

# the Y-12 times

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

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Clarification: Y-12's Industrial Hygiene Calibration Laboratory was assessed and certified to international standards, although at least one other Y-12 lab previously was assessed and certified at that level. In the August issue of *The Y-12 Times*, a quote was unclear in the cover story, "Leading the way to higher standards."

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## 2011

### Reflections a decade after 9/11

**TRANSFORMATION**

**PROTECTION**

**NONPROLIFERATION**

**WORK FORCE**

This Sept. 11 marks the 10th anniversary of the terrorist attacks on the United States. As the nation addresses the changes we've seen and felt, we reflect on Y-12's commitment to making the world safer. That commitment is stronger than ever.

#### TRANSFORMATION

The changes and improvements at Y-12 in response to the 9/11 attacks have provided a much more robust and flexible security posture. The Highly Enriched Uranium Materials Facility and the proposed Uranium Processing Facility are the future of Y-12, designed to meet and address any threat to Y-12 employees and assets.

"Specific security strategies are built into HEUMF and UPF, rather than bolted on," said the UPF Project's Dexter Beard. "These facilities specifically balance mission, safety and security to increase their security effectiveness by orders of magnitude over the existing facilities, while reducing life-cycle costs."

HEUMF and UPF will become the backbone of Y-12.

"These facilities will enable us to continue to perform our mission in the safest, most secure facilities for the next 50 years and beyond," Beard said. The level of rigor that goes into everything from daily operations to future planning is much higher than ever before.

Reflections, cont'd on page 2

## PROTECTION

Changes were made practically overnight at Y-12 — new fences, yellow sea-land containers and razor wire lines. As a result of the immediate evaluation and the overall strategy of HEUMF, when the Department of Energy issued a revised threat basis about 18 months after the attacks, only one change in the construction of HEUMF was required. HEUMF was the first major facility to be built at Y-12 since the 1970s. With lessons learned from existing facilities and tremendous support from the National Nuclear Security Administration, Y-12 is in a much better position to deal with any scenario since 9/11.

“Security is no longer an afterthought, but an integral part of everything we do,” Beard said.

Y-12 firefighter Theresa Hubbs said, “The plant now operates in a completely different manner — changes to physical access have drastically changed, and we have increased training covering the many aspects of the lessons learned after 9/11.”

## NONPROLIFERATION

“Y-12 has worked in numerous countries around the globe to secure highly enriched uranium, with missions dating back to 1994,” said Lloyd Jolley, manager, Nuclear Nonproliferation and Global Security Programs.

In his Prague speech in April 2009, President Barack Obama called for an international effort to secure all vulnerable nuclear material around the world within four years. Tons of excess highly enriched uranium exist across the globe, and much of it is vulnerable to theft or sabotage. Y-12 is an integral part of NNSA's Global Threat Reduction Initiative to expand and accelerate



On the one-year anniversary of the 9/11 terrorist attacks, Y-12 proudly flew the nation's flag in remembrance of those who lost their lives.

efforts to prevent nuclear and radiological materials from falling into the hands of terrorists.

## WORK FORCE

Even if you weren't a Y-12 employee Sept. 11, 2001, you now likely feel a connection between your job and making the world safer. Here's what your co-workers shared.

Hubbs said, “For those of us in rescue, the impact [of 9/11] not only hit home, but has been a long list of serious changes in emergency management areas. As for hitting home, it still brings tears to the eye — 343 firefighters, 15 emergency medical technicians, 60 police officers and many civilians lost.”

“Y-12 is an important part of our national defense; we should all feel proud of the work we do, the services we provide and the high quality of our products,” Beard added.

Y-12's Steve Mead, a retired U.S. Navy lieutenant commander and current colonel with the Tennessee State Guard, said, “I doubt that the horror of that fateful day in 2001 will ever completely fade from the memories of those who lived through it.”

Lt. Cmdr. Michael Doughty of Human Resources said, “I sincerely appreciate the commitment of management at Y-12 on fighting the war on terror.”

