Ideas spark inventions
(pages 4 and 5) Y-12 inventors were awarded 11 patents in fiscal 2012.

These guys have totally lost it!
(page 6) Three Y-12ers share their advice for getting fit.

Security improvements under way

Following the July 28 trespassing incident at the Y-12 National Security Complex, B&W Y-12 has moved quickly to improve security and maintenance.

“All of us at B&W Y-12 appreciate the Inspector General’s work in assessing the event of July 28 and making recommendations for security operations improvement. We’ve taken dramatic actions and are making major security improvements at the site,” said Charles (Chuck) G. Spencer, president and general manager for B&W Y-12.

In an Aug. 23 address to Y-12 managers and supervisors, Spencer encouraged staff to attend to issues quickly and stay focused and disciplined in approach. “Know that the nation is relying on us,” he said.

Spencer advised Y-12 employees to have a questioning attitude and be open. “When something’s wrong in your facilities, tell somebody. If we have a problem, let’s look at it. We all have the ability to question things that don’t seem right and stop what we are doing if necessary to ensure operations are conducted safely and securely,” he said.

B&W Y-12 has made changes to prevent any future occurrences.

Spencer said, “It’s our job to fix the things that are wrong and to make them better.”

Recent updates

• Based on a Sept. 28 recommendation from the National Nuclear Security Administration, B&W Y-12 terminated the subcontract with WSI Oak Ridge for security services at Y-12, and assumed direct responsibility for protective force operations. B&W Y-12 began transitioning protective force and other security support operations on Oct. 1.

• Physical security experts have been brought on board by B&W Y-12 to review and improve Y-12 systems and processes.

• B&W Y-12 has brought on board Pantex Deputy Manager and former head of security Rodney Johnson to oversee security operations, and Linda Bauer was named head of Facilities, Infrastructure and Services. Joe Henry was appointed chief operating officer.

• Corrective measures have included extensive re-training of the security force, increased security patrols, the addition of fencing and repairs to security cameras.

• Changes were made to the maintenance prioritization system to ensure that maintenance of security systems is addressed quickly and efficiently.
PrYde helps with safety

It's not easy to keep more than 800 acres of buildings and property neat and tidy. Just ask Y-12's PrYde Program Manager Kathy Dixon. In her role, she works with environmental officers, building managers and others to review Y-12's housekeeping. Together, they find potential safety hazards, ensure the site looks good and boost workplace pride in the process.

Angelia Gordon, building manager of 9706-2, said, “PrYde allows an avenue to address deficiencies that need to be resolved, making our work space and our facilities safer for everyone.”

Zone manager Jim Nobles thinks PrYde is one of many initiatives that supports Y-12 as a Voluntary Protection Program Star site. “The PrYde walkdowns allow for earlier identification of trends that can increase the risk for injury. At the same time, they provide opportunity for acknowledging personnel's efforts to identify and correct conditions before they become problem areas.”

Like Gordon and Nobles, Building Manager Dusty Rogers connects PrYde with safety. “During our walkdowns, we also have our eye on safety, which encourages us not only then but throughout the year to take extra time, look closer for safety issues and make sure everyone goes home the same or better than when we arrived.”

Safety isn’t the only improvement; facilities’ appearance also shines. Dixon is proud that zone ratings for fiscal 2012 have improved. “Rating signs are attached to the facilities,” she said, “but it’s the people in those facilities who have earned those improved ratings.”

Counting their million

Counting million-dollar winnings from a Powerball jackpot certainly would be cause for celebration, but counting a million safe hours of work — that’s priceless.

The Y-12 Direct-Hire Construction team recently reached a safety milestone by working one million hours without a lost-time injury. Each of the 285 members of Y-12’s full-time construction work force is credited with this achievement, which covered a 633-day period with the last lost workday in September 2010.

Senior leaders from the National Nuclear Security Administration Production Office and B&W Y-12 were on hand to congratulate the workers at a celebratory lunch held Aug. 30.

Jim Haynes, B&W Y-12 senior vice president and deputy general manager for projects, congratulated the group for safely working one million hours on more than 125 projects and 35 subcontracted projects. “Working safely is the most important thing we do at Y-12,” Haynes said. “Let’s celebrate this accomplishment then put a renewed focus on safety.”

