

# Blue Grass *exchange*

A Partnership for Safe Chemical Weapons Destruction



Summer 2009

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Blue Grass Chemical Agent-Destruction Pilot Plant

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



Photo by Susan Kahler

Ricky Sandoval, Bechtel Parsons Blue Grass carpenter, checks the spacing of reinforcing steel at the Blue Grass Chemical Agent-Destruction Pilot Plant site. The project is ramping up hiring of ironworkers as it moves into full structural construction mode.

## Messages From the Managers

### Handing Over the Reins at the Pilot Plant



By RALPH COLLINS  
Blue Grass Chemical  
Agent-Destruction Pilot  
Plant Deputy Site Project  
Manager

project manager – Mr. Jeff Brubaker.

Jeff brings a wealth of experience from doing the very thing we are gearing up to do here – the safe, effective neutralization of chemical weapons.

As my stint as acting site project manager came to a close last month, it was with great pride that I stepped aside for the Blue Grass Chemical Agent-Destruction Pilot Plant's (BGCAPP) new leader and site

project manager – Mr. Jeff Brubaker.

He is a seasoned veteran of chemical demilitarization, most recently serving as site project manager for the Newport Chemical Agent Destruction Facility in Indiana, where he shepherded the facility from construction through safe operations and closure.

His arrival on our Blue Grass project ushers in a new era of leadership during what is already an exciting time, and as a result, we are all looking forward to the promise of accelerating progress and success. On behalf of the entire BGCAPP team, I'd like to extend a hearty welcome to Jeff and encourage



Photo by Susan Kahler

**Jeff Brubaker, Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) site project manager, and Ralph Collins, BGCAPP deputy site project manager, provide government leadership to the pilot plant project. Their combined expertise and skills span many years and provide a solid foundation to the government team.**

everyone to drop by the September Citizens' Advisory Commission meeting to do the same!

### Good News for the Blue Grass Project



By MARK SEELY  
Bechtel Parsons Blue  
Grass Project Manager

With the recently received Assembled Chemical Weapons Alternatives program guidance on increased funding for fiscal year 2010, the Bechtel Parsons Blue Grass team is moving quickly to finalize and execute to an accelerated schedule,

Our team continues making good progress in many areas, including major concrete placements at the Munitions Demilitarization Building and fabricating large pieces of process equipment.

including procurement of long lead-time equipment and hiring additional staff.

And even though we're planning to work faster, we will maintain our focus on safety. We recently surpassed four million job hours worked without a lost-time injury and intend to apply later this year for "Star Status" under the Voluntary Protection Program (VPP) of the Occupational Health and Safety Administration (OSHA). VPP is a partnership between management, employees and OSHA to clearly demonstrate, maintain and continually improve safety performance.

In addition to a strong commitment to safety, Bechtel Parsons is committed to sustainable development, which includes providing opportunities for local people

and businesses. Two recent awards underscore that commitment:

- Bechtel Parsons selected as "Employer of the Year" by Eastern Kentucky University for our college hire and intern/co-op programs
- Tom Masterson, president of T.E.M. Electric, a Blue Grass Chemical Agent-Destruction Pilot Plant subcontractor and beneficiary of Bechtel Parsons' "Mentor to Success" program, was selected by the U. S. Small Business Administration as "Small Business Person of the Year" for Kentucky.

We celebrate these successes and look forward to working with our stakeholders to safely destroy the Blue Grass chemical weapons stockpile.

## New Path Forward Proposed for Blue Grass Acceleration

By SUSAN KAHLER

Blue Grass Chemical Stockpile Outreach Office

The Department of Defense (DoD) submitted a report to Congress in May 2009 that brought the Blue Grass team and the Richmond community closure on two key issues.

The report wrapped up the question of hydrolysate disposal, clarifying that the Blue Grass team would continue with plans to destroy the byproduct of the neutralization process on site using supercritical water oxidation. Secondly, the report announced the DoD's recommendations regarding acceleration.

