



# HANFORD FORWARD



COVER STORY SITEWIDE

## Hanford Recognized for Safety Efforts

RIVER CORRIDOR

## Completing Chromium Cleanup along the Columbia River

CENTRAL PLATEAU

## Iconic Glove Boxes Removed

STAR SITE

# ABOUT HANFORD



The Richland Operations Office (RL) oversees cleanup along the Columbia River and in Hanford's Central Plateau, including groundwater and waste site cleanup, management of solid waste, spent nuclear fuel and sludge, facility cleanout, deactivation and demolition, environmental restoration, plutonium management, and all site support services.



CH2M HILL Plateau Remediation Company (CHPRC) is the prime contractor for the safe, environmental cleanup of the Central Plateau at the Hanford Site. This task includes decommissioning and demolishing the Plutonium Finishing Plant that once stored secret material for the nation's defense, cleaning up plumes of contaminated groundwater beneath the site, and removing highly radioactive "sludge" away from the Columbia River.



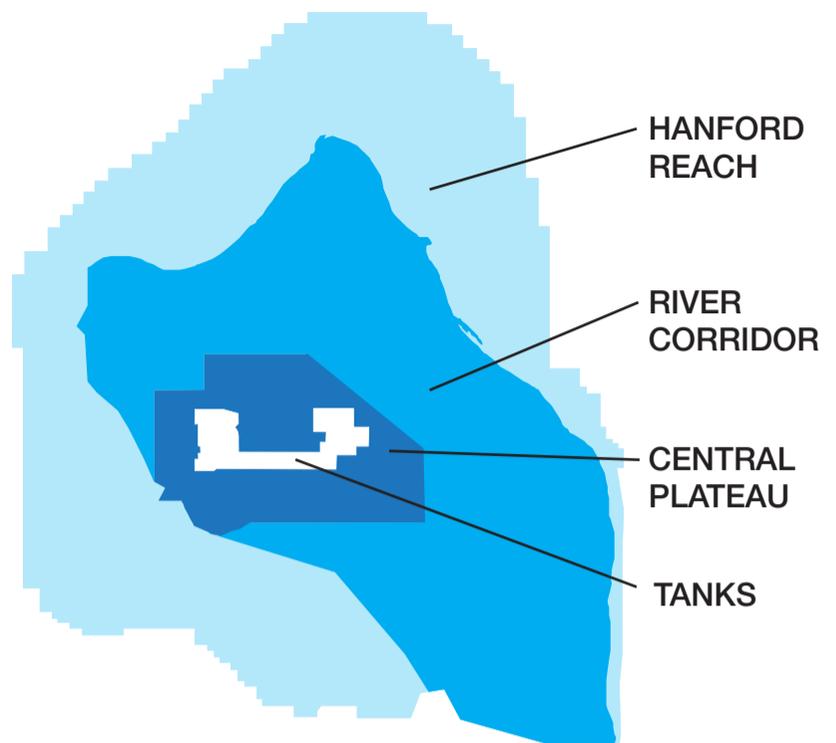
HPMC Occupational Medical Services (HPMC OMS) provides occupational medical services to the Department of Energy and Hanford prime contractors and subcontractors. HPMC OMS has clinics in Richland and in the 200 West area of the site and is responsible for the medical surveillance, medical qualification, health, and wellness needs of more than 7,500 Hanford workers.



A joint venture between Lockheed Martin, Jacobs Engineering and Centerra Group, Mission Support Alliance (MSA) is responsible for safely and effectively managing and operating the infrastructure of the Hanford Site. MSA provides an array of services, including training, site security, roads and utilities, logistics and transportation, information resources, information technology and other services, enabling Hanford contractors to focus on their cleanup efforts.



Washington Closure Hanford manages the 220-square-mile River Corridor Closure Project for the Department of Energy's Richland Operations Office at the Hanford Site. The project is the largest environmental cleanup closure project in the nation. Washington Closure, owned by AECOM, Bechtel and CH2M, is responsible for demolishing 320 contaminated buildings, cleaning up an estimated 590 waste sites, placing two former plutonium production reactors and one nuclear facility in interim safe storage, and managing the Environmental Restoration Disposal Facility.



The Office of River Protection (ORP) is responsible for the retrieval, treatment and disposal of Hanford's 56 million gallons of radioactive tank waste, currently stored in 177 underground tanks in the central part of the site. In support of this mission, ORP manages the Tank Operations Contract and the Waste Treatment & Immobilization Plant Project.



Wastren Advantage, Inc. is a remediation services small business specializing in the disciplined management of complex operations in high-hazard environments, with project offices throughout the United States. WAI, headquartered in Piketon, Ohio, manages the 222-S Nuclear Laboratory. Their clients include the U.S. Department of Energy, Department of Defense, Department of Agriculture, the Bureau of Reclamation, and numerous commercial entities. WAI is the recipient of multiple VPP Star of Excellence and Legacy Star Awards.



Bechtel National Inc. is designing, building and commissioning the world's largest radioactive and chemical waste treatment plant. URS is BNI's principal subcontractor. The Waste Treatment and Immobilization Plant is being built for the U.S. Department of Energy at the Hanford Site in southeastern Washington state. When completed, it will be used to solidify the radioactive liquid waste stored in 177 aging underground tanks using a process called vitrification.



