

the Y12 times

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

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Employees help others rebound

Y-12's 2011 United Way Campaign kicked off Sept. 20 with an event at New Hope Center featuring University of Tennessee head basketball coach Cuonzo Martin.

Martin discussed his childhood in East St. Louis, Ill., and the United Way help his family and community received after a devastating flood. He also noted the similar team-oriented philosophies both Y-12 employees and UT basketball players must have to be successful. Martin emphasized that each player on his roster is important to the team, even one who never sees the court. He compared his players to employees at Y-12; they all are critical to the overall mission. "We can't all be the star player," he added.

Martin encouraged the crowd to continue giving to United Way, despite the economy. "Don't let this economy keep you from giving. We're all in this together."

The kickoff also included a silent auction, bake sale and informational booths where employees learned about local United Way agencies. The campaign also has held book fairs, jewelry sales, food drives and various other collection drives this year.

The campaign's main goal remains increasing employee participation. Last year, 56 percent of B&W Y-12 employees donated to United Way. This year's campaign committee hopes to see that number rise. "Y-12's been a hearty contributor to United Way for some time," said Michelle Culp, chair of this year's campaign. "But I'm hoping that with the additional needs in our communities this year, some of us will be able to give just a little bit more."

Ready assistance

After 9/11, the Super Bowl was more than the year's biggest football game. It was also a National Security Special Event. Y-12 manages the Radiological Assistance Program team that provided radiological/nuclear security support for the 2002 Super Bowl in New Orleans.

"The security was unbelievable," said Ed Maples, Region 2 RAP contractor response coordinator. "They shut down the stadium for one and a half days, and people did sweeps to check for radiation while dogs sniffed for bombs. Then the Secret Service locked down the stadium, and no one went in or out until game day."

Maples manages a full-time team of four that swells to include 20 expert volunteers when needed for certain large, public events. They deploy portable field radiation monitoring instruments as well as generators, mobile detection and identification instruments, air

Since the 2002 New Orleans Super Bowl, Ed Maples' Radiological Assistance Program team has supported other National Security Special Events, including presidential inaugurations, a national debate, G-8 conferences and national political conventions.

samplers and decontamination equipment.

"When the team goes out for an event, these men and women work 12 or more hours a day. There's the potential to be in harm's way in every event we cover. I'm very grateful that these people are willing to volunteer their time to protect national security," Maples said.

RAP has protected public health and safety since the late 1950s, when it was established to provide expert help if a radiological emergency occurred. Maples has

worked with the program since 1993. Managed by the National Nuclear Security Administration, RAP is divided into nine U.S. regions. Y-12 manages Oak Ridge-based Region 2. Health physics professionals from Y-12 and Oak Ridge National Laboratory are part of the Region 2 teams.



The nation's former uranium storehouse will continue to play a role in accomplishing Y-12's missions.

The future of Building 9720-5

For decades, it was simply called, "The Warehouse." Despite its unassuming appearance, Building 9720-5 was vital to the successful execution of Y-12's production and storage mission. After startup of the Highly Enriched Uranium Materials Facility, many assumed the Warehouse would be abandoned or demolished.

As a pivotal component of the site's modernization strategy, however, the nation's former uranium storehouse will continue to aid in accomplishing Y-12 missions. "As a result of its past mission, the Warehouse can now provide a large storage area for material consolidation," said the building's operations manager. "Recent safety and security upgrades have readied it for storage of depleted uranium and low-grade enriched uranium."

This new role will result in substantial benefits, including:

- deinventory and closure of three Category 3 nuclear facilities, which reduces Y-12's facility footprint;
- removal of materials from existing Material Access Areas that do not require MAA-level protection, which provides more storage and operating space; and
- provision of a shipping-and-receiving point for commercial shipments, which eliminates processing through HEUMF.

"The facility is also expected to be used for storage and shipment of low-enriched uranium products, which will allow other facilities — MAAs in particular — to focus on materials that require a higher level of security," said the operations manager.

An alternate facility may be built eventually, but until then, the Warehouse will be adapted and maintained to ensure its integrity and capability, so those activities crucial to Y-12's success and modernization can be executed effectively.

