



## Chemical Weapons Destruction at Blue Grass

The [Blue Grass Chemical Agent-Destruction Pilot Plant](#) (BGCAPP) safely completed destruction of the chemical weapons stockpile stored at the [Blue Grass Army Depot](#) (BGAD) July 7, 2023. Located near Richmond, Kentucky, the depot provides conventional ammunition services, chemical defense equipment management and manufacturing capabilities for the Department of Defense (DOD). The [Blue Grass Chemical Activity](#), a tenant of the 15,000-acre depot, was responsible for the safekeeping of the portion of the nation's chemical weapons stockpile stored at the depot. Together, the U.S. Army and the community surrounding BGAD worked in a committed partnership to support the safe destruction of the Blue Grass chemical weapons stockpile.

### What chemical weapons were stored at BGAD?

The Blue Grass chemical weapons stockpile originally consisted of more than 500 tons of weaponized [blister](#) and [nerve](#) agent in rockets and artillery projectiles. Contrary to popular belief, these chemicals were liquids, not gases. When stored for a long period of time, they could become thick and sludge-like or crystallized.

### What is BGCAPP?

The Blue Grass plant is a state-of-the-art, full-scale pilot plant designed to safely neutralize the Blue Grass chemical weapons stockpile. In June 2003, a contract was awarded to [Bechtel Parsons Blue Grass](#) (BPBG) to design, construct, test, operate and ultimately close this facility.

Because solidification of the mustard agent was found in a significant number of mustard projectiles, rendering them unsuitable for the automated neutralization process in the main plant, BGCAPP installed and operated an [Explosive Destruction Technology](#) (EDT) facility at BGAD to destroy the entire stockpile of mustard projectiles stored at the depot. A Static Detonation Chamber (SDC) was selected by BPBG as the EDT best suited to augment BGCAPP for that task. A second, larger SDC, the SDC 2000, was later added to augment the main plant by destroying overpacked rockets and rockets deemed unsuitable for processing in the main plant.

### How were the weapons destroyed?

The DOD selected [neutralization](#) as the method to destroy chemical agents. During the neutralization process, munitions were disassembled using modified reverse assembly. After the agent was drained, it was chemically decomposed and neutralized by caustic or water hydrolysis. The resulting chemical compound, known as hydrolysate, was shipped to a permitted hazardous waste treatment, storage and disposal facility for final destruction. Metal parts and contaminated dunnage, including materials such as contaminated wooden pallets upon which weapons were stored, were thermally decontaminated in a [Metal Parts Treater](#), which also was used during early closure activities to decontaminate metal equipment parts and other potentially contaminated metal items. Non-contaminated dunnage was shipped off site for disposal in permitted landfills. Gas effluents were treated, filtered and monitored. Main-plant operations began Jan. 17, 2020, and the last munition in the stockpile stored at BGAD, and also in the declared U.S. chemical weapons stockpile, a GB M55 rocket, was destroyed in the main plant July 7, 2023.

The original SDC unit, now called the SDC 1200, was used to destroy the entire Blue Grass mustard stockpile, operating from June 7, 2019, to Sept. 4, 2021. The SDC 2000 began operations Jan. 27, 2023, destroying drained and undrained rocket warheads, M55 rocket overpacks and rockets not suitable to be processed in the main plant. Both SDC systems are fully contained, armored, high-alloy stainless steel vessels that during operations used electrically generated heat at more than 1,000 degrees Fahrenheit to detonate or deflagrate the munition components, thus destroying the residual chemical agent and energetics. Both SDC units destroyed drained, containerized rocket warheads (CRW) during closure. Considered agent-contaminated secondary waste, the warheads were previously drained during main-plant operations and contain residual amounts of nerve agent. Destruction of the CRWs was completed MONTH DATE, 2025.

This equipment used fully monitored pollution-abatement systems, which included thermal oxidizers and scrubbers to remove particulates, sulfur dioxides, chlorine and heavy metals. It also used robust filtration systems to ensure air released back to the environment was clean.

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## Who destroyed the weapons?

The [Program Executive Office, Assembled Chemical Weapons Alternatives](#) (PEO ACWA), headquartered at Aberdeen Proving Ground, Maryland, was responsible for safely destroying the Blue Grass stockpile. BPBG, the systems contractor, operated the chemical agent destruction facility and the SDC units. Many other organizations worked in partnership with PEO ACWA and the BPBG team to successfully complete the destruction mission and are now focusing on the safe and environmentally protective closure of the facility. Those organizations include the U.S. Department of the Army, U.S. Army Chemical Materials Activity, Chemical Stockpile Emergency Preparedness Program, Kentucky Department for Environmental Protection (KDEP), Kentucky Division of Emergency Management and the Madison County Emergency Management Agency.

## How is the environment being protected?

Protection of the unique environment surrounding BGAD is one of the project's top considerations. Therefore, the environmental permits for the plant are based on specific local environmental studies. Additionally, the environment was continually monitored during destruction activities. Monitoring continues during closure to ensure protection of the area. Oversight is provided by the U.S. Environmental Protection Agency and KDEP during the entire process.

## What will happen to the plant and depot now that weapons have been destroyed?

BGCAPP is being [closed](#) in accordance with all applicable laws, requirements and regulations. The areas of the plant that came in contact with chemical agent are decontaminated and the equipment dismantled. Certain facilities will be demolished. The disposition of the remainder of the facility has not yet been determined and will be negotiated among the Department of the Army, Commonwealth of Kentucky, PEO ACWA and BGAD. Once site closure-related activities are complete, administrative closeout, including the closure of environmental permits and contracts, will be completed and the project will come to an end. The depot will continue with its missions of supplying munitions, chemical defense equipment and Special Operations support to the DOD after the closure of the plant.

## What are the Kentucky Chemical Demilitarization Citizens' Advisory Commission and the Chemical Destruction Community Advisory Board?

In accordance with Public Law 102-484, the Kentucky Chemical Demilitarization Citizens' Advisory Commission, or CAC, serves as a bridge between the community and the government by providing a forum for exchanging information about chemical weapons destruction and now the closure phase. The CAC conducts public meetings to facilitate consistent public participation in the program. Local citizens can receive meeting notices and minutes by email. The Chemical Destruction Community Advisory Board, known as the CDCAB, is an independent subcommittee of the CAC. The CDCAB is made up of a group of community leaders who represent different views and concerns of all sectors of the local community on issues regarding Kentucky's completed chemical weapons destruction program and the ongoing closure process. With input from many interested groups, the board's primary objective is to share information with the community and provide input to government decision-makers.

For information on topics being considered by the [CAC and its CDCAB](#), to learn the meeting schedule or to be added to the mailing list, contact CAC chair Craig Williams at (859) 986-7565, CDCAB co-chair Madison County Judge Executive Reagan Taylor at (859) 624-4700, or the [Blue Grass Chemical Agent-Destruction Pilot Plant Outreach Staff](#).

## How can I learn more?

The Blue Grass Chemical Agent-Destruction Pilot Plant Outreach Staff provides the community with a communications channel. It supports the PEO ACWA program's commitment to openness and public involvement. Outreach staff develop informational products and provide information to the public, as well as support CAC/CDCAB meetings. For information, visit [www.peoacwa.army.mil](http://www.peoacwa.army.mil) or contact the staff at (800) 277-6819 or [bgoutreach@iem.com](mailto:bgoutreach@iem.com).