Maintaining the underground waste storage tanks at Hanford falls under the jurisdiction of Washington River Protection Solutions (WRPS). This organization is responsible for storing and retrieving the approximately 56 million gallons of nuclear and chemical waste stored in these tanks at the Hanford Site. WRPS is owned by AECOM and Energy Solutions, with AREVA as the primary subcontractor.



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# Workers Remove Iconic Glove Boxes from Hanford's Historic **McCluskey Room**

Workers recently finished removing three pieces of history from the “McCluskey Room,” one of the most hazardous locations on the Hanford Site.

During the Cold War, workers in the McCluskey Room recovered americium, a highly radioactive byproduct of plutonium. In 1976, a vessel inside a glove box burst, exposing Harold McCluskey to radioactive material and giving the room its nickname. McCluskey, who was 64 at the time, lived for 11 more years and died from causes unrelated to the accident.

That glove box and two others in the room are now gone. Removing the damaged components from inside



The damaged 1976 glove box.



Kenton Debrine works in the fifth and final McCluskey Room glove box to be cut up and disposed of. This, the largest of the three glove boxes recently removed, measured about 30 feet long by about 10 feet tall.

that glove box was among the more challenging tasks for cleanup workers because of residual contamination remaining from the incident.

A crew with Department of Energy (DOE) contractor CH2M HILL Plateau Remediation Company (CHPRC) began final cleanout of the McCluskey Room in September 2014. Numerous hazards from the 1976 accident remain, including airborne radioactivity and surface contamination. Workers improved ventilation, applied fixative to limit the spread of radioactive contamination and conducted numerous surveys to determine the extent of radiological hazards. Workers cut apart the three contaminated glove boxes and packaged each piece for future offsite disposal.

“Safely removing these three glove boxes represents continuing progress in cleaning out and demolishing the Plutonium Finishing Plant (PFP),” said Mark Whitney, Principal Deputy Assistant Secretary for Environmental Management (EM) for the DOE. “The demolition of the PFP will remove a significant Hanford Site risk and will allow cleanup funds to be used elsewhere on the site.”

“Using protective equipment never before used on the Hanford Site, the team did a great job carefully preparing and safely executing the hazardous work inside the McCluskey Room,” said Mike Swartz, vice president of the PFP Closure Project. “Our experienced workforce is making solid progress preparing the facility for demolition by Sept. 30, 2016.”

Several chemical processing tanks remain in the room; workers will now focus on preparing those for removal. Overall, the plant is about 84 percent ready for demolition; the remaining critical-path work will be removing the exhaust ventilation ducting and plutonium processing equipment.

# Hanford's 300 Area Sees Dramatic Progress

The 300 Area, located 1.5 miles north of the City of Richland, was once the center of Hanford's radiological research and nuclear fuel fabrication facilities. These activities left highly contaminated buildings and waste sites. It also is the most publicly visible sign of progress on the Hanford Site.

Over the last 10 years, the 300 Area Washington Closure Hanford (Washington Closure) team demolished more than 170 facilities and cleaned up more than 100 waste sites at the 1,700-acre site. The contaminated buildings and soil from the waste sites have all been safely disposed of at the onsite landfill, the Environmental Restoration Disposal Facility (ERDF).

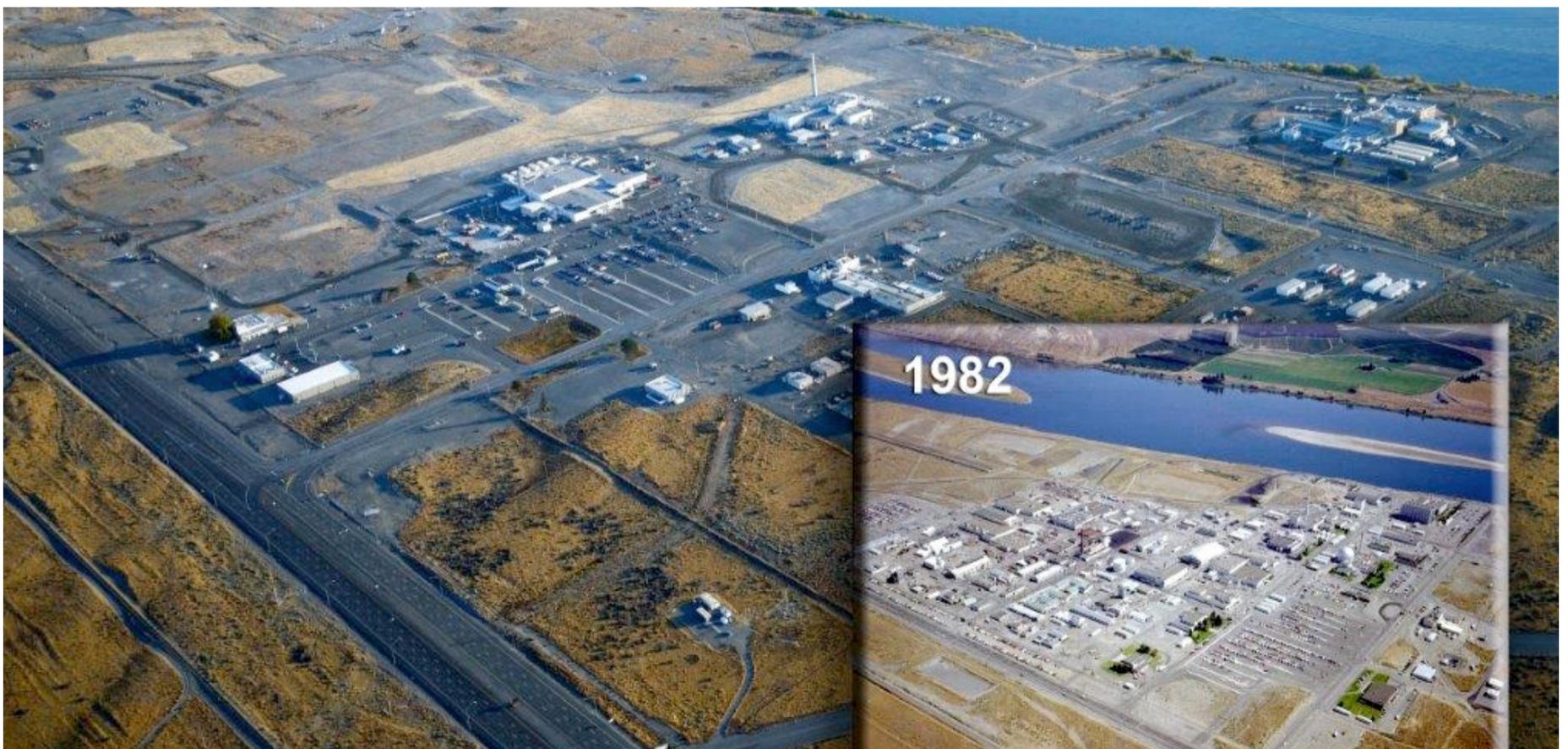
"We all can take pride in the tremendous progress by our River Corridor team, which includes both regulators and the Department of Energy (DOE). By working together, we have seen safe and efficient progress at the 300 Area and along the entire Hanford river corridor," said Scott Sax, president, Washington Closure.

