



# RECOVERY NEWS

AMERICAN RECOVERY AND REINVESTMENT ACT NEWSLETTER



## Fusion Researchers Gather to Say Goodbye to Pioneering Facility

*TSTA building saw early advances in nuclear fusion*

About 20 former scientists, engineers, and operators gathered at Los Alamos National Laboratory (LANL) in May for a commemoration at the former Tritium Systems and Test Assembly facility (TSTA).

At the conclusion, an excavator began tearing away walls of the historic 16,000-square-foot facility – one of more than 20 lab buildings and structures set for demolition with funding from the American Recovery and Reinvestment Act.



*More than 20 people who worked in the Tritium Systems and Test Assembly facility gathered May 10 for a commemoration ceremony prior to demolition of the building.*

Among the speakers was Jim Anderson, a lab fellow and former group leader of the team that performed early research on nuclear fusion.

“All of the work being done in Europe and elsewhere on fusion can be traced right back to the work done at TSTA,” Anderson said.

Current commercial nuclear reactors operate on fission – splitting atoms – to generate heat. But fusion – the joining of nuclei, creating heat as a byproduct – holds great promise as a future energy technology, Anderson said.

At TSTA, scientists had experimented with joining deuterium and tritium. The program started in 1977. TSTA was shut down in 2003.

*“All of the work being done in Europe and elsewhere on fusion can be traced right back to the work done at TSTA...”*

