

# the Y-12 times

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

## WHAT'S INSIDE

### Page 2

Getting the big picture

### Page 3

Going digital saves times and money

### Page 4

Machinist invents lockout device

### Page 4

Green cleaning

### Page 5

Retiree combines love of math and teaching

Volume 11, No. 7

August 2011

[www.y12.doe.gov/news/times.php](http://www.y12.doe.gov/news/times.php)

P.O. Box 2009  
Oak Ridge, TN 37831-8245

B&W Technical Services Y-12, LLC, a partnership between Babcock & Wilcox Technical Services Group Inc. and Bechtel National Inc., operates the Y-12 National Security Complex.

#### Managing Editors

Amy Alley:  
[alleyab@y12.doe.gov](mailto:alleyab@y12.doe.gov)  
Heidi Spurling:  
[spurlinghw@y12.doe.gov](mailto:spurlinghw@y12.doe.gov)

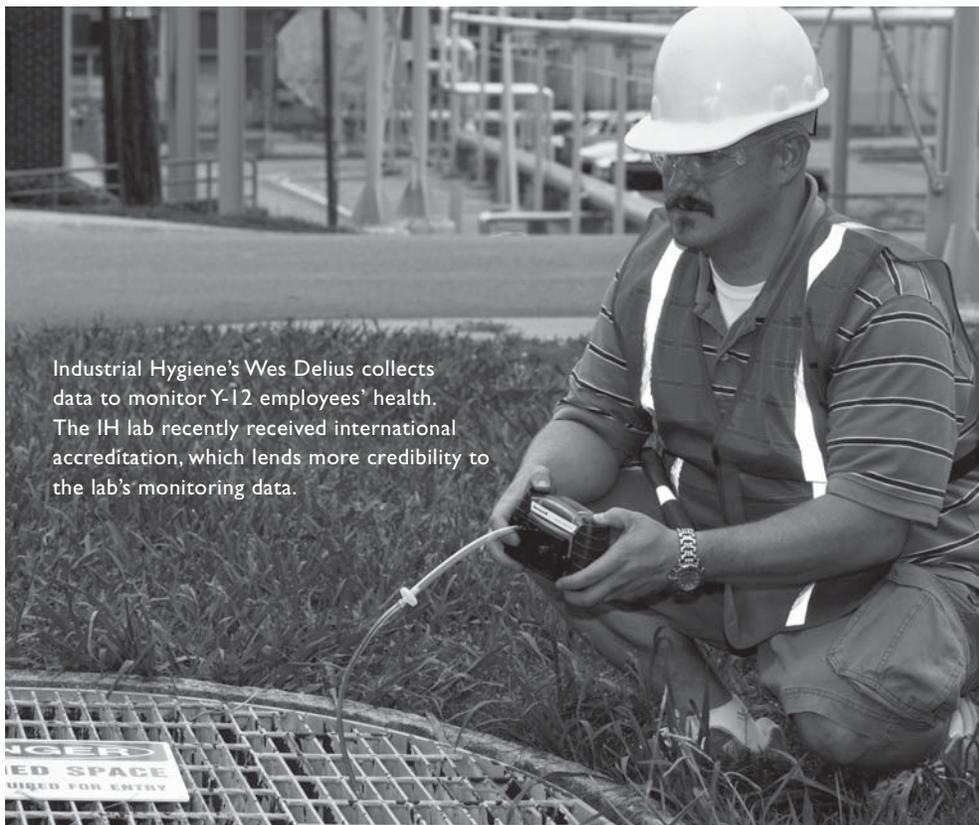
#### Layout

Lisa Harris

#### Contributors

Ellen Boatner  
Mary Bryant

Ashley Douglas  
Kathy Fahey  
Scott Fraker  
David Keim  
Brett Pate  
Eric Swanson  
Brian Wagner  
Donna Waston  
Mona Wright



Industrial Hygiene's Wes Delius collects data to monitor Y-12 employees' health. The IH lab recently received international accreditation, which lends more credibility to the lab's monitoring data.

## Leading the way to higher standards

Y-12 has taken a leadership role in worker safety by becoming the first U.S. Department of Energy site to adopt international standards for calibrating the detectors that monitor chemical exposures.

In collaboration with the Oak Ridge Metrology Center, Y-12's Industrial Hygiene Calibration Laboratory recently received accreditation for meeting chemical and airflow calibrations set by the American National Standard Institute/International Organization for Standards/International Electrotechnical Commission (standard 17025-2005).