All that remains in the 300 Area is the highly contaminated 324 Building, the fire station and some Pacific Northwest National Laboratory research buildings. The six research reactors that once stood in the 300 Area have been remediated and buried at ERDF.

In September 2015, 51 acres of cleaned up 300 Area sites were backfilled and revegetated with native seeds, signaling the on-time completion of a major regulatory milestone.

"The progress in the 300 Area has been incredible, with the amount of work that has been done to eliminate hazards close to the Columbia River and city of Richland," said Stacy Charboneau, manager of the DOE Richland Operations Office.

The area is now designated as an industrial area that is anticipated to provide future economic opportunities for the community.



Photos of the Hanford 300 Area from 1982 and 2015 show dramatic changes visible after cleanup of more than 220 facilities and 300 waste sites. One facility, the 324 Building, remains for remediation, and a few retained buildings will continue to support the Pacific Northwest National Laboratory and Hanford Support Services.

# Workers Treat Record Amount of Hanford Groundwater

In 2015, workers at the Department of Energy's (DOE) Hanford Site treated a record 2.4 billion gallons of groundwater.

“We’re treating more groundwater and removing more contamination than any year in the past two decades of cleanup,” said Michael Cline, director of the soil and groundwater division with the DOE Richland Operations Office (DOE-RL). “Not only are we treating more groundwater each year, we’re also removing more contamination and expanding the area we’re pumping from to remove contamination.”

DOE-RL set a goal for contractor CH2M Hill Plateau Remediation Company (CHPRC) to treat 2.1 billion gallons by the end of the fiscal year, which ran from October 2014 through September 2015. CHPRC met this key performance goal in mid-August, more than a month ahead of schedule, removing more than 75 tons of contaminants from groundwater.

CHPRC also exceeded last year’s treatment record of 1.9 billion gallons. To date, Hanford contractors have treated more than 13 billion gallons of groundwater and removed more than 200 tons of contaminants, including nitrate, carbon tetrachloride, hexavalent chromium, uranium and technetium-99.

“Our groundwater treatment programs are designed to protect the river by slowing the spread of contamination near the river and preventing contamination in the center of the Site from making its way to the river,” said Karen Wiemelt, CHPRC vice president of soil and groundwater remediation.

Six pump-and-treat systems pump groundwater up through wells and treat it to remove contaminants before the water is reinjected into the ground.

“We continue to find innovative ways to increase treatment capacity,” said Wiemelt. “As a whole, our systems are operating at about 113 percent of their designed capacity and, with several upgrades we’ll finish this year, that number will be even higher.”

The groundwater contamination resulted from operations to produce plutonium from the 1940s through the end of the 1980s. Since 2009, CHPRC has more than quadrupled the site’s groundwater treatment capacity from 500 million gallons to 2.1 billion gallons a year.



Ion exchange resin columns manufactured to treat uranium contamination in Hanford groundwater arrive at the 200 West Pump and Treat Facility for installation in the radiological building.



Hexavalent chromium tints contaminated groundwater yellow.

# HANFORD 2015

At the Plutonium Finishing Plant, employees have been doing some of the most hazardous work on the Hanford Site. They're getting closer to having the facility ready for demolition starting this spring. Milestones in cleanup this past year were the removal of 52 pencil-shaped tanks and removing highly contaminated equipment from the McCluskey Room (Americium Recovery Facility).

In groundwater, a record 2.4 billion gallons were treated this year to remove chemical and radiological contamination, and new equipment was added at the site's largest treatment facility to add the capability to remove uranium from groundwater.