Larson: PDRD program is model for production sites

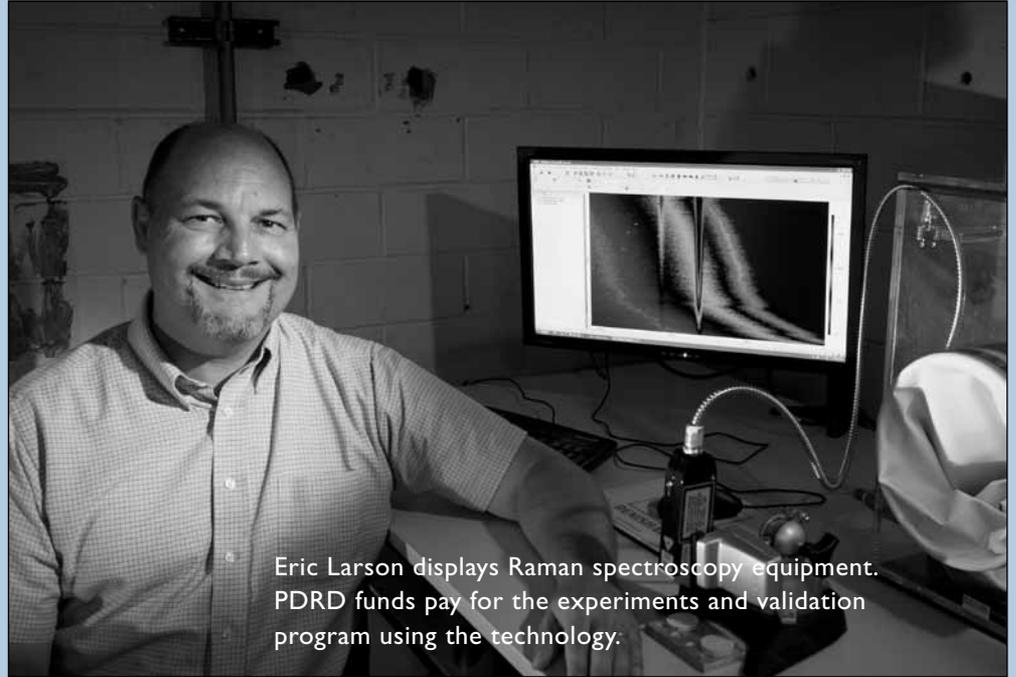
Y-12's Plant Directed Research, Development and Demonstration program funded 82 research and development projects in fiscal year 2011.

"Y-12's PDRD program is the model for other production sites in the Nuclear Security Enterprise," said PDRD program manager Eric Larson.

The PDRD program was created in 2001 to fund innovative or high-risk design and manufacturing proposals that could be rewarding for the NSE. Since then the pot of money shared among winning Y-12 submissions has grown from \$4 million to \$21.4 million. The latter sum supports 82 Y-12 projects for fiscal year 2011 — 40 new proposals and 42 ongoing. Y-12's program is twice the size of the next-largest in the enterprise, the Kansas City Plant's at \$10 million.

Congress mandates that PDRD funding, acquired through an annual tax on already-existing programs and activities at a site, can be no more than 4 percent of the site's base budget. "Y-12 shoots for 2.5 percent, and last year it was 2.75 percent," Larson said. Fund contributors benefit from the resulting scientific and technological findings.

The program is the primary source of funding for Y-12's technology development, and the planned Uranium Processing Facility is PDRD's single biggest customer, Larson said. "We support almost all the



Eric Larson displays Raman spectroscopy equipment. PDRD funds pay for the experiments and validation program using the technology.

technology development for UPF — it's just under a third of our whole portfolio, dollar-wise."

Some of Y-12's noteworthy PDRD projects include SIMWyPES® cleaning cloths and RonJohn® solvent. Infrared debonding, used in dismantlement, is "a classic model of how we went from an idea to deployment on the production floor," said Larson.

Interns: 'Our greatest ambassadors'

While providing obvious benefits to the students who participated — including valuable work experience, industry connections and even job offers — the summer internship program has also enhanced Y-12's public image.

