

# Blue Grass *exchange*

A Partnership for Safe Chemical Weapons Destruction



July-September 2010

IN THIS ISSUE

Messages From the Managers  
page 2

Quarterly Status Update  
page 3

Quality [kwol-i-tee] -Noun: High Grade;  
Superiority; Excellence  
page 4

Project Employees Focus on Quality  
page 5

Response Team Won't Leave You Hanging  
page 6

Internship Program: A Win-Win  
Opportunity  
page 7



Blue Grass Chemical Agent-  
Destruction Pilot Plant

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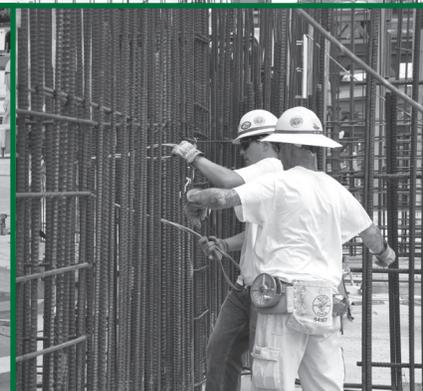
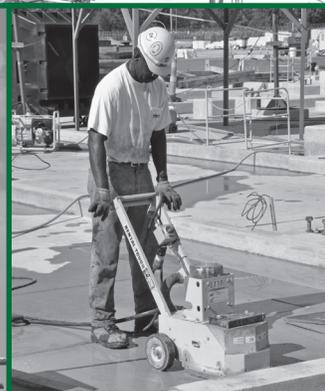
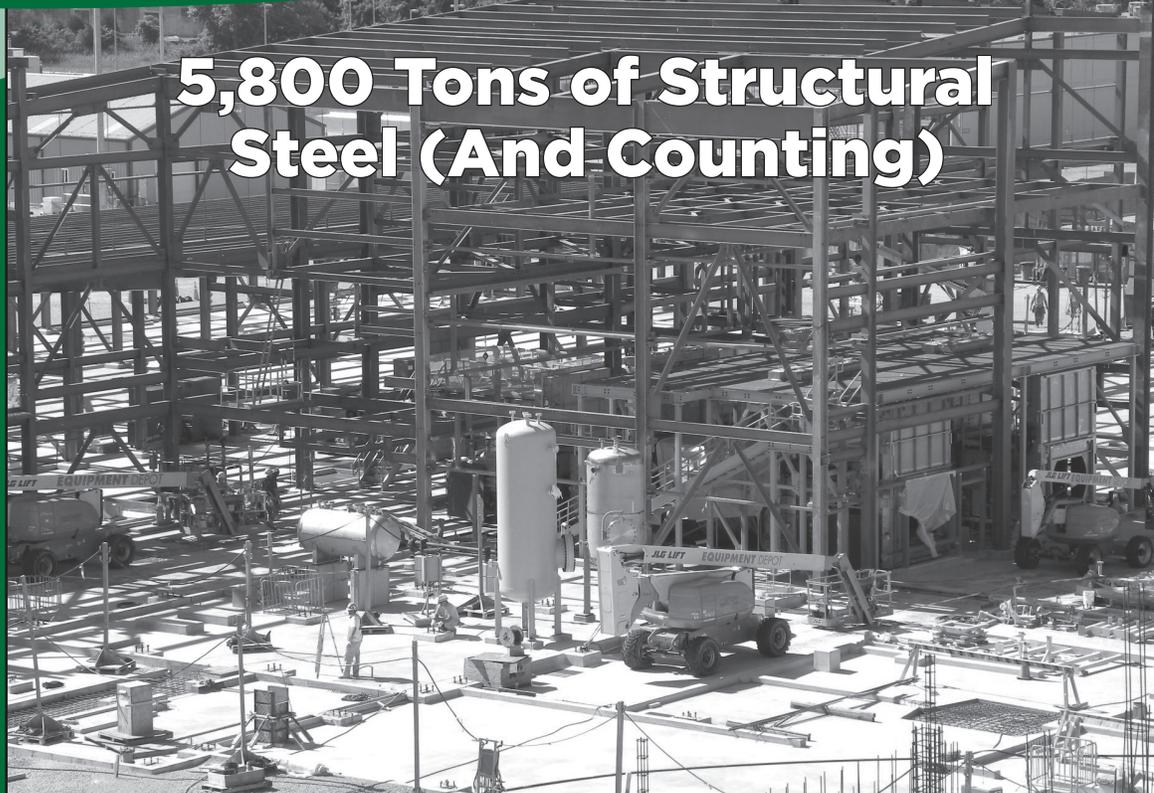
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[www.pmacwa.army.mil](http://www.pmacwa.army.mil)