In terms of acceleration, the current course of action for the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP), subject to congressional approval of the President's Fiscal Year 2010 Budget Request, will allow acceleration of the project schedule by two years. After systemization and pilot testing of the facility, full-scale destruction operations are expected to begin in 2018 and to be complete by 2021. The plant will operate until all the

chemical weapons have been destroyed and closure activities (shut-down, dismantling and restoration of the site) are slated to be wrapped up by 2023.

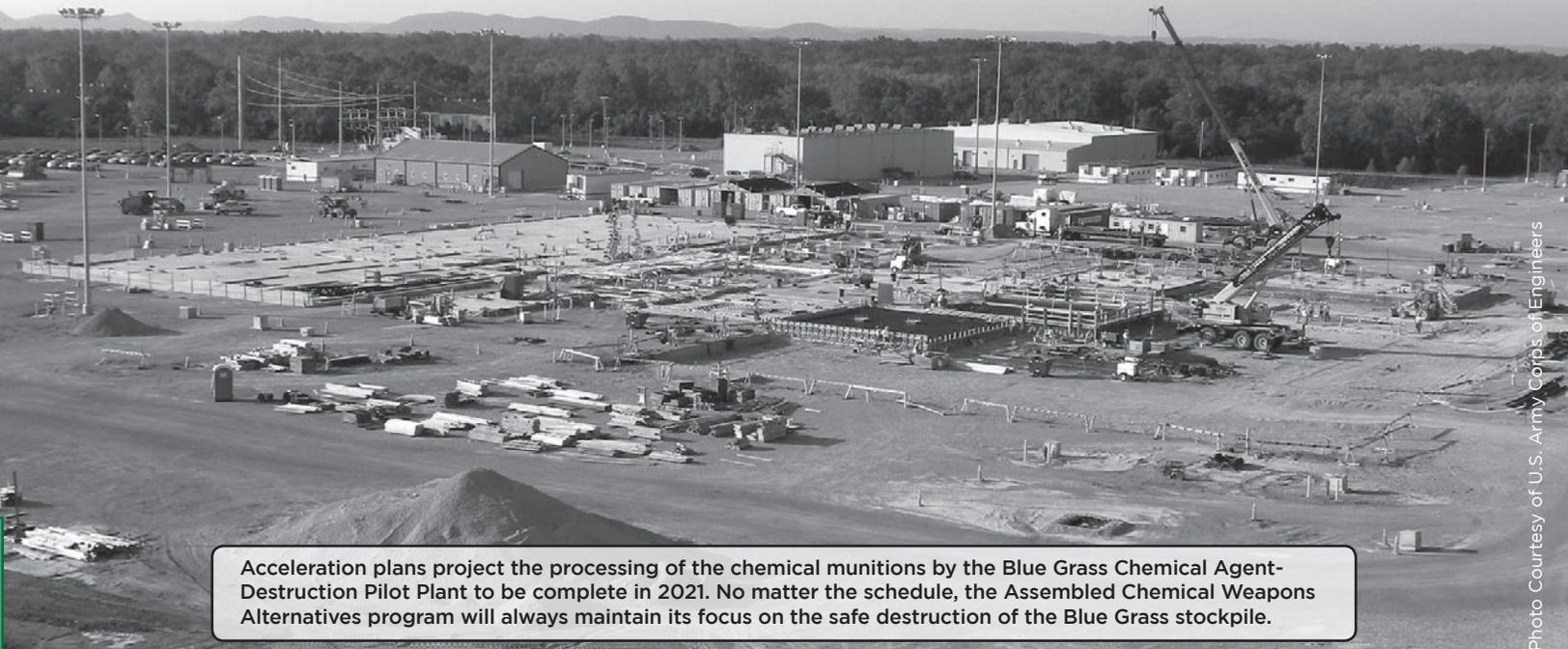
To support acceleration, an explosive destruction technology, or EDT, may be employed for processing H (mustard agent) projectiles. At BGCAPP, past technical evaluations recommended an EDT, which uses explosive charges or heat to destroy chemical weapons and does not require disassembly of the munitions, as an option for the destruction of non-contaminated rocket motors. The current design of BGCAPP's sister site in Pueblo, Colo., also calls for an EDT to destroy overpacked munitions, which are munitions that have leaked or have been damaged, as well as any reject munitions identified during operations. It is very possible the Blue Grass stockpile will have similar damaged or reject munitions, so an EDT could be an appropriate and efficient method of disposal of those munitions as well as the non-contaminated rocket motors. Program officials are also considering the use of an