"This recognition gives more credibility to our monitoring data," said David Gettelfinger, IH Lab manager and Quality manager. "When you're monitoring employees' exposure to chemicals, being internationally accredited and having a historically solid program are good things to have as support."

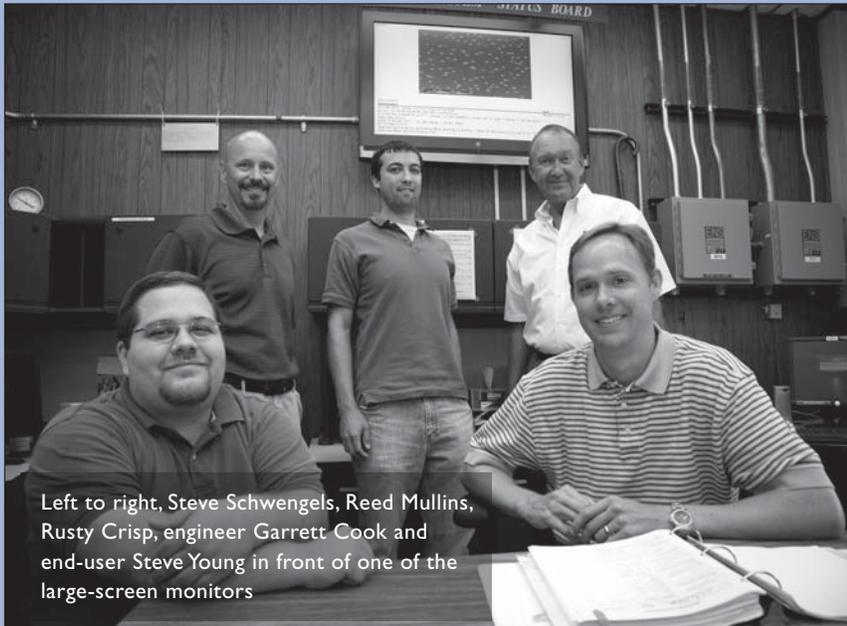
The IH Calibration Lab plays a vital role in providing a work environment conducive to the health and well-being of employees, subcontract employees and the community through the anticipation, recognition, evaluation and control of chemical, physical and biological hazards.

Monitoring and measurement processes include personal air sampling, area air sampling and surface sampling to prevent exposure of workers and the environment to beryllium and other hazardous materials or chemicals.

"This was the first time the Y-12 site was to be assessed to the ANSI/ISO/IEC 17025 standard, which meant a huge undertaking and significant effort in planning," said Alyssa Rosenquist, the engineer responsible for the Y-12 Site Office's oversight of the site's Standards and Calibration Program.

IH, cont'd on page 2.

# FMES puts information at shift managers' fingertips



Left to right, Steve Schwengels, Reed Mullins, Rusty Crisp, engineer Garrett Cook and end-user Steve Young in front of one of the large-screen monitors

New large-screen monitors in shift managers' offices show what's happening (or not happening) in a facility using the Web-based Facility Management Enterprise System, which was designed by Information Technology with input from Production. The FMES lets shift managers know immediately the status of operations simply by looking at an electronic status board that constantly scrolls needed information.

Screen views include, for example, who's on duty, which pieces of equipment are out of service, which compensatory measures are in place, facility announcements and even weather conditions.

"FMES provides powerful tools and can be configured in many ways according to the needs of each facility," said project manager Rusty Crisp. "And it uses information already available, rather than duplicating data or effort."

Reed Mullins, the system owner, emphasized the value to supervising daily operations. "The shift manager is the central point for keeping track of everything that's going on. FMES lessens that mental burden for the shift manager as it brings items of concern to the shift manager's fingertips."

Planned upcoming FMES features include quick call-up of current drawings and operating procedures, remote sensor communication and electronic badging-in and badging-out.

Steve Schwengels, the software developer, summarized the strength of FMES. "The design of its navigation framework allows new functionality to be added by inserting additional modules to the existing infrastructure and meeting facility needs with a standard interface."

Funding for FMES has come from Readiness in Technical Base and Facilities and from Indirect Legacy Material.