Along the Columbia River, crews are planting native seeds to revegetated areas where millions of tons of soil contaminated with chromium were removed. As of the end of this year, large areas had been backfilled, contoured, and planted to resemble a natural landscape.

In Hanford's 300 Area north of Richland, Wash., workers finished backfilling and revegetated areas where more than 200 facilities had been demolished and more than 300 waste sites had been cleaned up over the past several years.



As resolution continues on the technical issues with the Pretreatment Facility at the Waste Treatment Facility, the Department of Energy (DOE) has approved a path forward for the Office of River Protection (ORP) to begin vitrification of tank waste as soon as 2022, through the Direct Feed Low-Activity Waste process.

With the completion of retrieval of tank C-102, DOE-ORP comes closer to completing retrieval of the entire C Tank Farm to regulatory requirements. ORP has taken the lessons learned from retrieval at C-Farm and applied that to the infrastructure development and installation for retrieval of the next tank farms, A/AX.

Since returning to service in the fall of 2014, the 242-A Evaporator has created nearly 2 million gallons of waste storage space in the double-shell waste tanks through the evaporation of excess water from the tank waste stored in the double-shelled tanks.

SQUARE MILES	504 of 586 square miles of active footprint completed	82 sq miles active cleanup remaining
WASTE SITES	1,282 of 2,028 waste sites remediated	746 waste sites remaining
FACILITIES	850 of 1,668 facilities demolished/removed	818 facilities remaining
TANKS	14 of 177 tanks retrieved	163 tanks remaining
CLEANUP DEBRIS	17.5 million tons of soil, debris sent to ERDF*	Ongoing
GROUNDWATER	13 billion gallons of groundwater treated	Ongoing

1989 – FY15

Future

\*Environmental Restoration Disposal Facility

# Washington Closure Completes Chromium Cleanup along Columbia River

As Washington Closure Hanford's (Washington Closure) contract at the Hanford Site nears completion in September 2016, workers are making major progress. Washington Closure has completed cleanup of the chromium-contaminated soil sites along the Columbia River.

The work is part of the \$2.9 billion River Corridor Closure Project. The 220-square-mile River Corridor was home to Hanford's plutonium production reactors and fuel development facilities, and hundreds of support structures that operated during the Manhattan Project and Cold War eras.

In all, Washington Closure has removed about 129 tons of chromium from waste sites in the River Corridor. More than 2.1 million tons of chromium-contaminated soil were hauled to Environmental Restoration Disposal Facility, Hanford's onsite landfill for low-level, radioactive and hazardous mixed waste, for disposal.

"Removing the chromium contamination is a critical step in maintaining the quality of the groundwater and the Columbia River," said Mark French, Department of

Energy's (DOE) federal project director for the River Corridor. The form of chromium contaminating groundwater beneath the Hanford Site is a known carcinogen and is particularly toxic to fish and other aquatic life.

Over the years, large quantities of sodium dichromate were transported to the site by railcar or tanker truck and distributed among the reactors through underground piping. Leaks from pipes or spills resulted in massive amounts of contaminated soil.

Workers near Hanford's D and DR Reactors completed remediation and backfill of the largest source of chromium contamination near the Columbia River earlier this year. The work involved digging 85 feet to groundwater at three waste sites, two of which eventually merged, leaving two massive dig sites.

Because of their size, the dig sites were engineered using the same techniques used for open pit mines. One of them – D-100 – covered more area than seven and a half football fields at ground surface and about one football field at the bottom of the cleanup excavation.

Once workers hit groundwater at D-100, they dug another 10 feet of material from within the aquifer to remove groundwater-saturated soil. "Eliminating more source term will greatly reduce groundwater treatment costs," French explained.

The deep digs at D Area marked the second time Washington Closure dug 85 feet to groundwater to remove chromium-contaminated soil. In 2012, they successfully used the approach near C Reactor in two deep digs. Early last year, Washington Closure completed backfill of the cleaned up sites, and replanted them with native vegetation.

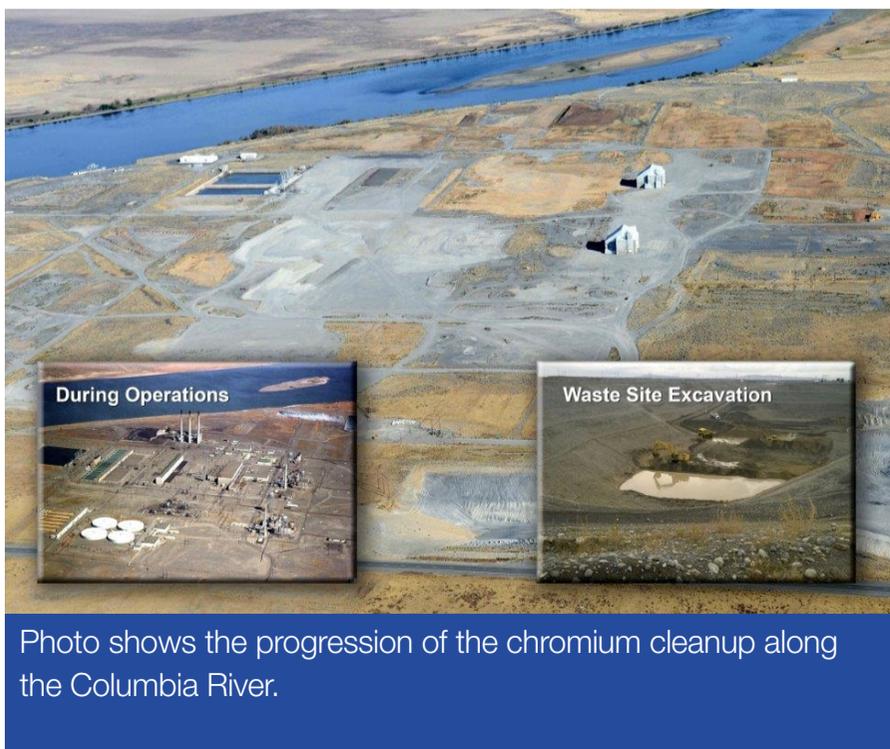


Photo shows the progression of the chromium cleanup along the Columbia River.

