

the Y-12 times

A newsletter for employees and friends of the Y-12 National Security Complex

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HEUMF:

A Seamless Transition to Operations

Acquiring four transport trucks from the Office of Secure Transport has been a major factor in smooth transitioning to HEUMF facility operations. These vehicles allow much more space for transporting materials to HEUMF and they allow for faster delivery.

Load-out activities for the Highly Enriched Uranium Materials Facility (HEUMF) are in full swing, with the initial load out well ahead of schedule. Once the scheduled 90-day load out is complete, HEUMF will officially be ready for normal operations. The National Nuclear Security Administration authorized startup of operations in January.

HEUMF is hard to miss—that massive, white conglomeration of concrete and steel with a footprint the size of a football field. However, the facility itself is just one measure of the HEUMF project's success. An underlying support system has been working like a gigantic buzz saw for the past four years to ensure the completed facility makes a seamless transition to readiness for operations.

HEUMF project team members, managers and support personnel from across the site credit project successes and smooth transitioning to two things: (1) advance planning and (2) adherence to a sophisticated and detailed Integrated Project Schedule. A focus on planning and scheduling has resulted in huge payoffs in three key areas: (1) material preparation, dispositioning and movement; (2) facilities, equipment and people; and (3) readiness activities. Work in these areas actually began in parallel with construction.

Work began in early 2006 to prepare the highly enriched uranium destined for HEUMF to be loaded in containers. A well-defined load-out plan and feverish work on the part of all employees involved resulted in 50 percent of containers being fully ready to load into HEUMF when approval was received. Work on the load-out plan also allowed shaving the loading effort from 18 months to an aggressive 90-day period. This accomplishment will mean early decertification of the old warehouse facility with an associated savings of \$26 million.

A mock-up area allowed the simulation of work activities, early training and qualification of operators and support personnel, and development of all necessary procedures and documentation to begin four years ahead of scheduled operations. This early preparation was key to the project's being able to obtain early approval to start up the facility.

Readiness activities aimed at approval to begin normal operations date back to 2006. System level testing and integrated system testing began in late October 2008 to ensure all systems would be ready for turnover to the contractor and then ready for operations on schedule. Cold operations, dry runs and practice followed to ensure readiness for operations. The project team also developed a readiness certification assurance process never before used at Y-12 that added rigor and structure to the readiness process.

Water is on the horizon



Pumps (shown above) for Y-12's new water towers were installed recently and most of the piping and valves have been connected.

It won't be long before the new water towers are operating. Direct-hire construction workers have completed the installation of backflow preventers and underground piping segments and the isolation of antifreeze loops within Y-12.

Work inside the towers is going strong. Most of the activity in the last few months has been in the pump room, where installation of the pumps is now complete and most of the piping and valves have been connected.

Painting the inside of the tanks resumed in mid-January after a delay caused by condensation issues. "The subcontractor was able to mobilize heating and dehumidification equipment to create the right conditions for interior painting in cold weather," said Melissa Portwood, project manager.

Repainting the exterior of the two tanks must wait for warmer, drier days. After this go-around, no further repainting is expected. "We believe the streaks on the sides came from unpainted areas on the top of the tanks," said Jeff Coppala, project engineer. "Because of extended weather-related interruptions in the paint application, some metal surfaces were left subject to the elements long enough to allow corrosion to occur."

To quell any overspray concerns, the coating will be applied with rollers rather than sprayers. "We will roll the paint on just like we did to the corbel at the bottom of the east tank," said Portwood.

April is the date for the filling the tanks with water and making tie-ins to the Y-12 grid. "The end of May 2010 is the subcontractor's target for demobilization from the site," said Portwood.

Nuclear forensics breaks down the threat

With 60-plus years of experience in uranium research, processing, production, machining, assembly and storage, Y-12 has a firm foundation to support the science and technology needed for the important, growing area of nuclear forensics—the analysis of a sample of nuclear material to provide evidence for determining the history of the material.

As the world's leader in enriched uranium processing, Y-12's uranium bulk material characterization laboratory maintains the latest high-tech instrumentation, qualified analysts and procedures to provide traceable and defensible results. A newly installed clean room enhances capability in pre-detonation nuclear forensics involving uranium analysis.

Whenever suspect nuclear material is interdicted, enforcement agencies must have the ability to determine where the material originated and to take appropriate action. Y-12 is key to understanding the uranium component of the equation.

