Steam plant is cooking with gas

The new steam plant is revved up and ready and was turned over to Utilities for operations. “We fired up the first boilers on December 31, and we steadily brought more boilers on line,” said Robert Spurling, project manager for the Steam Plant Life Extension Project.

The new natural-gas-fired boilers are a vast improvement in technology over the old coal-fired ones. Cost savings are estimated at about $27M in deferred maintenance and less resource-intensive operation.

“Having reliable steam production into the future is a must,” said Gary Guge, Utilities shift manager. “For offices to be warm in the winter and production deadlines to be met, we must be able to count on the steam plant running 24/7.”

Noting the benefits of the new plant, Mike Parkison, Utilities Engineering manager, said, “We won’t have to handle dry and wet ash or dispose of it in a landfill, and we’ll be using fewer chemicals and discharging less wastewater.”

The Steam Plant Life Extension project was originally planned, as the name suggests, as a 10-year life extension of the 55-year-old steam plant.

In early 2007, Y-12 and the Y-12 Site Office rescoped the entire project from a big band-aid on the existing plant to providing Y-12 with a new higher efficiency gas-fired package boiler plant with a 30-year design life—all within the cost and schedule of the originally planned life extension.

Benefits of the new plant

- High-efficiency (82 percent) boilers, each with an operating range 10 percent to 102 percent of capacity.
- Use of environmentally friendly natural gas instead of coal.
- No need for labor-intensive handling of fly ash.
- Available “as-built” drawings to assist in repairs and future growth.
Q: B&W Y-12 in the past has sponsored a yearly safety expo for the employees. This has provided valuable information from different organizations and vendors for a safer workplace as well as health information for employees. Y-12 has said that safety continues to be the number-one challenge, so do you foresee a safety expo in 2010 plans?

—Kemberly Phillips, Tier II assistant, Accounting and Systems Management

A: I really like the safety expo and the excitement it brings to Y-12 each year, but even saying that, we are doing something a little different this year. Instead of having an ES&H Expo that everyone might not be able to attend, we are going to focus on the health and wellness of each and every Y-12 employee. We have designed a new program that takes a personal approach to employee health and safety though a Health Risk Assessment, Fitness Testing and therapeutic activities, weight management programs, chronic disease mentoring, and enhanced return-to-work and risk communication programs that will be made available to all employees on a voluntary basis. To encourage employees to get healthy, stay healthy and help manage their chronic disease, we are offering a $300 incentive to each employee to complete the Health Risk Assessment/Fitness Testing and get a personalized plan that could lead to an improved quality of life. As we go forward with this program, we will be evaluating our programs and seeking feedback on how it's working for you. There will be much more to discuss about this topic as we go forward.

Q: Given the current economic situation and out-year funding forecast, how confident can new employees brought on by the ARRA programs (not through subcontracts) be in knowing that they will have a long-term future at Y-12? What steps can they take to secure their future within the Y-12 family long after their current funding has been exhausted?

—Nathan McMahan, project control analyst, Program Planning

A: There are many challenges facing Y-12 but none bigger than getting the new Uranium Processing Facility (UPF) designed and built. Our 9212 facility has a limited life. Even though we are still investing in upgrades and fixes, we can only sustain production for so long in that facility. It has more than served its purpose. The challenges for UPF will include getting it funded on a schedule that will bring it online in time to phase out 9212. We are working close with our site office, NNSA Headquarters, the Administration and Congress to demonstrate the need and our approach to the new facility. During Secretary of Energy Chu's visit we took a tour of 9212 and walked through E-wing. He was amazed that we were continuing to use outdated equipment to meet our country's security mission. We continue to invite and have visits from congressional staffers and the Tennessee congressional representatives, including Congressman Zach Wamp and Congressman Lincoln Davis. Having them see firsthand the conditions we deal with on a daily basis helps make our case. Last year, Congress added $50 million to the President's budget request for UPF to keep our design team on schedule. Currently, the plan calls for us to stay on that schedule for two more years and then ramp up construction very quickly. Our target would be to complete the facility and have it online by 2020. We are confident under our current plan for 9212, that our risk reduction program will allow us to continue operations in 9212 until UPF comes online. This is a challenge we work every day at Y-12.
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**

Nathan Brown, laborer, Facilities, Infrastructure and Services

“Y-12 is a lot more interesting than other places. It’s not the same routine. Things are always changing. Each day is a new challenge.”

