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EM Recovery News

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What was formerly Technical Area 21 is now an almost-bare mesa after Recovery Act funding demolished 24 Manhattan Project and Cold War-era buildings at Los Alamos National Laboratory.

Recovery Act Changes the Skyline of Los Alamos

LOS ALAMOS, N.M. – The skyline of Los Alamos was changed forever when 24 old buildings and structures were demolished with American Recovery and Reinvestment Act funding.

"Our most significant accomplishment of 2010 was the successful completion of the decontamination and demolition of 24 old buildings and structures at Technical Area 21," said Al Chaloupka, project director of building demolition at Technical Area (TA-21). "In addition to demolishing these old buildings, the project created many jobs in northern New Mexico."

Crews are scheduled to finish transporting the waste generated by the TA-21 demolitions by April 2011, six months ahead of schedule. The TA-21 project, funded by $73 million from the Recovery Act, produced $16 million in savings, which went toward additional work at TA-21 and excavation of the Los Alamos National Laboratory's oldest waste disposal site. That excavation, funded by the Recovery Act, is scheduled for completion in August 2011.

Chaloupka's team realized the substantial cost savings through competitive contracting and careful waste segregation, which lowered disposal costs.

> **"Our most significant accomplishment of 2010 was the successful completion of the decontamination and demolition of 24 old buildings and structures at Technical Area 21."**
>
> *Al Chaloupka, project director of building demolition at Technical Area 21*

"By aggressively segregating waste prior to and during demolition, we minimized the amount of material shipped to disposal facilities and lowered our costs," Chaloupka said.

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At the Hanford Site in Washington state, construction of the 200 West Groundwater Treatment Facility is on track to be completed by September 2011.

Newsletter Chronicles EM Recovery Act Program Accomplishments of 2010

The U.S. Department of Energy Office of Environmental Management (EM) American Recovery and Reinvestment Act Program will be busy with more than 80 projects in the $6 billion environmental cleanup portfolio slated for completion by September 2011. In this January issue of EM Recovery News, we highlight the numerous and noteworthy milestones reached by Recovery Act workers in 2010. Los Alamos National Laboratory wrapped up the year with the demolition of the last and largest of 24 buildings and structures at Technical Area 21. The West Valley Demonstration Project marked the year's end with the completion of three of four central work scopes funded by the Recovery Act. And at the Portsmouth Site, Recovery Act workers tore down a cooling tower complex and electrical switchyard that together spanned more than 40 acres.

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Recovery Act Changes the Skyline of Los Alamos

Recovery Act workers at the Savannah River Site install a low-level waste trench cover. Covers for five slit trenches used for the disposition of low-level waste will be installed at the site as part of Recovery Act work.

Thomas Johnson was named the Acting Director of the EM Recovery Act Program in November 2010 after serving as deputy director of the program. Cynthia Anderson, who previously led the EM Recovery Act Program, became the Chief Operations Officer for EM.

Message from Thomas Johnson

As I reflect on 2010, I think about the many significant accomplishments EM has achieved in the $6 billion Recovery Act Program.

More than 11,000 workers in jobs created and saved by the Recovery Act were instrumental in the continued enhancement of EM's project performance in 2010. Their safe and efficient work met EM's high performance standards — we strive to complete projects safely, on time and within cost — and helped EM better address criteria for project budgets and schedules used by the U.S. Government Accountability Office as it evaluates federal agencies' project and contract management.

We have systems in place to ensure the Recovery Act projects perform well. We conduct monthly reviews in which we evaluate their schedules and cost. Throughout the year, we collect lessons learned from our work and make them available to members of the DOE and contractor workforce. These best practices lead to the successful and safe completion of projects.

The Recovery Act progress in reducing the Cold War legacy footprint at EM locations such as the Hanford Site in Washington State and Savannah River Site in South Carolina was another important achievement of our program in 2010. EM is ahead of schedule to meet the White House High Priority Performance Goal to reduce the 931-square-mile footprint around the DOE complex by 40 percent to 560 square miles by September 2011. We will maintain our momentum and focus from 2010 to meet and exceed that goal.

The Recovery Act is stimulating economic activity and providing meaningful employment to many people who had lost jobs in the troubled economy. These workers are part of the world's largest nuclear cleanup, helping to accelerate environmental restoration, to decommission and demolish facilities, and to dispose radioactive waste.

Their efforts are important. At Oak Ridge in Tennessee, for example, Recovery Act workers demolished Cold War buildings, clearing the way for new facilities for the DOE Office of Science and its missions, including the Maximum Energy Efficiency Building Research Laboratory.