"Our analytical capabilities, expertise and experience with characterization of uranium-based materials are quite unique within the U.S. Department of Energy complex. Increased interest in nuclear forensics and nonproliferation has provided a significant opportunity to capitalize on Y-12's skills and experience and bring

increased visibility to the important role we play in nuclear safeguards and security," said Greg Schaaff of Analytical Chemistry.

Y-12 supports nuclear forensic sample exercises and plays a vital role in supporting the domestic and international communities by developing the historical special nuclear material production databases and nuclear material archives crucial to nuclear forensics.



Y-12 has a new clean room designed specifically for uranium forensics analysis.

Meet an ARRA worker

Y-12 has the seventh largest American Recovery and Reinvestment Act (ARRA) contract in the nation, with its ARRA projects creating slightly more than 500 jobs. Who are all these new people, and what are they doing?

Who

Scott Benge, laborer, Facilities, Infrastructure and Services

How long at Y-12

Approximately two years. Benge hired into Y-12 before the American Recovery and Reinvestment Act and worked with the roads and grounds patrol. Once ARRA work began, he was quickly relocated to the legacy material disposition projects.

Previous employment

Before coming to Y-12, Benge worked construction for two years at East Tennessee Technology Park and three years at Oak Ridge National Laboratory's Melton Valley.

Recovery Act projects worked

"I've been with Alpha 5 and Beta 4 since the beginning of the projects—back when we were throwing out the old, broken office furniture."

Further thoughts on projects

"Material removal was paused for awhile to make sure the best approach was established, and I'm pleased with the revised approach to the work. Now, Industrial Hygiene comes in first, then Radiological Control, and then us laborers. While the facility conditions are not ideal in Alpha 5, they are not as bad as some of the stories floating around out there."



"It's good to see the progress we've made in the Alpha 5 and Beta 4 buildings," said Scott Benge, who works on legacy material disposition projects as a part of Y-12's American Recovery and Reinvestment Act work.

First ARRA-funded demolition

It's not often one project represents both a first and a last milestone, but the Building 9735 demolition did just that.

The demolition of Building 9735, the first Y-12 demolition project funded by the American Recovery and Reinvestment Act (ARRA), started Feb. 8 and was completed that same day.

"The waste will be disposed of in the coming weeks, and the entire project will be completed four months ahead of schedule," said Jim Blair, project manager for Y-12's ARRA deactivation and demolition (D&D) projects. The team working on the project took advantage of opportunities to move the project ahead of schedule despite challenges.

One of the biggest challenges of the project was the characterization of the material, said Frank Keelty, project manager for Building 9735 D&D.

"The building dates all the way back to the early 1940s, so we had to determine how the facility was used and then properly characterize and dispose of what was left behind," said Keelty.

The demolition of Building 9735 also completes the demolition of Engineering Row. Six other buildings at the same location were razed in 2008. After the Building 9735 D&D project is complete, the site will be converted into a 21-space parking lot for personnel on the east end of Y-12.

The other buildings scheduled for demolition with ARRA funding before September 2011 are 9211, 9220, 9224 and 9769 in the Biology Complex and the Building 9206 bag filter house.



Building 9735 is the first of five demolitions at the Y-12 National Security Complex to be completed with Recovery Act funding.

Bird or plane, it's in our sights



President and General Manager Darrel Kohlhorst checks out Y-12's new guard tower, which significantly enhances security police officers' sightlines.

If it's a bird or a plane, Y-12's Protective Force will certainly be able to see it. The construction of the first security tower in almost 20 years has significantly enhanced the security police officers' sightlines.

Identified as Tower 1, this new post is loaded with technology. According to Ray McClure and Chris Tidwell of Safeguards and Security's Risk Management, the team first saw the BRE (bullet-resistant enclosure) at the Savannah River Site. The development of the enclosure was funded by the U.S. Department of Energy's Office of Health, Safety and Security.

Y-12 wanted to use the BRE as part of its ongoing strategy to address potential threats. When it was time to execute the project, McClure admits they gave Projects more than a challenge. "We asked them to put it in a small space, during bad weather and with an overtime restriction in place. If that wasn't enough, they also couldn't impact HEUMF's (the Highly Enriched Uranium Materials Facility's) schedule," he noted.

The project team, led by Ed Kimbro, met that tall order and chalked up some cost avoidances and savings in the process. The avoidance was by using a different foundation that didn't require forms. In terms of savings, they were able to lower costs with a "hot tap" into the existing power system rather than creating a power outage. The savings from that effort amounted to \$50,000, and they achieved all this success on a schedule that was three months shorter than anticipated.