**HOW LONG AT Y-12**

Approximately 9 months (May 2009)

**OTHER EMPLOYMENT**

UPS

**RECOVERY ACT PROJECTS WORKED**

Working on legacy waste removal from Alpha 5 (9201-5) and Beta 4 (9204-4) by supporting Radiological Control, Waste Management, Industrial Hygiene and other areas.

**FURTHER THOUGHTS ON PROJECTS**

“Areas that were completely cluttered up are now empty—nothing—in a matter of months.”

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**ARRA at Y-12: one year later**

As of March 31, ARRA procurement reached $53.6 million, with 875 full-time equivalent jobs created. The ARRA dollars are most welcome to Y-12 and East Tennessee, as they have meant new jobs for many folks.

“B&W Clinch River was getting ready to lay off, and I was one who was going,” Terry Fox of Facilities, Infrastructure and Services (FI&S) said. “I didn’t want to go on unemployment, so I applied at Y-12 for the first job available.”

As cleanup continues, so does the education. Ken Davis (FI&S) said, “With each project, I’m learning more about my craft and Y-12.”

The Y-12 funds are part of $755 million received by the U.S. Department of Energy’s Oak Ridge Office Environmental Management program. The Y-12 projects are scheduled for completion by September 30, 2011.

With their emphasis on new jobs, legacy cleanup and footprint reduction, the ARRA projects represent a win-win commitment from any perspective.

It has been a year since Y-12 received American Recovery and Reinvestment Act (ARRA) funds to begin cleanup of legacy facilities while bringing new facilities online. One year’s effort in the ARRA projects has enhanced safety and cost savings while mitigating environmental risk to complement the site transformation plan.

The projects, removal of legacy materials from two World War II production facilities—Alpha 5 (Building 9201-5) and Beta 4 (Building 9204-4); scrap metal cleanup at a salvage yard; demolition of four Biology Complex buildings; demolition of Building 9735; demolition of the Building 9206 filter housing and cleanup of the recovery furnace; and remediation of storm sewer pipelines and catch basins in the Upper East Fork Poplar Creek watershed, are progressing well. One project is more than 90 percent complete, with another two more than 50 percent complete. The other projects are near 50 percent completion and ahead of schedule.

As cleanup continues, so does the education. Ken Davis (FI&S) said, “With each project, I’m learning more about my craft and Y-12.”

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Nathan Brown is ready to meet the new challenge of each day.
MEMORIAL DAY: WHAT IT MEANS TO ME

To many Y-12 employees, Memorial Day (celebrated this year on May 31) is more than the beginning of summer. Recently, employees were asked to share what Memorial Day means to them. Here are their thoughts.

“I am very thankful for my freedom. Without our freedom there’s no telling where we would be today. Thanks to all of our military members for what you have done for our country and what you are doing now. Thank you is truly not enough, but that is all I know to say. God bless all of our military members.”
—Judy Russell, Production

“I was taught at an early age to respect everyone who wears or has worn a uniform for our great country; for it was by them that I am able to enjoy life and liberty. This deep appreciation of American heroes inspired me to enlist into the Army upon graduation of high school. As I proudly put on a uniform that would defend my country’s freedoms, I thought of all of the men and women who came before me. All of the sacrifices from the comforts of home and family that they endured for our country brought a renewed sense of pride to my heart for what they, and then I, gave up to defend America’s values.”
—SPC Erick Loveland, retired, U.S. Army, Programs and Quality