In 2011, the EM Recovery Act Program will continue to work safely and effectively to complete more than 80 cleanup projects, a historic accomplishment for EM made possible with Recovery Act funding.

Thomas Johnson
Acting Director, EM Recovery Act Program

"As I move forward in my new role as EM's Chief Operating Officer, I am happy that Thomas Johnson is leading the EM Recovery Act Program to a safe and successful completion. With nearly 30 years experience in federal government, Thomas is a qualified and dedicated leader who will bring the $6 billion environmental cleanup to a strong finish."

EM Chief Operations Officer Cynthia Anderson, who previous served as director of the EM Recovery Act Program

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TA-21 was home to the world's first plutonium production facility built immediately after World War II and contained labs for tritium and americium research. Most of the buildings dated as far back as the 1940s, and some were in use until just a few years ago. Many of the buildings and structures were contaminated with asbestos and other chemicals and radioactive materials.

"The age of these buildings and structures and the purposes they were used for made decontamination and demolition a challenge at times," Chaloupka said. "However, our workers were thoroughly prepared for this work and their steady performance allowed them to finish early without injury."

The Lab hired about 500 workers for the TA-21 decontamination and demolition project and other Recovery Act work at the Lab.

Another significant Recovery Act accomplishment at the Lab in 2010 was the completion of 16 groundwater monitoring wells, which range in depth from 850 feet to more than 1,400 feet. The project was completed ahead of schedule and realized cost savings of $5 million from the initial budget through efficient mobilization and by buying steel in bulk.

"Recovery Act funding at Los Alamos National Laboratory was used to accomplish significant environmental cleanup as well as to provide jobs," Chaloupka said. "We dramatically changed the skyline of Los Alamos." □

In 2010, Recovery Act workers at the Hanford Site completed construction of an interim moisture barrier, shown here. The barrier is considered one of the Office of River Protection's most important Recovery Act-funded projects.

Environmental Protection, Modernization and Safety Top List of ORP Accomplishments

RICHLAND, Wash. – On a warm, sunny day in September, workers finished smoothing a layer of high-density asphalt over the top of one of Hanford's single-shell underground waste tank farms, marking the completion of an interim moisture barrier funded by nearly $4 million from the Recovery Act.

As autumn quickly gave way to a wetter-than-usual winter, the newly constructed barrier was put to the test. In the three months following completion of the barrier, nearly 20 inches of snow, ice and rain soaked Hanford's tank farms, and the 80,500-square-foot barrier kept the more than 215,000 gallons of runoff from seeping into the soil and pushing contaminants from leak-prone single-shell tanks down towards the water table. Precipitation collected on the barrier flows to an evaporation basin just outside the tank farm. The basin is lined with material to prevent it from leaking and is covered with soil, native plants and grasses to help drink up the moisture.

"This was an important project because it provides an additional measure of protection for the environment until decisions are made about dealing with the contamination in the soil," said Dan Parker, project manager for the Office of River Protection (ORP) prime contractor, Washington River Protection Solutions (WRPS).

The barrier is considered one of ORP's most important Recovery Act-funded projects. ORP spent more than $165 million of its $326 million in allocated Recovery Act funds in the fiscal year that ended in September 2010 to employ 580 employees and complete more than 55 percent of all Recovery Act-funded projects in its planned work scope.

Another high-impact project is the modernization of Hanford's 222-S Laboratory, an aging facility that analyzes radioactive tank waste and plays a key role in tank-waste retrieval and delivery efforts. More than $15 million in Recovery Act funds have been used to install new analytical equipment, a climate-controlled storage facility, energy-efficient lighting, a new roof, and more office space at the lab.

"I've been at the lab for more than 16 years and I've seen more improvements to this place in the past year and a half than in the rest of my time combined," said Jann Frye, who works in the 222-S Laboratory analytical process development group.

Recovery Act-funded work at ORP was completed safely in fiscal year 2010, with crews logging more than 800,000 hours on Recovery Act-funded projects without injuries that required employees to miss work. Their safety contributed to WRPS's record achievement of more than 2.6 million hours worked without a lost-time injury.

"We accomplished a tremendous amount of high-risk work in fiscal year 2010 very safely," said WRPS Tank Farm Projects Manager Rob Gregory. "This was made possible by the dedicated, experienced tank farm employees who demonstrated their willingness to take on a very aggressive schedule without compromising safety." □

Moab Project Uses Recovery Act Funds to Move More Mill Tailings

Two gantry cranes at the Moab site transfer containers to and from the train.