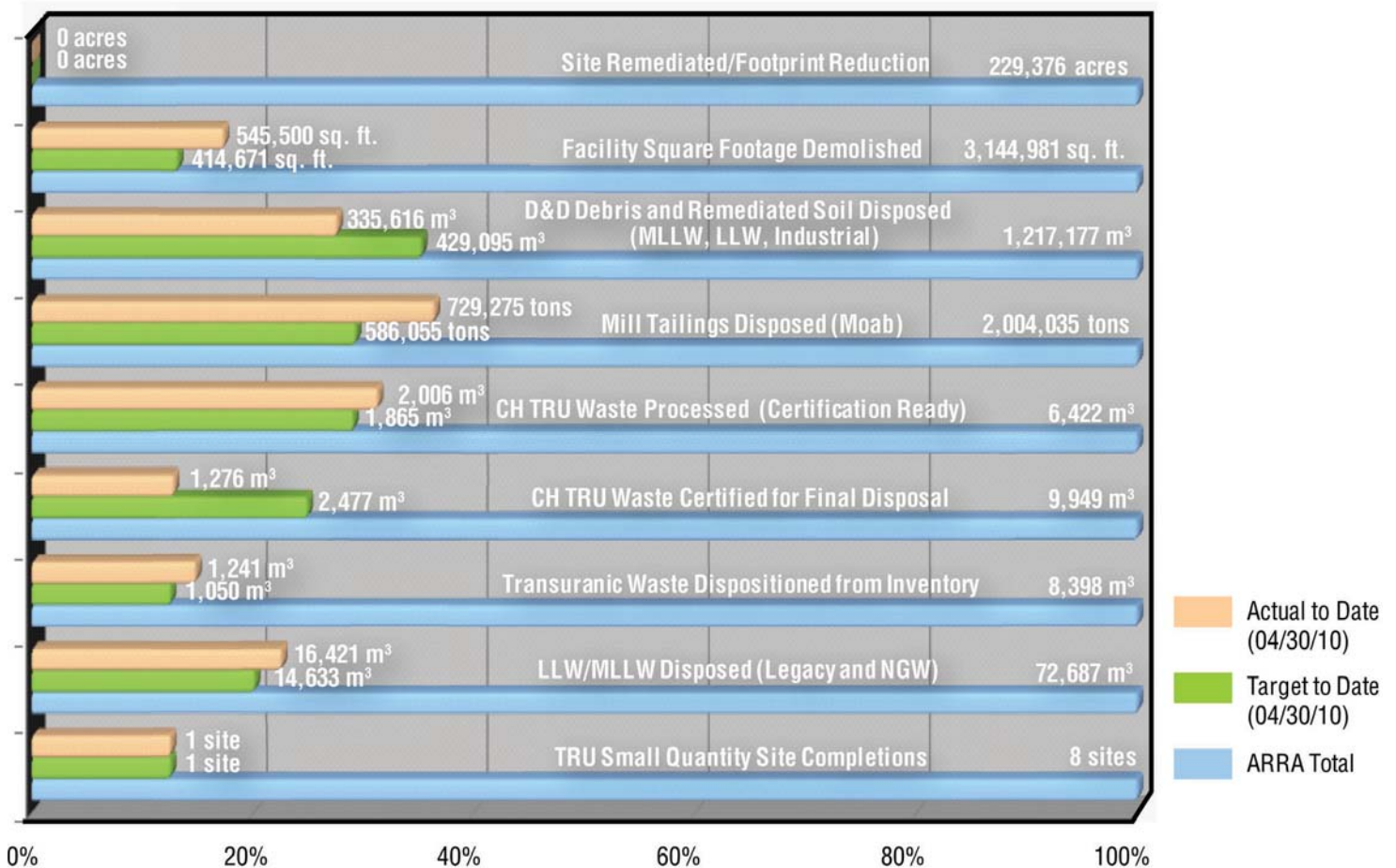
*– Jim Anderson*

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## RECOVERY ACT PERFORMANCE



### Goodbye to Pioneering Utility (cont'd)

“People joke, back then we were 50 years away from fusion – and now, we’re still 50 years away,” said Anderson. “But we’re really much closer now, thanks to that work.”

Former LANL and TSTA scientist John Bartlit would write limericks for colleagues as they moved on or retired. At the commemoration, he read a limerick for TSTA:

*“Working shifts through the nights did not blight us  
And those Tiger Team bites could not smite us.  
The most frightful alarm could not ruffle our calm  
But this wrecking the place quite excites us.” //*

### Officials Brief Stakeholders on Progress

The Office of Environmental Management (EM) held meetings twice in May with stakeholders, community groups, and regulators to provide updates on its progress in meeting Recovery Act goals.

In a May 18 conference call, Recovery Act Program Director Cynthia Anderson provided an overview of the Recovery Act program, and explained how EM is accelerating the cleanup of nuclear waste, creating and saving jobs, and sparking economic activity.

EM conducts the calls with stakeholders and other groups

frequently throughout the year to inform them on Recovery Act activities, answer questions, and seek their input for new policies and plans.

State, local and tribal governments take part in the conference calls. Organizations that participate include the National Association of Attorneys General, which facilitates interaction among state attorneys general and EM on regulatory issues, statutory, and compliance issues; the Alliance for Nuclear Accountability, a grassroots network interested in health, cleanup, and weapons issues;

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## – TESTIMONIAL –

### Paul Bellesen is Thrilled to Trade Sun for Dirt

A few months ago, Paul Bellesen was in a master's program studying renewable energy at Arizona State University's Polytechnic campus. Attending graduate school was a backup plan for Bellesen, a father of four. Bellesen instead wanted to work.

But after graduating from Washington State University in December 2008 with a mechanical engineering degree, his job search came up empty.

"I was applying for just about anything I could find, but I wasn't getting any calls," said Bellesen, who worked in a minimum-wage job in his hometown of Yakima, Wash., while job searching. "My school loans were coming due, so I decided to defer them and go to grad school."

Not long after sending his resume to TradeWind Services in Richland, Wash., at the advice of a relative, Bellesen got a break. TradeWind President Jeff Hertzell called and offered Bellesen a planning engineer job at the Environmental Restoration



*Paul Bellesen, Planning Engineer, TradeWind Services, Hanford Site*

Disposal Facility (ERDF), the engineered disposal facility for low-level waste at the Hanford Site in southeast Washington state.

With Recovery Act funding, ERDF is expanding through the construction of new disposal sections, and setting records for disposing of waste, such as building debris and contaminated soil from Hanford cleanup projects.

TradeWind Services is a service-disabled, veteran-owned business that provides a broad range of clients with engineering and technical support. Earlier this year, TradeWind and its prime subcontractor, DelHur Industries, began work to excavate a disposal section and construct liner and leachate collection systems for disposal sections at ERDF.

