

# the Y-12 times

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

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## ARRA team works >1 million safe hours, receives more funding

Y-12 reached two milestones in its cleanup work funded by the American Recovery and Reinvestment Act (ARRA). As of August, more than 1 million hours have been worked without a lost-time injury, and more than \$100 million of Y-12's ARRA funding had been spent. Overall, Y-12 has completed more than half its Recovery Act work with less than half the available funding.

"When you look at the timeline, we're about halfway into the program," said Bob Warther, vice president of Environmental Management. "Our projects, however, are more than halfway complete, and at the same time, we've used less than half of the taxpayers' money to do the work. We're working safely and compliantly without incurring any lost work days—our workers and subcontractors deserve all the credit."

Y-12 also received \$29 million in additional ARRA funding in August, bringing its total Recovery Act funding to \$245 million. The additional funding will be used to characterize the soil at the Old Salvage Yard (OSY). Based on the results of the characterization, Y-12 anticipates remediating those soils. Once work is completed, Y-12 will reevaluate whether funding is available to add further work scope.

Originally, Y-12 received \$216 million from ARRA to complete seven environmental projects: demolition of Building 9735, the 9206 filter house, and four buildings in the Biology Complex; disposition of legacy material from Buildings 9201-5 (Alpha 5) and 9204-4 (Beta 4) and the OSY; and remediation of storm sewers in the West End Mercury Area.

"We've reduced the Y-12 footprint by over 47,000 square feet by demolishing three buildings," Warther said, "and we've disposed of more than 20,000 cubic meters of waste. We've created 1,057 full-time equivalent jobs, with our subcontractors contributing 781 of those. We still have plenty of work ahead of us, but there's no question that we've made significant progress."



The ARRA project team's safety milestone is particularly significant given the historically high temperatures in which workers have been conducting cleanup and demolition tasks.



# Answers from the president

We're listening to our readers' responses: You like the questions and answers segment in **your** newsletter. If you have a question for Y-12 President and General Manager Darrel Kohlhorst or any other senior leadership team member, submit it to *The Y-12 Times*' editors, Amy Alley and Heidi Spurling (alleyab@y12.doe.gov; spurlinghw@y12.doe.gov). Questions will be answered by the appropriate manager and then published in upcoming issues of *The Y-12 Times*.

"I encourage you to submit your questions for me or any senior leadership team member. This column is a good communications tool for our employees," Kohlhorst said.

**Q:** Several of the employees in my group thought the No More Surprises communication was a great way to find out what was going on at Y-12. We realize that some topics got out of hand as being repetitive and some were not appropriate, but for the most part, information was gained through this means that the majority of the population may not have gotten otherwise. Some of the communication routes that are now being used do not always reach everyone. Is there a possibility of starting another communications channel similar to No More Surprises but with stricter guidelines (i.e., how many times questions on a subject can be asked or stating up front rules and/or boundaries for the types of questions and how many times variations of a question can be asked)?

—Janice Gardner, administrative support, Fire Protection Engineering

**A:** We stopped using No More Surprises as a communications tool because it detracted from a productive working environment. Open communications between employees and managers is something we want to maintain, so No More Surprises was replaced with the Q&A Connection. This communications tool is available to anyone with access to Y-12's intranet and provides an avenue to submit questions or raise concerns. While the preferred and often the most effective communication tool is through your supervisor or manager, the Q&A Connection allows questions or concerns to be quickly directed to the most qualified person for a response.

The Q&A Connection, combined with other communications tools we use at Y-12, such as YSource, *The Y-12 Times*, public address announcements, flyers, staff meetings, pre-job/crew briefings, etc., are all designed with communications in mind. As social media continues to gain in popularity among federal sites, I am confident Y-12 will offer new and improved communications tools.

**Q:** I have been employed at Y-12 for eight years. The longer that I am here, the more I realize the value of real life work experience in addition to my college education. In addition to the mentoring program for engineers, does or could B&W have a policy for new college graduates (i.e., engineers, computer science, etc.) to be assigned to work in a job-related operations area for a period of time early in their new B&W career?

— Chasity Lowery, configuration management specialist, Product Quality Assurance

**A:** When employees are hired, they are hired to fulfill specific jobs. If you are looking for a new challenge, you do have options on seeking other career opportunities. The internal posting process and the Job Rotation program both offer opportunities. You can apply for an internal position after you have been in your current job for one year from your effective date of transfer or hire. Resumes are accepted only in response to advertised job openings, and you should submit your resume via the E-Recruiting system. Go to the YSource index and type in E-Recruiting to visit the website.