President and General Manager Darrel Kohlhorst said, “We have something terrorists can't tear down or destroy — patriotism. Remembering each year the lives of all those who gave bravely is patriotism. Coming together to support one another during a time of need is patriotism. I can tell you from experience that it definitely is a way of life at Y-12.”

# Y-12 worker radiation protection programs earn High Marks

Accuracy. Whether scanning groceries, reviewing a bank statement or checking the weather forecast, you want to have confidence in the systems, and the people, serving you.

A recent evaluation confirms that Y-12's Internal Dosimetry programs provide accurate, reliable results, and employees can be confident in the testing process. The two monitoring programs evaluated for the Department of Energy Laboratory Accreditation Program are the Lung Counter and Bioassay programs.

"The results are based on equipment testing," said Rhonda Bogard, Dosimetry and Records manager, "but it's the people who ensure the programs' integrity that deserve the credit."

Bogard credits Boyd Gose for the Lung Counter Program's successful performance testing. "Boyd has more than 40 years of experience with detectors and instrumentation. When he began working with the program, he brought a new dimension to it," Bogard said. DOELAP requires that the relative bias measure between -0.25 and 0.50, and the relative precision measure less than or equal to 0.40. Test results ranged from 0.01 to 0.06 for both bias and precision.

Results from the Bioassay Program, which measures radioactivity present in urine and fecal samples, also fell well within the required range; bias measured -0.08 to 0.06, precision 0.01 to 0.07. Bioassay Laboratory Manager Keith Duckett acknowledged the work of the laboratory technicians as well as guidance from retired laboratory



Boyd Gose (right) mentors Trevor Davis on the lung counter system, sharing his extensive knowledge of its precision operation.

manager Jeff Wade for the laboratory's success. This DOELAP test was Duckett's first as laboratory manager.

So, while you may question the accuracy of grocery receipts, bank statements and weather forecasts, you can rest assured that the people and systems in Internal Dosimetry work at the highest caliber.

## New Fire Alarm System protecting people, the site and the budget

Y-12 completed installation of a new sitewide fire alarm system in June, ahead of schedule, \$400,000 under budget and more than \$18 million under the cost of the system it replaced.

"Key components of the old fire alarm system began failing in 2006, but we were able to make repairs and get additional replacement parts," said Scott Hackler of Fire Protection Operations. "When the supplier stopped making parts in 2008, Y-12 began planning a new system."

In fiscal 2010, a designated project team started replacing faulty wiring and installing new transponders, which monitor the status of the alarm points and communicate with the Fire Command Centers. The transponders were installed adjacent to the old panels and tied into the system via existing fiber optic cable. This cut costs and kept the remainder of the system operational during the process.

Time and motion studies helped reduce transponder installation time from five days to three days, and targeted testing, which compared old and new device responses rather than retesting each device, reduced testing costs by 90 percent.

"As we transform Y-12's physical infrastructure, we look at how we can expand our ability to do essential work and preserve quality and safety, without increasing costs to taxpayers. The new fire alarm system is an example of the success we're having," said Anne Backus from Program Management.



A construction electrician installs a new EST3 panel.

# RAMPed up for roofs

When the Roof Assessment Management Project, or RAMP, began in 2004, it was a new way of handling roof repairs and replacements. At that time, the Kansas City Plant, Pantex Plant and Y-12 agreed to collect roof information into a common database and manage construction through a commercial provider. “We found we could do it faster, better, cheaper by working together,” said David Lind, Y-12’s RAMP manager.

The database allows Department of Energy Headquarters to better manage overall roofing assets and put more emphasis on the deteriorating system complexwide.

Lind said that the attraction of multi-site work has also brought in new roofing contractors and competition has significantly lowered construction costs.

The company chosen to run the program completes assessments, populates the database, creates design and construction packages, bids and awards the work and monitors construction through completion.

Funding for Y-12’s roof work comes in about equal portions through RAMP and the Facilities and Infrastructure

Recapitalization Program. In fiscal 2011, most of the \$7 million budget is being spent on Buildings 9215, 9103, 9203, 9202, 9110 and 9119. Lind said the amount of work planned for this fiscal year — about 140,000 square feet — is a little higher than in past years.