# Hanford's Groundwater Treatment System Expands Already Impressive Capabilities

CH2M Hill Remediation Company (CHPRC) expanded the capabilities of the 200 West Pump and Treat System in early September when construction was completed on a treatment system that will remove uranium from groundwater.

The 200 West Pump and Treat System started operating in 2012 and has already removed numerous contaminants. Biological treatment removes nitrates, air strippers remove carbon tetrachloride and volatile organic compounds, and ion exchange removes radiological contaminants.

“We were already removing more contaminants, including technetium-99, than any other water treatment system in the complex,” said Curt Wittreich, CHPRC project manager. “This expansion allows us to target groundwater from sources with higher concentrations of uranium.”

The uranium contamination in the groundwater targeted by the system primarily came from U Plant, a facility used to recover uranium from waste sludge stored in underground tanks. The discharge of liquids, some

contaminated with chemicals and radionuclides, to soil disposal sites resulted in a plume of contaminated groundwater approximately 102 acres or about 134 football fields in area.

Additionally, the 200 West Pump and Treat System will treat about 2 million gallons of water from the 200 East Area. Contaminants in this water are not currently migrating downward into Hanford's aquifer, but this action is needed to prevent future migration.



Pipefitters install equipment that is being added to the 200 West Pump and Treat System to remove uranium from groundwater.

## SITEWIDE

# Hanford Earns Safety Honors

The Voluntary Protection Program Participants Association (VPPPA) recently recognized Department of Energy (DOE) contractors at the Hanford Site and one individual employee with DOE and national safety awards.

Contractor Mission Support Alliance (MSA) received Voluntary Protection Program (VPP) Star of Excellence awards for both the Volpentest HAMMER Federal Training Center and Safeguards and Security group. Washington Closure Hanford, CH2M Hill Plateau Remediation Company and Washington River Protection Solutions also received VPP Star of Excellence awards, and CHPRC also garnered a national Safety & Health Outreach Award for its After School Matters program.

“Our workers on the site are performing some of the most complex and hazardous work in the department,”

said Stacy Charboneau, DOE-Richland Operations manager. “I commend them for these awards and thank them for the safe work that led to this recognition.”

In addition, MSA's Kevin Schoonover received the national VPPPA Safety & Health Achievement Program Award, presented to non-managerial employees who have taken the initiative to learn and apply safety and health best practices.

The VPP Star of Excellence is awarded to sites that go beyond the Star criteria and demonstrate excellence in outreach and mentoring efforts, along with exemplary employee involvement and management leadership related to VPP.

The awards were announced at the VPPPA National Conference in August.

# WRPS Recognized for Safety Innovation

Washington River Protection Solutions (WRPS), the Department of Energy's (DOE) Tank Operations Contractor, received the Voluntary Protection Program (VPP) Innovation Award at the Voluntary Protection Program Participants Association national conference in Grapevine, Texas.

The VPP Innovation Award is presented to an individual, company or worksite that has developed and implemented an innovation, encouraged others to try new approaches and emphasized the value of creativity and flexibility in the resolution of worker safety and health problems.

WRPS was recognized for designing, fabricating and deploying a tool that reduces worker exposure while surveying long-length pieces of equipment used to retrieve highly radioactive and chemical waste from the Hanford Site's tank farms.

