

Blue Grass *exchange*

A Partnership for Safe Chemical Weapons Destruction



Winter 2009

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Blue Grass Chemical Agent-Destruction Pilot Plant

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Photo by Richard Sloan, Blue Grass Chemical Activity

As part of Operation *Swift Solution*, Steve Freeland, U.S. Army Edgewood Chemical Biological Center chemical engineering technician, uses the Chemical Agent Transfer System glove box to decant nerve agent mixture from a corroded storage container. The glove box system allows workers to safely manipulate controls and neutralize the agent mixture.

Message From the Managers



By JIM FRITSCHÉ
Blue Grass Chemical
Agent-Destruction
Pilot Plant Site Project
Manager



By MARK SEELY
Bechtel Parsons Blue
Grass Project Manager

We usually measure our progress on the Blue Grass Chemical Agent Destruction Pilot Plant (BGCAPP) in terms of technical milestones such as design packages completed, cubic yards of concrete placed and buildings erected.

Those things are important, but there's another way to measure our project – our impact to the local community.

Thanks to a proactive business outreach program, the BGCAPP project buys goods and services from a large number of local vendors and subcontractors. Since the project started in 2003, we have made \$29 million of purchases and subcontracts with firms in Madison and surrounding counties, and another

\$5 million with companies in other parts of Kentucky.

When Jim joined the project in 2004, our entire local staff could hold an all-hands meeting in one conference room. Today we number more than 400 employees, almost making the Top 10 list of Madison County employers. Our staff includes the government team and its support contractors, the Bechtel Parsons team and construction workers from local unions.

And while we once fit comfortably in one building, we're now bursting at the seams in five locations – our original quarters at 301 Highland Park Drive, offices at 1000 Commercial Drive, an engineering center above the White House Clinic, a training center on Highway 52 near the construction site entrance, and a warehouse behind the Dollar General Store on Highway 52. And that doesn't include the plant site, where our construction team is about to move into the Personnel Support Building.

The local BGCAPP team is composed of individuals of diverse backgrounds and skills, all working together to apply those skills to the pilot plant project. Many are career Federal and contractor

employees, some of whom have lived all over the world and quite a few who hail from right here in Richmond. We also recently welcomed several new graduates of Eastern Kentucky University and the University of Kentucky.

Our systems contractor is active in the community. Among other charitable donations, Bechtel Parsons Blue Grass annually contributes several truckloads of toys to the Richmond Firemen's Club Toys for Kids drive, and Bechtel's combined corporate and employee contribution to the United Way topped \$60,000 this year.

The BGCAPP team's first priority is, of course, safe destruction of the chemical weapons stockpile. As we carry out that mission, we will continue to be good neighbors as our presence in the community grows.

Your continued involvement is essential to the program as we enter 2009. We hope to see you at the next Kentucky Chemical Demilitarization Citizens' Advisory Commission and Chemical Destruction Community Advisory Board meeting, scheduled for March 10.

Site Project Manager Bids the Pilot Plant Team Farewell

I would like to take this moment to thank each and every one of you for your involvement with the Blue Grass chemical weapons destruction project. Your support and continued interest has been important to the U.S. Army Element, Assembled Chemical Weapons Alternatives (ACWA) program, and I appreciate your participation. After 13 years with ACWA and the Blue Grass Chemical Activity, and 15 years of previous government service, I have made the decision to retire, and my last day with the program will be Feb. 2. The Blue Grass project will continue to make great strides and I am proud to have been associated with it during these formative years. Please continue to lend your support to the incoming site project manager and remain focused on our goal of making the community and the world a safer place with the destruction of the Blue Grass chemical weapons stockpile.

Jim Fritsche
Blue Grass Chemical Agent-Destruction Pilot Plant
Site Project Manager

Safety Begins With Employee Involvement

By JOHN SCHLATTER
Bechtel Parsons Blue Grass

Every Monday morning, the entire Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) workforce kicks off the week with a focus on safety.

At the construction site, work crews start their day by reviewing the safety hazards they may encounter and the steps they'll take to avoid injury. Nearby at the project training center located on Highway 52, new employees attend an orientation session, with the first topic being a safety message from a project senior manager. In town at the project office, a departmental staff meeting starts with an employee giving a personal "safety share" on a topic of his or her choosing.