EDT to destroy all of the H projectiles to further the goal of acceleration.

At the request of the Assembled Chemical Weapons Alternatives program, the National Research Council (NRC) conducted an assessment to analyze EDT's for use at both the Blue Grass and Pueblo sites. In its report titled, "Assessment of Explosive Destruction Technologies for Specific Munitions at the Blue Grass and Pueblo Chemical Agent Destruction Pilot Plants," which is available at [www.nap.edu](http://www.nap.edu), the NRC discusses its evaluation.

The local community is also actively involved, with the Chemical Destruction Community Advisory Board forming a new subcommittee to discuss acceleration progress and review the use of these technologies. In May, the Blue Grass pilot plant leadership team met with the subcommittee, and in June, the NRC briefed the subcommittee on its report and the different technologies it analyzed.

For more information, visit [www.pmacwa.army.mil](http://www.pmacwa.army.mil).



Acceleration plans project the processing of the chemical munitions by the Blue Grass Chemical Agent-Destruction Pilot Plant to be complete in 2021. No matter the schedule, the Assembled Chemical Weapons Alternatives program will always maintain its focus on the safe destruction of the Blue Grass stockpile.

## Lean Six Sigma Team Helps Refine Pilot Plant Project Design

Special to the *Exchange*

Members of the Blue Grass Government Team (BGGT) successfully tackled the analysis of the comment and review process of the design drawings at the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) field office in Richmond, Ky., using the Lean Six Sigma (LSS) methodology, a popular business management strategy.

In the summer of 2007, a performance assessment of Bechtel Parsons' (BGCAPP's systems contractor) Design Comment database could not validate that all comments had been fully incorporated into the design packages. The database contains comments from the BGGT staff with expertise in specific areas, in this case engineering, to improve, adapt or add information to the design of the neutralization plant being built in Kentucky.