## FMES advantages:

- Adapts to each user's access needs using standard tools across facilities
- Reduces errors by logging facility events at one central point
- Links documents associated with each event
- Includes a searchable database
- Alerts facility management of potential problems before they become issues

IH, cont'd from page 1.

Pursuing the accreditation took more than a year, but it helps both IH and ORMC. "The accreditation will reduce ORMC's effort with performing internal assessments," said ORMC's Bruce Cox.

Having this accreditation improves the IH Lab's work process. "They will have a stronger calibration program, management system and procedures that meet an international standard," said Greg Duncan, also of ORMC.

"IH and ORMC remained focused on making Y-12 compliant with the high-level DOE and National Nuclear Security Administration requirements and on improving the Calibration Program," Rosenquist said.

She sees more than technical expertise in this achievement, however.

"These combined efforts are not only a demonstration of Y-12's commitment to quality and safety but also an illustration of the positive culture and attitude seen among the various organizations — a key factor in achieving such significant milestones," she said.

"This is another example of the high level of standards that Y-12 strives toward by playing the leading role in continuous improvements that establish new benchmarks across the complex and further set Y-12 apart from other sites within the National Security Enterprise."



IH Lab Manager David Gettelfinger calibrates a total organic monitor.

# Y-12 earns LOCAS Affirmation

Y-12 earned stellar reviews from a team of outside experts who spent a week examining Y-12's system of management and oversight.

Y-12 Site Office Manager Ted Sherry volunteered Y-12 as

the first National Nuclear Security Administration facility to undergo the review, and he said the results confirmed the success of both federal

# Flex scanners improve quality process

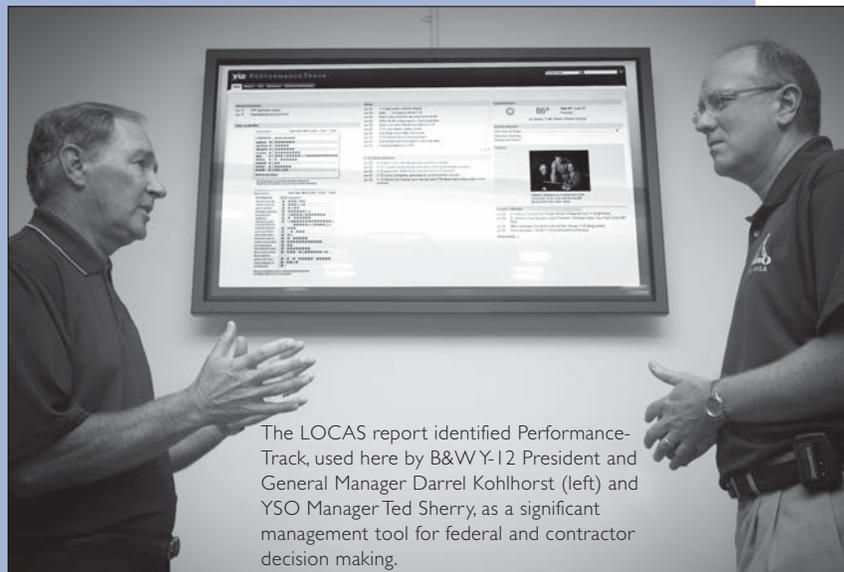
“Did we get a good shot or not?” That’s the question the Flex scanners answer by making on-the-spot digital radiographs. Such radiographs let Quality technicians know quickly whether an X-ray image of a part is detailed enough for quality or needs to be reshot.

Putting more of these scanners to use at Y-12 is the aim of the Flex Scanner Project. “Replacing hardcopy radiographs with no-film digital ones produces benefits like timesaving, accessibility and waste reduction,” Jim Smith, project manager, said.

The scanner uses X-ray plates, much like a photocopier uses paper. The plates are inserted into a reloadable cassette that comes with the scanner. After the cassette is inserted into the scanner, the plates slide into the “copying” area, where they are read and digitized. Scanning takes two to five minutes, compared with 20 to 40 minutes for film processing. There’s no developing time, trip to another building or waste chemicals. “Film is also becoming more expensive and less widely available,” Y-12’s Alex Moses said.

Smith believes accessibility is a significant long-term benefit. “There’s no need for a telephone call from someone to look for film,” he said. “A customer with proper access from another site can pull up the required information and see what they need to see — job done in minutes, instead of days or weeks.”

Less than a year after the project began, a couple of the scanners are in use.