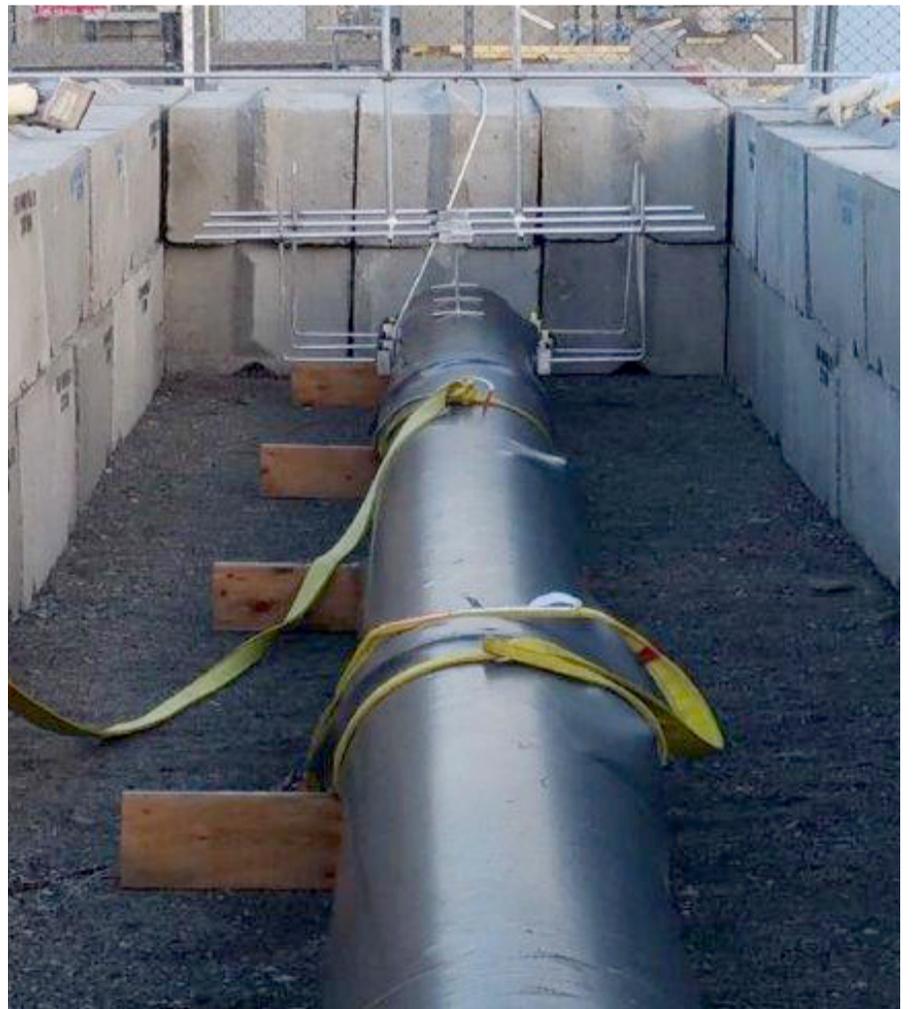
## A Team Effort

"This award demonstrates the tank farm team's dedication to identifying innovative solutions that help us perform hazardous work safely and efficiently on an everyday basis," said Mark Lindholm, WRPS president and project manager. "It's an excellent example of how committed our employees are to keeping each other safe."

The tool was developed and constructed by workers from WRPS' radiological control, waste management and construction organizations. The team consisted of Pete Carlson, Mike Copeland, Ben Davis, Karen Engebretson, William Hughes, Marco Nicacio, Ches Phillips and Dennis Riste.



Members of the project team (left to right): Ben Davis, Karen Engebretson, William Hughes, Marco Nicacio, Ches Phillips and Dennis Riste. Not pictured: Pete Carlson and Mike Copeland.



The new tool and the associated process allow workers to perform characterization surveys from lower dose areas. This includes the health physics technicians, who now remotely record equipment dose rates from positions behind shielding concrete blocks away from the highly radioactive long-length equipment.

## Bechtel Earns Department of Energy's Highest Award for Safety

Bechtel National, Inc., received the Department of Energy (DOE) Voluntary Protection Program (VPP) Star of Excellence for its 2014 safety statistics and mentoring efforts at the Hanford Waste Treatment and Immobilization Plant, also known as the Vit Plant. The Star of Excellence is the highest of the DOE-VPP annual achievement awards.

The Star of Excellence is given to any site that achieves a rate of recordable injuries at least 75 percent below the Bureau of Labor Statistics national average for its industry. The site also must meet annual DOE-VPP goals and show strong involvement in mentoring and outreach. DOE presented the award to Bechtel at the 31st Annual Voluntary Protection Program Participants Association National Conference.

“Safety is a core value in conducting our business,” said Bechtel’s Peggy McCullough, project director for the Vit Plant. “Our employees have done an excellent job taking ownership of their safety, as well as their coworkers’ safety, through grassroots, employee-developed programs. This recognition shows that our employees made a commitment to safety and are performing to that expectation.”

In 2014, the Vit Plant construction site reported its best safety performance to date with a total recordable case rate of 0.66. For the third consecutive year, Vit Plant employees reported a rate lower than the national average rate of 3.8 for the construction industry.

“The safety culture at the Vit Plant continues to improve as management and staff work together toward a common goal of zero accidents,” said McCullough.

## RIVER CORRIDOR

## Washington Closure Hanford Team Reaches 6 Million Safe Work Hours

For the second time since beginning work on the River Corridor Closure Project in 2005, Washington Closure Hanford (Washington Closure) and its subcontractor employees have worked more than 6 million hours without a lost workday due to injury.

The River Corridor is a 220-square-mile section of the Hanford Site and Department of Energy’s (DOE) largest environmental cleanup closure project.

“To achieve 6 million safe working hours in the hazardous environments in which they work is remarkable in our cleanup industry and is a tribute to our highly skilled workers,” said Scott Sax, president of Washington Closure. “Their efficiencies and ability to get work done ahead of schedule would not be possible without our dedicated and focused workers looking out for each other on a daily basis.”

During the current three-year streak, Washington Closure completed several complex cleanup projects, including removing an underground test reactor and a concrete vault used to store highly contaminated liquid waste. Each project involved a lift of approximately 1,100 tons, or 2.2 million pounds, and required months

of detailed preparation. In other activities, team members have isolated unexploded ordnances from a former Hanford firing range, excavated chromium-contaminated waste sites to an 85-foot depth, and transported more than 3 million tons of contaminated material to the site landfill – also managed by Washington Closure.