## 5,800 Tons of Structural Steel (And Counting)



Many materials including 5,800 tons of structural steel and 3,050 tons of reinforcing steel as well as thousands of man-hours have gone into the construction of the Munitions Demilitarization Building (MDB) so far. Work is progressing rapidly—the foundation is complete and the first vertical structural steel and reinforcing steel for hardened-area walls have been installed. The Metal Parts Treater, which will thermally decontaminate metal parts from the Energetics Batch Hydrolyzer and secondary waste, was assembled on the MDB foundation and then enclosed by structural steel (top photo). Further concrete placement will form walls around the areas of the MDB where munitions entering the facility will be processed. Quality assurance has been built into every step of each process, and quality control inspections assure project excellence.

## Messages From the Managers



By JEFF BRUBAKER  
Blue Grass Chemical  
Agent-Destruction Pilot  
Plant Site Project Manager

In June 2010, our systems contractor, Bechtel Parson Blue Grass, submitted the final design packages for the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP). And I am pleased to announce that now, with the government team's final acceptance, BGCAPP design is complete. This is a significant step in achieving our mission of safely destroying the Blue Grass chemical weapons stockpile and I thank all the hard-working men and women who made it happen – it is truly a testament to the quality of work performed at Blue Grass.

Quality is a cornerstone of my management philosophy, and is a key ingredient of our safety culture. Quality staff, designs, building materials and workmanship all play a role in creating a safe work environment and maintaining construction momentum. Recent accomplishments include the completion of the foundation work for the Utility Building as well as horizontal concrete on the plant's main processing building, the Munitions Demilitarization Building. Our progress is a direct result of our project team's attention to detail and focus on excellence.

The men and women who make up the BGCAPP team and who serve as the driving force behind these milestones are committed to building the safest, most structurally sound and operationally efficient pilot plant possible. Our team includes staff whose jobs are 100 percent focused on maintaining quality for all aspects of the project. These folks work endlessly to integrate quality programs and processes that afford the BGCAPP team the resources needed to be proficient and thorough in their day-to-day jobs.

This edition of the *Exchange* will highlight some of our quality-focused staff and their contributions to the BGCAPP project. I'd like to take this opportunity to thank them and the entire BGCAPP family for all the work under way to maintain the highest of standards. Their discipline directly impacts our mission and has thus far produced a multitude of positive results, most evident in the changing landscape of the construction site. As they continue to take pride in the important work they do each day here at Blue Grass, they are making our community, the nation and the world a much safer place.



By MARK SEELY  
Bechtel Parsons Blue  
Grass Project Manager

Visit any large construction site and you'll probably see a sign saying, "Safety is no accident." The same can be said for quality.

If you visited the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) construction site today you'd see ironworkers installing some of the thousands of pieces of structural steel that go into the Munitions Demilitarization Building. It's no accident that the beams fit

together as designed when an ironworker bolts them into place. It's the result of a quality process that started before an engineer ever produced the first drawing and continues until the ironworker completes his job.

At Bechtel Parsons Blue Grass, we define quality as meeting or exceeding customer expectations by delivering all requirements right the first time. And while the federal government is our direct customer, we have many others including the surrounding community, elected officials, regulators, citizen advisory boards, the Blue Grass Army Depot and the Blue Grass Chemical Activity, to name a few. All these customers rightfully expect us to deliver a quality product.

To meet these expectations we start with good planning, apply effective tools, and analyze data. Our quality requirements are based on industry codes and standards, laws and regulations, proven and ethical business practices, and customer requirements. Project execution plans, standard work processes, and procedures to manage the creation and flow of technical information are all part of the process of ensuring quality. Tools include leading indicators and Six Sigma to streamline work processes, and Performance-Based Leadership to create a work environment that capitalizes on the skills of all the team members.

Our pledge to all our customers is that we will design, build, and operate the Blue Grass Chemical Agent-Destruction Pilot Plant in a manner that meets or exceeds their expectations for safety, quality and efficiency. And, if you ask our customer how we're doing thus far, he will tell you he's very pleased with the quality of work to date.

## Quarterly Status Update

By JOHN SCHLATTER  
Bechtel Parsons Blue Grass

This section provides overview information to keep you updated on the progress of the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP).