The LOCAS report identified Performance-Track, used here by B&W Y-12 President and General Manager Darrel Kohlhorst (left) and YSO Manager Ted Sherry, as a significant management tool for federal and contractor decision making.

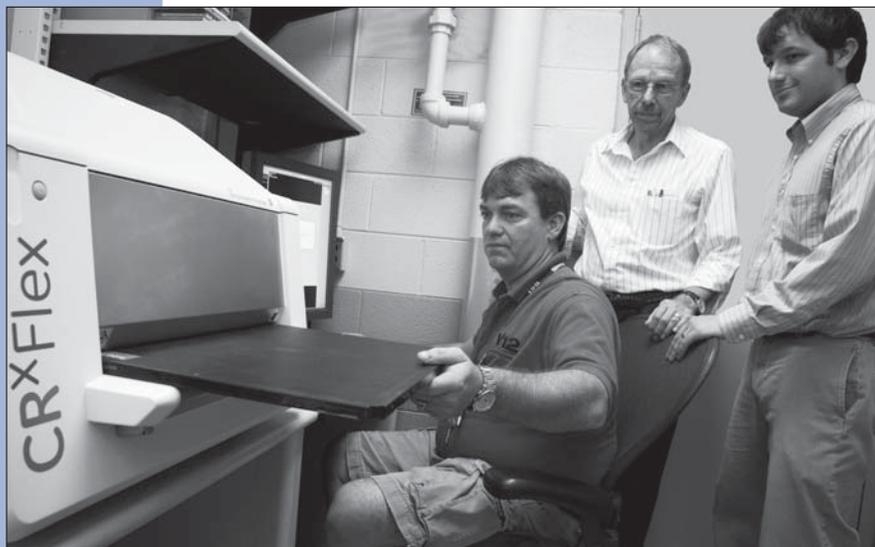
and contractor efforts to fulfill Y-12’s missions safely and effectively.

“We’re doing a lot of things right, and we can be a model for how a federally owned, contractor-operated site should be managed,” Sherry said. “For the last four years, our site office has been using an enhanced oversight model that evaluates risk, contractor performance and data from the Contractor Assurance System, and B&W Y-12 has done a terrific job of validating its CAS as a reliable self-monitoring tool.”

Y-12 management policies and procedures, systems, and interactions between federal officials and contractor employees all were part of the Line Oversight Contractor Assurance System, or LOCAS, affirmation review.

The June 12 LOCAS report states: “An effective partnership between YSO and B&W senior management is very apparent, driving mission and operational performance excellence.” The report also noted that the Y-12 LOCAS “... is effective at supporting mission execution in a safe, secure, legally compliant and environmentally sound manner, which is clearly demonstrated through verifiable performance results.”

Sandia National Laboratories in New Mexico is the next site to undergo a LOCAS affirmation review.



Gilbert Bradshaw (seated) inserts a cassette into the Flex scanner as Jim Smith (center) and Alex Moses observe.

# No challenge too big

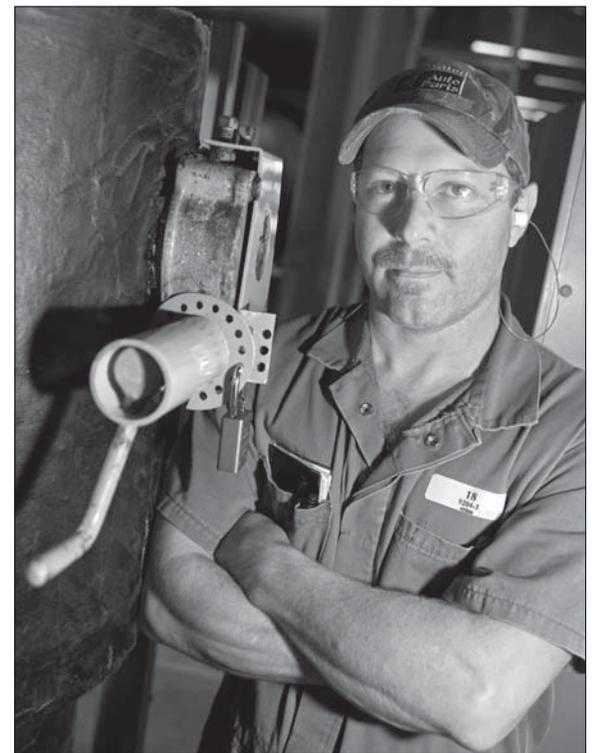
At some point, everything needs maintenance. Previously, water valves in Y-12 pump houses were “secured” by a thick cable and a notice that read, “Danger: Do not operate.” The problem: The handles for the valves still could be easily turned.