MOAB, Utah – The Moab Uranium Mill Tailings Remedial Action Project used Recovery Act funding to move about 1.5 million tons of uranium mill tailings to a permanent disposal facility in 2010.

The Moab Project received $108 million from the Recovery Act in 2009. Since then, the Recovery Act has funded shipments totaling 1.8 million tons of tailings for disposal, or about 11 percent of the estimated 16 million tons to be moved. The Moab Project anticipates reaching its goal of shipping 2 million tons under the Recovery Act by spring 2011, several months ahead of the September 2011 target.

The tailings are remains from processing uranium ore for national defense programs.

"At 10,000 tons shipped per day, the project is currently removing the tailings 10 times faster than the 1,000 tons of uranium ore that was being processed daily at the former Moab mill," Moab Federal Project Director Donald Metzler said. "This rate of shipping is being achieved thanks in large part to the 200-plus employees who were hired with Recovery Act funds."

Efficient operations led the Moab Project to ship 267,000 more tons of tailings under the Recovery Act than originally planned by the end of 2010. The Moab Project had spent $80 million of its Recovery Act funds by the close of 2010.

The Recovery Act funded the purchase of additional equipment for the Moab Project, including a second American-made gantry crane to help increase the efficiency in loading and unloading of tailings containers from the railcars that carry the shipments. The second crane allows operations to continue if one crane is down for maintenance or repairs. With both cranes in operation, the overall time to load a train for shipment is reduced by a third.

The tailings are shipped away from the Colorado River to a DOE-constructed disposal cell near Crescent Junction, 30 miles north of the Moab site. The cover of the cell consists of multiple layers of soil and rock.

In 2010, workers began placing layers of the final cover for the portion of the cell that has met the final grade for tailings material. That portion of the cell is about seven acres in size. More tailings will be added to other portions of the cell, which will be about 230 acres in size when complete. □

Recovery Act Advances Cleanup at the Idaho Site

IDAHO FALLS, Idaho – Fueled by $468 million from the Recovery Act, the Idaho site accelerated the cleanup of Cold War radiological and chemical waste in 2010.

In the cleanup, Recovery Act workers safely decontaminated and decommissioned excess, obsolete structures, including nuclear reactors, hot cells and spent fuel reprocessing facilities; retrieved transuranic waste and completed a grouting project to protect the Snake River Plain Aquifer; and safely processed and shipped transuranic waste out of Idaho.

Since 2009, Recovery Act workers at the Idaho site have demolished 439,569 square feet of facilities, structures and laboratories. One of their most challenging and biggest accomplishments in 2010 was removing the Materials Test Reactor (MTR) vessel from its large steel, concrete and graphite monolith.

The MTR was the second of 52 reactors to power up at the Idaho site. Knowledge gained from the MTR was key to the development of the then-fledgling nuclear power industry. It was shut down in April 1970.

Using $112 million of its Recovery Act funding, the Idaho site reactivated a hot cell that had been inactive for approximately 20 years at the Idaho Nuclear Technology and Engineering Center. The reactivated hot cell is being used to process and ready remote-handled transuranic waste for shipment to the Waste Isolation Pilot Plant (WIPP) in New Mexico for permanent disposal.

Reactivating the hot cell was a challenging task that involved upgrading equipment, refashioning ventilation, and modifying tools. Construction activities required the use of cranes. Recovery Act workers completed the work safely in September 2010.

Processing and shipping remote-handled transuranic waste to WIPP is central to the Idaho site's Recovery Act work and in keeping commitments with the state. The Idaho site processed 17.23 cubic meters of the waste and completed 24 shipments to WIPP in 2010.

In late summer 2010, a grouting project to protect the Snake River Plain Aquifer was completed five weeks early. Workers injected a cement-based grout into 21 buried transuranic waste locations at the Subsurface Disposal Area (SDA), a radioactive waste landfill. Surrounding the waste with grout will prevent rain and snow melt infiltration, thus reducing the ability of contaminants to move toward the aquifer. The grouting project was the second phase of a 2008 Record of Decision signed by DOE, the U.S. Environmental Protection Agency and the State of Idaho to remediate the 97-acre SDA.

Workers position a transuranic waste storage canister lid.