These are just a few elements of the commitment to safety that has resulted in BGCAPP employees working more than 3.5 million job hours without a lost-time injury.

In addition, other employee involvement efforts have been key in

ensuring project safety. For example, BGCAPP construction workers formed a Constructive Attitude Towards Safety, or CATS, team. With permission, team members perform observations of their co-workers for a short period of time, usually 20 to 30 minutes, to identify and record safe behaviors, as well as list any behaviors that may be at risk.

Once the observation has been completed, the observer gathers the workers to review the findings. Positive reinforcement is given for the safe behaviors noted, any "at risk" behaviors are discussed and employees are asked how they can change that behavior.

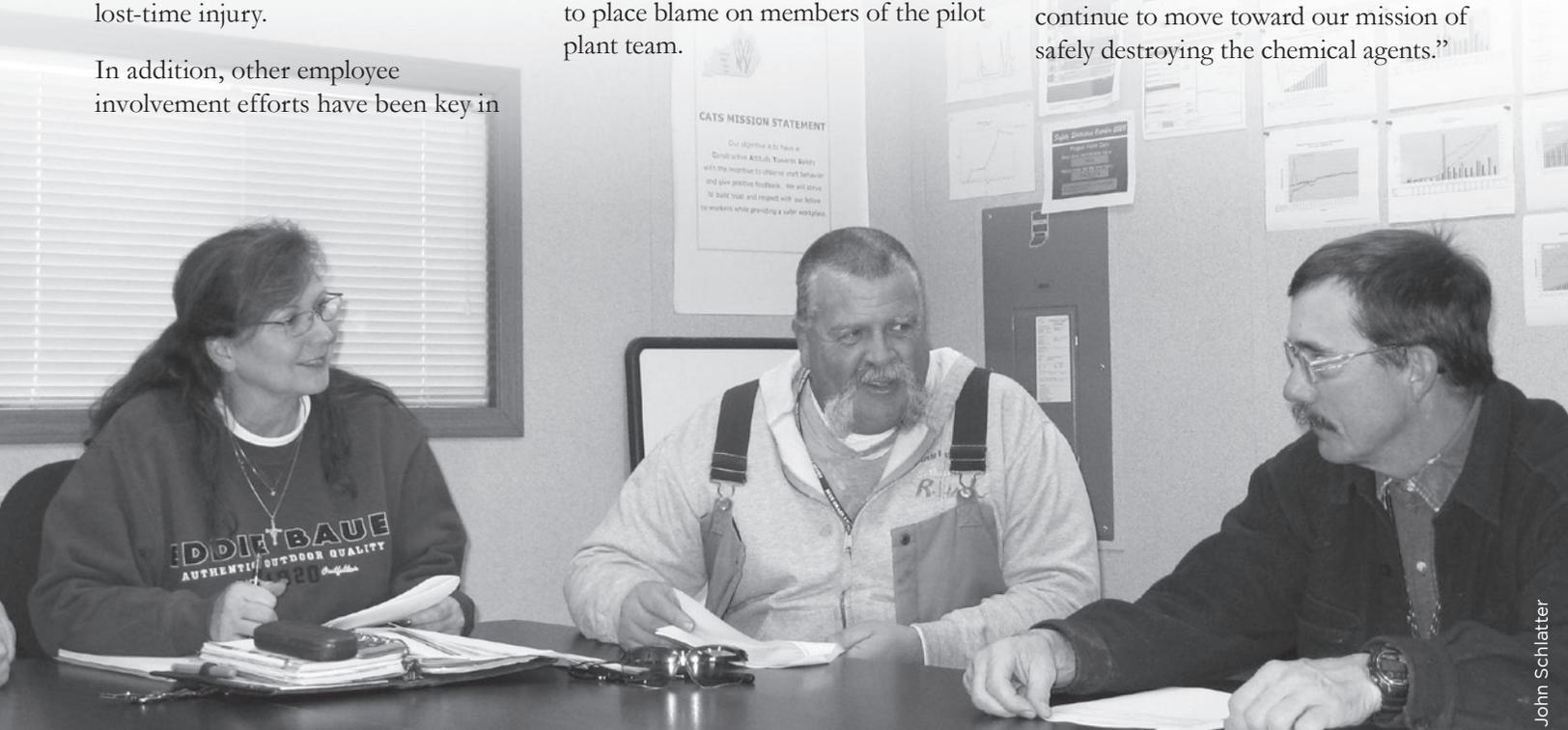
Employee feedback on the observed activities is listed on the observation report. Employee names or craft are not listed on the observation form under the principle of "no name, no blame." The observations are used strictly to identify trends or possible problem areas, not to place blame on members of the pilot plant team.