Outside machinist Dale Wilson helps maintain and install various mechanical systems and components across Y-12. He was given the task of developing a new method to secure the water valves. “I love challenges. In fact, I thrive on them,” Wilson said. After some thinking, Wilson went to the nearby 9204-3 Maintenance Shop and used scrap aluminum and PVC piping to develop his first prototype.

After some trial-and-error experiments, the final result was a two-piece lockout device that fits over the gearbox, opening and closing the valve. Drilled holes around the second piece allow it to meet with the hole set on the first piece no matter what direction the handle is facing. A standard lock can be used to secure the two pieces and, therefore, the valve itself.

“Dale’s device solved a long-term problem, providing positive control and positive lock out. It represents the ability to see a problem, conceptually solve it and then take the concept and readily available materials to construct a prototype,” said Tom Williams, director of Utilities Management.

Wilson has submitted an Idea-EZ form and plans to work with Technology Transfer in identifying the next steps in pursuing a patent.



Outside machinist Dale Wilson took a problem and developed a simple solution within one week.

# Using green to create a sparkle

In August 2010, Diana Johnson’s supervisor challenged her, one of several supervisors for the Buildings Services Group, to turn her group green. At that time, only about 15 percent of their operations were environmentally friendly. Now, in less than a year, Y-12’s Buildings, Laundry and Services group has become more than 90 percent green.

“Going green just means being environmentally friendly and using recyclable products whenever possible,” Johnson said. It’s not quite as easy as it sounds. Johnson initially met resistance from workers who were more comfortable using the products they knew — the chemicals with a smell that lets you know they’re working.

So Johnson invited Knoxville-based Kelsan Inc. to give a green cleaning class to the group and supervisors. “The education session gave us the knowledge and confidence to use these products,” Johnson said. “It helped us get rid of our old way of thinking.”

To further ease the transition, the team phased in new products gradually. “We started by changing over our paper towels, then the trash bags, mopheads, handsoaps and shower soaps,” Johnson said, adding that “the market has gotten a lot smarter and better” at producing effective environmentally friendly products.

The switch also has significantly reduced the necessary inventory. Johnson estimates using the new products has saved more than \$100,000 this year.

With no obvious drawbacks, it’s easy to see why Buildings Services initiated the change. “This is a win-win for everybody — the environment, our employees,” Johnson said. “It’s just a better way of doing business.”



From left, Robert Lanham, Diana Johnson, Jeff Boshears, Steve Byrge, Vicky Perry and George Renfroe, all of Buildings, Laundry and Services, display some of their green cleaning products.

# Stepping **Up** to help out



Construction Manager Joe Kato recently hosted — and personally funded — a pizza party to celebrate Construction's \$11,593 Relay for Life fundraising haul. "I wanted to tell these ladies and gentlemen that I really appreciate them," Kato said.

Y-12 raised more than \$42,000 for this year's Relay for Life, a 24-hour team fundraising walk to support the American Cancer Society. According to Y-12 team captain Kim Leach, "More than 200 employees, their families and friends participated in this year's event.

"Y-12 participates as a way to give back to the community and to recognize the many who battle this terrible disease," Leach said. "It also provides an opportunity for employees to honor and remember their family, friends and co-workers."

One group in particular, Construction, helped the Y-12 team surpass its fundraising goal by more than \$12,000. Construction Manager Joe Kato said, "We wanted to concentrate our efforts to do something significant."

That "something significant"? Construction raised \$11,593 for this year's event. Employees worked tirelessly in the months leading up to their large fundraising picnic, which raised more than \$4,700. The rest of the group's Relay for Life money came from various fundraising efforts and generous donations from local unions.

Kato said the picnic also served as a "morale builder" for the Construction group. "We get to work together, plan things together," he said. "We had fun doing it." In addition, many retired workers returned to Y-12 for the event, helping to foster what Kato called a "family relationship" within his organization.

Many Construction employees felt a personal connection to the cause. "We have a lot of people in our organization affected by cancer," Mary Henley said. "It just means a lot to them."