In fall 2010, Recovery Act workers at the Advanced Mixed Waste Treatment Project completed a project to treat and ship close to 4,800 cubic meters of radioactive waste to permanent disposal facilities. □

Photos of the X-633 Cooling Tower Complex are shown before demolition (left) and after demolition.

Portsmouth Skyline Changes with Completion of Recovery Act Projects

Footprint of Cooling Tower and Electrical Switchyard Complexes Spanned 40 Acres

PIKETON, Ohio – In 2010, DOE's Recovery Act investments dramatically changed the landscape of the Portsmouth Site and helped create jobs in southern Ohio.

Recovery Act workers demolished a cooling tower complex and nearby electrical switchyard that together spanned more than 40 acres on the northeastern portion of the Portsmouth Gaseous Diffusion Plant.

Those demolitions were among the major cleanup projects funded by nearly $120 million from the Recovery Act at the former uranium enrichment plant that ended production in 2001. A total of 400 workers were hired to complete all of the projects, providing much needed employment in a rural area experiencing the third highest unemployment rate in the state of Ohio.

In a project completed four months ahead of schedule in June 2010, workers tore down the former chemical engineering building, reducing the footprint of the Cold War legacy by 8,000 square feet.

Recovery Act funds supported the treatment of a 70,000-square-foot groundwater contamination source area, a highly successful project that has reduced trichloroethene levels by more than 95 percent.

Workers safely demolished the 21-acre X-633 Cooling Tower Complex down to a concrete slab. The complex consisted of four separate towers and a pump house encompassing 160,000 square feet. The project was completed seven months ahead of schedule in June 2010.

The Recovery Act-funded removal of more than 1,700 metric tons of surplus uranium materials from the site is scheduled for completion in early 2011. The materials are being safely and permanently disposed at the Nevada National Security Site.

In December 2010, workers completed the demolition of structures at the former 345-kV high-voltage electrical switchyard, a 20-acre site used to supply power to one of three enormous uranium enrichment process buildings at the Portsmouth Site. The switchyard was de-energized in November 2008 and demolition activities had commenced in February 2010.

Workers removed all 160 electrical towers, which were as tall as 120 feet, along with a two-story control room and two switchgear houses. Prior to demolition of the structures, 10 synchronous condensers weighing as much as 260 tons apiece had to be lifted from the switchgear house roofs. A 600-ton crane was brought on-site on 30 separate tractor trailers and assembled at the project to lift the condensers from the buildings.

The projects benefit the local communities through a 2009 agreement between the DOE and its recognized community reuse organization, the Southern Ohio Diversification Initiative (SODI). The agreement allows for the transfer of excess equipment and other materials from the Portsmouth Site for economic development efforts in the region.

Nearly 270,000 gallons of transformer oils from the switchyard have already been provided to SODI for recycling. A total of 8,600 tons of clean scrap metals and other materials have been segregated from both the cooling tower complex and electrical switchyard D&D projects for recycling and reuse.

A significant portion of the proceeds from the recycling of materials will be kept within the local communities to support future job creation and other economic development endeavors. □

Workers Complete Three of Four Recovery Act Projects at the West Valley Demonstration Project

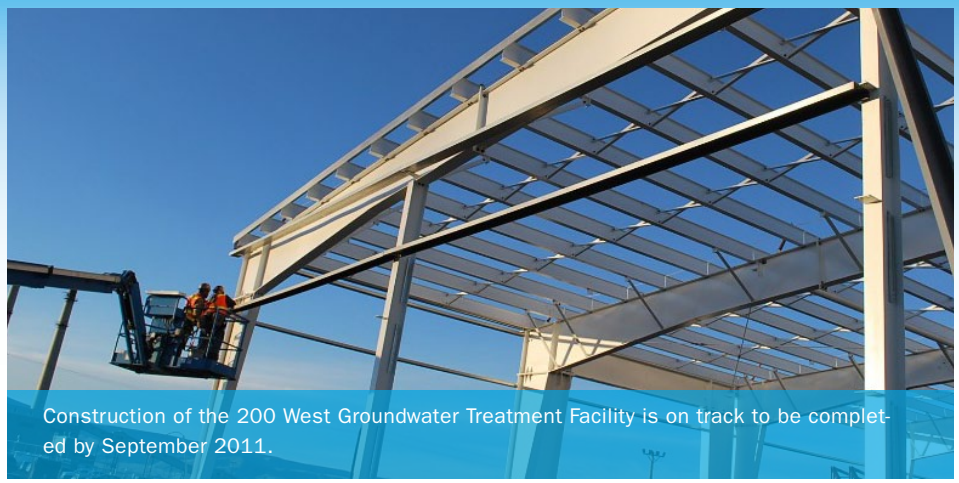
WEST VALLEY, N.Y. – The close of 2010 came with the completion of three of the four major projects funded by the West Valley Demonstration Project's (WVDP) $63 million Recovery Act allocation.