### Facility Design

BGCAPP design was completed in July.

### Construction

Work progresses at the BGCAPP construction site, with the following projects ongoing:

- Munitions Demilitarization Building blast walls
- Utility Power Centers
- Fire Water Pump House
- Utility Building
- Supercritical Water Oxidation Processing Building foundation

### Project Staffing - Richmond, Ky.

- Total employment: 571 (51 percent local hires)
- Non-manual personnel: 359
- Manual personnel: 212

### Acquisitions

More than \$61 million spent with Kentucky companies since project inception.

## Milestone: Pilot Plant Design Complete



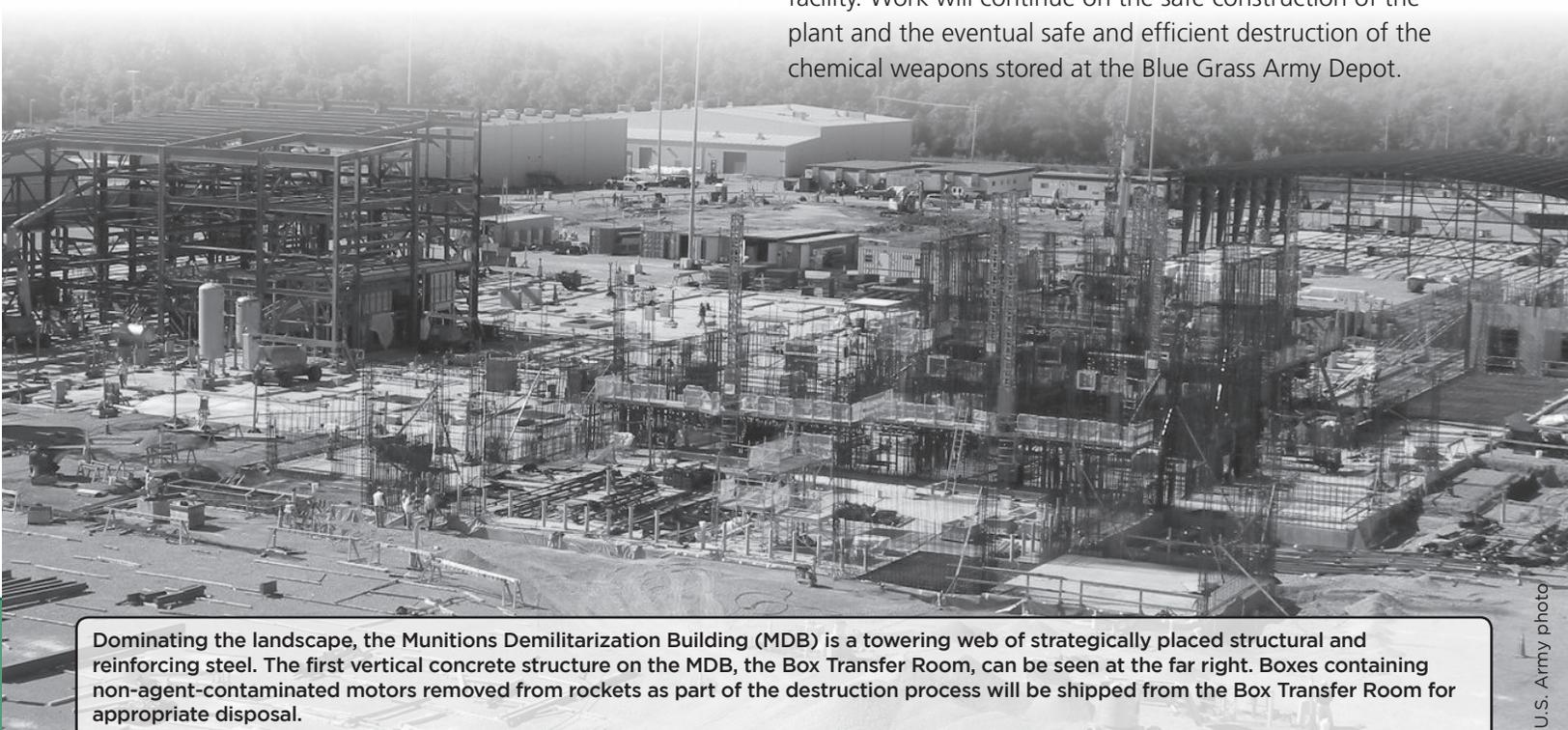
The Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) team reached another significant milestone in July with the completion

of all engineering design packages for the plant.