This year's summer internship program offered a behind-the-blue-line look at Y-12 to 52 college students from across the country. Their overwhelming conclusion? Y-12 is a kind, caring community.

"Growing up in the Knoxville area, I would hear all sorts of things about Oak Ridge and what people do out here at Y-12," said Houston Miller, a computer science major from Maryville College. "People out here are great, and I have really enjoyed working with them."

Miller will continue that work, as he received a full-time job offer at the end of his internship. "I can't really see myself wanting to work anywhere else," he said.

Other interns left with the same impression. "People here work for the same purpose: to improve the security and technological advancement of society," said Katie Ailey, a chemical engineering major at Clemson University. "They strive for innovation, promote passion and encourage community — that was really refreshing to see."

Ellen Boatner of Y-12's Public Affairs organization stressed the program's importance for Y-12's public image. "The interns are some of our greatest ambassadors. As they go back to school or gain employment, they are taking their Y-12 experiences with them and educating others about what we do," Boatner said.



Eve Whittenburg, an intern with Public Affairs, puts Y-12 history pamphlets on display at New Hope Center. Whittenburg worked with Y-12 historian Ray Smith this summer.

Product engineers get the big picture

“Product engineering is probably one of the most exciting jobs in Y-12,” said Matt Marsicek, manager of Weapons Product Engineering. “A product engineer has an impact on everything the plant does, from cradle to grave.”

Working with the design agencies Lawrence Livermore National Laboratory and Los Alamos National Laboratory, product engineers provide technical guidance for making product, weapons components and assemblies. Product engineers guide Y-12 manufacturing to create corresponding work procedures and configuration controls to ensure high-quality components and assemblies are produced. The product engineers serve as the control point for product documents and the product requirements.

Marsicek said, “Working with the design agency, we match up capabilities in terms of what they need and what we can make.” Different work groups generate documents, establish operating procedures, make tools and develop the manufacturing process to produce the components. “We also set up the processes to certify and test components. If the product does not meet design agency requirements, the engineers analyze it to see if it is usable, and if so, we submit the information to the design agency for deviation.”

The work carries over to Y-12’s new facilities such as the proposed Uranium Processing Facility. If special manufacturing and inspection equipment is required, for example, it’s the product engineers who define the product requirements that drive the facility capabilities.

“Of Y-12’s 14 product engineers, about half have 30 years or more of wide-ranging experience,” Marsicek said. “Backgrounds are varied, including metallurgy, industrial and electrical engineering and chemistry.”

The product engineers in Weapons Product Engineering.



Reconnect with retirees Ranger hat fits Charlie Montgomery

If you visit the Great Smoky Mountains’ Elkmont Campground in the early fall, you may see Charlie Montgomery in a ranger’s hat and badge. In 1994 Charlie traded in a job in Y-12’s Development division, and he and wife Linda volunteered as campground hosts. For the last nine years he has enjoyed a second career as a visitor use assistant during the peak tourist months the camp is open.

Anyone who loves the mountains, like Charlie and Linda do, might call it more of an extended holiday with benefits. They park their recreational vehicle in the campground, hook up to free utilities, assist campers, enjoy the sunrises and sunsets and hike on their days off.

“In reality, I’m helping train the seasonal workers, in addition to answering questions from visitors,” he said. One of the most unexpected queries has been, “When do you let the bears out?” After a polite chuckle, Charlie said he gently explained that the bears roam wild pretty much as they please.

He estimates 700 to 800 people could visit on a weekend night in the peak months of June, July and October. For those popular months, reservations sometimes come six months in advance.

“Elkmont had always been our favorite site, so we were fortunate to get accepted to work there,” he said. “Something different is always happening at the campground, which makes life interesting.”



Linda and retiree Charlie Montgomery at Elkmont.

Making a change for life

It's been almost a year since Y-12 employees have had the option to participate in health risk assessments, which involve a questionnaire, a blood lipid profile and evaluation of cardiovascular endurance. Almost 52 percent of employees have chosen to complete the entire HRA; about 55 percent have completed the written wellness profile. Lisa Hawkins, for one, is glad she chose to complete the full HRA.