## Retirement = a new full-time job



Retiree Jim Burnett works with a Knoxville College student on a math problem.

Like many retirees, Jim Burnett planned to do some traveling when he left Y-12 in 2003. He and his wife, Allene, visited a number of states in their RV that first year. Then, in 2004, seeing the country took a backseat when Burnett agreed to teach math at Knoxville College.

That beginning has turned into a full-time experience. Not only does he teach math and statistics courses, but he also mentors students individually and on special projects. One of those projects is a health and wellness collaboration with Meharry Medical College in Nashville. Others include SITES-M, a state effort to improve elementary school math instruction, and PACER, an activity with Louisiana State University to develop instrumentation for high-altitude balloons.

Burnett's 33 years at Y-12, where he honed his math and electronics skills while developing Engineering computer applications, were excellent preparation. "For my teaching, it's a matter of bringing different talents to bear — ones learned over a career," he said. Those skills include running a project, using group learning processes and relating technology to the real world.

He finds the most challenging part of teaching is making sure all the students get the help they need. "It's most satisfying when someone actually understands a technical process and how it relates to real life," he said.

The Burnetts still find time to do some traveling. They have visited 48 states in the last seven years.



# Y-12 THROUGH THE DECADES

## into the 1960s

*wish you were here!*

As Y-12 moved from the 1950s into the 1960s, tremendous changes took place — many all at once. There were several new processes being installed in the aging Manhattan Project facilities. This writing doesn't include them all but shows the growth taking place.

A 1,000-kilovolt X-ray machine was installed in February 1949. This purchase was the first of many, with some of these machines being among the largest and most powerful in the world. X-ray technology was the best method for seeing inside nuclear weapons components. Throughout the 1950s, 1960s and into the 1970s, additional X-ray machines were purchased as non-destructive testing took on a larger role at Y-12.

A primary rolling mill came online in late 1957, and a 7,500-ton press — the largest at Y-12 — was put into service in 1958. Fabricating uranium parts was becoming routine, and new techniques were being developed for working with uranium. This unique equipment enabled Y-12 to continue to expand mission capability and support the growing nuclear weapons program. Y-12 was beginning a race that would ultimately result in helping win the Cold War.

A second rolling mill and another machine shop were added in 1958. Y-12 began pressing and machining tungsten for the nation's developing missile program. A nuclear-powered rocket program required a special fuel element fabricated at Y-12. In 1959, Building 9215 was built, expanding the enriched uranium processing capability significantly.

The COLEX (column exchange) process continued to separate Lithium 6. Some of the mercury used in this process found its way to the East Fork of Poplar Creek and migrated off-site, which was a major issue in the 1980s when that information was declassified. This environmental incident is the only insult the city of Oak Ridge has experienced from being close to Y-12.

Y-12's specialized work requires the use of many materials that could be hazardous, if not properly managed. Y-12's environmental management efforts have contained potentially hazardous materials and kept them safely stored or handled.



*Jane Smith*

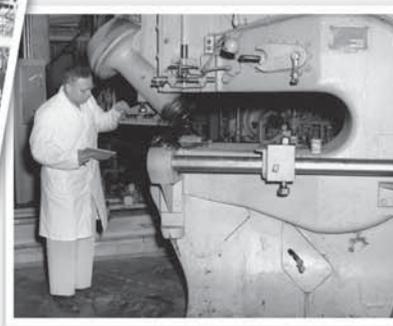
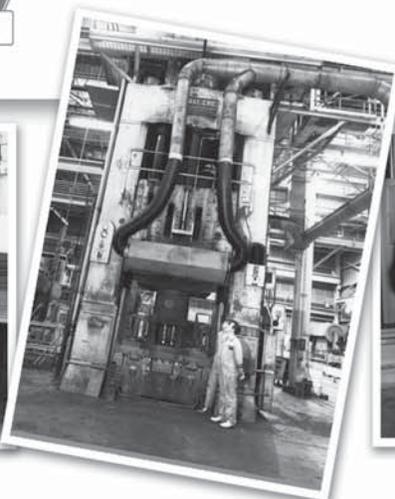
*102 Times Rd.*

*Oak Ridge, Tenn.*

Y-12 PLANT  
OAK RIDGE, TENNESSEE



1960s equipment from left, Alpha 5 Arc Melt, 3,500-ton press and a shear used to cut material



# Around Y-12 ...



## 49 years

Development: Matthew J. O'Hara

## 43 years

Production: David P. Bryant

## 42 years

Engineering: James A. Burgess and Loren E. Carey

Radiological Control: Boyd T. Gose Jr. and Danny P. Rowan

## 41 years

Facility Management and Programs: Albert McLendon Jr.