Haynes credited Knoxville Building and Construction Trades Council for its commitment to safety and for its work force skills. Kevin Adkisson, president of KBCTC, commended the workers, “You’re living proof of our [KBCTC] platform of having a skilled, trained work force, and you’ve backed it up with this amazing accomplishment.”

George McClain, manager of Construction, said, “How did we accomplish this? By taking care of each other so everyone can go home at the end of the day.”

McClain and Adkisson accepted a plaque on behalf of Y-12 Construction for the team’s accomplishment.

“—Kevin Adkisson, KBCTC President

You’re living proof of our [KBCTC] platform of having a skilled, trained work force, and you’ve backed it up with this amazing accomplishment.”
In our 2012 Security Awareness — Back to the Basics training — we were reminded of our responsibility for Y-12's security. Given that responsibility, what are the expectations and how do we recognize important security issues?

As Y-12 residents, we must be knowledgeable of security requirements. This can be accomplished by attentively completing our required security training, paying attention to security announcements and posted security information, complying with security procedures and plans, and concentrating on what we do in our daily work activities. We must question any abnormalities or security violations and report these issues to management, the Plant Shift Superintendent or the Incident of Security Concern department.

How do we recognize security issues? We must pay attention to our surroundings and question things that seem abnormal. If you're unfamiliar with individuals in your area, ask if you can help them. If their presence is legitimate, they will be cooperative. If someone wants to “piggyback” entry into an area, verify that person has the proper credentials (a badge that has not expired, photo matches the person requesting entry and appropriate clearance). This also protects information from those who don't have a need-to-know. Notify the PSS of any individual who refuses to show a badge, lingers in an area without a valid explanation, belligerently responds to your questions, or exhibits any other abnormal behavior.

There are also actions we can take outside Y-12. Protect your badge from theft and don’t wear it in public. Don’t share Y-12 information on social networks and be cautious when asked about your work at Y-12. Anything that needs sharing with the public will come through Public and Governmental Affairs and have been approved for public release.

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In addition to e-Cycle, the local company that recycles or finds new homes for the electronics, the Michael Dunn Center Work Programs was on-site to accept personal paperwork.

“As a form of continual improvement, we offered paper recycling this year,” Sustainability and Stewardship’s Jan Jackson explained. “Employees were able to watch employees of Michael Dunn as they destroyed records they no longer needed.”

After collecting the electronics, e-Cycle reuses as many as possible, working with local non-profit organizations that donate the reused computer systems to needy families. Items that can’t be reused are recycled by electronics recycling companies throughout the U.S. e-Cycle does not charge a fee for recycling the items.

Durand Carmany, director of Projects, Sustainability, and Facilities, said, “These events give us an opportunity to be good stewards of the environment by allowing our employees to recycle personally owned electronics that may have otherwise made it to the landfill.”

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The Tennessee Section of the American Society of Civil Engineers recently honored Ken Fricke of Facility Engineering with their Government Engineer of the Year Award. The annual award, through peer nominations, goes to a government engineer who has made definite contributions to the society at the national, section and/or branch levels.

Fricke is a senior staff structural engineer and has worked at Y-12 since 1976. Among other positions, he served as Responsible Engineering Designer, focusing on deteriorating building structures and components. He also conducted wind and tornado hazard studies, a LEED (Leadership in Energy and Environmental Design) peer review, building seismic/high winds/tornado/ flood analyses, and seismic/structural evaluations of new and existing non-building structures, evaluations of new and existing non-building structures, tornado/flood analyses, and seismic/structural evaluations of new and existing non-building structures.

Fricke holds a B.S. in engineering from Case Institute of Technology, an M.S. in civil engineering from Case Western Reserve University and a Ph.D. in civil engineering from the University of Tennessee-Knoxville. He is also a registered professional engineer in Tennessee.
It’s been a fruitful year for Y-12 inventors. Y-12’s Office of Technology Transfer recently announced 11 patents had been awarded to Y-12 inventors in fiscal 2012. These patents underscore Y-12’s commitment to developing and improving technologies for the betterment of the nuclear security enterprise and people’s daily lives. Read on to learn about these new items. The inventors are listed at the end of each description.