"While I have known for quite some time that I have needed to spend more time taking care of my health, when the tools provided by the LiveWise Program became available to me, I decided that the time was right to address these issues," said Hawkins of Document and Property Management.

"Being able to get a comprehensive health risk analysis right here at work has helped me get a clearer picture of my current health status. Since I have done that, I have begun to address some of the issues identified, in particular my weight, my eating habits and physical conditioning. The LiveWise dietitian, Karen Lacey, has been wonderful in our follow-up meetings, keeping me motivated and on track to make changes that I can live with for the rest of my life."

Lacey added, "As I'm sure Lisa will tell you, it's all about positive lifestyle changes. I strive to help employees find their own path to wellness; there is no one strategy that works for everyone."

For more information about the HRAs, talk to a member of the LiveWise staff or visit one of the LIFE Centers.



LiveWise dietitian Karen Lacey works with Lisa Hawkins of Document and Property Management on her wellness goals.

As a member of the "Atomic Mud & Mayhem Society" at the Oak Ridge Art Center, Cara Childers has her own niche outside of Y-12 to balance her work and home life.

Shaping your work-life balance

The LiveWise staff encourages a work-life balance. With the THRIVE kickoff in June, Levette Harris-Bethea, LiveWise wellness coordinator, said it's very important to keep that balance. "LiveWise isn't just about an exercise regimen and healthy eating habits," she explained. "It's about our overall health — body and mind. Having something enjoyable to focus on outside of work is key."

After a long workday, Cara Childers of Communications Services escapes to a pottery wheel at the Oak Ridge Art Center to decompress. "It's cheaper than therapy," she said.

Childers has always been artistic and has dabbled in many media. On a whim during college, she took a pottery workshop. "With pottery, your hands do the learning," said Childers. "It's so involved — you construct a piece, let it get leather hard, trim it, let it dry, fire it, glaze it, fire it again, and there are so many techniques to choose from for each step. There's always something to learn; something new to try."

She's so in love with the craft that she recently bought a home because it had the perfect space for her own studio and an outside storage building for a kiln. "I go to my own studio three or four days a week in addition to my weekly class at the Art Center. Sometimes, I spend an entire Saturday working on my own designs at home — I thrive on it!"

Much of what she creates, she gives away as gifts. Friends put in their orders, giving her new focuses each week. Her work has also been displayed at various shows. She plans to begin selling more pieces soon. For now, however, she creates for the simple pleasure and stress relief. "I dream in clay," Childers said. "If you talk to me long enough, we'll end up talking about pottery."





OAK RIDGE, TENNESSEE

Y-12 THROUGH THE DECADES - late 1960s

In 1964, the first air bearing spindle was manufactured at Y-12 for a production tape-controlled turning machine, with T. G. Lewis of the E. I. du Pont Company as the consultant. This was a totally new concept, holding a part on a turning machine so as to minimize machine vibration and thus substantially increase machining accuracy. From this first prototype, six more spindles with even greater accuracy capabilities were produced. Five were installed at Y-12, and one was sent to the nuclear weapons manufacturing facility in Rocky Flats, Colo.

To transfer this technology to private industry, contracts were placed with two machine tool companies, Excello and Heald, to produce the spindles to Y-12's specifications. Laser interferometers, tools that used light beams as measuring devices, were introduced in product certification applications for making high-precision measurements in the micro-inch range.

A diamond-turning machine made by DuPont was installed in Building 9998 late in the 1960s. The machine could complete very precise cuts

ranging from 50 to 75 millionths of an inch. Special coolant requirements and temperature controls were important at this level of accuracy, as any temperature variation could cause unacceptable shifts in performance.

These improvements in both measuring and machining were necessary to meet the specifications of the ever changing and ever more precise requirements of the nuclear weapons components Y-12 was being asked to manufacture during the Cold War. They are typical of the types of technical advances made at Y-12 through the years - and continuing today.