Bellesen, who began his new position Feb. 17, said part of his job as a planning engineer is to make sure procedures relating to construction of disposal sections are followed.

Bellesen also is grateful for Recovery Act funding.

"It helped get me out of a tough spot," he said. "It gave me a start." ||

*"Everything here is new to me, but I'm learning every day," Bellesen said. "The people working on the project have been great. I'm impressed how everything is so well-coordinated and how everybody pulls together to get the job done. I'm glad to be a part of the team."*

## ‘Chem Plant’ Decontamination and Decommissioning Advances at Idaho Site

At the Idaho Nuclear Technology and Engineering Center, the former Chemical Processing Plant support building called CPP-630 is just about down to the slab. Heavy equipment operators are transforming the building into a large pile of rubble.

Supported by additional funding under the Recovery Act, decontamination and decommissioning (D&D) crews at the Idaho Cleanup Project are ahead of schedule. By early next year, D&D will reduce by half the total historical footprint of the former “Chem Plant,” representing the first generation of uranium reprocessing in the U.S. from 1954 to 1992.

Currently, the plant’s main reprocessing facility and laboratory building, CPP-601 and CPP-602, are in various phases of progress toward “demo-ready.” The demolition of a processing annex, CPP-640, was completed earlier this year. These facilities housed, handled and processed radioactive and hazardous materials as a part of their historical missions.

The demolition of adjoining CPP-630 was planned as the ICP’s first Category 2 nuclear facility to be Recovery Act-funded from start to finish. But the facility was later downgraded to less-than-Category 3 after multiple surveys by radiological control technicians cleared the building to come down “clean.” A Category 2 facility has the potential

to contain significant amounts of radioactive material. A Category 3 facility contains no significant radiological hazards.

“We start before anybody starts,” said Steve Lehrer, Radiological Control (RadCon) supervisor. “We do our research and look at how the facility was used. Then we go in and check everything for contamination. Then, during the demolition, we survey the debris.”

The CPP-630 had housed some of the plant’s air-filtration system. Portions of two rooftop ventilation plenums were removed and disposed of separately due to contamination. Its ground floor had been built as a “hot” maintenance shop, so before demolition, the radiation control technicians bolted plywood over a few spots of contamination on the floor so the building’s downfall would not disturb them. The concrete floor will be demolished and disposed of separately.

But from slab to shingles, CPP-630 had served as office space for the Chem Plant’s RadCon technicians, and its destruction after decontamination brought out the mourners.

“That’s the original RadCon office they’re tearing down. A lot of history’s going away,” said Merle Burnham, who worked in CPP-630 two decades ago. “But it’s just a structure, and one that I guess has outlived its useful days.” //



*Radiological control technicians survey a pile of debris at CPP-630, a facility at the Idaho Nuclear Technology and Engineering Center.*



*With a contaminated port removed, the processor pulls the rest of one of CPP-630’s rooftop ventilation plenums into the debris pile.*



*Debris cleanup occurs at the CPP-630 facility in May.*





*An aerial view shows the removal of the eastern side of the 2000 Complex. The western half will be down by November.*

## Demolition Efforts Under Way at ORNL's 2000 Complex

The Recovery Act is funding Oak Ridge Environmental Management cleanup efforts, including UT-Battelle's demolition of Oak Ridge National Laboratory's (ORNL) 2000 Complex – a collection of vacant and rusting post-war “temporary” buildings.

The 2000 complex demolition rids the laboratory campus of outdated and disused structures that present a fire hazard to surrounding buildings. The demolition also reduces risk by eliminating ongoing hazardous materials releases.

The complex, also known as the Quonset Huts, was built in 1948 for the development of uranium and thorium fuel materials and subsequently housed the earliest ORNL environmental research organization. The two sets of semicircular steel facilities have been among the highest risk structures

at ORNL owing to their physical deterioration, the presence of loose radioactive contamination, and the lack of active fire suppression systems.

Shut down years ago, the facilities were not maintained and had deteriorated to the point of structural failure. The condition of the buildings was cited by UT-Battelle in 2000 as symbolic of the need for a general laboratory modernization campaign.