Each of BGCAPP's facilities were designed by project engineers, who planned everything from the foundation to the plumbing for each structure. Contractor and government experts reviewed and approved these plans before releasing them for construction.

The design process was planned to develop the site infrastructure and three main processing buildings first. The construction team then acted on these designs, making significant progress on core facilities while engineers continued design work for support facilities. This phased approach saved both time and money by allowing construction to begin as early as possible.

With BGCAPP design complete, we have checked off another major accomplishment in the process of completing this facility. Work will continue on the safe construction of the plant and the eventual safe and efficient destruction of the chemical weapons stored at the Blue Grass Army Depot.



Dominating the landscape, the Munitions Demilitarization Building (MDB) is a towering web of strategically placed structural and reinforcing steel. The first vertical concrete structure on the MDB, the Box Transfer Room, can be seen at the far right. Boxes containing non-agent-contaminated motors removed from rockets as part of the destruction process will be shipped from the Box Transfer Room for appropriate disposal.

U.S. Army photo

## Quality [kwol-i-tee] -Noun: High Grade; Superiority; Excellence

By JOHN SCHLATTER  
Bechtel Parsons Blue Grass

With structural steel rising from foundations at the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) construction site, the beams and girders are a highly visible sign of progress. Less visible, but equally important, are the project's quality programs that ensure structural steel and thousands of other components meet quality standards.

For the BGCAPP team, quality begins with Department of Defense Order 5000.2-R, which sets the standard for quality programs on the project. Systems contractor Bechtel Parsons Blue Grass uses a variety of tools to implement this order, including:

- Quality Absolutes — actions and behaviors to meet or exceed customer expectations by delivering all requirements right the first time
- A Quality Management Plan describing in detail how the organization ensures the quality of products and services
- Construction Quality Plan to ensure that work is being properly performed and documented in accordance with contract technical and quality requirements
- Processes and implementation of procedures that prescribe how work will be performed
- Surveillances and audits to identify problems, determine corrective actions, and verify that corrective actions are implemented
- Inspections to verify that materials meet design specifications and are installed properly

The BGCAPP quality program utilizes both Quality Assurance (QA) and Quality Control (QC). These are defined

by the American Society for Quality as:

- QA: The planned and systematic activities implemented in a quality system so that quality requirements for a product or service will be fulfilled.
- QC: The observation techniques and activities used to fulfill requirements for quality.

Using structural steel as an example, quality was built into every step from design through installation. The process of ensuring quality began during design with engineers using standard processes, required codes and procedures to guide their design work. Once the design was complete, Engineering turned the design package over to the Procurement organization to select a vendor. In developing the list of qualified vendors, Procurement verified that potential bidders had an adequate quality assurance program and capability before placing them on the bid list.

Once Art Iron of Toledo, Ohio, was selected through competitive bidding, Bechtel Parsons assigned a Supplier Quality representative to work at the vendor's facility during fabrication. He conducts an oversight operation on all materials fabricated at their shop. Once the inspection is complete and the material is found to be satisfactory, the inspector releases the material for shipment to the construction site.

As the more than 9,000 pieces of steel arrive on site, quality control inspectors check them against the design before final acceptance. And finally, as ironworkers erect the steel, construction QC inspectors verify that proper techniques and equipment are being used.

All these facets of the quality program have one goal – to deliver a quality product that is right the first time.



Photo by Susan Kahler

Walk-downs, where existing construction is reviewed and inspected, and pre-planning meetings, where upcoming activities are discussed, are common at the pilot plant construction site. Here, project staff from Bechtel Parsons Engineering, Construction and Labor plan for an upcoming vertical wall concrete placement for the Munitions Demilitarization Building.



Photo by Susan Kahler

Specialists from AMEC, an independent construction support services company, perform a slump flow test to check the consistency of the concrete to be used in the vertical walls of the Munitions Demilitarization Building. Concrete that does not pass this quality check will be sent back to the supplier.

## Project Employees Focus on Quality

By DEBRA HOGAN  
Blue Grass Chemical Stockpile Outreach Office  
and JOHN SCHLATTER  
Bechtel Parsons Blue Grass

Getting the job done right the first time, through proper research, pre-planning, planning, review and execution is the rule, not the exception, for ensuring quality at the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP).