“My dad served in the Army in the Philippines but never wanted to talk about it. You can imagine my surprise one day when I was cleaning out some of my son’s old homework from when he was in middle school. It was a paper about his ‘pap-paw’s’ time in the Army. I learned more about his time served than ever before. It makes me proud to know that my dad made a contribution to our freedom. I want to thank all those in the armed forces who have served in the past, who are currently serving and who will serve in the future to fight for our freedoms that we sometimes take for granted.”
—Sharon Gasaway, Facilities, Infrastructure and Services

“Memorial Day is remembering that freedom is never free. It takes sacrifices of blood, sweat and unfortunately tears by fellow Americans who believe that their sacrifices are worth it to defend our country against our enemies. It takes sacrifices to protect our country from the terrorism and tyranny of those who are desperately trying to destroy our freedom.”
—Major Chuck Smick, U.S. Army Retired Reserves, Environment, Safety and Health
A positive reaction to lab’s new element

Y-12 chemists are breathing a sigh of relief. Although the workers in Analytical Chemistry’s lab still have to process nearly 60,000 beryllium samples a year—more than any other location within the U.S. Department of Energy—new equipment is making that task easier.

The high-throughput equipment, called automated fluorescence, was procured for approximately $125,000 and determines beryllium levels in air and on surfaces. The reduced time to analyze sampling is expected to avoid nearly $500,000 annually in labor savings.

“For 30 years, we’ve been analyzing beryllium samples using ICP, the inductively coupled plasma method,” explained lab manager Tom Oatts. “This process is well accepted and has good detection limits, but the instrument costs are high and there can be problems with spectral interferences, especially with uranium. Also, ICP generates rinse wastes that must be specially handled.”

Automated fluorescence combines the new analysis technique with robotic equipment, which was included to rid the analysis process of emerging ergonomic issues. A technology transfer success, automated fluorescence is the result of a partnership among the Savannah River National Laboratory, Y-12 and Berylliant, a small business in Tucson, Ariz.

Production Support activities within Defense Programs agreed to fund a prototype, knowing that quicker turnaround times would benefit them, and Y-12 agreed to beta test the technology. The results have been extremely positive: no decrease in reliability or accuracy and a significant increase in lab efficiency.

“It’s impressive, this new time and cost savings from the equipment,” said Ted Sherry, National Nuclear Security Administration Y-12 Site Office manager.

Y-12 celebrates Earth Day

This year marked the 40th anniversary of Earth Day, and Y-12 employees celebrated at an April 21 event sponsored by the Sustainability and Stewardship Program. Because members of Y-12’s Sustainability and Stewardship Program were in Washington, D.C. April 22 to receive a U.S. Department of Energy Environmental Sustainability Star (EStar) program award, the Y-12 site event was held early at Mother Nature’s conference room—outside.

Employees learned about the many facets of Sustainability and Stewardship, including Waste Generator Services and PrYde. Environmental Compliance and energy management also shared information with employees. The new trash compactor used to take paper to a local recycle center was on display, and employees received reusable bags.

Wayne McMahon of Environment, Safety and Health said, “Earth Day is an opportunity to both celebrate our past accomplishments and reaffirm our commitment to be responsible environmental stewards.”

Quilt Donation

Y-12 donated a quilt representing “it’s easy being green” to Kingston Elementary School April 22. Y-12’s Environment, Safety and Health (ES&H) employees shared pollution prevention tips with the students. The quilt, pieced together by ES&H’s Audrey Fowler, was part of a 2009 ES&H Expo project and was donated to the school as a representation to future generations about recycling and saving the planet. Students from Ms. Coley’s 2009 second-grade class drew pictures representing what being green means to them.