The Constructive Attitude Towards Safety (CATS) Team Reminds Workers To Focus On Safety By Using Safety Slogans Such As The "CATS MEOW."

"CATS MEOW"

Constructive Attitude Towards Safety	Making Every Observation Work
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While the systems contractor has overall responsibility for safety, the U.S. Army Element, Assembled Chemical Weapons Alternatives (ACWA) team has an oversight role. Representing ACWA are Safety Manager Gary Hettler and Safety Engineer Sunday Street. "The CATS team members demonstrate enthusiasm, energy and a true commitment to 'doing the right thing,'" Street said. "I look forward to working with the team as we continue to move toward our mission of safely destroying the chemical agents."



From left, Gail Ditsch, Constructive Attitude Towards Safety (CATS) facilitator and safety advocate and Rockie Hall, laborer, listen to Grover Adams, electrician, as he details an idea for enhancing the lessons-learned system at the Blue Grass pilot plant construction site.

Photo by John Schlatter

Mission to Destroy Deteriorating Steel Containers Nears Completion

By DEBRA HOGAN

Blue Grass Chemical Stockpile Outreach Office Operation *Swift Solution*, the mission to destroy three deteriorating steel containers holding a nerve agent mixture, is expected to wrap up early this year, marking a major milestone for the Kentucky chemical weapons destruction program.

All of the liquid nerve agent mixture previously stored in the containers was safely drained and neutralized on Dec. 18, 2008. The second phase of operations, completed Jan. 18, involved removing and neutralizing any sludge, rust, or other solids that had formed over time inside the containers. The containers were decontaminated and sampled to confirm that no chemical agent contamination remained, and were cut in half in preparation for shipment to a recycling facility. The third and last phase of the mission, now underway, involves processing the legacy and secondary wastes generated during the management and destruction of the containers for off-site shipment, after which the *Swift Solution* facility will be dismantled and shipped back to Aberdeen Proving Ground, Md.

After one of the containers leaked in Aug. 2007, and the two others showed signs of corrosion, the U.S. Army Element, Assembled Chemical Weapons Alternatives (ACWA) program brought a proposed solution to the Blue Grass community in January 2008. The plan involved utilizing a team from the Army's Edgewood Chemical Biological Center (ECBC) at Aberdeen Proving Ground, Md. and a transportable chemical

neutralization system known as the Chemical Agent Transfer System, referred to as CHATS. Since that time, Army teams in Kentucky and Maryland worked closely to develop and coordinate plans with the Kentucky Department for Environmental Protection (KDEP) to ensure the operation would be performed safely and in a manner protective of human health and the environment. With the appropriate environmental permits in place, neutralization operations started on Nov. 12, 2008.

Liquid waste, also known as hydrolysate, generated from the neutralization process of the contents of the containers has successfully passed the regulatory requirements for chemical agent destruction and has been transferred to shipping containers known as "eurotainers," which are located on the *Swift Solution* site. The hydrolysate, along with other secondary waste generated from the destruction process will be shipped to Veolia Environmental Services near Port Arthur, Texas for final treatment and disposal.