The project, which has presented a variety of challenges to the conduct of characterization, abatement, and demolition activities, is being executed in two phases. In September 2009, UT-Battelle awarded a subcontract to Safety and Ecology Corporation (SEC) to tear down the 2000 East Complex, which consisted of the eastern half of the complex, including some ancillary facilities. Following completion of

asbestos and general waste abatement in late March 2010, these facilities were demolished down to the slab foundation.

The majority of the debris went to the nearby Y-12 landfill, although some waste items (primarily ductwork and lab hoods) will be disposed at the Oak Ridge Environmental Management Waste Management Facility.

To date, the demolition subcontractor has worked more than 15,000 safe man-hours while performing inherently hazardous abatement and demolition work.

The western half of the complex is expected to be gone by this November. By then, the paint-flaked collection of buildings that served as a driver for ORNL's modernization will be history, and the 2000 Complex footprint will be available for new uses. ||

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## Officials Brief Stakeholders (cont'd)

and the Environmental Council of the States (ECOS), which works to protect and improve human health and the environment.

Bob Carson, manager of the federal facilities unit of the Illinois Environmental Protection Agency (EPA), participated in the May 18 conference call. The Illinois EPA is a member of ECOS, and Recovery Act updates help him stay informed.

"I've participated in several of these conference calls. I think it's a good effort in communicating with the states on how Recovery Act money is being used," Carson said. "On May 18, I did have a question on the status of Argonne National Laboratory's cleanup. They had the answer to my question. I've appreciated EM's work in communicating with the states."

EM officials also discussed Recovery Act work at a meeting in Nashville, Tenn., on May 4 that focused on state and tribal involvement in EM issues. EM Acting Chief Technical Officer Frank Marcinowski and EM Recovery Act Program Manager John Mocknick presented at the meeting. Organizations such as the State and Tribal Government Working Group, the National Governors Association's Federal Facilities Task Force, and the National Conference of State Legislatures' Environmental Management Roundtable attended. ||

## The Recovery Act Effect



Recovery Act funding was used to decontaminate the condenser room of Hanford's 242-A Evaporator. Crews used cloths and vacuums equipped with HEPA filters to clean the condenser room's five floors of walls and equipment.

### *Making work safer, faster and easier at Hanford's tank farms*

Recovery Act projects at the tank farms at the Hanford site in southeastern Washington state are creating a safer, more efficient work environment.

Earlier this year, workers at the 242-A Evaporator completed a major overhaul of the facility's raw water service system. The evaporator is a key component in the waste transfer system that creates more space in the tanks by removing excess water from the waste. During last year's evaporator campaign, the raw water service building's pressure control assemblies and filters failed and brought operations to a standstill.

This year, however, operators are much more optimistic.

"This new system that we were able to afford under the Recovery Act allowed us to put new valves in here which do a much better job than the old system," said Alan Hammack, Lead Nuclear Chemical Operator (NCO) at the Evaporator. "It's made life a lot

easier for us being able to have this new system because we've reduced the risk of a major operations failure."

In addition, workers say the Recovery Act-funded upgrade has made the room both cleaner and safer. "We had a lot of problems with the valves being old and very hard to manipulate," said Violet Greenough, Lead NCO. "The new valves are on the outside so they're easier to get to. They're also vertical now so they're even easier to manipulate than being on an angle like they were before."

*"This new system that we were able to afford under the Recovery Act allowed us to put new valves in here which do a much better job than the old system."*

*– Alan Hammack,  
Lead Nuclear  
Chemical Operator*







Construction workers remove bolts from the top of a cleanout box to prepare it for removal.

*“The Recovery Act monies made it possible to do the decontamination work now, saving us time and money in the future.”*

*– Rob Phipps*

Another Recovery Act-funded project at the Evaporator was the condenser room decontamination project. That project yielded similar benefits for those who have to work at the facility on a daily basis. The condenser room, which is a seven-story-tall space with open steel-grated flooring, is essentially the operating heart of the facility. In 2008, the room became contaminated. From then on, workers were required to wear personal protective equipment (PPE) every time they entered the room.