Oak Ridge Earth Day

Y-12 employees also showed their support for greening Oak Ridge, Tenn., America and the world by attending the Oak Ridge Earth Day festivities April 24. The Sustainability and Stewardship Program shared with the community how Y-12 is becoming a greener workplace and maintaining its Tennessee Pollution Prevention Partnership (TP3) performer-level status through its successful pollution prevention campaign. Rosanne Smith, Y-12 energy manager, said, “Earth Day is a perfect time to raise awareness in our workplace and our community that our every action impacts the world around us.”
Volunteering brings rewards full circle

Are you signed up for this year’s Day of Volunteering? Most activities will take place May 14 or 15.

Michelle Reichert, Environment, Safety and Health vice president, and Jim Nobles, Ethics and Internal Audit director, are the co-chairs for this year’s event.

Reichert said, “We are hoping at least 750 employees volunteer. But most importantly, every organization that asks for assistance, receives that assistance.”

Nobles reminds employees why it’s important to participate. “Volunteer day provides Y-12 employees an opportunity to corporately show their interest in and support for many efforts and organizations, located in our surrounding communities.”

Day of Volunteering provides a chance to get involved in a focused and hands-on event, where you not only make a difference, but you can see the difference your efforts make. Day of Volunteering supports B&W and Y-12 commitments to enhance safety and environmental stewardship. By being involved with numerous organizations and causes, Y-12 employees have an opportunity to demonstrate what is important to us and our companies.

Not only is the event about helping others; it’s about meeting new people and getting better acquainted with co-workers. Nobles said, “Working side-by-side in the sun or rain, in the dirt, on a construction/remodeling site, or in the woods, causes us to identify with each other in new ways. These opportunities, which otherwise might not have been available, tend to bring us together on common ground and strengthen teamwork.”

Serving those who serve us

Deborah Jeffries knew who to call when she needed help. While serving in Iraq with the 278th Armored Calvary, she received a call from her daughter that an electrical outlet in Jeffries’ house was sparking. She had worked as a subcontractor and knew Y-12 was committed to supporting the armed forces and the 278th Regiment, so she contacted the Plant Shift Superintendent’s office. The PSS office put out a call for help, and Scott Almond answered the call.

Almond, an electrician in Building 9201-1, was in Lake City the next morning fixing the malfunctioning outlet at Jeffries’ home. He didn’t hesitate when the opportunity to help arose. His rationale was simple, “I’m here, she’s there, and I’m going to help.”

Co-worker Frank Anderson brought Almond’s good deeds to the attention of others by saying, “Scott is a husband, father of three children and a member of the Air National Guard. Yet he made the time and used his resources to help a fellow soldier here at home.”

Almond can relate to Jeffries’ situation. He will start a two-month deployment to the Persian Gulf region in July as part of the 134th Air Refueling Wing out of McGhee Tyson. When asked if that influenced his willingness to help out a fellow soldier, Almond said, “I have served in the Army and lived overseas for multiple years at a time. When you’re over there in the midst of it all, you need to keep your mind on your duty and not worry about things at home.”

More than 200 children and grandchildren of employees hunted 2,500 eggs at the Y-12 Employees’ Society (YES) 2010 egg hunt held April 1. The many eggs held candy and chewing gum; a few prize eggs contained gift certificates.
• On May 3, Human Resources (HR) began using HR generalists as the principal point of contact for all HR needs. “The generalist model will simplify the HR system for both managers and employees,” said Cheryl Sanz of HR. This organization change is being made partly because of the new Shared Services, which integrates Y-12’s human resources with that of the Pantex Plant in Amarillo, Texas. The HR generalist will provide HR policy and procedure guidance, develop work force plans, screen resumes, conduct interviews, set rates and make offers and assist organizations with salary planning and other HR support functions. Watch YSource for more details.

• Later this year, Y-12 and Oak Ridge National Laboratory (ORNL) will separate the joint benefit plans and the administration of those plans. Upon the separation, Y-12 and ORNL will each sponsor and administer their own plans. This separation of the joint plans and the administration of those plans does not change the eligibility provisions for Y-12 benefits, the vendors or contacts for those benefits. Questions? Contact OneCall at 574-1500 or 1-877-861-2255.