In the three projects completed with more than $23 million from the Recovery Act, workers finished building an underground permeable treatment wall to capture contaminants in groundwater, installed a system to remove residual radioactive liquids from waste tanks, and processed 10,155 cubic feet of radioactive waste for shipment to a permanent disposal facility.

The fourth project under way involves deactivation and decontamination activities at the former nuclear fuel reprocessing building, including the removal of material containing asbestos.

"Completion of these projects sets the stage to begin a new era at the West Valley Demonstration Project in 2011, when the first phase of site decommissioning begins," DOE WVDP Director Bryan Bower said.

The WVDP's extensive decommissioning plans include removal of the groundwater contamination source and demolition of major facilities, including the former reprocessing building. □



Construction of the 200 West Groundwater Treatment Facility is on track to be completed by September 2011.

Hanford Recovery Act Workers Tear Down Facilities, Expand Groundwater Treatment in 2010

RICHLAND, Wash. – Buildings coming down, groundwater treatment systems going up, and transuranic waste back in transit – those were the big things happening in the Richland Operations Office's $1.6 billion Recovery Act projects in 2010.

Recovery Act workers across the Hanford Site's Central Plateau and the 100K Area along the Columbia River are busy accelerating critical cleanup of waste generated during plutonium production that spanned decades in support of the nation's defense.

In 2010, workers demolished more than 40 industrial, nuclear and radiological facilities. This includes more than 380,000 square feet – or more than six football fields – worth of concrete that made up a reactor water treatment facility along the river; over 53,000 square feet of ancillary facilities at the U Plant Canyon on the Central Plateau; and more than 33,000 square feet on the Arid Lands Ecology Reserve at the outermost edge of the Hanford Site. Workers also backfilled the sites of three interim fuel storage buildings demolished in 2009, leaving few signs the 29,000 square feet of facilities had existed. These accomplishments keep DOE on target to reduce the site's cleanup footprint at the 586-square-mile site by 45 to 60 percent by September 2011.

As excess and ancillary buildings were removed, two new pump-and-treat systems and a network of wells were under construction to extract and treat contaminated groundwater to protect the Columbia River. Construction of one of the systems, called 100-DX, was completed in 2010. The second, the 200 West Groundwater Treatment Facility, is scheduled to be complete by September 2011 and will be the largest pump-and-treat system at the Hanford Site. To support these facilities and overall groundwater treatment, workers installed more than 280 wells in 2010 — a record at the Hanford Site.

Workers at the Hanford Site also completed 100 shipments of transuranic waste to the Waste Isolation Pilot Plant (WIPP) in New Mexico, for permanent, safe disposal in 2010. Approximately $30 million from the Recovery Act accelerated efforts to remove transuranic waste from the Hanford Site. □

Oak Ridge Details Top Recovery Act Achievements of 2010

OAK RIDGE, Tenn. – Many projects funded by the $755 million Oak Ridge received from the Recovery Act have been completed under cost and ahead of schedule, producing $100 million in savings for future environmental cleanup at the site.

Officials at the reservation attribute the substantial savings to the sound project management and fiscal responsibility of federal and contractor employees.

"We are extremely proud of the way we have managed these projects, and as a result, we're going to get more work done," Oak Ridge Office Assistant Manager for Environmental Management John Eschenberg said. "We have proven our ability to complete cleanup projects on schedule and on budget, and that's important because we are maximizing the return to our community and the taxpayer."

Workers demolish a facility at the Biology Complex at Y-12 National Security Complex, a 2010 accomplishment at Oak Ridge. The Recovery Act funded the demolition of four facilities at the Biology Complex, reducing the site's footprint by 135,000 square feet.

> **"The Recovery Act has been critically important to the Oak Ridge cleanup program. We have been able to address some of the most important projects on our to-do list."**
>
> *Oak Ridge Office Assistant Manager for Environmental Management John Eschenberg*

Generating $100 million in savings was one of Oak Ridge's leading Recovery Act accomplishments in 2010. Other top Recovery Act achievements were the acceleration of cleanup and support to small businesses.

Oak Ridge's Environmental Management (EM) program, like others across the DOE complex, often faces tight budgets, leading to difficult decisions about how to prioritize its many important projects.