“It’s about building a first-rate facility to destroy the chemical weapons for the safety of the residents of Madison and surrounding counties as well as for the workforce,” says Aaron Renfro, U.S. Army Corps of Engineers (USACE) civil engineer.

Ensuring quality “saves time, money and even boosts employee morale,” according to Jim Harris, USACE quality assurance manager. “It’s much more difficult to have to correct deficiencies than it is to take the necessary time to make sure it gets done right the first time.”

“To me, quality in the work is taking the extra effort to make it something we can all be proud of when it is completed,” says Steven Reed, Bechtel Parsons Quality Control Engineering Mechanical/Piping/Welding field engineer. “I hear from the construction workers and vendors that this project’s



U.S. Army photo

Quality inspections are a constant practice at the pilot plant construction site. Jim Harris, left, U.S. Army Corps of Engineers quality assurance manager, discusses the installation of a component of the Metal Parts Treater with Terry Stroschein, Corps resident engineer.

work is being held to higher standards than they have ever worked to. I explain to them that we are working to Bechtel’s quality standard and that means quality will be in everything we do.”

Fred Dryden brings a wealth of experience to his BGCAPP role of senior quality assurance engineer. “I’ve been with Bechtel 29 years, including 20 years in supplier quality in both home office and field assignments,” he explains. “To me, quality is giving the customer the right product at the right time at the right price. I am continually impressed with the quality at the BGCAPP site.”



Photo by Susan Kahler

The intricate design and construction of the Munitions Demilitarization Building (MDB) requires careful inspection to ensure the work is of the highest quality. Here, Steven Reed, Bechtel Parsons Quality Control Engineering Mechanical/Piping/Welding field engineer, checks welds on a blast door recently installed on the MDB.

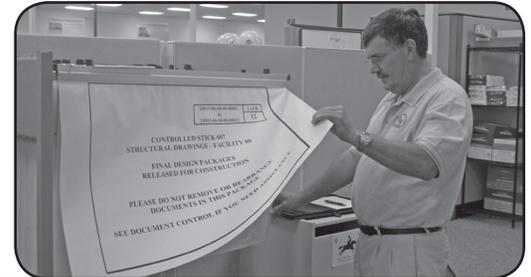


Photo by John Schlatter

Exhaustive review of project documentation is second nature for Fred Dryden, Bechtel Parsons senior quality assurance engineer. Dryden works with several project departments, including Engineering and Operations, to ensure that processes and procedures are followed in designing the plant and planning for operations.



Construction of the pilot plant requires coordination between many divisions, departments and people. Aaron Renfro, left, U.S. Army Corps of Engineers civil engineer, confers with Meg McKinney, center, Corps contract administration co-op, and Cheryl Leeper, Corps contract administration chief, about Munitions Demilitarization Building structural steel specifications.

## Response Team Won't Leave You Hanging

By CHRIS HIGGINBOTHAM  
Blue Grass Chemical Stockpile Outreach Office

Randy is hanging motionless from a steel beam. A slender cable and his safety harness are the only things keeping him from plummeting more than two stories to the concrete floor of the Blue Grass Chemical Agent-Destruction Pilot Plant's (BGCAPP) Control and Support Building.

On the ground, Emergency Preparedness Manager Steve Parker and his Rescue at Elevation Response Team rush to set up an anchor and a progress control device to lower him to safety. They don't know how Randy managed to get into this predicament, but they know they need to get him down quickly.

Luckily, this is only an exercise and Randy is just a 200-pound mannequin.

The Rescue at Elevation Response Team is a group of seven volunteers with various backgrounds, including avid rock climbers, volunteer firefighters and combat medics. It's a new initiative at BGCAPP, and it's part of an already effective safety campaign.

"We want to make sure that we are prepared for anything and can help if we have a safety issue with a worker who is unreachable by ladder," Parker said. "The walls of the pilot plant are growing taller every day and we won't be able to get a mechanical lift in some places," he said.

The team trains weekly on ropes, harnesses, knots and other climbing-related equipment. The idea is to be able to use the equipment to safely lower a worker to the ground. Any worker performing tasks above the ground wears a safety harness attached to a solid mounting point, but if he misses a step, he will still be left dangling at the end of that harness until help arrives.

"If a guy falls, he could wind up between beams with no way to pull himself up," Parker said. That's when the team gets notified. According to Occupational Safety and Health Administration requirements, they only have minutes to respond.