Since 2004, most sites in the nuclear security enterprise have joined RAMP. The original group has expanded to include Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Nevada National Security Site, Sandia National Laboratories and the Savannah River Site.



Before a Y-12 roof replacement



After replacement

## A reason to *celebrate*

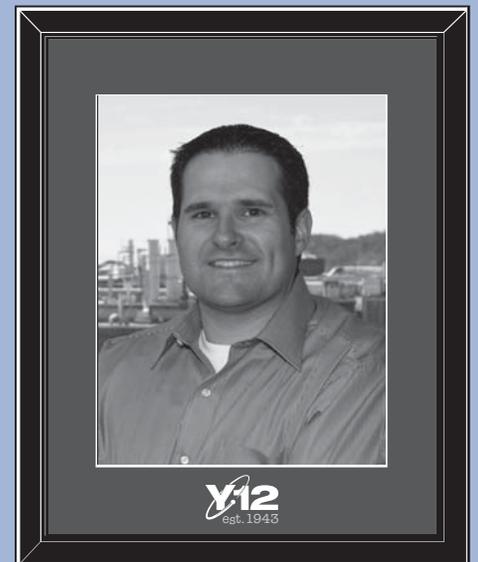
“I spent seven years serving my country through the Air Force. By coming to Y-12, I feel like I’ve been able to continue serving,” said Brian Paul, Y-12’s first graduate from the America’s Veterans to Tennessee Engineers Program’s core initiative, the Science, Technology, Engineering and Mathematics — or STEM — Program.

The program focuses on pairing military service members with the opportunity to obtain a degree and a job with a leading company upon graduation. As a former staff sergeant in the U.S. Air Force, Paul’s loyalty to his country runs deep. He was stationed in Germany for three-and-a-half years, organizing air transport for heavy cargo. After returning to the U.S., he served another three-and-a-half years as a recruiter in Albany, N.Y.

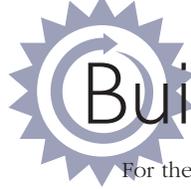
Paul was first introduced to Y-12 through the program in January 2009. Since then, he has worked in Technical Integration while also working on his nuclear engineering degree at the University of Tennessee in Knoxville.

Paul said his time management skills from the Air Force made the transition to balancing class work, job commitments and family time simple. He is currently working full time at Y-12.

“Actually completing my degree seven years after high school was very rewarding. Throughout the experience, I’ve enjoyed being able to move around and get acquainted with the plant and meet so many people. There’s a lot to do here,” he said.



In May, Brian Paul became the first Y-12 graduate of the STEM Program.



# Building green saves green

For the past year, Y-12's Eric Enos has worked on building his dream home. His favorite feature: "The view and the fact that the house itself is indestructible, considering it's made of 58 truckloads of concrete."

As a planner and estimator for Facilities, Infrastructure and Services, Enos said the biggest assets he took from his position were patience and planning. "I was able to sit and plan what needed to be done. You can't take on a project of this size without knowing the next step, expecting and dealing with what may arise from time to time," he explained.

It wasn't always easy building an energy-efficient home, but he believes the environment and his wallet will benefit in the long run. "We all have to live together on this Earth. Since my son was born, I've had a renewed sense of what we're leaving behind and what kind of legacy we'll leave on the environment. My son loves nature, and what better home to live in than this?"

In addition to the sentimental attachment to his plans, Enos' view was that energy costs will only rise in the future so why not build an energy-efficient home that also features minimal upkeep concerns?

Aprell Patterson of Y-12's Sustainability and Stewardship agreed. "The environmentally friendly features integrated into the design and construction will decrease the impacts on the environment throughout the life of the home," she said.

From the 12-inch-thick walls to the flooring, the structure is made entirely of concrete – not wood – which could draw termites or various fire hazards. The flooring consists of integral colored concrete. The floor was ground and polished to provide an esthetically pleasing and maintenance-free floor.