However, the infusion of Recovery Act funding has allowed Oak Ridge to accelerate 36 projects, from the remediation of contaminated soil and groundwater to the demolition of 49 facilities, including contaminated buildings at Y-12 National Security Complex and the Oak Ridge National Laboratory.

"The Recovery Act has been critically important to the Oak Ridge cleanup program," said Oak Ridge Office Assistant Manager for Environmental Management John Eschenberg. "We have been able to address some of the most important projects on our to-do list."

One important Recovery Act project responds to one of the site's largest environmental concerns. The West End Mercury Area storm sewer cleanup project at Y-12 is modernizing and upgrading the storm sewers, which will prevent mercury from spreading or entering new sources of groundwater. Recovery Act workers are removing contaminated soil and treating contaminated water as part of the project, which is on track for completion in 2011.

In fiscal year 2010, contracts to small business in Oak Ridge totaled $1 billion, including $329 million from the Recovery Act. The majority of small business contracts awarded with Recovery Act dollars went to EM projects, with the remainder funding DOE Office of Science projects at Oak Ridge.

According to statistics from the Small Business Association, small businesses play a vital role in America's economy, creating most of the nation's new jobs and employing about half of the nation's private sector workforce.

"Over the past year, we have accelerated cleanup at the site, significantly reducing the area's hazards and risks," Eschenberg said. "Employees overseeing these projects have ensured they are completed on time and under budget, and when possible and appropriate, small businesses were used, helping the local economy. Our goal is to repeat these accomplishments next year, and finish Recovery Act work strong." □

SRS Highlights Recovery Act Success in 2010

AIKEN, S.C. – The Savannah River Site (SRS) reduced the footprint of past nuclear materials production for the nation's defense in its most significant Recovery Act accomplishments of 2010.

With $1.6 billion in Recovery Act funds, SRS overcame challenges to implode a massive cooling tower, accelerate the decommissioning of large nuclear reactors, and expedite the safe removal of radioactive waste from the site.

"Teamwork is driving the success of the Recovery Act Project at SRS," said DOE-Savannah River Manager Dr. David Moody. "Support from team members, subcontractors and regulators is ensuring projects are performed safely and on time."

In May 2010, SRS imploded the K Cooling Tower. Built in 1992 to cool water for the once-active K Reactor, the 450-foot-tall, 345-foot-wide tower weighed more than 52 million pounds.

SRS used 1,300 pounds of explosives placed at more than 3,800 locations in the lower portion of the structure for the implosion. Use of the explosives required coordination with the U.S. Environmental Protection Agency and local and state governments.

"One of the biggest challenges was bringing explosives to the job site at SRS," said Savannah River Nuclear Solutions (SRNS) Area Completion Projects Operations Manager Dell Simpson. SRNS is the manager and operating contractor at SRS. "The paperwork and planning for this project took two years

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Photo Above: Recovery Act workers demolish and remove the 105-R Disassembly Basin structure.

SRS Highlights Recovery Act...

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to set up, and when the demolition company pressed the button to begin the implosion, it took only eight seconds to pull off."

As part of safety measures, authorities closed South Carolina Highway 125, and SRS shut down some internal roads. Site officials contacted the Federal Aviation Administration (FAA) because the tower was a landmark pilots used in navigation. FAA declared the area a no-fly zone for the day.

As the scheduled implosion neared, SRS security escorts transported groups to the location of the implosion to keep a 24-hour watch over the explosives. Security officials conducted sweeps to ensure no one was near the tower during the implosion.

SRS hired American Demolition and Nuclear Decommissioning, Inc., and its subcontractors to complete the demolition. They logged 15,400 hours in the $9 million Recovery Act project and recorded no injuries.

"They put a lot of emphasis on safety," Simpson explained. "They did an excellent job."

In other Recovery Act work, workers continued progress in decommissioning the P and R reactors, which had supported the production of nuclear materials. Each reactor occupies more than 300,000 square feet of space. Decommissioning of the reactors will be completed by September 2011.

Workers demolished the 145-foot-tall stacks of both reactors. Savannah River National Laboratory developed cement slurry used to seal the P Reactor vessel. The slurry was chosen instead of traditional cement grout, which would corrode the 20-foot-tall aluminum sleeve housings that contained reactor fuel. The water-collection basin that supported the R Reactor has been sealed with grout, and workers are expected to finish grouting the P Reactor basin this month.