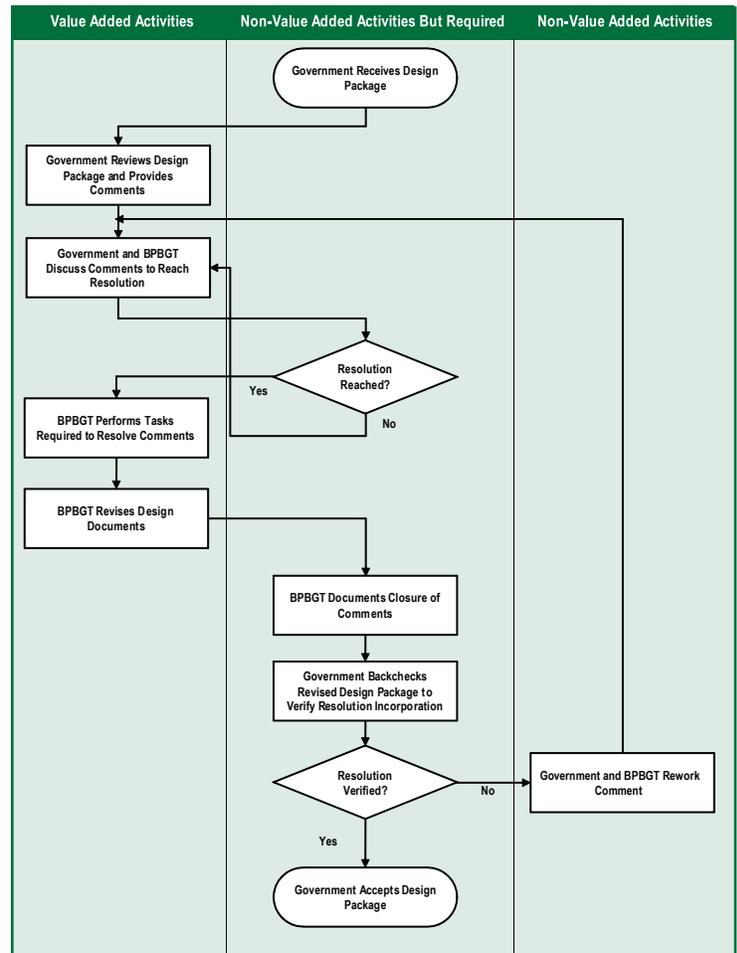
Jesse Margolin and Mark Brumer from the SAIC-FOCIS Division, a contractor to the government on the BGCAPP project, began the project as part of their LSS training, using its Define, Measure, Analyze, Improve and Control (DMAIC) paradigm. This strategy combines tools from Lean Manufacturing, which focuses on the elimination of waste and non-value added steps resulting in a cost-efficient process, and Six Sigma, which requires data-driven decisions that reduce defects and process variation to improve process performance and increase customer satisfaction.

Ralph Collins, BGCAPP deputy site project manager, said, "When the government team evaluates design drawings after they have been submitted, it makes comments which the systems contractor can then agree with or refute. The parties eventually come to an agreement and the contractor must

incorporate those changes into the design."

The problem is that some of the drawings aren't updated immediately, said Collins, adding that it can take many months. "What we have to do is track the comment resolutions that were made and initially agreed upon to ensure they are added," he said. "We needed to find a way to do that. The project Mark (Brumer) and Jesse (Margolin) did gives us a good way to improve the process of tracking the changes."

"What we did," said Margolin, "was to look at the design development for the BGCAPP program, more specifically the design review process and the comments that were made by the government team for the systems contractor to incorporate after an agreement was reached. During the 'Definition' phase, indications suggested the cost and schedule of the BGCAPP project could be impacted should major comment resolutions be excluded, and that this underscored the need for further analysis."



**Process Flow Value-Added Figure.** This diagram details the flow of the redesigned pilot plant design package comment process, defining steps that add value to the project, those that are necessary but don't add value, and those that are non-value added. This helps process participants understand the structure and flow of the whole process for a more efficient overall approach.

During the "Measure" phase, a random sample of comments taken from two intermediate design packages established whether or not comment resolutions were incorporated, to a 95 percent certainty level. The resolutions in the sample were checked against the final design packages. The results were sorted into eight categories. Some included whether the comment was still being tracked, and whether the comment was no longer applicable. The most critical finding was that two percent of resolutions were not being incorporated into the design.

As part of the “Analyze” phase, the project mapped the comment/review process and identified the activity of reworking the comments added no value to the process. The project also developed a cause-and-effect diagram, identifying several areas as the root of the problem, though no single cause strongly contributed to comments not being incorporated into the design.

Project participants identified four improvement areas during the “Improvement” and “Control” phases. The most important suggestion was to update the system contractor’s comment resolution procedure to prevent closure of comments until documentation and/or the drawings had been issued with the resolution incorporated and verified.

Since the Design Comment Resolution process is the responsibility of the systems contractor, the BGCAPP field office granted the LSS team permission to share its findings with them.

“We wanted to find the missing link,” Margolin said. “We looked at the entire process to see where we could help the people involved save time without having to lose steps, which could amount to losing days on the project.”

John Gran, LSS administrator, BGCAPP, said the project focused on eliminating the waste, barriers and hurdles which were preventing the resolved comments from being incorporated into the final design packages.