According to all the team members, the success of this project was solely attributable to teamwork. "We worked everything through integrated management," said Kimbro. "Even on an accelerated schedule, we had no safety occurrences."

As they prepare to leverage these lessons learned on a second tower, Y-12 is in an even better position to address potential adversaries.

Security has your back(bone)

Having a backbone is an often-used euphemism for strength, character and fortitude. Y-12's new wireless communications backbone will ensure the fortitude of the site by enhancing situational awareness for the Protective Force.

This new backbone improves communications and will dramatically lower costs. The network also provides the advantage of being deployed in and on moving vehicles. Now, in addition to having standard radio communications, ProForce personnel will have a vast amount of information available, from live video feeds to real-time asset tracking.

This technology has been used by U.S. troops overseas, but this is the first deployment at a fixed facility in the United States. The team has shared lessons learned and documentation with other National Nuclear Security Administration sites that are currently deploying or planning to deploy a wireless, mesh-enabled infrastructure. By leveraging this information, significant cost avoidances and schedule efficiencies should be realized throughout the Nuclear Security Enterprise.

Y-12 is also looking for additional applications for the network, such as deployments in areas without wired-system infrastructure,

which should provide some local cost avoidances. Future plans include mobile applications, such as training devices, assessment capabilities and video.

As Paula Cox, technology deployment lead for Safeguards and Security, stated "Anything that enhances awareness during combat also enhances our ability to win the fight and ensure ProForce personnel go home safely at the end of the day, which is our ultimate goal." When the system is fully operational during the next year, Y-12 will have taken one giant leap toward that goal.

Smoke signals safety reminder

The recent smoke signals from the S-3 parking lot were a good reminder of why not to park in end caps—it delays or prevents emergency vehicles from reaching the site needing service.

According to Chief Scott Hackler of the Y-12 Fire Department, they were on the scene within minutes, and the fire was extinguished quickly. Fortunately, nothing delayed the department's response time, such as improperly parked cars, or the results could have been much worse.

However, as you can see from the photo at right, the damage was still significant—even affecting surrounding vehicles.

“At least three vehicles were damaged, including an adjacent vehicle on fire,” reported Hackler. Because the fire involved private vehicles, the cause was not investigated. Hackler does have some tips, though, for fire-proofing your vehicle.

“Maintain your vehicle, specifically paying attention to any leaks or problems with wiring,” said Hackler. “It is also a good practice to unplug everything (GPS, cell phones, iPods) when your vehicle is parked. Those chargers create heat.”

Though seldom recognized, vehicle fires are quite a problem. According to the National Fire Protection Association, one out of five fires involves motor vehicles, and one out of eight fire deaths results from motor vehicle fires. Approximately 500 are killed and 2,000 people are injured each year from vehicle fires.

Hackler noted that fighting such fires has a unique set of hazards. “For cars with steel hoods, the first thing to burn is the hood latch, which limits our access to extinguish the fire.” Parts of the vehicle can burst and become deadly shrapnel, such as bumper and hatchback door struts.



The Y-12 Fire Department quickly extinguished the blaze that engulfed an employee's vehicle and damaged others. The results could have been much worse if the fire department had to maneuver around improperly parked cars.

Designated unclassified: new policy saves time (and ink)

Steve Kyle didn't set a goal to save ink from DC stamp reduction ... it just happened. It all started 19 months ago when the U.S. Department of Energy (DOE) changed its policy on identifying classified information. This change allowed DOE site classification officers to assign certain site-specific topics as designated unclassified subject areas (DUSAs). As Y-12 Classification manager, Kyle got to work assigning topic areas and implementing the new policy.

DUSAs eliminate the need for classification review of certain topics, which results in time savings for derivative classifiers (DCs).

Kyle said establishing DUSAs “has allowed our DCs to focus on more security-crucial subject areas.” Additionally, document management centers can now submit documents within these topic areas into the automated system without a DC review, bringing Y-12 one step closer to a streamlined document control process.

DUSAs cover a wide range of topics, from training records to potable water and steam plant upgrades. The Bear Creek Road reroute project, the demolition projects of the Biology Complex and Building 9735, the cooling tower replacement project and certain Ura-

nium Processing Facility documents also fall under this policy.

Although the DUSA policy relaxes the need for review in certain areas, Kyle stressed it doesn't mean employees should become lax in getting their materials reviewed. If a document falls under DUSA, an employee should have it DC reviewed if the scope of the work changes or the material otherwise changes significantly. DUSA does not override or negate other rules for classification, and the need to know must still exist.