1. Access Rate Control System: Controls the rate at which people enter full-height turnstiles. A kit can be added to a new or existing turnstile to increase resistance as someone entering applies more pressure, but the exit rate remains unaffected. ARCS offers enhanced security for nuclear and correctional facilities, borders and sports events. (Lee Bzorgi)

2. Controlled Zone, Non-Magnetically Constrained Microwave Plasma System and Its Application to Materials: Creates and controls plasma in a microwave field. Plasma is a high-energy state of matter — similar to a gas — where the atoms become excited and break down into electrons and nuclei. The ability to control the plasma is useful in the application of a nitride coating to tools and in the formation of layers on integrated circuit chips, as examples. (Roland Seals, Ed Ripley and Jonathan Morrell)

3. Fishhook Locking Device: Allows the operator to stand while unlocking locks placed low on roll-up doors. This device eliminates hygiene and security concerns and can also increase efficiency and improve safety. (Patrick Thomas)

4. Heat Treating of Manufactured Components with Microwave Susceptor Material: Enables more efficient heat treating of manufactured components, thereby improving production operations. When microwave susceptor material is heated, the component is enclosed in a compact container that is covered with insulation. Placed on a conveyor belt, the compact unit enters a tunnel where it absorbs microwaves and becomes very hot inside without losing heat, staying relatively cool on the outside. The temperature is controlled by the power level and the amount of time a unit spends in the tunnel. (Ed Ripley)

5. HexBilt™: Increases material strength, conductivity and elasticity while reducing wear and erosion. HexBilt™ is an improved family of materials created when carbon nanostructures, or nanotubes, are integrated with metal or ceramic alloys. HexBilt™ can be incorporated into bulk materials or used as a coating. This technology could generate stronger steel construction beams, improved power cables and high-performance coatings for vehicles and other surfaces. The technology supports components in the aeronautical, military, automotive, recreational and tooling industries that produce parts used in everyday life. [Roland Seals, Gerard Laudka (ORNL) and Ed Ripley]

6. Extrans: Provides an accuracy of measurement crucial for laboratory work and has industrial implications. Extrans is a material permeance measurement system and method. A sheet of plastic, rubber or paint is secured between two reservoirs, and water is pumped on one side and gas along the other at a controlled rate. The moisture level in the gas is then measured to determine how much water permeated the material. At Y-12, this material can protect moisture-sensitive material from corrosion. [Russell Hallman and Mike Renner (Legal)]

7. Method for Fabricating Uranium-Molybdenum Alloy Foils: Helps maintain national security by replacing highly enriched uranium with low-enriched uranium in existing U.S. High Powered Research Reactors, or HPRRs. A method for fabricating U-Mo alloy foils that power research reactors was developed using a cold rolling mill. Metallurgical engineers pinpointed the rolling procedure needed to successfully thin the foil. To create the foil, low-enriched U-Mo alloy is sandwiched between layers of zirconium, then rolled until it reaches the desired thickness. Another use is rolling thin uranium foil for medical isotope target production. (Jack Gooch and Amy DeMint)

8. Microwave Sintering, Bonding and Assembly of Metal and Ceramic Parts: Produces unique materials and structures more efficiently and with little waste. Metal or ceramic particles are formed into shapes and sintered to melt the parts together into complex porous components, with approximately 60 percent density and 40 percent open, interconnecting porosity. If a solid object is desired, molten metal is used to fill the gaps. This technology does not require the expensive machinery of traditional production. The forming step allows individual pieces and materials to be bonded together in ways that were previously impossible. This technology can be used for fabricating armor, propellers and prototypes and for finalizing manufacturing processes. (Ed Ripley)

9. Modulated Tool-Path Chip-Breaking System: Disengages a cutting tool at set intervals so the chip breaks into smaller pieces. Machining operations frequently create a continuous metal strand, or chip, that can become tangled and damage machinery and pose an operator-safety hazard. This R&D 100 Award winner saves time and money and increases safety. (William Barkman, Ed Babelay and UNC-Charlotte)
10. Passive In Situ Gas and Chemical Sensor: Measures long-term chemical reactions inexpensively and solves a current need. To measure the energy in a chemical reaction over a long period of time, a two-thermocouple system is used. One thermocouple serves as a reference point to measure against the change in the other, active thermocouple. The magnitude of the reaction should be proportional to the difference in potential between the two thermocouples. This invention can be used to measure degradation or reaction in storage materials or monitor various processes or chemical reactions in manufacturing. (Jonathan Morrell and Ed Ripley)

11. Intrinsically Safe Tropexx: Provides an intrinsically safe version of Tropexx, a versatile, portable device used to accurately blend gases, volatile liquids, and vapors for evaluating materials and testing for corrosion in remote locations not having electricity. Applications include controlled-environment manufacturing, refineries, and instrument calibration. (Russell Hallman and Paul Vanatta)

For more information about the latest inventions, contact Tammy Graham at 574-2214.
Y-12’s Jay Charette, Eric Larson and Chris West have lost more than 280 pounds combined and want to inspire you to become your best self. Visit the LiveWise website (available from YSource) for more information about the programs.