BGCAPP has a reputation for being committed to safety, and leaders were focused on making sure the project was prepared for an elevated emergency. Josh Spicer is a foreman on the site and also



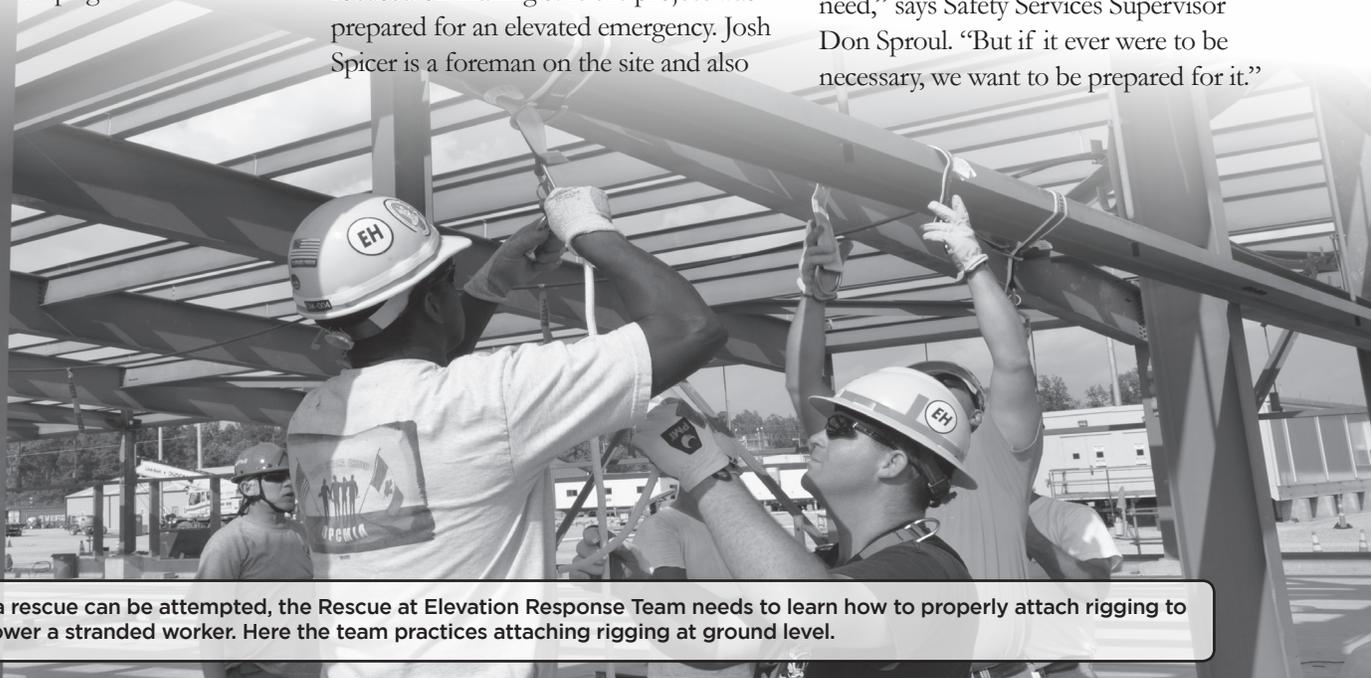
Photo by Chris Higginbotham

**Rescue at Elevation Response Team members look over their equipment before lowering Randy to safety. The team puts the whole process together in training to make sure everyone's ready if they're ever needed.**

volunteers with a nearby fire department. He said that when he and other workers approached leadership about buying the necessary equipment for the team, there was no pushback.

"That was important," Spicer said. "It showed that they really walk the walk out here."

"This is something we'll probably never need," says Safety Services Supervisor Don Sproul. "But if it ever were to be necessary, we want to be prepared for it."



Before a rescue can be attempted, the Rescue at Elevation Response Team needs to learn how to properly attach rigging to safely lower a stranded worker. Here the team practices attaching rigging at ground level.

## Internship Program: A Win-Win Opportunity

By SUSAN KAHLER  
Blue Grass Chemical Stockpile Outreach Office

“How can I stand out in the most competitive job market in recent years?”

This is a familiar refrain for the Class of 2010 and for thousands of college students preparing themselves for life after graduation. The Blue Grass Chemical Activity (BGCA) and Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) give students opportunities for professional development with annual summer internship programs that are facilitated through several different colleges and universities.