Margolin and Brumer presented their findings in April to the systems contractor’s facility design manager and the presentation was well received. The systems contractor intends to use the results and recommendations from the LSS project to improve the process and eliminate the problems identified.

## Acquisition Services Takes Over Newly Completed Site Building

By JOHN SCHLATTER  
Bechtel Parsons Blue Grass

The newly occupied Maintenance Building for the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) is now home to an important warehousing activity.

Whether it’s a four-pound hammer or a 90-ton nitrogen storage tank, the BGCAPP acquisition services group is responsible for ensuring that all materials and equipment are properly purchased, received, maintained, accounted for and controlled. All equipment and material required in support of construction of the plant is received through the project warehouse. The warehousing function is a part of the acquisitions services organization and provides custody and care for the equipment and materials received for construction of the plant.

Warehousing operations is responsible for a wide variety of materials and equipment to include:

- Construction equipment needed to execute the project
- Tools and consumables used to build the plant
- Bulk materials for construction use
- Process and laboratory equipment for plant operations
- Spare parts and machinery for maintenance

The warehousing operation recently moved from a small leased facility off Highway 52 to the newly constructed 28,000-square-foot Maintenance Building on the construction site of the pilot

plant, built by local subcontractor WG&T Builders. The Maintenance Building will eventually support maintenance operations during the systemization and operation of the plant; however in the interim, it provides the project with a much larger warehousing facility footprint on the doorstep of the construction site. This allows for much more efficient receipt and issuance of the materials and equipment in support of construction of the plant.

The Maintenance Building also houses acquisition services personnel to include field procurement, bulk material purchasing, the materials manager who has oversight of these groups and the warehousing operation, and a field office for property personnel.

“It’s always an interesting challenge to maintain delivery schedules, ensure on-time delivery from the warehouse, keep purchasing expenditures within budget and manage all the material details required for construction execution,” said Mike Brown, Bechtel Parsons’ materials manager. “The Maintenance Building provides us with on-site warehousing capabilities, increased floor area, and much more effective space to execute and deliver on construction requirements.”

So once that four-pound hammer or the 90-ton nitrogen tank is delivered to the Maintenance Building, it will be logged in, inspected, properly categorized, warehoused and eventually issued to support construction of the plant, all due to the diligent efforts of the BGCAPP warehouse operations team.



The newly completed Maintenance Building provides a central location for the property management team, maintenance and related personnel at the Blue Grass Chemical Agent-Destruction Pilot Plant site. It contains warehouse space, offices and a large work area where maintenance can be performed on equipment out of the weather.

Photo by Susan Kahler

## Project Knowledge Supported by Mock Wall

By SUSAN KAHLER  
Blue Grass Chemical Stockpile Outreach Office

Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) personnel learn more each day with the ongoing construction of the mock wall, which is being used to demonstrate the techniques and materials project employees will use to build the blast portion of the Munitions Demilitarization Building (MDB). This area is where the chemical munitions will be disassembled and destroyed inside the MDB, and is designed to be protective of BGCAPP workers in the unlikely event of an explosion.

The mock wall foundation concrete was placed April 27, and gave project personnel good information about how the concrete interacts with the reinforcing steel, or rebar, used to provide the framework for the foundation. That framework must be very dense and thick to contain an explosion, and the concrete must be

able to flow through the gaps and fill all of the voids within the rebar.