“The problem with having it contaminated is that we’re going in and out of there all the time,” said Jeff Stewart, Senior Health Physics Technician Lead Assignment. “That’s where most of our maintenance activities take place, our monitoring equipment’s in there, and going in and out slowed everything down. A great deal of money was spent on radiological PPE and waste that was generated.”

“The other problem is when you’re in a room that big where every surface is contaminated, there’s an increased risk that someone’s going to get a

skin contamination or a clothing contamination,” Stewart said. “With the completion of decontamination work, we’ve eliminated that risk. Work has become a lot easier, a lot quicker, and a lot more efficient.”

Crews also claim the decontamination work will lead to a more efficient evaporator campaign this year.

“The Recovery Act monies made it possible to do the decontamination work now, saving us time and money in the future,” said NCO Rob Phipps. “Going in there to make minute adjustments, going in there to do valving, to do plant configuration, all these things will be so much easier. It’s already clear that Recovery Act funds will enable this to run smoother, faster, and easier.”

### ***Cleanout Boxes Removal Complete at Hanford Tank Farms***

Workers are celebrating the completion of a Recovery Act funded project to remove three underground transfer line cleanout boxes, or COBs, from a Hanford tank farm. The COBs

are similar to cleanout lines in a sewer system, providing an opening into the waste transfer lines so they can be cleaned out.

“Removal of the COBs was accelerated from fiscal year 2011 due to the availability of Recovery Act funds and a window of opportunity we had to perform the work,” said Edgar Martinen, Tank Farm Projects Construction Project Manager. “This was truly a shovel-ready project that we could get to relatively quickly.”

The boxes didn’t meet current environmental requirements, so the access pipes were capped and the boxes were removed. But that was no easy task. To remove the COBs, workers used shovels to hand-dig around the boxes to avoid damaging underground utilities. Workers also used special equipment when removing the boxes to make sure no liquids or flammable gases escaped and glove bags to cut and remove the COBs and associated drain lines.

Although the COBs are gone, crews will still be able to clean the waste transfer lines by using underground utility boxes called valve pits. ||

## Tons of Contaminated Soil Removed at Hanford Site



An excavator removes soil at the Hanford Site.

*More than 4,700 truckloads of soil have been removed from the 13-square-mile area, known as the BC Control Area, since the cleanup project began in fall 2009.*

With Recovery Act funding, DOE contractor CH2M HILL Plateau Remediation Company (CH2M HILL) has removed more than 116,000 tons of soil from the largest waste site at the Hanford Site in southeast Washington State.

More than 4,700 truckloads of soil have been removed from the 13-square-mile area, known as the BC Control Area, since the cleanup project began in fall 2009. The soil is transported to Hanford’s Environmental Restoration Disposal Facility, an on-site disposal facility engineered to receive low-level, (radioactive) waste.

The BC Control Area is adjacent to trenches called the BC Cribs and Trenches. Like the names of many facilities and waste sites at the Hanford Site, “BC” is not an acronym for a full name.

Decades ago, the trenches received liquid waste generated by recovery of uranium and other processes on the Hanford Site. The waste contained radioactive salts. Wind, animals and other intrusions into the cribs and trenches disbursed the contaminants into the surrounding soil. Surveying in the past determined the general extent of the contamination, and the site was put under access and contamination controls.

The entire 13-square-mile area isn’t contaminated. Aerial surveys were conducted and found that 1.5 square miles of the area will not require excavation. The aerial technology provided a \$700,000 cost savings compared to traditional survey methods, in which vehicles and workers traverse the waste site.