Another option available is Job Rotation. This employee development program is designed to specifically increase and retain essential and critical job skills as well as promote professional growth. Visit the Job Rotation website (see YSource index) for more details. If you are interested in career planning/coaching, you should contact the Talent Management department (talent@y12.doe.gov).

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**EDITORS' NOTE:** In the United Way graphic (p. 4) of the August issue of *The Y-12 Times*, Morgan County was inadvertently omitted from the list of contributing counties. Total contributions of \$875,090 were correctly reported. Of that amount, Morgan County contributions totaled \$24,629.

# Road to recovery

Drive down Bear Creek Road and you can't miss the impact the American Recovery and Reinvestment Act is having on the Y-12 site. The transformation taking place is evident at the Biology Complex, situated about a half mile from the east entrance, where the project to demolish four deteriorating buildings continues.

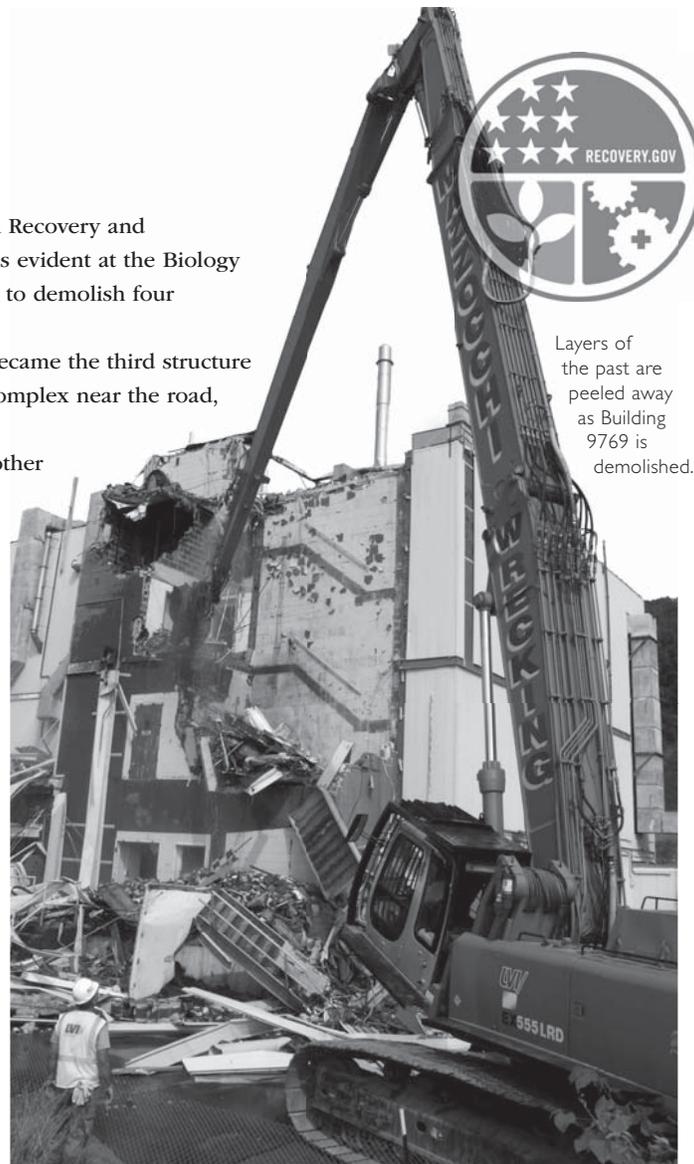
The most recent demolition began the week of Aug. 2 as Building 9769 became the third structure facing destruction. Because the three-story facility stands at the edge of the complex near the road, passersby have a clear view of the changing landscape.

"The Biology Complex demolition project is highly visible, unlike Y-12's other Recovery Act projects," said Bob Warther, vice president of Environmental Management. "Although the other six projects are making significant progress, this project is the only one in which employees can actually see the progress being made as they enter and exit the plant."

Built in 1945, Building 9769, with its large black exhaust stack, was part of a group of buildings that formed a large chemical processing area. Through the years, numerous additions and alterations were made to the structure. For instance, the smoke stack was removed, the windows were bricked up and the building's shell was "upgraded" with metal wall panels. Such modifications served to support the ever-changing operations within.