Several alternatives for disposal of hydrolysate were carefully considered, with the main criteria being safety, expeditious treatment of all waste using a single technology and no expenditure of labor and resources to

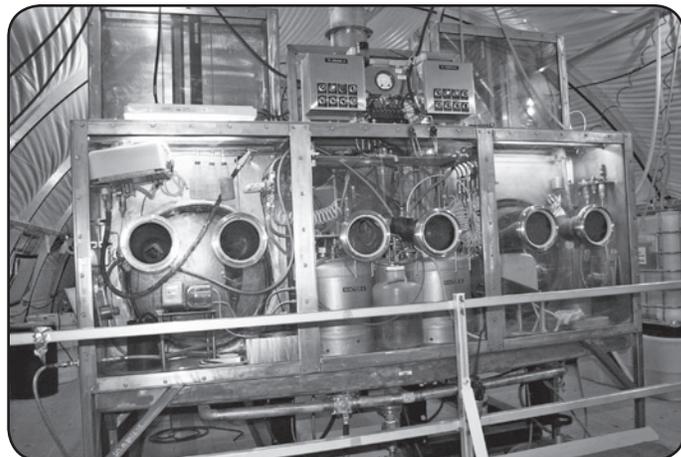


Photo by Richard Sloan, Blue Grass Chemical Activity

The Chemical Agent Transfer System, transported from the Edgewood Chemical Biological Center in Maryland to the Blue Grass Army Depot, employed a glove box system to transfer the contents of the containers to neutralization reactors.

research and develop new approaches. With the concurrence of the Kentucky Chemical Demilitarization Citizens' Advisory Commission (CAC) and its subcommittee, the Chemical Destruction Community Advisory Board (CDCAB), the ACWA program manager made the decision that off-site shipment of all secondary wastes to Veolia Environmental Services best met the determining criteria. This decision applies only to waste generated during *Swift Solution* and does not set a precedent for disposal of similar waste to be generated in the future by the Blue Grass Chemical Agent-Destruction Pilot Plant.

For weekly updates on *Swift Solution* and to see the CAC/CDCAB recommendation on secondary waste treatment, visit http://www.pmacwa.army.mil/ky/swift_solution.htm.



The Chemical Agent Transfer System glove box protects workers from possible agent mixture or vapor leakage during operations. Here, three Edgewood Chemical Biological Center employees remove agent mixture from one of the deteriorating containers within the glove box.



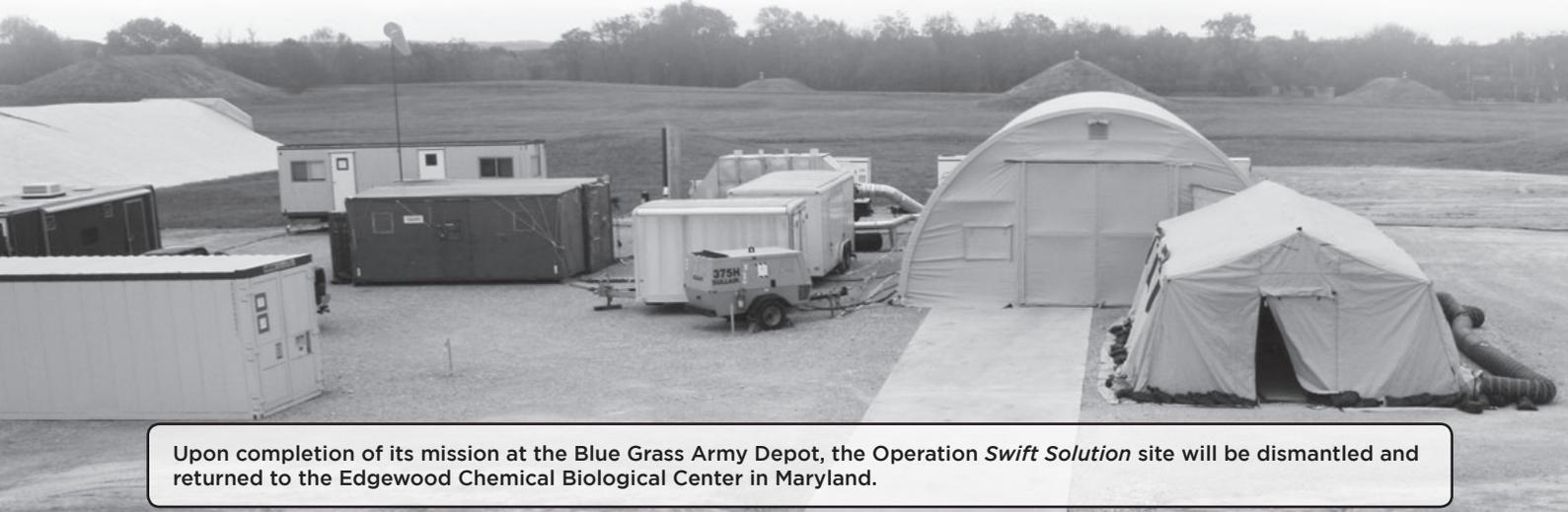
This Mobile Analytical Platform laboratory contains analytical equipment to allow chemists to conduct tests that will verify the destruction of the chemical agent in the neutralization product.