To see a current list of Y-12 DUSAs, visit the Classification office website.

Record-breaker!

The Y-12 National Security Complex's 2009 United Way campaign was a record-breaking year in a time filled with economic woes for the nation.

"At Y-12, we annually focus our support on United Way," B&W Y-12 President and General Manager Darrel Kohlhorst said. "It helps thousands of East Tennesseans through its member agencies, and for our most recent campaign, we increased our efforts even more in light of the difficult economy and acute needs in our communities."

Contributions from employees, retirees and B&W Y-12 totaled \$875,090, the highest United Way contribution level ever for Y-12. The campaign, which ran from Oct. 14 until Nov. 12, saw a sharp increase in Leadership Givers and almost \$35,000 from vacation time donated by employees, the first time the company has offered the chance to give up vacation in exchange for a cash contribution to United Way.

Jim Anderson, Y-12's 2009 campaign chair, said, "Considering the tough economic situation we are currently facing in our country, the response from Y-12 employees during the 2009 United Way campaign was phenomenal. The total contributions from B&W Y-12 corporate, active employees and retirees represents the most we have ever raised for the United Way at Y-12. Countless individuals in the surrounding counties will benefit from the generosity of Y-12 employees."

In addition to money, employees donated through three Days of Caring collection efforts that netted more than 4,000 school supplies for Aid to Distressed Families of Appalachian Counties; 1,127 coats and other outerwear for the Volunteer Ministry Center; and 2,100 pounds of food and almost \$2,200 in cash to Second Harvest Food Bank.

About 54 percent of Y-12 employees contributed to the campaign, up from 47 percent in 2008.



Sometimes a great notion becomes a patent

When it comes to inventions, all it takes is one good idea, said Technology Transfer's Tammy Graham, and good ideas often come to Y-12 employees.

In fact, various site employees outside traditional research fields have successfully obtained patents, copyrights or trademarks. And Graham wants the trend to continue. She emphasizes that if anyone has an idea for a new product or process, Technology Transfer wants to hear about it.

"Twenty-four people submitted invention disclosures last year," said Graham. "That's only about one-half of 1 percent of Y-12 personnel! Anyone, as long as he or she is a Y-12 employee, can and should submit invention disclosures. And we know from past experience that invention ideas can come from anywhere in the company."

For instance, an electrician, a security specialist and a health information coordinator at Y-12 are all holders of patents or copyrights, some of which have been commercially licensed. More about those success stories will appear on YSource.

"No matter where people are—Analytical Chemistry, Security, Manufacturing, Engineering—we want them to look at the final stage of their work process and ask, 'Is there a potential patent here? Could this be copyrighted?'"

Anyone daunted by the thought of a patent application can relax. Technology Transfer has simplified the initial forms and the overall process. "All people have to do is call," said Graham. "We'll work alongside them every step of the way."

For more information, contact Graham (574-2214; grahamt@y12.doe.gov) or visit the Technology Transfer website.

In memoriam

Raymond (Hymie) Dalton, a carpenter in Facilities, Infrastructure and Services, passed away Jan. 24. He had 18 years of company service.

Carl Cunningham, his friend and co-worker, said, "Hymie was not only a working buddy but a dear friend. He was one of those you could talk to and know it would not go any farther. He was a great listener without offering opinion or judging you. We fished together and laughed a great deal. He will be greatly missed by me and all he came in contact with."



...Around Y-12 ...

- Y-12 will host a Uranium Processing Facility (UPF) Suppliers' Outreach Forum March 9 and 10. The two-day forum will provide an opportunity for suppliers to learn about current and upcoming UPF proposals and procurement needs, project and security requirements, and guidelines for doing business with Y-12.
- U.S. Rep. Lincoln Davis visited Oak Ridge Feb. 12 and toured the Building 9201-5 (Alpha 5) American Recovery and Reinvestment Act project at Y-12. In a statement, Davis said, "We need to continue our aggressive environmental management approach in order to ensure a continuity of safe day-to-day operations of our facilities at the Oak Ridge reservation, but more importantly to ensure the safety of the thousands of workers at the DOE [U.S. Department of Energy] sites and the citizens of Oak Ridge and future generations."
- Kenneth Myers, director for the Defense Threat Reduction Agency and the U.S. Strategic Command Center for Combating Weapons of Mass Destruction, visited Y-12 Feb. 4. He is visiting all National Nuclear Security Administration laboratories/sites to gain a better understanding of capabilities within the U.S. Department of Energy. Myers toured Y-12 to learn about missions, transformation, and nonproliferation and nuclear security efforts, particularly nuclear forensics, nuclear detection and global security training. Morris Hassler, director of Strategic Development, said the visit went "extremely well."
- Details of Y-12's health and wellness program, Live Wise, are being finalized. See YSource and *The Y-12 Times* for more information in the coming weeks.
- Ironworkers/riggers under supervisor Larry West recently marked two years without a recordable first-aid incident. West credits his team's success to "employees knowing their job and looking out for each other."
- Hundreds of Y-12 employees came to work in red Feb. 4 in support of American Heart Month. The "Go Red" campaign celebrates the energy, passion and power people have to band together to wipe out heart disease and stroke.