The concrete flooring serves as a thermal mass, drawing heat from in-floor radiant circuits, which are supplied with hot water, while the foam keeps the heat from being drawn into the ground. The radiant flooring consists of three zones in the home, each with its own thermostat and pumps to deliver the water.

"The geothermal heating is something I have read about, but never seen installed in a residential situation until now," said Jane Nations, director of Y-12's Energy Management.

The home also features decorative and energy-efficient fiberglass doors and appliances, 16- and 10-foot vaulted ceilings

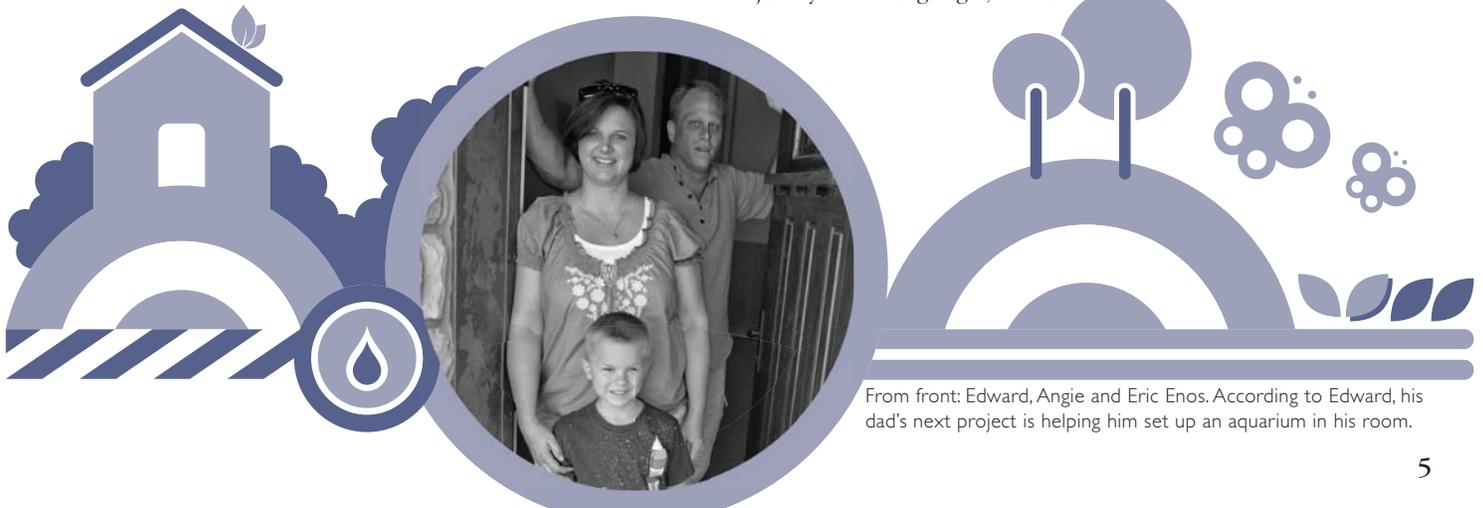
and plenty of windows at the front and back, providing natural light throughout the year. "My wife's biggest concern was that there wouldn't be any light since it was considered an earth-sheltered home. You don't need windows in closets or bathrooms, so I put them in the three most-used rooms in any home: kitchen, living room and the bedrooms," Enos explained.

Enos was able to do most of the work himself, but various co-workers routinely offered assistance.