Progress is monitored by trained and experienced personnel. All aspects of operations are supervised, from the decanting of the agent mixture in the Chemical Agent Transfer System to the air filtration within the General Purpose Operations Shelter.



Television monitors in the treaty building show different views of the operations shelter.



Upon completion of its mission at the Blue Grass Army Depot, the Operation *Swift Solution* site will be dismantled and returned to the Edgewood Chemical Biological Center in Maryland.

Protecting Health and the Environment Through the Permitting Process

By JOHN SCHLATTER
Bechtel Parsons Blue Grass

The Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) is being constructed to perform an essential mission: the destruction of aging chemical weapons that have been safely stored at the Blue Grass Army Depot (BGAD).

In fulfilling that mission, the project must adhere to the requirements of specific permits designed to protect human health and safety, as well as Kentucky air, water and soil. Any facility in Kentucky that plans to treat, store or dispose of hazardous waste must obtain permits from the Kentucky Department for Environmental Protection (KDEP), and BGCAPP is no exception.

The project is currently operating under two major permits:

- A Research, Development, and Demonstration (RD&D) permit issued under the Resource Conservation and Recovery Act, and
- A Title V Air Permit that currently applies to air emissions during construction and will be modified later to cover plant operations.

The permits are held jointly by Bechtel Parsons Blue Grass (BPBG) and Blue Grass Army Depot (BGAD),

requiring close cooperation between the government and contractor staff on the project. The pilot plant team works with KDEP to ensure the project meets all requirements and to keep the permitting process on track.

“Recognizing the unique nature of processing chemical weapons, the Commonwealth of Kentucky chose to regulate the BGCAPP facility under the RD&D permit,” explains Kevin Regan, environmental manager for BPBG.

As the regulator, KDEP’s role is to enforce the statutes and regulations adopted by the Commonwealth of Kentucky to protect human health and the environment. KDEP staff review the permit applications which include information on treatment processes, procedures to prevent hazards, contingency plans, closure plans and personnel training.

The initial application for the RD&D permit was submitted by the project in March 2004 and, after a public review and comment period, the first revision was approved by KDEP in September 2005. The permit, which is enforced by KDEP, includes a 30-item completion schedule describing activities that must be completed before certain work can be performed.

Looking for BGCAPP Documents?

The Blue Grass Chemical Stockpile Outreach Office has information related to the Blue Grass Chemical Agent-Destruction Pilot Plant on hand at their office at 1000 Commercial Drive, Suite 2, Richmond, KY 40475. However, copies of environmental permits and technical documentation can also be found at the project information repositories at the following locations:

- Richmond Branch, Madison County Public Library, 507 West Main Street, Richmond, KY 40475
- Berea Branch, Madison County Public Library, 319 Chestnut Street, Berea, KY 40403
- Government documents section, Crabbe Library, Eastern Kentucky University, 521 Lancaster Avenue, Richmond, KY 40475
- Special collections section, Hutchins Library, Berea College, Berea, KY 40404

The Air Quality Permit, which covers construction activities such as dust control and emissions from construction equipment, was issued in October 2005.

In addition, KDEP monitors activities at BGCAPP and performs periodic inspections. If problems are found, KDEP can issue a “Notice of Violation” to the project. To date, there have been no such notices.

Public participation is an important part of the permitting process. Permit documents are available for public review (see list of information repositories on this page), and public meetings are held at key steps in the process.



All aspects of Blue Grass Chemical Agent-Destruction Pilot Plant construction, systemization and operations fall under the purview of specific permits issued by the Kentucky Department for Environmental Protection which are designated to ensure human and environmental safety.