*A radiological control technician surveys a section of the BC Control Area to confirm no contaminated soil was dispersed from an excavator that has just removed soil from the foreground. The spot requiring cleanup is one of several that CHPRC was able to pinpoint using radiological surveys last fall.*

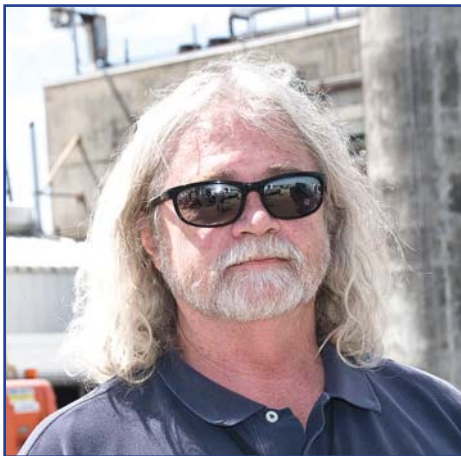
The Recovery Act is funding cleanup of the BC Control Area, as well as remediation of dozens of other waste sites and demolition of dozens of buildings at the Hanford Site that once helped produce plutonium for the U.S. nuclear weapons program. ||





# Safety and Training Key to Stack Reduction Demolition

*Recovery Act Workers Look at Training As Key to Future*



*Dell Simpson, SRNS deputy director, Area Decontamination & Decommissioning, stresses safety and training as part of the stack reduction project.*



*Steve Hayes is pleased to be working on the stack reduction project.*



*Waste technician Blake Bowers knows the training he has received as a Recovery Act worker will help him for years to come.*

Taking a 75-foot-stack down in size is a tall order for Recovery Act workers at the Savannah River Site. Radiological and industrial safety training is key to assure everyone goes home safe and sound at the end of the work day.

“Multi-skilled technicians who work here go through two months of training,” said Dell Simpson, SRNS deputy director, Area Decontamination & Decommissioning. “Everything from being able to work in a man lift to all of the safety equipment that we use is a pretty extensive training process.”

For Recovery Act worker Steve Hayes, the amount of detail in everything done at the site is extraordinary.

“I came here and learned a tremendous amount about radiological demolition, how you all preplan and work toward the small things. It’s really been an eye-opening experience about how you get to work on a DOE site and how things are conducted and



*A man lift carries workers to the top of the stack, which will be reduced in size from 75 feet to 28 feet.*

how people conduct themselves,” Hayes said. “The amount of detail is amazing.”

Waste technician Blake Bowers knows the training he has received as a Recovery Act worker will help him for years to come.

“Safety is number one out here,” Bowers said. “We learn to work for others. There are numerous things that are going to lead me on to better myself.”

Eleven of the 15 workers on the project are Recovery Act workers. The project, completed May 27, reduced the height of the 75-foot stack to 28 feet. SRS’ goal was to reduce the stack to prevent it from falling onto an adjacent 30-foot facility. Rather than spend Recovery Act funding to remove the stack entirely, SRS used that funding to reduce the site’s operational footprint.

The stack does not contain any radiological contaminants. ||

# Closure Activities Start at 50-Year-Old HWCTR



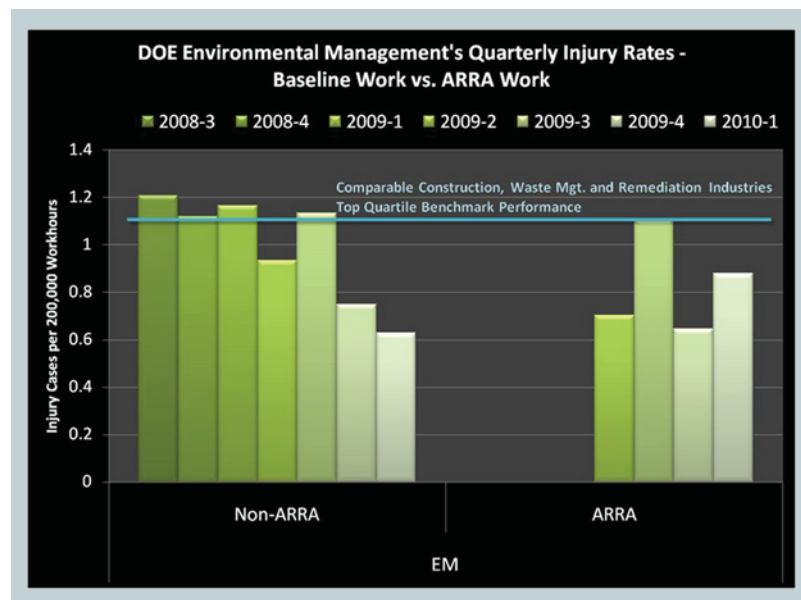
Project Manager Bill Lenartz (left), discusses draining plans with a closure project employee.