The building was used for uranium recovery operations, as an animal receiving and holding facility for Oak Ridge National Laboratory, as a non-nuclear chemistry laboratory and as offices. It housed one of the first steam plants at Y-12 as well.

In the coming weeks, approximately 5,300 cubic meters of waste from the demolition of the 20,050-square-foot facility will be disposed from the site. This fall, Y-12 will demolish Building 9211, the last and largest of the four buildings comprising the project. The other buildings, 9224 and 9220, were torn down June 9 and July 16, respectively.



Layers of the past are peeled away as Building 9769 is demolished.

## The business of helping veterans

Y-12 subcontracted \$170 million to small businesses in fiscal year 2009.

"Small business is the backbone of the American economy," said Y-12's Bill Klemm in his welcome to attendees at the largest-ever East Tennessee Veterans Business Conference. Klemm, also a U.S. Navy veteran, spoke about the importance of this annual conference that connects veteran-owned small businesses to Y-12 and other government work.

Y-12 hosted the Aug. 2-3 conference at New Hope Center along with 24 partners and sponsors. Motivational speaker James Amps III provided the keynote address, including the challenge, "If you want something that you've never had, you have to do something that you've never done."

Attendees learned about navigating government contracts in sessions covering topics such as contracting with U.S. Department of Energy prime contractors, doing business with Fort Campbell and the standing-room-only "Teaming/Joint Venture Agreements."

"The procurement process can be confusing for a new business or one that's just entering the government world," said Gloria Mencer, Y-12's Socioeconomic Programs manager. "We hope to simplify the process and let folks know what they need to do to work with us at Y-12 and with our other federal, state and local entities in the region."

This year's event had 710 attendees, nearly double last year's attendance numbers. Mencer attributed the high attendance to the many conference partners who helped get the word out. "We started this conference with the idea that many would take an opportunity to help our veterans, and we were right," said Mencer. "The veteran small business owners greatly appreciate our support, and we will do all we can as long as we can with this conference."

# High-risk job leaves no room for mistakes

The task of supplying power to a complex with a population of 4,500+ can seem daunting. From the time the power is generated by the Tennessee Valley Authority to the time you turn on a light in your work area involves many steps, even more people and—as you can imagine—many risks along the way.

The Oak Ridge Reservation Power Operations group is responsible for ensuring steady, dependable power to the Y-12 site, and they recently celebrated a 9-year Target Zero accident record. When asked how they've maintained this outstanding record in such a high-risk job without so much as a first-aid incident, their response was simple: make as few mistakes as possible.

“If you make a mistake in this kind of work, it could cost a life. Sometimes there are no second chances,” said crew member Gary Bolin. Supervisor Karla Wright says it's the teamwork and family-like atmosphere that keeps them on their toes.

“They each take ownership and responsibility for their own actions as well as those of each other. They are a team and a family, and they constantly remind each other to watch for hazards,” said Wright.

While the milestones are nice, their motivation is returning to their families safe and sound each day...both their work families and those at home.



Standing behind supervisor Karla Wright are crew members Gary Bolin, Joe Williams, Patrick Hubbard, Wayne Russell, Billy Hyde and planner Daniel Diden. Not pictured: Maury Anderson, Ronnie Barbra and Mike Hitson.

## Technology available for licensing

Imagine being on security patrol in the desert of Afghanistan. The weight of your body armor and gear top 70 pounds. What if you could cut that weight by half and still have full protection? With Code 4 Armor™ that may be possible.

“From a materials science perspective, Code 4 Armor™ is better than conventional armor,” said Ed Ripley, a nuclear metallurgist in Applied Technologies. Compared to steel armor, it's estimated that Code 4 would be 50 percent lighter, more comfortable (at two-thirds less bulk) and custom fitted. Another advantage is that Code 4 can sustain multiple hits, or bullets. “The strain on one side of the material is relieved by tension on the other side, so the armor can withstand an impact without breaking or tearing,” said Ripley.

Code 4 is a police term that means “situation under control; no assistance necessary.” The technology emerged from Y-12's work in developing a full-scale prototype propulsor for the U.S. Navy's *Seawolf* submarine. Code 4 Armor™ is now available for commercial licensing, but further development and testing will be required for each specific application. Potential customers include federal and state governments and the military.

Anyone who wears a helmet or body armor at work—police officers, security personnel or counterterrorism agents—could benefit from this new shielding. Manufacturers of helmets, padding and other sports equipment may benefit from this technology as well.