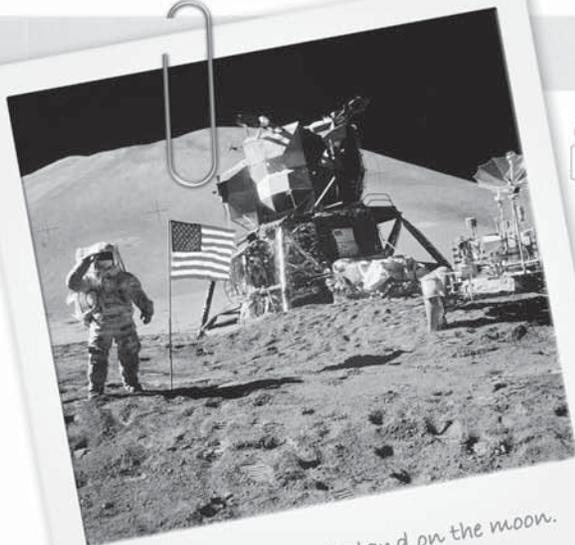
"I just helped with a few things, but when he got me there, he certainly put me to work," said Mike Woullard, Systems Maintenance Center lead and Enos' supervisor. "You can tell by his work at the house that he certainly sees things through."

Co-worker Charlie Whitson also helped and was excited to see the house near completion. "I'm curious to see how much energy savings will be realized," he said.

Enos admits the cost of the house was almost double that of a standard 2,400-square-foot home. "It may have cost more up front, but the savings on future utilities will make up for it in the long run. I'm not a perfectionist; I just try to do things right," he said.



From front: Edward, Angie and Eric Enos. According to Edward, his dad's next project is helping him set up an aquarium in his room.



Apollo 11 astronauts land on the moon.

oak ridge  
**Y-12**  
plant  
RIDGE, TENNESSEE

Ektachrome  
SLIDE



Third mill

In addition to the intense effort to separate Lithium 6 in Building 9201-4 (Alpha 4) using the COLEX (column exchange) process, several other advances took place at Y-12 in the 1960s. A strong leadership team, including Jack Case and other key Y-12 managers, was taking Y-12 to the next level in nuclear weapons production as the Cold War raged.

By 1963, there were more than 1,000 machine tools in a range of diversified shops. The capability for handling various toxic, hazardous or reactive materials in enclosed and closely controlled conditions existed in a number of specialty shops designed within the Manhattan Project structures. Uranium machining made numerous advances and became automated, through the introduction of numerical control, to meet the more sophisticated weapons designs. Dry rooms were required for lithium assembly operations.

Research and development work at Y-12 pushed nuclear technology to the limit, including work on a Nuclear Energy for the Propulsion of Aircraft project and several nuclear-powered rockets. Though the rockets weren't used, much was learned about carbon foams.

Carbon foam — strong, lightweight and reproducible — had been perfected by chemists at Y-12. It proved useful when NASA had to design light but strong space shuttles able to withstand reentry to the earth's atmosphere.

In the early 1960s, the "42 Games Experiment" made Y-12 the acknowledged leader in machining in the nuclear weapons complex. It was a competition between Los Alamos National Laboratory, Lawrence Livermore Laboratory, Bendix-Kansas City Plant and Y-12. Each facility was given 50 blanks of metal from which to machine a specific weapon component shape. The machining tolerance was 0.0002 inches.

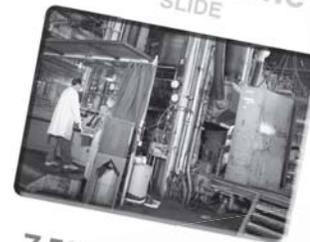
At the end of the four-month competition, Y-12's team was declared the clear winner, firmly establishing the plant as a leader in precision machining. Y-12's "can do" reputation was solidified and by now had become well-known throughout the nuclear weapons complex.