Maintenance Support: Clarence G. Pickel  
Material Management: Arnold R. Hawkins  
Production: Tulley G. Widner

## 35 years

Communications Services: Warren L. Short  
Engineering: Cary M. Amonett and Paul E. Ledford

Production: Thomas W. Fields, Roger Thomas and Linda S. Williams

Resource Management: Wayne C. Ball,  
Eugene A. Barnes, David H. Hammontree,  
Robert D. Lanham, Raymond C. Smith and  
Terry M. West

## 30 years

Communications Services: Lynda K. Wilson  
Engineering: Matthew J. Marsicek

Industrial Hygiene: Theresa L. Gaskins  
Maintenance Support: Robert E. Carden  
Production: James K. Cox and Garry L. Evans

Program Planning: Karen C. Bills  
Quality Assurance: Janice W. Christman and  
Clyde B. Senviel

Radiological Control: Charlotte L. Brown  
Resource Management: Boyd E. Jackson Jr. and  
Douglas L. Mealer

## 25 years

Engineering: Richard D. Michelhaugh  
Industrial Hygiene: Randell B. Harris

Information Technology: Karren B. Cochran  
Production: Mark W. Williams

## 20 years

Document and Property Management:  
Sandra Y. Holt

Emergency Services: Anthony E. Penery  
Engineering: Mitchell B. Evans

General Accounting: Diana V. Brown  
Information Technology: Michael J. Borgsmiller  
Maintenance Execution: Roy L. Goodwin Jr.

Maintenance Support: Eric E. Garrison  
Production: Allen D. Boatman and Melody D. Piercy

Productivity and Process Improvement:  
Natalie C. Beason

Quality Assurance: Laveeda L. Ellis, Robert B. Jones III and James N. Pate Jr.

Radiological Control: Renee L. Reed  
Resource Management: Freddy J. Childs,  
Marion B. Jenkins and Robyn D. Lee