To further develop this patent-pending technology, a Cooperative Research and Development Agreement or Work for Others arrangement with Y-12 is possible. “We are looking for a partner who will fully commercialize this technology,” said Gina Davis, director of Marketing and Commercialization for Y-12's Office of Technology Commercialization and Partnerships.

Code 4 technology relies on cermet, a composite material composed of ceramic (cer) and metallic (met) materials. Body armor (below) is a possible use.



# Tracking process improves accuracy, protects workers

Most of us can usually find those items we use every day—cell phones, keys. But how do you fare when locating those less frequently used items, like the winter gloves you wore once 10 months ago?

When Nuclear Materials Control and Accountability (NMC&A) implemented Safeguards First Principles Initiative, or SFPI, in 2008, the length of time between inventories was extended from two to six months. With the potential for thousands of special nuclear material transactions per month, tracking material is infinitely more complex than finding your gloves at the back of the closet.

SFPI realized significant cost savings by reducing the need to stop operations and perform inventory. However, with the potential for three times as many transactions between inventories, accurate tracking in the intervening period was imperative.

While tracking down personal items can be frustrating, personal protective equipment and accountable removable electronic media, or ACREM, are typically not required. These two factors made the process ripe for improvement.

“Ideally, tracking would be accomplished wirelessly, but we’re not there yet. I wanted something that could be accomplished now ... within current security parameters,” said an NMC&A computing specialist. Working with the Classification Office, the NMC&A team developed a process to capture unclassified location data via an unclassified barcode scanner and transfer that information to the classified accounting system.

Eliminating ACREM greatly streamlined the tracking process. After a six-month pilot in a processing material balance area, an NMC&A program compliance manager noted that the process attained 100 percent accuracy for nine consecutive weeks.



The Nuclear Materials Control and Accountability organization uses a bar-code reader to facilitate improvements in special nuclear material tracking and worker safety (by decreasing exposure).

## Potable water project complete

A critical improvement to Y-12 operations has come online with this summer’s startup of a new potable water system that includes two prominent, 220-foot-tall water towers and more than a mile-and-a-half of newly installed water lines.

“The project has allowed us to improve our water supply system and also to make essential repairs to the distribution system throughout Y-12,” said Melissa Blair, project manager.

The \$62.5 million Potable Water System Upgrades Project provides a more reliable long-term water supply. In addition to 8,360 linear feet of newly installed piping, 3,800 linear feet were replaced, and another 2,115 feet were cleaned and lined.

The Y-12 site was built as part of the World War II Manhattan Project. Original cast-iron water mains and laterals that had deteriorated were either repaired or replaced. Sprinkler systems that contain antifreeze were modified to include a backflow preventer to ensure no cross-connections with potable water. Fourteen antifreeze loops were severed from the water supply, and

the antifreeze was drained to eliminate the possibility of cross-contamination; 52 backflow preventers were installed.

The most visible features of the project are the two water towers, each holding two million gallons. They are similar to those many cities across the country use to supply drinking water. “The height of the towers allows greater water pressure, which provides a more reliable source of water for all areas of the site,” said engineer Jeff Coppala. The site uses potable water for operations, as well as drinking water.

This project is another success story in the transformation of Y-12. Earlier this year, Y-12 brought a new natural gas-fired steam plant online to replace a coal-fired plant in operation since the 1950s, significantly reducing greenhouse gas emissions. The site also began operating the new Highly Enriched Uranium Materials Facility in January, providing safe, secure, efficient storage for the nation’s supply of highly enriched uranium.

# Meet the LIFE Center staff

You've heard about the LIFE Centers from co-workers and reading the articles on YSource. Who are these athletic trainers, dietitians and the physical therapist hoping to help employees improve lifestyles? They are subcontractors with Oak Ridge's Methodist Medical Center and reside in one of the Y-12 LIFE Centers. Get to know them and their goals for Y-12 employees.

**Robert Eichin – licensed athletic trainer**

"Educating employees and finding out what their bodies need are my goals."

**Gary Hall – physical therapist**

"I want to assist employees by designing and implementing an exercise regimen so they can participate fully in their off-duty hobbies and activities."

**Jennifer Jefferis – licensed athletic trainer**

"I want to get every employee on board with the LiveWise program and keep them motivated."

**Marie Keith – registered dietitian and certified diabetes educator**

"The biggest challenge for me is getting employees to understand that healthy eating is not about going on a diet or following a strict eating plan—it is about a lifestyle, where anything can fit in moderation. Dietitians are NOT the food police—they are to provide guidance to a healthier eating plan."