SRS made progress toward the goal of shipping 5,000 cubic meters of legacy transuranic waste to DOE's Waste Isolation Pilot Plant (WIPP) in New Mexico for permanent, safe disposal before December 2012. As of late 2010, Recovery Act workers had shipped about 900 cubic meters of the waste to WIPP.

Recovery Act workers close ducts as part of ongoing efforts to decommission the P Reactor, which formerly supported the production of nuclear materials.

Work is under way to decommission the Heavy Water Components Test Reactor, which had been used to test experimental fuel assemblies for commercial heavy-water power reactors. SRS is scheduled to remove the dome of the reactor this month. Workers also will disposition the reactor vessel and steam generators, grout the remaining structure in place, and install a concrete cover over the reactor's footprint.

A 2010 accomplishment that addressed the challenges of decommissioning this complex reactor was the removal of concrete shielding blocks that surrounded the reactor vessel. That work allowed workers access to cut and cap the reactor vessel piping to support eventual removal of the vessel. To date, 23 of 25 pipes have been cut and capped. □

Recovery Act Moves Waste Tanks Toward Closure at Savannah River Site

AIKEN, S.C. – Accelerating high-level legacy nuclear waste processing and moving more underground liquid waste storage tanks towards closure were among the 2010 Recovery Act accomplishments at the Savannah River Site (SRS).

In a $7 million Recovery Act project, Savannah River Remediation, LLC, SRS's liquid waste contractor, installed devices that increase the annual production of waste canisters at SRS's Defense Waste Processing Facility (DWPF) from 215 to 325. The devices, known as bubblers, inject argon gas into heated glass and waste mixtures, increasing the production of vitrified waste at DWPF, the nation's largest nuclear waste processing facility.

Due in large part to Recovery Act funding, 15 underground storage tanks are in various stages of the closure phase, the most at any time in SRS history. Recovery Act-funded robot technology helps workers test waste samples, expediting the closure of the tanks containing nuclear waste.

Recovery Act-funded upgrades, such as submersible mixing pumps for tank cleaning, replaced aging SRS liquid waste operations infrastructure. Enhancements to electrical systems, added protective pipe shielding and construction of waste transfer facilities will prepare SRS liquid waste operations for integration with the Salt Waste Disposition Facility, which is slated for operation in 2014. □

Maintenance mechanics train with plasma arc-cutting equipment prior to removing miles of piping from old buildings at the Paducah Site.

Paducah Site Recovery Act Work Boosts Jobs, Training, Vendor Trade

PADUCAH, Ky. – Job development was among the highlights of Recovery Act work at the Paducah Site in 2010.

The 240 people at the Paducah Site hired under the Recovery Act underwent extensive training on regulatory compliance, safety systems, hazardous materials handling, using self-protective gear, and operating mobile equipment such as aerial lifts, forklifts, and industrial trucks.

"This gives people marketable skills that they might not have gained otherwise," said Rob Seifert, DOE Recovery Act Project Manager at the Paducah Site.

The Paducah Site worked with West Kentucky Community & Technical College to customize training. Various new and existing employees, all members of United Steelworkers Local 550, honed their skills.

Maintenance mechanics were certified in plasma arc cutting and other types of welding to remove miles of piping from old buildings being cleaned up and torn down with Recovery Act funds. Electricians underwent training to safely track and dismantle long-unused electrical systems.

The Paducah Site received an estimated $80 million from the Recovery Act.

More than 60 equipment and mobile home suppliers, uniform rental stores and other small businesses have supported Recovery Act work.

Sales at Rudys Farm Center, a few miles from the Paducah Site, rose roughly 15 to 20 percent in 2010 as the company supplied equipment and tools for the Recovery Act cleanup, according to Vice President Matt Rudy.

"It's been a definite shot in the arm,"

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The reconstruction of a portion of the South Access Road was one of the Waste Isolation Pilot Plant's 2010 Recovery Act accomplishments.

Construction Projects, Accelerated Cleanup Top List of WIPP Recovery Act Achievements

CARLSBAD, N.M. – The Recovery Act was the catalyst for three major accomplishments by the Waste Isolation Pilot Plant (WIPP) in 2010, including accelerated transuranic waste cleanup around the DOE complex and construction of infrastructure to support operations at the facility.

The Recovery Act invested more than $1.7 million into projects to remove all transuranic waste at three sites, including General Electric Vallecitos Nuclear Center and Lawrence Livermore National Laboratory in California and the Nevada National Security Site.