Washington Closure is regularly recognized for its safety accomplishments. The team has received the DOE-Voluntary Protection Program (VPP) Star of Excellence or Legacy of Stars Award every year since achieving DOE-VPP Star status in 2009. Washington Closure is the first Hanford Site contractor to receive companywide VPP Star status.

“I’m very proud of the strong safety culture our team has built over the past 10 years and they deserve any recognition they can receive for this accomplishment,” Sax said. “But our goal is to finish our cleanup work on a strong note and we must remain diligent as we safely complete our cleanup mission along Hanford’s Columbia River corridor.”

# Washington Closure Recognized as a Finalist for the International Project of the Year Award

At the Project Management Institute's (PMI) Global Congress 2015 Washington Closure Hanford (Washington Closure) was recognized as one of three finalists for the international Project of the Year Award. Washington Closure finished in second place. First place went to the El Segundo Drum Reliability Project in Los Angeles, California.

"This was a very special honor for me to attend the PMI Global Congress award ceremony on behalf of our amazing team at Washington Closure," said Scott Sax, president and project manager. "Our highly skilled and efficient workers have made tremendous progress and I am humbled to be a part of this fantastic team."

"Congratulations to the other two finalists, and I want to thank PMI for their professionalism and recognition of Washington Closure's great cleanup progress performed by our amazing workforce," said Sax.

Washington Closure won the local 21st Annual Project of the Year award from the PMI Columbia River Basin Chapter in March 2015.

"Tremendous progress has been made in cleaning up the Columbia River Corridor area of the Hanford Site due to Washington Closure's dedication to performance, safety and quality in delivering this project ahead of schedule and under budget," said Department of Energy Richland Operations Office Manager Stacy Charboneau.

Washington Closure was notified this summer that they were selected as a finalist for the PMI International Project of the Year Award. The finalists were introduced and the winner was announced at the PMI Global Congress Awards Gala in October.

"To accomplish so much under the challenging conditions they face every day is a tribute to the project management tools and skills our workforce applied to their work every day," said Sax. "These tools and a teamwork approach by our employees, DOE customer, local communities and regulators alike, played a key role in our cleanup successes."

## TANKS

# WRPS Begins Fiscal Year With New Leadership

On Oct. 1, 2015, Mark Lindholm took the helm as president and project manager of Washington River Protection Solutions (WRPS), Hanford's tank operations contractor. Lindholm follows Dave Olson, who retired in September after more than 30 years of service to AECOM, WRPS' majority owner, and its predecessor companies.

"This is a great team, and I'm excited about what we'll be able to accomplish," Lindholm said.

Lindholm most recently served as WRPS' chief operating officer. Prior to that he managed commissioning, readiness and operations at the Hanford Site's Waste Treatment Plant and served as executive vice president and chief operating officer at the Idaho Cleanup Project.

Lindholm also managed the Single-Shell Tank Retrieval and Closure for WRPS from 2008 to 2010 and held a number of management positions at the Savannah River Site from 1989 to 2007. His more than 30 years of experience in government nuclear facilities operations will serve him well as he begins his new position.

"I am humbled by the opportunity to lead this team," Lindholm wrote in a message to WRPS employees. "I know, from my earlier positions here as single-shell tank retrieval manager and chief operating officer, how capable and successful you have been in moving forward to achieve our tank cleanup mission. This past fiscal year was no exception. You accomplished the greatest amount of work ever during our contract, and you did it safely. You performed tremendously, and I realize that couldn't have happened without the contribution of each and every one of you."

Lindholm holds a bachelor's degree in environmental and hazardous material management from the University of Maryland.



Mark Lindholm, WRPS president and project manager

# Augering of Vertical Pipe Units at 618-10 Burial Ground has Begun

Work is underway to auger vertical pipe units (VPU) at the 618-10 Burial Ground. The burial ground is one of Hanford's most complex and challenging cleanup areas and one of the most highly radioactive waste sites in the Department of Energy complex. Washington Closure Hanford (Washington Closure) crews have successfully augered nine of the (VPUs) since work began in the fall.

VPUs once were thought to all be five bottomless 55-gallon drums welded together end-to-end and buried vertically. During an assessment, workers discovered two other types of VPUs— 14 inch corrugated pipes and 10- to 12-inch steel pipes.

Extensive preparations were needed before the VPU work could begin. Workers had already mapped the locations of all 94 VPUs and installed four cone penetrometer tubes (4 inches in diameter and about 25 feet long) around the outside of each VPU so

nonintrusive radiological characterization could be performed. By taking dose rates inside the tubes at incremental heights, workers could model the radiological composition of the contaminated waste in each VPU.

Washington Closure installed 80 over-casings for the 94 VPUs last spring. An over-casing is a large pipe placed around a VPU where workers can mix (auger) the waste inside the casing to homogenize it for removal. Once the over-casings were in place, the augering could begin. Washington Closure will auger and cleanup the remediated VPUs until its contract is complete at the end of the fiscal year.

The 7.5-acre burial ground received highly radioactive waste from Hanford Site laboratories and reactor fuel development facilities across the United States from 1954 through 1963.



The photo shows the auger in place as it mixes the contaminated materials in one of the VPU at the 618-10 Burial Ground. The over-casings were installed to target depth (~28 ft.) with a vibratory hammer.



Workers are surveying the auger for contamination levels. Extensive training and approvals occurred before VPU remediation began on September 28.