**Kayla Kroeschen – licensed athletic trainer**

"It will be our job to help keep employees motivated while they take advantage of the convenience of an on-site fitness center."

**Karen Lacey – registered dietitian**

"I want to help employees come up with strategies to fit fitness and nutrition into a 10-hour workday."

**Jeremy McMichael – licensed athletic trainer**

"If you have questions for us, please ask. We're here to help you."

**To speak to one of the LiveWise staff, contact them at 574-6670.**



Standing from left: Jenni Jefferis, Marie Keith, Gary Hall, Jeremy McMichael and Karen Lacey  
Sitting: Robert Eichin and Kayla Kroeschen

# Fee gives back as public education advocate

You could say Gordon Fee thinks and breathes public education. Since retiring as Y-12 plant manager in 1997, he has devoted much of his time to improving Tennessee's schools.



Retiree Gordon Fee stays busy by helping improve Tennessee schools.

He first joined the Tennessee Business Roundtable

Education Committee while at Y-12 and is currently chairman. That committee brings together business and community leaders to promote better educational opportunities for all of Tennessee's children and youth.

He gives credit to former Martin Marietta CEO Norm Augustine for lighting the fire of community service in him years ago: "Norm emphasized that we have more to do in the world than go to work every day, and I took that to heart."

A list of Fee's activities is indeed extensive. He is co-chairman of the Public School Forum of East Tennessee and serves on the Master Plan Steering Committee for the Tennessee Higher Education Commission, Board of Distinguished Professionals Education Institute, and Dean's Advisory Committee for the College of Arts and Sciences at the University of Tennessee.

Fee mentions efforts on Tennessee's School to Work Program and legislation to increase standards in kindergarten through 12th grade as his biggest accomplishment. "This fall high school test scores will be available," he said, "and parents and teachers will be able to see how well our kids are learning."

What else does he do? Well, he is chief financial officer for Fee Hedrick Family Entertainment Group in Pigeon Forge, builds circus models and travels to the Caribbean about four to six weeks a year.

"Any one of my interests could consume me full time," said Fee. "I really don't have time for retirement."

## Around Y-12 ...

- **Chemist Ron Simandl is the B&W Y-12 Defense Programs Employee of the Quarter. Simandl's ingenuity and technical expertise in surface chemistry have led to significant improvements in Y-12's production processes and productivity.** His Defense Programs contributions include developing a new method for de-bonding assembled components that uses infrared heating, which more than doubled the weapons dismantlement rate; adding a special surfactant to improve the cleaning of machining chips; and putting an important production machine back in service by removing surface contamination using his R&D 100 Award-winning, special tack cloth (SIMW<sub>y</sub>PEST™).
- **Vice President Butch Clements was presented the pen used by Thomas D'Agostino to sign the National Nuclear Security Administration's Policy Letter on Physical Protection—or the NAP—because of the significant role Y-12 played in its development.** For more information on NAP implementation at Y-12, see the October issue of the *The Y-12 Times* and YSource.
- **Catherine and Emily Backus, daughters of Anne Backus, Y-12 program manager, and Grace Prazniak, daughter of John Prazniak, Y-12 chemical process supervisor, were the recipients of 2010 Babcock & Wilcox scholarships.** The company awards 15 scholarships based on academic achievement, aptitude test scores, financial need and the relevance of the student's course of study to the company's business. Each student will receive \$1,500 per year for up to four years of college-level study.
- **The University of Tennessee is offering Y-12 employees discounted football tickets to the Sept. 25 University of Alabama at Birmingham (UAB) game and the Nov. 27 Kentucky game, both at Neyland Stadium.** Tickets for UAB are \$20 each and \$25 for Kentucky, a savings of 50 percent off the regular price. This exclusive offer for Y-12 employees is available on a first come, first served basis. Purchasing UT football tickets must be on employees' own time from their home computers. For information on purchasing tickets, visit YSource (<http://ysource.y12.doe.gov/news/announcements/post.php?id=2367>).
- **Y-12 President and General Manager Darrel Kohlhorst and the Y-12 Site Office's Acting Deputy Manager Dan Hoag helped unload approximately 1,781 pounds of food donated by Y-12 employees to Second Harvest Food Bank.** The pair also brought \$4,239.35 in employee donations. The delivery on July 28 was a combination of B&W Y-12's United Way "Days of Caring" efforts and the Y-12 Site Office's Feds Feed Families campaign, which is a nationwide government effort to assist local food banks in replenishing their supplies during the summer months. Second Harvest provides food to people in 18 counties, and the agency is expected to distribute a record-setting 15.3 million pounds of food this year.
- **As part of the Y-12 2010 United Way campaign, employees brought in more than 2,400 school supplies for Aid to Distressed Families of Appalachian Counties (ADFAC) July 14 and 15.** In addition, cash contributions totaling \$2,087.30 were collected from employees. Supplies collected for area schoolchildren include 159 packs of notebook paper, more than 300 spiral notebooks, 362 pens, 224 boxes of crayons, approximately 378 glue sticks and bottles of glue, more than 170 packs of pencils, 115 boxes of colored pencils, more than 200 rulers and 47 backpacks.