- **Jeff Cravens has been selected as the assistant manager for Operations Management for the National Nuclear Security Administration's Y-12 Site Office.** In this position, Cravens will be responsible for the oversight of the day-to-day operations, conduct of operations, maintenance, training, occurrence reporting and the startup and restart of nuclear facilities at Y-12. He replaces Terry Olberding, who recently retired. "Jeff is a superb addition to the YSO leadership team and will bring energy, enthusiasm, and a wealth of operational experience to the position," said Ted Sherry, YSO manager.
- **B&W Y-12 and RockinBoat LLC have signed an agreement giving RockinBoat, a South Carolina startup technology company, sole commercial rights to manufacture and market RonJohn, a more environmentally friendly solvent developed at Y-12 that won a 2011 R&D 100 Award.** Initially developed for use in Y-12 operations, RonJohn can completely strip adhesives and finishes from a variety of surfaces with advantages not afforded by commercially available solvents. RonJohn's inventors are research chemist Ron Simandl and laboratory assistant John Brown, who started conducting lab-bench studies on the product in January 2006. Workers at Y-12 began using large quantities of the blend in late 2009 after they saw how effectively it softened polyurethane adhesives, enabling workers to separate parts more quickly and with less effort. Other solvents took much longer to soften the adhesives and did not completely strip them, leaving workers to chisel and scrape off remaining adhesives in order to get the job done. Word of the solvent's effectiveness spread, and workers started requesting it by the inventors' names, asking for "the RonJohn blend."
- **Elizabeth Hale from the Y-12 Site Office and Tommy Thompson of B&W Y-12's Production Support have been named National Nuclear Security Administration's Defense Programs Employees of the Quarter.** As the YSO Performance Assurance manager, Hale is responsible for coordinating and managing the YSO management system. As the first site to undergo the affirmation process for governance, Y-12 was recently recommended for affirmation, which was made possible through Hale's efforts (see LOCAS article, pg. 3). Tommy Thompson is a production specialist with 60 years of Y-12 experience (see the July 2011 issue of *The Y-12 Times*). For more than 35 years, his work has focused on perfecting production methods. Thompson is a recognized expert throughout the site.
- **Y-12's Communications Services and Public Affairs organizations recently received national and international awards for their work.** Y-12 received 10 awards from the Volunteer Chapter of the Public Relations Society of America, including two Awards of Excellence, the chapter's highest honor. Y-12's monthly newsletter, *The Y-12 Times*, received an Award of Excellence for the second year in a row, and the Web Communications department received an Award of Excellence for the redesigned Y-12 public website and new social media sites. The Society for Technical Communications selected the *Y-12 People* booklet for an Award of Excellence at its International Summit Awards competition, and *The Y-12 Times* and *The Y-12 Report* received awards of merit at the international STC competition.
- **The East Tennessee Section of the Association for the Advancement of Cost Engineering International has named Tim Earith, an estimator in the Program Planning division, the 2010-11 recipient of its "Total Cost Management Award of Excellence."** The "Total Cost Management Award of Excellence" is granted annually to a member who has enhanced the profession of cost engineering/cost management. At Y-12, Earith has served as project estimator for several facilities upgrade and equipment installation projects and has prepared estimates for construction projects and manufacturing programs.
- **Will Ripley, son of Y-12 employee Ed Ripley and Becky Ripley, has been awarded a \$3,000 scholarship from Bechtel Systems and Infrastructure Inc.'s Citizens Scholarship Program.** Will graduated in the top ten in his class with honors from Central High School in Knoxville and will major in mechanical engineering this fall at Tennessee Technological University. While students with all majors were eligible for the scholarship, preference was given to students declaring science, technology, engineering and math majors.
- **Through Innovation Valley's Educators in the Workplace, about 30 teachers and school administrators toured Y-12 and visited with engineers June 23.** The all-day event featured a historical tour of Y-12 in addition to demonstrations of some of Y-12's most current research projects. The day "recharged my batteries," said Janet Reinholz, a teacher from Sequoyah Elementary. "I gained some great ideas to share with my third graders." Educators in the Workplace is just one of the many educational outreach programs Y-12 participates in on a regular basis.
- **The Y-12 Employees' Society has made arrangements for two cruises in 2012, one to the Bahamas and the other to the Mediterranean Greek isles.** The six-day Bahamas cruise departs April 28, 2012. The 12-night Mediterranean Greek isles cruise departs Oct. 3, 2012. For more information, click on "Trips" from the YES website on YSource.

**LIFE Fair**  
Benefits, health and  
safety information

**October 26**

New Hope Center

Contact: Stacey Lunsford,  
574-1572

P.O. Box 2009  
Oak Ridge, TN 37831-8245

PRSR  
STD  
PAID  
U. S. Postage

Permit #36  
Powell, TN

Jonathan Poncelow, a Y-12 intern studying material science at the Colorado School of Mines, spoke to a group of visiting educators on the differences in material properties.

## Interns at Y-12: Next year's new hires?

At many companies, the word "intern" conjures up thoughts of someone to get the morning coffee or of cheap labor to do boring paperwork. Not at Y-12.

For the tenth straight summer, Y-12 has welcomed students from around the country as part of its summer intern program. This year's group includes 52 interns selected from a field of 637 applicants.

Valarie Terrill, student programs manager in Human Resources, coordinates the 11-week program, which is not your standard internship. "The program is a whole event series sponsored by HR," Terrill said. Aside from working full-time, interns participate in tours, social events and a series of professional development workshops.

With the need to replenish an aging work force, Y-12 clearly benefits from its summer intern program. "It brings our company a future recruiting pool for potential job openings," Terrill said. "Our goal is to consider interns for full-time opportunities that come about."

Many of this year's interns have already expressed interest in returning to Y-12 after graduation. Others, like Margaret Sudderth, a nuclear and radiological engineering major at Georgia Tech, didn't wait for graduation. "I wanted to come back to Y-12 because it's been really good to me," said Sudderth, one of 10 interns here for a second consecutive summer. "Some of my friends work as interns for companies that just use them as cheap labor. But here, everyone I've worked with has gone out of their way to make sure I'm welcome and have everything I need."

Erika Agahan, a University of Tennessee student majoring in chemical and biomolecular engineering, has been most impressed with Y-12's family atmosphere. "Y-12 is truly a family behind these safely guarded walls," Agahan said, "a family I would one day like to be a part of."