The Lost Boys

Jay Charette, FI&S

My motivation: “In summer 2010, I had reached 318 pounds, and the last 20 pounds happened so quickly, it scared me. I felt like it had to change, but I was not very excited about working out or dieting. Not long after, Y-12 opened the LiveWise Centers.

“Working out on-site has helped me tremendously. I have co-workers who are always concerned when I am not there.”

The most challenging part: “For me, it was getting into a routine. I would look at people around me that looked to be in far better shape, and I felt like I was getting nowhere. This attitude changed as the weight began to come off.”

Advice to others: “The hardest thing is getting caught up in the end goal and losing hope. Start small and build on your successes. I have no magic secrets to how I lost weight; I just did it with exercise, diet and discipline.”

Eric Larson, Program Management

My motivation: “My weight had increased steadily over the last 20 years. In October 2011, I started going to my local gym and walking on a treadmill. Two weeks later, I began a Life Management session.

“I could not have maintained the will to diet and exercise without the Life Management weekly weigh-in. I use MyFitnessPal to keep track of food intake and exercise. I also use it to help me make better choices at restaurants. The support from my family, co-workers and the LiveWise staff has been instrumental.”

The most challenging part: “I had to learn what a portion size of food looked like. I discovered that a serving of rice is about fist-size. I was used to eating about three times that amount. I wasn’t eating the wrong foods — just too much of them.”

Advice to others: “Believe you can succeed in making positive lifestyle changes. Everyone has a different starting condition as well as goals.”

Chris West, SS&ES

My motivation: “I was pushing 40 and bigger than I had ever been. My goal was to live a healthier and happier lifestyle, to feel better about myself and to try to get my sons on the right track.

“Although I didn’t officially join Weight Watchers, I used the point system and started working out at the LiveWise facility every evening after work. I eventually started tracking my calories with MyFitnessPal.”

The most challenging part: “Staying motivated to work out every day was hard, but now I feel guilty when I don’t work out.”

Advice to others: “It helps to have someone to work out with daily. If you’re anything like I was and worry about people seeing your belly, don’t worry about it. No one will judge you for trying to get healthy and live a better life!”

Here, Jay Charette sports one of his larger shirts; he has now lost more than 100 pounds through diet and exercise. Right, from left: Chris West, Eric Larson and Jay Charette (with athletic trainer Kayla Kroeschen) are more than 280 pounds lighter thanks to the LiveWise staff and its willingness to help users by designing individualized diet and exercise programs.
Around Y-12 ...

- Jud Simmons has been appointed director for Public & Governmental Affairs. Simmons is public relations manager for The Babcock & Wilcox Company, primarily responsible for the company’s media relations efforts across its business units. He will be working at Y-12 for the next several months while the combined Pantex/Y-12 contract competition process is completed.

- Your annual benefit statement, which summarizes participation in company-sponsored benefit plans, is available electronically. Employees with a valid user ID and password can now access their benefit elections at any time via the Benefits website. At the site, look for the Employee Benefits Report link on the left-hand side of the page. The data displayed will be as is currently retained in SAP. If you have questions, please contact Benefits Service Center at 574-1500.

- Sarah Blakey of Projects received the 2012 Bechtel Project Controls Community Services and Humanitarian Pursuits Award. Blakey has volunteered for the Ruff Reading Program with the HABIT (Human Animal Bond in Tennessee) organization for more than four years. She and her dog Jenny work with special needs children through Ruff Reading Program. Teachers and parents have expressed their appreciation for the remarkable impacts she has made in their children’s lives.

- Y-12’s Clean Sweep Program helps make Y-12 areas shine. Gloria Mencer, the new coordinator, is excited about being a part of that team. “It’s great to be a part of an organization that has a direct impact on the needs of our internal organizations,” Mencer said. “Y-12 will always have a need to disposition items that are excess to our needs, and the Clean Sweep Program has the expertise to assist generators in dispositioning excess items with waste as a last resort.”