Workers are on pace to complete transuranic waste cleanup at Lawrence Berkeley National Laboratory in California, Sandia National Laboratories in New Mexico, Argonne National Laboratory in Illinois, Bettis Atomic Power Laboratory in Pennsylvania, and NRD (Nuclear Radiation Development) LLC in New York by September 2011.

Generated by the past U.S. defense activities, transuranic waste is contaminated with radioactive elements that have atomic numbers greater than uranium. The waste is shipped to WIPP and disposed in rooms mined out of an ancient salt formation more than 2,100 feet below the surface.

In a $4.4 million Recovery Act project, workers reconstructed a portion of a road to safely accommodate waste shipments to WIPP.

WIPP completed construction of a pond to capture storm water runoff from the large salt pile resulting from mining operations. The pond has a larger capacity than previous storm water management facilities at the site. WIPP began operating the pond in February 2010 after finishing the project funded by $2.2 million from the Recovery Act. □

Paducah Site Recovery Act Work Boosts Jobs...

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Rudy said, noting the struggling farming economy.

Training and teamwork were instrumental in other major Recovery Act accomplishments in 2010, including:

- Cleaning up and demolishing a smelting complex $10 million under budget and a year ahead of schedule. Crews logged more than 113,000 safe working hours.
- Shifting the smelter savings, plus about $8 million in unspent reserve and contingency funding, to the continued cleanup and razing of two other complexes, the Feed Plant and C-340, which is known as the metals plant. Both complexes are slated to be demolished by September 2011.

Ingenuity that characterized the smelter work will help expedite other demolitions at Paducah, Seifert said. Crews studied hundreds of building photos and used specialized equipment, such as an excavator with grappling hooks, to remove old systems more safely and quickly.

"They did an excellent job of taking pride in their work and committing themselves to hitting milestones," Seifert said. □

The Nevada Site Office identified the demolition of the Reactor Maintenance, Assembly, and Disassembly Facility as a top Recovery Act accomplishment at the Nevada National Security Site in 2010.

Well Drilling, Demolition, Weapons Testing Cleanup Among Recovery Act Achievements at NNSS

LAS VEGAS – In 2010, Recovery Act workers at the Nevada National Security Site (NNSS) helped lay the groundwork for scientists to study groundwater contaminant movement, demolished a historic facility for testing nuclear rocket engines, and cleaned and closed a weapons testing area.

The Nevada Site Office (NSO) identified those efforts as the top accomplishments of Recovery Act workers charged with cleaning up the Cold War legacy at NNSS, which supports U.S. nuclear stockpile stewardship, homeland security efforts, and various other defense and energy-related projects. NNSS was allocated $44 million from the Recovery Act to assess and clean up industrial sites and install groundwater monitoring wells, among other projects.

"Since receiving Recovery Act funds, the Nevada Site Office has made significant progress in our environmental restoration efforts," said NSO Environmental Restoration Deputy Federal Project Director Rob Boehlecke. "These resources have allowed us to optimize field operations and accelerate schedules."

In 2010, trucks shipped away remains of the Reactor Maintenance, Assembly, and Disassembly Facility (RMAD), which workers decontaminated and demolished in a 2010 project funded by $9.1 million from the Recovery Act. Once part of an important mission, RMAD was constructed by the Atomic Energy Commission (AEC) to develop and test nuclear rocket engines. The majority of demolition debris from the 80-room, five-level facility was disposed at NNSS's Area 5 Radioactive Waste Management Site.

Recovery Act funding accelerated cleanup of the RMAD facility and others, helping NSO satisfy requirements in an agreement with the State of Nevada Division of Environmental Protection to clean up contaminated sites across NNSS.

At the sprawling Tonopah Test Range, just north of NNSS, Recovery Act workers closed an area previously used for testing aerial drops of cluster bombs containing hundreds of bomblets. Work leading to the closure included disposal of contaminated soil and remediation of submunitions targets on the range. The Recovery Act provided $4.3 million for the project.

In a $4.8 million Recovery Act project at Pahute Mesa, a former nuclear test region at NNSS, workers installed a groundwater characterization well. NSO is in the midst of an intensive well-drilling and installation campaign that will add 10 new wells to the Pahute Mesa region of NNSS by 2013. Eight wells have been built so far.

Samples from the wells help scientists understand the movement of radiologic contaminants, such as tritium and plutonium, in the groundwater from historical underground nuclear testing. Scientists also will learn about where groundwater originated and how long it took to get there. □

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