In the late 1960s, the Western Exclusion Area came into being. An added security measure, supplemental badges were required for access to this part of the site, which housed uranium processing operations and the in-process storage of special nuclear materials. This initial security addition has evolved over the years into what is now the 150-acre Protected Area surrounded by the Perimeter Intrusion Detection and Assessment System.

Kodachrome
SLIDE



Mirror finish created by diamond turning machine

Kodachrome
SLIDE



Large surface mirror finish using air bearing spindle technology



Around Y-12 ...

- **The National Nuclear Security Administration announced plans Sept. 9 to extend the existing contract for B&W Y-12 for another year.** Y-12 President and General Manager Darrel Kohlhorst said, "We'll continue completing our work safely, securely and on schedule, managing our resources wisely in support of national and global security. That track record has earned us outstanding ratings from NNSA, and it's our focus at Y-12 during this contracting process."
- **Y-12 made the following organizational changes recently.** **Leslie Thuecks** is the new director of Compensation. She has more than 15 years of human resources experience in compensation, benefits, performance management, staffing and employee development. Thuecks replaces **Dan Cottrell**, who will assist Thuecks and work on special projects until his retirement. **Bill Reis** has accepted the position of vice president of Environment, Safety and Health. Reis has managed the Manufacturing, Engineering and Quality Assurance organizations during his 29-year career at Y-12, serving most recently as vice president of Program Management. **Yvonne Bishop** has been named senior director and deputy manager for ES&H. She has worked at Y-12 since 2001, most recently serving as senior director and deputy manager of Facilities, Infrastructure and Services. Coming aboard as vice president of Program Management is retired **Vice Admiral Carl V. (Van) Mauney**. A career submarine officer with 35 years of military service, Mauney most recently was deputy commander of the U.S. Strategic Command. Y-12's **John Gertsen** was appointed vice president of Uranium Processing Facility Programs. This new programmatic position is intended to enhance communications with external stakeholders, determine the UPF work scope and requirements and provide additional focused efforts on cost reduction for the project. **John Stewart** has accepted the position of chief of Nuclear Safety Operations. He has been acting chief since January 2011. Stewart has more than 27 years' experience in the operation, construction and maintenance of nuclear power plants.
- **Y-12 completed transfer of highly enriched uranium to the Highly Enriched Uranium Materials Facility ahead of schedule.** "This is a significant milestone in consolidating highly enriched uranium at Y-12," President and General Manager Darrel Kohlhorst said. "The Highly Enriched Uranium Materials Facility is doing its job as one of the world's most secure storage facilities and is ready to serve as the companion to the Uranium Processing Facility."
- **Occupational Health Services expects to receive Y-12's allotment of flu vaccine in mid- to late-October.** Barring any unforeseen situations, OHS staff plan to administer the vaccine to employees during the Life Fair Oct. 26. Arrangements will be made for employees working on off shifts. Watch YSource for additional details.
- **B&W Y-12 and Y-12 Site Office employees donated 10,000 pounds of food and more than \$7,500 to the Second Harvest Food Bank in August.** The effort was part of the B&W Y-12 employees' United Way "Days of Caring" program and the National Nuclear Security Administration's "Feds Feed Families" campaign.
- **B&W Y-12 pledged \$250,000 to Oak Ridge's Emory Valley Center to build a new center that offers day programs to about 140 adults,** ranging from late teens to 70-plus. Anderson County owns the aging building and will deed it to the city of Oak Ridge in 2015. The city plans to raze it. The center has raised \$1.3 million of the \$4 million it needs for its new facility. Y-12 President and General Manager Darrel Kohlhorst said, "This is a great opportunity for our corporation to get involved."
- **U.S. Rep. Chuck Fleischmann visited Y-12's Nuclear and Radiological Field Training Center Aug. 26.** He was briefed on the nuclear and radiological response training provided by Y-12 to National Guard units from around the country. Police, fire and emergency management personnel from Knoxville and Knox County support the exercises along with Y-12 staff.

In memoriam

Louis "Steve" Floyd, a journeyman Lineman with Utilities Resources, passed away Aug. 18. He had 31 years of company service.