## SERVICE ANNIVERSARIES



### SEPTEMBER

#### 44 years

Engineering: **Kerry A. Maulden**

#### 43 years

Maintenance Support: **Douglas H. Kitchen**

#### 42 years

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

#### 41 years

Production: **Pete D. Psihogios**

Programs and Quality: **Robert M. Jones**

Resource Management: **Argil R. Burress**

#### 40 years

Engineering: **Bernard G. Keylon Jr.**

Production: **Phillip A. Smallen**

Programs and Quality: **Terry A. Chance** and

**Maurice K. Waters**

Public and Governmental Affairs: **D. Ray Smith**

Resource Management: **John P. Clark, John C.**

**Leatherwood Jr.** and **Jerry R. Nichols**

#### 35 years

Engineering: **Roger D. Spence**

Production: **James E. Wicker**

Resource Management: **Kenneth T. Brown** and

**Steven R. Jones**

Safeguards, Security and Emergency Services: **Joe R.**

**Gouldy** and **Randy M. Johnson**

Utilities Management: **Gary H. Simon**

#### 30 years

Applied Technologies: **Christopher P.**

**Boring**

Benefits Service Center: **Kathy B. Keathley**

Engineering: **Curtis A. Hedrick**

Industrial Hygiene: **Robert T. Ford**

Information Technology: **Michael D. Brandon**

Programs and Quality: **Brenda L. Mitchell**

Projects: **Wen Thomas**

Safeguards, Security and Emergency Services:

**Vivian K. Chandler**

#### 25 years

Information Technology: **James L. Pugh** and

**David A. Savoie**

Performance Assurance: **Carol A. Burditt**

Projects: **Thomas W. Morris**

#### 20 years

Communications Services: **Charles E. Hembree**

Information Security: **Arlene B. Tapp**

Information Technology: **Stephen A. Underwood**

Production: **Michael J. Fierley** and **Ted D. Johnson**

Program Analysis & Evaluation: **Steve W. Payne**

Projects: **Dale A. Donald**

Radiological Control: **Richard M. Leach** and

**Jenny M. Mullins**

Resource Management: **James L. Gunter, Cleon S.**

**Hartman II** and **Dennis W. Henegar**

**Greater Knoxville  
Start! Heart Walk**

**Sept. 26**

2 p.m.  
World's Fair Park

Contact: Mary Benton  
576-7251

**Walk for Diabetes**

**Oct. 16**

World's Fair Park

Contact: Joe Cunningham  
576-7616

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# The chips are down

Anyone who has ever tried to untangle a ball of yarn has an idea of the challenge posed to machinists who are faced with a tangle of metal shavings. Machining operations that involve turning or boring of ductile metal parts on a lathe produce long, continuous shavings known as chips that frequently become entangled in a "bird nest." The bird nest can damage the machinery, cause a significant safety hazard to the machine operator and complicate cleanup of the work space.

Bill Barkman and Ed Babelay of Y-12 and a team from the University of North Carolina at Charlotte took on the challenge of finding a way to break up the chips into smaller pieces and avoid the tangles.

Their solution is the Modulated Tool-Path Chip Breaking System. The researchers used computer modeling and simulation to produce a chip

breaking motion that allows users to create predetermined chip lengths. The collaborative effort has resulted in demonstrated success, with a couple of patents pending and an R&D 100 Award from *R&D Magazine*.

The Modulated Tool-Path Chip Breaking System consistently creates the desired size of broken chips and avoids those nasty bird nests.



Y-12's Modulated Tool-Path Chip Breaking System, winner of an R&D 100 Award, is a chip breaking solution for machining operations that create continuous chips that can damage the workpiece or machine tool and pose hazards to the machine operator.