Workers install taps to drain fluids from old equipment before the next level of the reactor is enveloped by grout.

Another milestone for the Recovery Act: the first major closure activities at the half-century old Heavy Water Components Test Reactor (HWCTR) at the Savannah River Site in South Carolina in May.

“Initial phases of the decommissioning of the facility have taken place, and that was kicked off with the grouting of the spent fuel pool basin,” said Bill Lenartz, SRNS project manager, HWCTR closure.



Recovery Act workers prepared old equipment before the next level of the reactor was enveloped by grout.

“Currently, our team is working to drain fluids from equipment, in particular moderator draining, which is the coolant used in the reactor itself when it was in operation,” said John Arbaugh, SRNS project manager, Area Closure Projects.

With Recovery Act funding, the reactor subgrade area was completely filled with grout and the 100-ton reactor vessel dome was taken down to ensure that it will no longer pose an environmental or public hazard. The reactor began operation in 1959 to produce experimental fuel for heavy water commercial reactors. It ceased operations in 1964 and was placed in standby condition after the U.S. Atomic Energy Commission redirected research and development work on heavy water power reactors to reactors cooled with organic materials. ||



## Recovery Act Funding Accelerates Decommissioning of Brookhaven Lab Reactor



*Excavation of underground air exhaust duct*



*Fan House demolition*



*The High Flux Beam Reactor, lower left with Brookhaven Graphite Reactor in the background*



*Shipment of waste from Waste Transfer Pipe Removal project*

Recovery Act funding is helping accelerate environmental cleanup projects at the Brookhaven National Laboratory (BNL), in New York.

Work by the DOE and Brookhaven Science Associates (BSA), the management and operations contractor at BNL, has included the decommissioning of nuclear reactors at the laboratory.

The completion date for near-term actions, specified in regulatory agreements, has moved from 2020 to 2011 as a result of Recovery Act funding. Those actions to be completed include dismantling structures (fan houses and stack), removing contaminated underground pipes and ducts, and preparing the reactor confinement building for long-term safe storage.

Completion of these actions will reduce the radiological footprint of the nuclear reactor facility complex, which in turn will lower costs of surveying and maintaining facilities to ensure contaminants are contained to those facilities.

Safe work practices are emphasized and followed across all cleanup projects. ||

## Recovery Act Putting Nevadans to Work



Workers remove mixed waste resulting from the demolition of the R-MAD facility at the Nevada Test Site.

Contaminated buildings are coming down and disposal capabilities are being ramped up at the Nevada Test Site (NTS) as a result of Recovery Act funds. The program aims to reduce the footprint at active cleanup sites, save long-term cleanup costs, and keep workers employed around the DOE complex.

The Office of Environmental Management at the Nevada Site Office (NSO) was granted more than \$50 million in 2009 and 2010 to accelerate cleanup at the NTS and expand waste management operations.

Tests at NTS showed in more than 3,000 contaminated soil and groundwater sites and industrial facilities.

Recovery Act funding has expedited planned projects at those sites to help to reduce the footprint and shrink the total area identified for cleanup. The accelerated cleanup translates to more than 545 “lives touched” for NTS employees.

“This infusion of government funds has helped us and many other small businesses get to work,” explained Doug Loizeaux, whose company, Controlled Demolition, Inc. (CDI) helped conduct the demolition of the Reactor Maintenance, Assembly, and Disassembly (R-MAD) facility at the NTS. The family-owned small business, which has been operating for more than 60 years, has been able to sustain its 15 employees with work like this.

“Recovery Act funding has opened up a lot of projects that had been dormant at DOE sites,” added Loizeaux.

The NSO approach to cleanup reflects the Recovery Act’s focus on supporting small businesses like CDI. More than eighty-percent of the subcontractors used by National Security Technologies (NSTec), the Management and Operating contractor for the NTS, are small businesses. In addition, nearly \$10 million of soil characterization, industrial sites remediation and munitions/explosives cleanup is being conducted by Navarro Nevada Environmental Services (NNES), which is the environmental engineering contractor for the NSO and itself a small business.