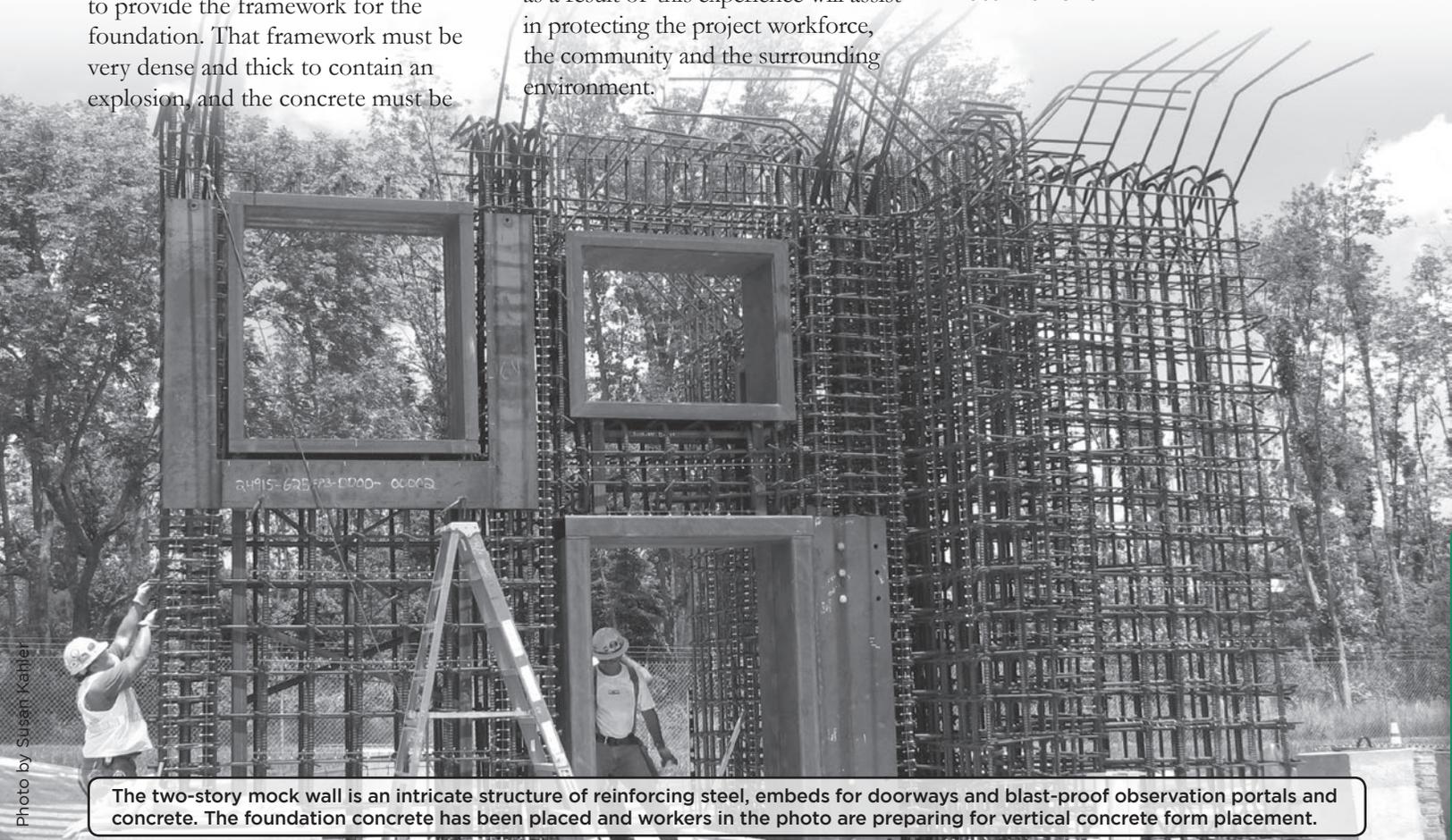
One interesting aspect of this project is that the vertical forms, or walls made to hold the liquid concrete in place while it cures, have clear Lexan (a material similar to Plexiglas) windows built into them, which allow project personnel to view the concrete flowing into the rebar as it is placed. The first vertical form was put in place on June 23.

When the mock wall is complete, the experience BGCAPP workers have gained from its development will be applied to the construction of the MDB blast area. It will ensure the complete integration of techniques and materials in what is a heavily reinforced portion of the facility. When BGCAPP begins operations, the construction performed as a result of this experience will assist in protecting the project workforce, the community and the surrounding environment.