Secondary Waste at Blue Grass: The National Research Council and Noblis Reports

By SUSAN KAHLER
Blue Grass Chemical Stockpile Outreach Office

Note: The U.S. Army Element, Assembled Chemical Weapons Alternatives, the Department of Defense organization responsible for the destruction of the chemical weapons stockpile in storage at the Blue Grass Army Depot, tasked the National Research Council and Noblis to complete independent technical analyses regarding the treatment of secondary waste and hydrolysate generated during Blue Grass Chemical Agent-Destruction Pilot Plant operations. This is the second of a series of articles to help educate readers about secondary waste and hydrolysate, as well as the findings in these reports.

The Department of Defense and U.S. Army Element, Assembled Chemical Weapons Alternatives (ACWA) leadership are currently reviewing the results of two technical reports, as well as stakeholder feedback, to make a decision regarding disposal options for hydrolysate, the byproduct of the neutralization process that will be used at the Blue Grass and Pueblo Chemical Agent-Destruction Pilot Plants.

“Recent discussions with program stakeholders through a public forum in Washington, D.C. and the Kentucky Chemical Demilitarization Citizens’ Advisory Commission and Chemical Destruction Community Advisory Board meetings have provided valuable and insightful information,” said Kevin Flamm, program manager for ACWA. “I appreciate the input and involvement of these groups and look forward to being able to convey the hydrolysate disposal decision shortly.”

The NRC and Noblis reports, as well as the Kentucky Chemical Demilitarization Citizens’ Advisory Commission and the Chemical Destruction Community Advisory Board’s recommendations against off-site hydrolysate disposal can be accessed through the ACWA Web site (www.pmacwa.army.mil) or are available through the Blue Grass Chemical Stockpile Outreach Office at 1000 Commercial Drive, Suite 2, Richmond, Ky.

ACWA is expected to make a decision regarding off-site shipment of hydrolysate in early 2009.

A Summary of Findings from The National Research Council and Noblis Reports



The National Research Council (NRC) report, “Review of Secondary Waste Disposal Planning for the Blue Grass and Pueblo Chemical Agent-Destruction Pilot Plants” was released in September 2008. Findings include:

- Because experience shows that off-site shipment and treatment of agent hydrolysates from Kentucky and Colorado is safe and technically viable, and in view of better analytical methods being developed, the Program Manager ACWA should consider this option now, before the plants are built and operating, to maximize the benefit from such a change.
- The shipment off site to an appropriate permitted treatment, storage and disposal facility (TSDF) of all types of wastes, including spent activated carbon and closure wastes, should be examined and given serious consideration in light of past experience showing that it is a technically viable and safe method of disposing of these wastes.

The Noblis report, “Offsite Treatment and Disposal of ACWA Hydrolysates,” was released in November 2008. Findings include:

- Off-site disposal of ACWA hydrolysates reduces Kentucky and Colorado equipment, facilities, and labor, as well as the overall project and process complexity.
- Off-site disposal could result in cost savings at both Kentucky and Colorado facilities. The magnitude of the cost savings depends on when the decision is made (the sooner the better) and the off-site disposal technology used.
- The impacts on schedule from off-site disposal of hydrolysates vary from small decreases to very small increases. If an off-site decision is made in FY 2009, the resulting reduction in overall project duration is about 13 months for Colorado and about 20 months for Kentucky.
- Facilities are currently available for disposal of the hydrolysates, with deep-well injection the most economical. Although future availability of deep-well injection is not certain, some type of TSDF will be available.
- Off-site hydrolysate disposal can decrease the total number of truck shipments into and out of each facility. Additionally, local community risks of hazardous material shipments could potentially be reduced.
- Some stakeholders would accept off-site disposal, but some opposition is inevitable, regardless of TSDF location or choice of off-site disposal technology.

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.

Virtual Information | *Exchange*

Find out more about ACWA's mission to safely destroy the chemical weapons stockpiles located at Blue Grass Army Depot, Ky., and Pueblo Chemical Depot, Colo., by visiting 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 Products" 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 Chemical Destruction Community Advisory Board meetings. Upcoming meetings are scheduled for **March 10, 2009** and **June 9, 2009** at **1:30 p.m.** in the **Carl D. Perkins Building, Rooms A and B** at **Eastern Kentucky University**.

Blue Grass Chemical Stockpile Outreach Office
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Blue Grass Chemical Agent-
Destruction Pilot Plant