- Employees and subcontractors are reminded of their right to report environment, safety and health technical concerns not resolved through routine work processes. A differing professional opinion, or DPO, is an opinion involving a technical issue that: differs from previous management decisions, positions or established policies or practices; in the opinion of the employee, has not been adequately considered; and if not addressed, has a reasonable probability of having significant negative impact with respect to the environment, safety or health. More information about the DPO process is available at http://www.hss.doe.gov/nuclearsafety/qa/dpo.html. If you have any questions, call Jim Nobles (574-4199).

- Before you sign in to your social media account, keep these points in mind. Avoid reference to Y-12 tasks or responsibilities. Don’t reference any personal information, which could lead to identity theft. Avoid revealing any information about where you live or times and dates of activities that you will be attending; your house could be targeted while you are away. Avoid revealing information about your children; this could attract attention by child predators.

- To help employees conquer stress and make lifestyle improvements, LiveWise encourages participation in its fall class offerings. The Maintain Don’t Gain Challenge is set to begin Nov. 12 and continue through Jan. 10, 2013. Get encouragement to help you avoid the typical holiday-associated weight gain. For more information, watch YSource.

- A McMinn County credit union is warning East Tennessee residents about a new text message scam targeting debit card numbers. An official with Bowater Employees Credit Union said customers received a text message reading: “THE CREDIT UNION CENTER ALERT: Your CARD has been DEACTIVATED. Please call 423-665-1106.” Callers are asked to enter their 16-digit card number and then their PIN. Kim Gunter, the credit union’s VP of Marketing, said scammers send the texts randomly hoping recipients are members of a credit union and have a debit card. She recommends anyone receiving the text delete it and not call the number provided. Anyone who believes they may have fallen victim to the scam should call his or her financial institution immediately.

- Join the Y-12 Race for the Cure team Oct. 27 at the World’s Fair Park in Knoxville, Tenn. The 2012 Komen Knoxville Race for the Cure is quickly approaching, and we need your help as we race for the cure for breast cancer. See YSource to register for the team. Can’t make it Oct. 27? No problem — you can still join the team by registering as a “Sleep In for the Cure” participant. For more information, contact Bridget Correll Waller (241-4287 or 963-5659).

- The Office of Technology Commercialization and Partnerships, the group who guides Y-12 employees through all stages of patent, copyright and trademark applications, wants to hear from more Y-12 innovators. Manager Tammy Graham said anyone can innovate in the workplace; people can get started simply by paying closer attention to the results of problem solving and process improvements. “And don’t forget to send us your innovations on the Idea-EZ form (UCN-22339) so that we can look at it for potentially patenting,” she said. For more information, contact Graham at 574-2214.

- Correction: The September issue of The Y-12 Times incorrectly listed the Y-12 MEDIC blood drive date as Sept. 15–18. The correct date is Oct. 15–18. We apologize for the inconvenience.

In memoriam

Tony Lawhead of Projects passed away Aug. 25. He had nine years of company service.

He is listed as a member of the organization in which he last worked. Y-12 offers condolences to his friends and family.
Microsoft SharePoint 2010 makes it easier for people to work together. Using SharePoint 2010, you can set up Web sites to share information with others, manage documents from start to finish, and publish reports to help everyone make better decisions. At Y-12, SharePoint offers an enterprise solution to these needs and more.

Many of our sites are Team sites. The Team Site provides a Web-based interface that acts as a kind of “portal” to your information. There are numerous types of Team Sites that can be built on the fly (“no-code solutions”) in SharePoint, including content management (document workspaces, blogs, and even wikis), databases that can be published to the Web, collaboration sites, and meeting workspaces.

SharePoint sites are easy to use. That’s because SharePoint 2010 sites look and feel like a Web page, with links to information, tools and navigation like a Web page. SharePoint 2010 also works well with the Office tools we use most. The new Office Web Applications make it a snap to work with Microsoft Office documents directly in the browser while using SharePoint sites. “SharePoint makes my job 100 percent easier,” said one new user. “It’s a snap to use, helps keep me organized and takes the hassle out of working with large documents with multiple reviewers.”

Finally, SharePoint sites are easy to make. In fact, the full set of features in SharePoint 2010 sites can help anyone build a site from start to finish. Several out-of-the-box features provide instant value by helping a site owner build the first page right away. Still other features make it simple to modify pages — change content, add interaction, or apply a design theme. So, look for a SharePoint site near you.