"Steve was kind and respectful and most of all, a teacher to the newer line crew members," said Gary Butler, his co-worker for 20 years. "He kept everybody tight. He was the glue that held us all together. All the way around, Steve was a heck of a nice guy."



- 51 years**
Production: **Marvin L. Sheffler**
- 46 years**
Development: **Jackie G. Gooch**
- 45 years**
Analytical Chemistry: **Gordon D. Robbins**
- 43 years**
Engineering: **Willie L. Duke**
Production: **Ray P. Ivey**
- 42 years**
Facilities, Infrastructure and Services: **Fay J. Claiborne** and **Kenneth J. Cunningham**
Quality Assurance: **Robert W. Buchanan**
- 41 years**
Engineering: **James D. Lamaster**
Oak Ridge Metrology Center: **George R. Jones**
Resource Management: **Charles Slay**
- 40 years**
Maintenance Execution: **Michael J. Moore**
- 35 years**
Analytical Chemistry: **Janice M. Millsaps** and **Wilma J. Sanders**
Emergency Services: **Larry E. Brown**
Engineering: **Kenneth E. Fricke**
Ethics and Internal Audit: **David J. Pitts**
Information Security: **Stephen B. Mays**
Production: **William C. Gheen, Diane S. Vance** and **Michael W. Woody**
Program Management: **Martha S. Beckham**
Resource Management: **Michael C. Allison, Kevin L. Ringley, Gary S. Spears** and **Kent E. Sutton**
Safeguards and Security: **Terry S. Tennant**
Training Management and Delivery: **Janice M. Wuest**
- 30 years**
Business Services and Performance Assurance: **Teresa L. Milsaps**
Engineering: **Kim A. Weatherspoon**
Production: **Charles H. Welch**
- 25 years**
Information Technology: **Charles T. Walker**
- 20 years**
Document and Property Management: **William D. Chappell**
Engineering: **Donald M. Goble, Robert D. Nipper Jr., Randal T. Scott** and **James A. Thompson**
Environmental Compliance: **Gary S. Beck**
EVMS and Services: **Jeffrey R. Burnette**
Facilities, Infrastructure and Services: **Clarence A. Crippen, Howard W. Croley, Anna L. Phillips, Keith R. Rader** and **Carl J. Schermerhorn**
Quality Assurance: **Pamela A. Lovell**
Production: **James T. Melhorn, Terry J. Steward** and **Kathleen M. Wynegar**
Projects: **William H. Bessom**

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Life Fair

LiveWise focus on
personal health
and safety

Oct. 26

New Hope Center

Contact: Stacey Lunsford
576-8982



Bring life to your benefits

Y-12 employees can learn firsthand about the health benefits available to them during this year's open enrollment when LiveWise and Benefits Plans host the inaugural Life Fair event. Scheduled for Oct. 26 at the New Hope Center, the Life Fair will feature benefits, health and safety vendors.

"Benefit plans are an integral part of an employee's total compensation package here at Y-12," said Benefit Plans director Pam Williamson. "The annual open enrollment period is a time for employees to review current participation levels to ensure their elections best meet the current and future needs of their families."

Benefit Plans representatives will be available to answer questions or provide information about benefit options available during this year's open enrollment period.

"The fair will focus on personal health and safety," Levette Harris-Bethea explained. "We're going to have a panel with employees sharing their health stories and insights."

The panel Harris-Bethea refers to will be facilitated by Hallerin Hilton Hill of News Talk 98.7. Hill also will share his story as one of the event's keynote speakers. The other keynote speaker is Dr. William M. Bass, world-renowned forensic anthropologist and founder of the University of Tennessee's Forensic Anthropology Center (the Body Farm).

Shuttle service will be available, and B&W Y-12 employees can spend up to two hours at the event. Activities include flu shots for employees; presentations about heart disease, diabetes and tobacco use; and a game of "In It to Win It" led by the LiveWise staff.

"We hope this event will be worthwhile and provide clarity to questions and concerns workers have regarding employee benefits," Harris-Bethea said.

Make plans to
attend the
Life Fair