Ektachrome  
SLIDE



Building 9215  
rolling mill

Ektachrome  
SLIDE



7,500-ton press

# Around Y-12 ...

- **Y-12 will kick off the 2011 United Way campaign Sept. 20 at 11 a.m. in the New Hope Center's Zach Wamp Auditorium.** Let's give a big orange welcome for keynote speaker Cuonzo Martin, the University of Tennessee's head basketball coach. United Way agency representatives will be on site to answer questions and take donations. There will be plenty of food and things to do. The shuttle service begins at 10:30 a.m. and runs until 2 p.m.
- **The National Nuclear Security Administration issued the draft request for proposals July 21 for operation of the Y-12 and Pantex plants.** For now, NNSA is only accepting feedback on the draft, not actual proposals. In a press release, NNSA stated that the draft RFP will "move toward the vision of One NNSA as a fully integrated and interdependent enterprise." The draft RFP and other materials are available at <http://www.doeal.gov/mocontracts/Default.aspx>.
- **The 2011 Annual Tennessee Labor-Management Conference was held Aug. 10-12 in Nashville, with more than 60 Y-12 employees in attendance.** Atomic Trades and Labor Council President Steve Jones said the conference provides time "for networking and interacting with the people we deal with on a day-to-day basis. I have attended a number of these and always have left with something I learned or a relationship I developed that was a benefit in the workplace. In the end it's all about relationships that enable us to get through the rough times."
- **Congratulations to Sunbright High graduate Kyle Crass and Harriman High graduate Darius Gallaher, first recipients of the B&W Y-12 STEM Scholarships.** Crass and Gallaher will take the first steps toward careers in engineering this fall at Roane State Community College. Jeremy Benton, commercialization and partnerships manager with Y-12, coordinated with the Roane State Foundation to establish and award the scholarships. "We don't see a lot of U.S. students going into these fields, and Y-12 has a great interest in growing talent locally," Benton said.
- **National Nuclear Security Administration's deputy administrator for defense nuclear nonproliferation, Anne Harrington, spoke to employees recently at Y-12's New Hope Center, sharing her vision for NNSA's future.** In accordance with the One NNSA initiative to work collaboratively across all NNSA programs and organizations, Harrington said she hopes to see more transparency and partnerships among sites and departments. "We need to work together, solve problems and maximize opportunities," Harrington said. "We're all part of the same team."



The Coalition of Oak Ridge Retired Employees will hold its annual information meeting Oct. 17 at Heritage Fellowship Church (Illinois Avenue in Oak Ridge) at 2 p.m. Details about the meeting will be mailed to all CORRE contributing members in early October. Visit CORRE's website ([www.corre.info](http://www.corre.info)) for more information.



Inadvertently, some employees celebrating 20th company service anniversaries were omitted from the July and August issues of *The Y-12 Times*. Those employees are included here. We apologize for the oversight.

— *The Y-12 Times* editors

## JULY

### 20 years

Engineering: **Stephan A. Shults**  
Environmental Compliance: **Bradley E. Skaggs**  
Infrastructure Programs: **Robert M. Richesin**  
Maintenance Support: **William R. Shipley Sr. and Michael L. Woullard**  
Occupational Health Services: **Rebecca A. Sproles**  
Production: **James D. Ritter** and **Donna B. Vitaoe**  
Radiological Control: **Mary L. Yoder**  
Utilities Management: **Daniel M. Worsham**

## AUGUST

### 20 years

Emergency Services: **Gary B. Rose**  
Legal: **William R. Wilburn**  
Production: **Johnfred M. Thomas**  
Resource Management: **Sharon E. Williams**

## SEPTEMBER

### 44 years

Maintenance Support: **Douglas H. Kitchen**

### 43 years

Engineering: **Luther E. Galyon Jr.**

### 42 years

Production: **Pete D. Psihogios**  
Quality Assurance: **Robert M. Jones**  
Resource Management: **Argil R. Burress**

### 41 years

Engineering: **Bernard G. Keylon Jr.**  
Production: **Phillip A. Smallen**  
Public and Governmental Affairs: **D. Ray Smith**  
Quality Assurance: **Terry A. Chance**  
Resource Management: **Jerry R. Nichols**

### 35 years

Budgets: **Rosalind A. Robinson**  
Development: **John D. Brown** and **James C. Truett**  
Engineering: **Richard M. Pack**