• Sens. Lamar Alexander and Lisa Murkowski visited Y-12 April 23 to learn more about Y-12’s modernization plans.

• Admiral Kirkland H. Donald, director, Naval Nuclear Propulsion Program, visited Y-12 April 21. Y-12 processes highly enriched uranium for use by the Naval Reactors Program for Naval Nuclear Propulsions. See the June issue of The Y-12 Times for an article on the visit.

• Y-12’s Trent Andes, Todd Hawk and Jimmy Villarreal were instrumental in the recent recovery of highly enriched uranium fuel from Chile. This material could have been converted into a nuclear weapon but will now be housed at Y-12. The material will be down-blended for commercial nuclear reactor fuel.

• The weight management programs sponsored by Live Wise have completed their first 10-week sessions. Employees attending the LA Weight Loss and Weight Watchers sessions lost a total of 579.4 pounds. More sessions began April 13.

• April 8 was an important day for Y-12; crews finished transferring enriched uranium from a warehouse built during the Manhattan Project into the new Highly Enriched Uranium Materials Facility. This task was accomplished more than two weeks ahead of schedule, taking 73 days to complete.

• Math and science teachers from Farragut Middle School and Hardin Valley Academy visited Y-12 April 5 as part of the Vols4STEM In-Service Day. The teachers spent part of their day with a group of Y-12 engineers learning how the concepts they are teaching in the classroom apply in the real world. The teachers also had the opportunity to try out some of Y-12’s latest technologies, including a recently patented hydraulic bolt cutter. Vols4STEM is an effort among several area organizations, including the Tennessee Society of Professional Engineers, Knox County Schools, Oak Ridge Economic Partnership and Innovation Valley Inc.

• Y-12’s Oak Ridge Metrology Center (ORMC) was granted continuing accreditation for specific parameters in Calibration Laboratories by the National Voluntary Laboratory Accreditation Program. ORMC is a unique resource to the National Institute of Standards and Technology (NIST) and provides calibration services traceable to NIST standards in 25 measurement disciplines.

• Cathy Waitinas of Engineering, Jeff Arbital of Programs and Quality, and Jim Zonar of Science, Technology and Partnerships served as judges for the Southern Appalachian Science and Engineering Fair March 29. Sixth- to 12th-grade students from more than 20 counties in the region entered their projects in the fair.
Historic ‘BIG TOOT’ is back

The newly operational steam plant isn’t all new. One piece of it—the shift-change whistle, or “Big Toot”—dates from the earliest Y-12 days.

The whistle, which was originally mounted at the old steam plant, blew for all shift changes and, some say, on New Year’s Eve. Those 10-second sound bursts were loud enough to be heard in parts of Knox County. Billy Brown of Environment, Safety and Health’s Fire Protection Engineering had no trouble distinguishing the whistle at his home in the Karns community. “I’d be waiting for my carpool and hear that whistle at 7:30 in the morning.” Then in the 1980s, the whistle blowing stopped. “I believe there were one or two complaints about disturbing some residential sections in Oak Ridge,” said Ray Smith of Public and Governmental Affairs.

Now mounted on the roof of the new steam plant, the historic brass whistle is being tested and adjusted. “We’re working to tune it to its previous pitch,” said Robert Spurling, manager of the Steam Plant Life Extension Project. “I believe this whistle was probably homemade at Y-12,” he added. “There’s no manufacturer’s logo, and the craftsmanship is excellent.”

Smith said Spurling is right. “Pete Rinderer, a former Y-12 employee, created the design of the steam whistle that has become known as Big Toot.”

Big Toot is different from the horn that was used with the Gamewell fire alarm boxes. That horn was sounded in code to identify the location of an emergency. “All the fire alarm signals were published in a small directory that emergency responders could carry in their shirt pockets,” said Brown. When the emergency was over, the all clear code of two short blasts would sound.