Photo by Susan Kahler

**Bechtel Parsons laborer Brent Bloomfield cleans the first mock wall concrete form before it is lifted into place. Lexan windows will allow project personnel to see how concrete flows into the mock wall rebar framework.**



The two-story mock wall is an intricate structure of reinforcing steel, embeds for doorways and blast-proof observation portals and concrete. The foundation concrete has been placed and workers in the photo are preparing for vertical concrete form placement.

## Get Plugged in to the Blue Grass Project

By SUSAN KAHLER  
Blue Grass Chemical Stockpile Outreach Office

The Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) outreach team wants to ensure that all stakeholders, particularly those who keep abreast of the project, have as many opportunities as possible to easily access new information, both through the mail and online.

BGCAPP information has and will continue to be available through the Assembled Chemical Weapons Alternatives (ACWA) program Web site. ACWA oversees the BGCAPP project, as well as the chemical weapons destruction program in Colorado, and its Web site houses both current and historical information on both projects. You can read up on BGCAPP and its current status, as well as look at the latest photos from the construction site, check out new videos and learn who to contact for your questions.

Additionally, you can also take advantage of the Web site's RSS, or Real Simple Syndication, feed. RSS feeds are common on most news-based Web sites and they allow subscribers to automatically receive online updates when new information is posted. To learn more about the program or to sign up for the RSS feed, visit [www.pmacwa.army.mil](http://www.pmacwa.army.mil).

Finally, the BGCAPP outreach team distributes project information electronically on a monthly basis. If you are interested in receiving e-mail updates, there are several ways to do so. By including your e-mail address on our Web site feedback form or on a comment card you receive from outreach staff at an event, pick up at an information repository or get through the mail, you can have a BGCAPP monthly status update delivered directly to your inbox.

The BGCAPP and ACWA teams are committed to helping stakeholders understand how to tap into these tools and services and where they can go to get Internet access. Public computer access is available at both the Richmond and Berea branches of the Madison County Public Library, as well as the Berea College and Eastern Kentucky University libraries – check out the box below for library contact information. The BGCAPP outreach office also has a computer station available for public use and our staff is more than willing to help you use the online tools.

For more information on these tools, contact the outreach office at (859) 626-8944, as our team is committed to helping stakeholders stay connected with the BGCAPP project.



### INFORMATION REPOSITORIES WITH PUBLIC COMPUTER ACCESS

**Berea Branch, Madison County Public Library**

319 Chestnut Street, Berea, KY 40403  
(859) 986-7112

**Berea College, Hutchins Library**

101 Chestnut Street, Berea, KY 40403  
(859) 985-3364

**Blue Grass Chemical Stockpile Outreach Office**

1000 Commercial Drive, Suite 2, Richmond, KY 40475  
(859) 626-8944

**Eastern Kentucky University, Main Library**

103 Library Complex  
521 Lancaster Avenue, Richmond, KY 40475  
(859) 622-1790

**Richmond Branch, Madison County Public Library**

507 W. Main Street, Richmond, KY 40475  
(859) 623-6704

## 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@bah.com](mailto:bgoutreach@bah.com).

## Virtual Information | Exchange

Find out more about the Assembled Chemical Weapons Alternatives program's mission to safely destroy the chemical weapons stockpiles located at Blue Grass Army Depot, Ky., and U.S. Army Pueblo Chemical Depot, Colo., by visiting [www.pmacwa.army.mil](http://www.pmacwa.army.mil).

Current and past editions of the Blue Grass and Pueblo *Exchange* can also be found online. To locate the newsletters, click on the "Information" link and then on the word "Newsletters."

### 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. 8, 2009** and **Dec. 8, 2009** at **1:30 p.m.** in the **Carl D. Perkins Building, Rooms A and B** at **Eastern Kentucky University**.

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