Production: **John F. Dye, Darryl E. Johnson** and **James E. Weaver**

Resource Management: **Clysta G. Johnson**

### 30 years

Engineering: **John H. Leckey, Walter I. North** and **Kamal I. Saei**

Information Technology: **Charles D. Gay**

Production: **Arnold C. Beason, Edward K.**

**Hawn, Alvin R. Lawson, Larry R. Lawson, Joey R. Lloyd, Beverly A. Lomax, Jerry E. Polson, and Daniel E. Reed**

Program Management: **Anthony P. Keller**

Program Planning: **Tammy G. Narramore** and **Kevin M. Dyer**

Quality Assurance: **Douglas G. Shelley**

Utilities Management: **Douglas E. Rayfield**

### 25 years

Budgets: **Debbie L. Morris**

Document and Property Management:

**Theresa M. Spradlen**

Environmental Management: **Martha M. Aylor**

Information Technology: **Richard D. Rinehart**

Legal: **Abigail J. Muller**

Uranium Processing Facility: **Kathleen W. Gerth**

### 20 years

Analytical Chemistry: **Darrin K. Mann**

Classification: **Frances S. Parrett**

Communications Services: **Jessie J. Duncan**

Development: **Kathleen R. Crane**

Emergency Services: **Ralph J. Honeycutt Jr., Gary W. Lowery** and **Kevin D. Ross**

Engineering: **Syed B. Ahmed, Wesley K. Mattie,**

**Thomas T. Richey, Robert G. Ross Jr.** and

**Richard F. Utrera**

Information Technology: **Barbara E. Cline**

Maintenance Execution: **Conley E. Orick**

Maintenance Support: **Tanya D. Liford**

Material Management: **Maurice D. Fritts** and

**Jimmy C. Lahman**

Quality Assurance: **Keith D. Mullins**

Procurement Operations: **Randall C. Hudson**

Production: **Gregory L. Bledsoe** and

**Deonna F. Turner**

Program Analysis and Evaluation: **Stephen T. Holder**

Program Management: **Morris E. Hassler** and

**Curtis T. Hawk**

Radiological Control: **Jake D. Joyner Jr.,**

**Gregory W. Ross** and **David D. Scarbrough**

Resource Management: **John G. Benton III,**

**James C. Cromwell** and **James B. Peters Jr.**

Training Management and Delivery:

**Alfred K. Reeder Jr.**

**Join the Y-12 teams  
Walk to Defeat ALS**

**Sept. 24**

Contact: Molly Brewer, 241-9580

**Volunteer Ministry  
Center 5K walk**

**Sept. 24**

Contact: Alan Beddingfield, 574-2422

**American Heart  
Association heart walk**

**Sept. 25**

Contact: Mary Benton, 576-7251

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## Business savvy vets learn from others



Y-12 Socioeconomic Programs Manager Gloria Mencer talks with Brig. Gen. Terry Feehan after his keynote speech.

In early August, Y-12 hosted its 5th annual East Tennessee Veterans Business Conference to help veteran-owned companies learn effective strategies and practices for doing business with governments and other agencies.

“Veteran-owned and small businesses play a critical role in what we do here at Y-12,” said Bill Klemm, Y-12’s deputy general manager and senior vice president. In fact, nearly \$250 million went to small business subcontracts during fiscal 2010.

Klemm spoke at the conference’s kick-off event, which featured a keynote speech by Brig. Gen. Terrence A. “Terry” Feehan, who supervises the Ballistic Missile Defense System at the U.S. Air Force’s Missile Defense Agency.

Feehan employed his military background, which many in the audience shared, to explain the challenges of doing business with the government. “Doing business with the government is a bit like getting through basic training,” he said, though he did assure the audience it gets easier with experience and the rewards are worth the troubles.

“The workshops here are critical,” Feehan said of the conference. “Use them to get through basic training — don’t let basic training stop you from getting to do business.”

Feehan also encouraged attendees to take advantage of the conference’s networking and educational possibilities. “This is an excellent opportunity for you to make connections,” Feehan said. “Figure out what niche you want to work in and how to get there.”

Y-12 Socioeconomic Programs Manager Gloria Mencer coordinated the conference. “General Feehan was very much on target in showing how small business can supply the procurement goods and services required by federal agencies,” Mencer said.