Nevada-based NNES has been able to use Recovery Act funds to create and sustain jobs in the community as well. When budget cuts forced several technical agencies and organizations in Nevada to lay off employees, NNES was able to absorb much of this skilled labor.

“We are so fortunate to be able to hire these individuals, whose skills range from business, quality assurance, geology, and environmental science,” said NNES Manager David Taylor. “Not only do they reward us with their tremendous experience, we get to help save jobs in our community during a time of particular economic hardship.”

Accelerated cleanup at the NTS will ultimately save costs associated with long-term operations, maintenance, and infrastructure. The NSO plans to use the full Recovery Act allotment by 2011. ||





# Projects Pass 250,000 Safe Hours Worked at Paducah

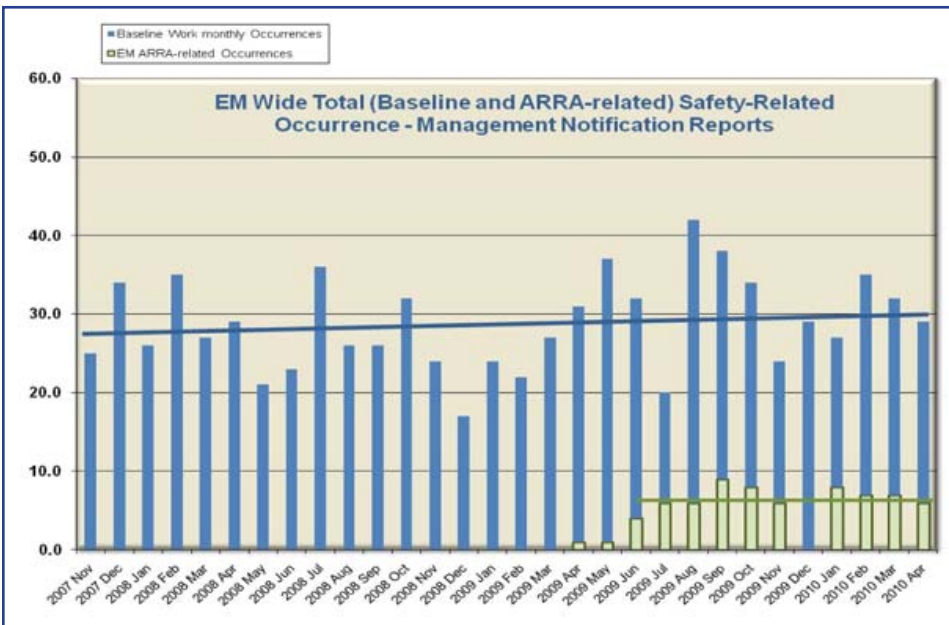


Workers begin to remove equipment from inside the C-340 Metals Plant, one of the three Recovery Act-funded demolition projects at the DOE Paducah Site.

Recovery Act workers at the Paducah Site marked a milestone this year when they logged more than 250,000 hours without a lost-time accident.

More than 300 people are employed on three Recovery Act accelerated demolition projects at the site. Many of those workers were hired in the past year and most had experience working in non-nuclear industries. Their daily work activities at the site include tasks such as asbestos abatement, removal of pipes containing hazardous material, and work in contaminated buildings. Much of the work is done while wearing full protective equipment, including respirators.

The Paducah site received \$78.8 million in Recovery Act funds to accelerate decontamination and decommissioning facilities. The facilities have been idle for decades and are being removed to reduce the potential spread of contaminants. ||



*The Paducah site marked a milestone this year when they logged more than 250,000 hours without a lost-time accident.*



For more information on EM Recovery Act work please visit <http://www.em.doe.gov/emrecovery/> <http://www.recovery.gov/>, and <https://recoveryclearinghouse.energy.gov/>

Feel free to send questions and comments to [EMRecoveryActProgram@em.doe.gov](mailto:EMRecoveryActProgram@em.doe.gov). Your feedback is welcomed