SERVICE



ANNIVERSARIES

MARCH 50 years

Financial Performance Assessment: **William R. Ragland**

42 years

Programs and Quality: **Joseph P. Konopka**
Strategic Planning and Transformation: **Thomas E. Smith**

41 years

Environmental Compliance: **Sydney H. Coffin**
Production: **Thomas E. Rowe** and **Robert L. Sloan**

40 years

Document and Property Management: **James A. McCleary**
Programs and Quality: **Carl E. Bennett Jr.** and **Willie T. Thomas**

Production: **William C. Brown Jr.**, **Michael E. Davenport**, **Homer Gallaher** and **Calvin L. Vowel**

35 years

Facilities, Infrastructure and Services: **Gerald O. Bacon**, **Jerry L. Poe** and **John D. Rader**

Production: **Michael A. McGaha**

30 years

Communications Services: **John A. Getsi** and **LaDonna D. Meyer**
Emergency Services: **Janet S. Murrill**
Environmental Management: **Sandra J. Foster**
Human Resources: **Stephanie A. Cale**, **Sonya L. Graham** and **Connie A. Polson**
Programs and Quality: **Sherry M. Crass** and **Milton G. Kreger**

25 years

Facilities, Infrastructure and Services: **Richard S. Underwood Jr.**
Programs and Quality: **James D. Davies**

20 years

Document and Property Management: **Juanita G. Harris**
Emergency Services: **Paul L. Davis Jr.**, **Charles E. Maples**, **Larry W. Stubbs** and **Richard B. Wolfe**
General Accounting: **Allen B. Piper**
Information Technology: **Dale J. Fields**
Production: **Hal E. Galyon**
Programs and Quality: **James K. Franse**
Public and Governmental Affairs: **Ellen F. Boatner**

In memoriam

Larry Baker of Engineering passed away Feb. 10. He had 29 years of company service.

Co-worker Gary Marks said, "Larry was well-known as a chemical operator and for his work in procedure writing. He was always ready to provide support and help to anyone and enjoyed working with co-workers at all organizational levels. Larry always enjoyed a good political or religious discussion should the occasion arise. He was very supportive of his family and the development of his grandchildren and enjoyed participating in the music ministry of his church."

**Y-12 Employees'
Society
Egg Hunt**
(Walking to 10 years)

April 1
6 p.m.
(until all eggs are gone)

Contact:
Lisa Harris or
Rashaun Williams
576-2658/241-4210

**Earth Day
Celebration**

April 21
Jack Case Center cafeteria
and Building 9113 canteen

Contact:
Aprell Patterson
241-2568

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An alarming job

Tiffany Malone of Facility System Engineering is a crucial figure in keeping the fire alarm system for all of Y-12 running. She is the technical expert and only system engineer on call for it 24/7. "I like the responsibility and knowing that people have such confidence in my abilities," she said. "Any after-hours call-in is just part of the job."

Self-reliance has been a constant since she hired in back in late 2004. "My predecessor retired soon afterward," she said, "so I learned a lot about the system on my own."

Typically, she may get a notice that one of the 38 alarm panel devices at the site isn't working. She troubleshoots to find the problem, prints a work package, oversees the repair and reprograms the panel using a laptop computer. Her work isn't helped by the age of the fire alarm system, which tends to need a lot of maintenance. "Weather plays a part too," said Malone. "A rainstorm may cause roof leaks, which in turn can damage the devices."

The good news is that the system is scheduled for new fiber optics and panels starting next year. With the upgrade will come more technical help. "The plan is for me to train more system engineers on the system as it is installed," she said.

In the meantime, on a normal day you may find her working in several different buildings or walking down projects like the new steam plant. "I look forward to each workday because each day brings a new challenge," she said.

Engineer Tiffany Malone and electrician A. C. Miller work to restore an alarm panel to operation.