# MSA's 2015 Environmental Leadership Award Winners

Department of Energy contractor, Mission Support Alliance (MSA) prides itself on being the site's environmental steward, working to improve energy efficiencies and encourage recycling. Recently, MSA recognized its 2014 Family Picnic committee with the annual Environmental Leadership Award "Best Overall Achievement" for planning and successfully executing a zero-waste company picnic. The committee ensured that bottles, cans, paper plates, and food were sorted into separate bins for proper recycling. By selecting menu items without bones or shells, the committee could properly dispose of all food items. The picnic committee also donated more than 500 pounds of leftover food to a local pig farmer.

MSA's Environmental Leadership Awards recognize individuals or groups that implement projects or actions that result in the prevention of pollution or demonstrate a commitment to sustainable environmental stewardship associated with performing work.

## HONORABLE MENTION AWARDS

MSA's Voice over Internet Protocol (VoIP) Phone Recycling team received an Honorable Mention for taking advantage of a CISCO® trade-in program to recycle broken and damaged phones and receive a significant discount on replacements. In addition to the cost savings, the new phones use less energy, contributing to the company's Environmental Management System objective to reduce overall energy use.



The Family Picnic Committee back row from left: Heather Goldie, Ginger Benecke, and Meghann Simpkins. Front row from left: Maura Oldfield, Elizabeth Lugo and Heather Maples. Not pictured: Jim Chandler.

MSA's Message Reader Board Reengineering team received a second Honorable Mention Award for replacing lead acid batteries with gel sealed batteries in electronic reader boards. This replacement lowers maintenance requirements and costs, and minimizes potential battery leaks to the environment and worker exposure to acid.



Recipients from left: Erik Anderson and Michael Kohlhoff.



Recipients from left: Toby Greer and Chris Brown.

# HAMMER and National Training Center Collaboration

In late summer of 2015, the Director of the National Training Center (NTC), Karen Boardman, visited the HAMMER Federal Training Center, which is owned by the Department of Energy Richland Operations Office (DOE-RL) and operated by Mission Support Alliance, to meet with DOE-RL Manager Stacy Charboneau and HAMMER Director, Karen McGinnis to discuss their partnership, which had begun three years earlier.

In 2012, the NTC, DOE-RL, and what was then known as DOE's Office of Health, Safety and Security (which has since been reorganized into the Office of Enterprise Assessments and the Office of Environment, Health, Safety and Security), began to collaborate on training programs.

Based on labor input and DOE needs, the partners defined three goals: reduce redundancy in training, improve training consistency and quality, and implement elements of the HAMMER model at other DOE sites.

Over the last several years, NTC and HAMMER have embarked on a collaborative effort to avoid redundant training, saving on duplicate training costs, reducing training hours, and improving work mobilization. The reciprocity program improves worker safety by standardizing fundamental content and encouraging contractor-specific content and delivery to allow for improved emphasis on local work practices and hazards. Reciprocity also reduces redundant training when workers, including DOE staff, move between contractors or move between sites in the complex.

The latest development in the HAMMER/NTC partnership is known as Training Reciprocity and Collaboration (TRAC). One element of TRAC is the franchising of HAMMER courses to better serve small sites, which will eliminate or reduce the development and maintenance costs for training at the sites, and contractors can use up-to-date HAMMER training courses. This is a significant opportunity for improving training quality for small sites or small subcontractors preparing to work at a DOE site.

The partnership between DOE-RL and EA represents the commitment to worker safety and health. "The HAMMER partnership is important to the NTC," said Boardman. "By partnering with DOE contractors and labor communities, training initiatives and sharing of training materials has been greatly enhanced."

Ashley Morris, DOE-RL's senior advisor for HAMMER echoed Boardman's sentiments. "Providing the knowledge and preparedness of the workers is core to our commitment to the mission."

Secretary of Energy Ernest Moniz issued the Health and Safety Training Reciprocity policy, making this voluntary program a high priority across the DOE complex. Secretary Moniz praised the partnership in a memorandum to the heads of DOE offices saying HAMMER and NTC have "provided an important resource to the Department and to other federal and state agencies that have contracted with them to provide safety, security and emergency response training."



Ted Giltz (HAMMER) and Karen Boardman (NTC) holding the Reciprocity plaque.

# Community Giving at Hanford



Volunteers help children ride horseback during the 2015 Partners n' Pals day in West Richland. CH2M Hill Plateau Remediation Company sponsors the event, allowing children with disabilities to ride horses, play games and work on art and crafts.



In August, 53 team members from Washington River Protection Solutions rode together in the cystic fibrosis Cycle for Life and helped raise more than \$30,000 to fight the inherited disorder that damages the lungs and digestive system.



Washington Closure Hanford donated more than 800 pounds of food and over \$11,000 to the Second Harvest Feeding Families Food Drive in May 2015.



More than 40 Mission Support Alliance employees, family members and friends participated in the Making Strides Against Breast Cancer walk, benefitting the American Cancer Society. MSA employees raised more than \$6,500 and were the third highest fundraisers for the event.



Bechtel National, Inc. helped celebrate the 10th anniversary of Badger Mountain by donating \$100,000 to the volunteer group instrumental in the creation of the popular hiking area. The donation will help Friends of Badger Mountain's fundraising campaign to buy more than 200 acres on Candy Mountain. The land purchase is part of a larger plan to build a 20-mile ridge trail system across Little Badger, Badger, Candy and Red mountains.