***“It’s very cool to see the project using specific processes to create safer ways to achieve its goals.”***

**- Alyssa Marcischak,  
Blue Grass Chemical  
Agent-Destruction Pilot  
Plant intern**

Between BGCA and BGCAPP, 22 students served as interns this summer, hailing from in- and out-of-state schools alike, including Eastern Kentucky University, University of Kentucky, University of Houston, Pennsylvania State University and University of Illinois.

The internship program is a win-win opportunity for all. Students get real-world experience in fields related to their majors. They learn goal-setting in a business environment, presentation skills and many other things that will help them get a jump on entering the workforce after graduation.

The benefits the chemical activity and pilot plant gain are enthusiastic assistance and fresh eyes on their projects, as well as potential post-graduation hires who are familiar with those organizations.

Collaboration and teamwork were the two key words of this summer’s internship program. Interns got together for scheduled events, both work-related and social, to build rapport as a group and to provide a peer base. This summer, friendships and business relationships were developed that may last a lifetime.

Jake Mackey, Bechtel construction intern and senior in mechanical engineering at the University of Maryland at College Park, sums it up: “Between the college credits, paycheck, and actual career experience on my resume, the internship program is a unique and rewarding one. The experience and connections gained here benefit me greatly.”



Photo by Susan Kahler

**Kevin Regan, Bechtel Parsons environmental manager, points out a key area on a hydrolysate storage tank diagram to Alyssa Marcischak, Parsons environmental intern and Eastern Kentucky University environmental health science major.**

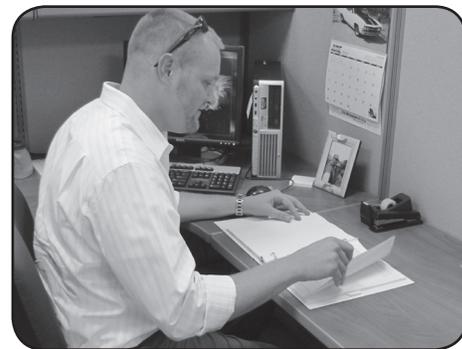


Photo by Susan Kahler

**Greg Holian, a Bechtel Security intern and junior at Eastern Kentucky University majoring in assets protection/security, reviews a policy and procedures manual.**



Photo by Susan Kahler

**Kaci Edwards, Blue Grass Chemical Activity (BGCA) intern and senior in the Eastern Kentucky University public relations program, prepares a mat for framing a BGCA certificate of appreciation.**



Photo by Susan Kahler

**David Craft, a joint pilot plant project and chemical activity Security and Safety intern and sophomore at Eastern Kentucky University, checks a government vehicle use sheet.**

## Information | Exchange

The Blue Grass *Exchange* is designed to keep you up to date on the chemical weapons destruction project. Submit your feedback and potential story ideas by contacting the editor, Susan Kahler, by phone at (859) 626-8944 or e-mail at [bgoutreach@iem.com](mailto:bgoutreach@iem.com).

## Online Resources

Find out more about the Assembled Chemical Weapons Alternatives (ACWA) program's mission to safely destroy the chemical weapons stockpiles located at the Blue Grass Army Depot, Ky., and Pueblo Chemical Depot, Colo., by visiting [www.pmacwa.army.mil](http://www.pmacwa.army.mil). Interested stakeholders may provide feedback to the program by clicking on the "Give Feedback" icon.

Additional information regarding chemical weapons destruction in Colorado and Kentucky can be found at the following websites:

- ACWA Website: [www.pmacwa.army.mil](http://www.pmacwa.army.mil)
- ACWA Photostream on Flickr: [www.flickr.com/photos/acwa](http://www.flickr.com/photos/acwa)
- ACWA YouTube Channel: [www.youtube.com/usaeacwa](http://www.youtube.com/usaeacwa)

You may also subscribe to the ACWA Real Simple Syndication, or RSS, feed by visiting [http://www.pmacwa.army.mil/connect/acwa\\_rss.html](http://www.pmacwa.army.mil/connect/acwa_rss.html).

### Mark Your Calendar

Your involvement is essential to the success of the project. Please share your views at the Kentucky Chemical Demilitarization Citizens' Advisory Commission and Chemical Destruction Community Advisory Board meetings. Upcoming meetings are scheduled for **Sept. 14, 2010 at 6 p.m.** and **Dec. 14, 2010 at 1:30 p.m.** in the **Carl D. Perkins Building, Rooms A and B** at **Eastern Kentucky University**.

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