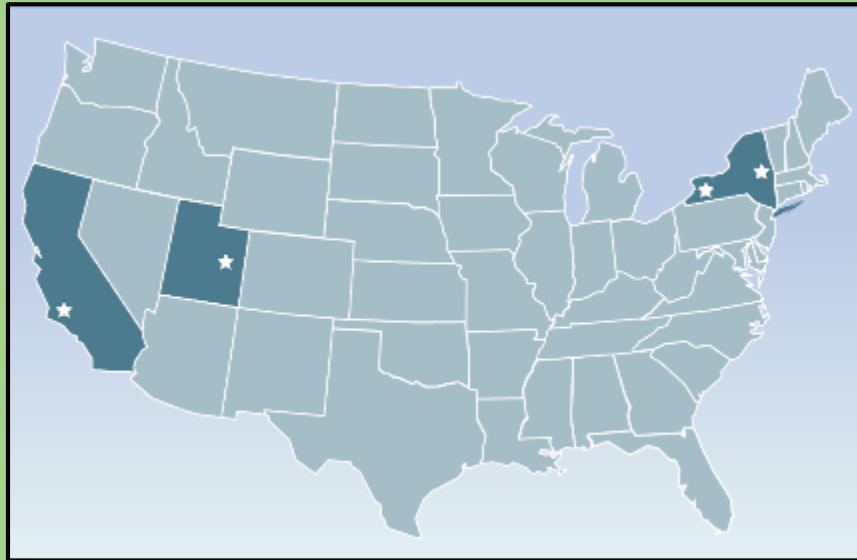
Underground Test Area (UGTA) groundwater characterization activities at the NNSS entered a new phase, with the recent submittal of the draft Frenchman Flat Closure Report to the Nevada Department of Environmental Protection, with approval expected in early 2016. The UGTA program also accomplished all necessary preparations to support the 2016

drilling and monitoring campaign at Pahute Mesa at NNSS.

New Environmental Program Services Contractor Comes to NNSS

This year also saw the arrival of a new NNSS environmental programs services contractor, Navarro Research and Engineering. Under the new contract, Navarro is responsible for environmental investigations, characterization, cleanup, and closure of NNSS surface and groundwater sites. Navarro is tasked with surveillance, monitoring, review and evaluation of waste generator programs that plan to ship waste to the NNSS for disposal. That work includes review of each waste profile. Navarro will also continue to lead integration with other NFO contractors and the DOE national laboratories involved with EM activities, and conduct public involvement and community outreach.

EM SMALL SITES 2015 YEAR IN REVIEW



"Federal and contractor staff at the small sites projects continued to deliver outstanding results this year in such areas as regulatory documentation at ETEC, mill tailings shipments at Moab, storage tank removal and disposal at SPRU, and removal and relocation of vitrified high-level radioactive waste at the WVDP. I am pleased the teams are working together efficiently to provide critical support to EM's mission."

-Ralph Holland, Director, DOE Office of Environmental Management Consolidated Business Center

ENERGY TECHNOLOGY ENGINEERING CENTER (ETEC)

- The Soil Treatability Investigation Group met in February 2015 where the final status reports on the ongoing Soil Treatability Study were completed. The group provided input for the study, reviewed study plans, agreed on screening criteria and discussed results from the various steps in the study and the evaluation of candidate technologies.
- The upcoming draft environmental impact statement (EIS) analysis of impacts continued to help evaluate and develop cleanup options for the site.
- A groundwater work plan was developed and received regulatory approval. This plan includes characterization to define the nature and extent of contamination with remediation strategies being developed through the EIS process.



The ETEC site today.

"With the continued participation of our community, we were able to accomplish a great deal over the last year, moving us closer to cleanup." – ETEC Deputy Manager Stephie Jennings

MOAB URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT

- The Moab Project shipped over 600,000 tons of uranium mill tailings to an engineered disposal cell near Crescent Junction, Utah, bringing the total to date to nearly 8 million tons.
- After a major rockslide in November 2014, the Moab Project installed a radar monitoring unit to act as an early warning system for potential rockslides and implemented safe workers controls. The Moab project began a safe, methodical restart of shipments in January 2015, and through the remainder of the year, progressively increased the length of trains carrying containers of uranium mill tailings. In early October, full train shipments of 136 containers resumed. Construction continues on a 300-foot-long, 15-foot-high concrete block barrier and ditch for added worker protection.
- Groundwater modeling was conducted in 2015 to ensure that planned groundwater extraction rates for next year will protect the Colorado River.
- The Moab Project maintained a total case rate and days away, restricted, and transfer rate of zero through the fiscal year 2015. Those metrics measure occupational injury and illness performance. The Moab Project also reached a cumulative 2.45 million hours without a work-related, lost-time injury or illness.



The Moab tailings pile.

“Despite the setbacks and additional costs associated with the November 2014 rockfall, the Moab Project has remained steadfast in its determination to continue making progress to safely relocate the Moab tailings pile to Crescent Junction. I am proud of the dedication to safety our workforce demonstrates every day.” - Federal Project Director Donald Metzler

SEPARATIONS PROCESS RESEARCH UNIT (SPRU)

- Workers recently completed the removal and disposal of seven large waste storage tanks from a vault and shipped the final tank to an offsite low-level radioactive waste disposal facility. These tanks were used to contain radioactive wastes from SPRU in the 1950s and had sat empty since the 1960's.
- EM finished removing equipment and piping in Building G2 cell 1, the most contaminated process cell. Piping and equipment removal was also completed in the other four process cells in Building G2.



The last of seven tanks in the tank vault at SPRU is hoisted for placement in a made-to-order shipping container.

"Our focus in 2015 turned to the active decontamination and demolition of unused buildings at the site and we are making measurable progress in this area." – Federal Project Director Steven Feinberg

WEST VALLEY DEMONSTRATION PROJECT (WVDP)

- In November, workers initiated activities to relocate 275 high-level waste canisters from the Main Plant Process Building to temporary storage on the cask storage pad. This relocation is necessary for deactivation and demolition of the building.
- Progress continued in the deactivation of the Main Plant Process Building, including asbestos abatement, contaminated piping removal and vacuuming of fine debris.



Workers load an overpack container into a vertical storage cask.

"I'm proud of the progress our workforce continues to make in safely decommissioning the former nuclear fuel reprocessing center. In 2015, we continued to set the stage towards D&D of the WVDP."

- West Valley Demonstration Project Director Bryan Bower