



Blue Grass Chemical Agent-Destruction Pilot Plant

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**A Partnership for Safe Chemical Weapons Destruction**



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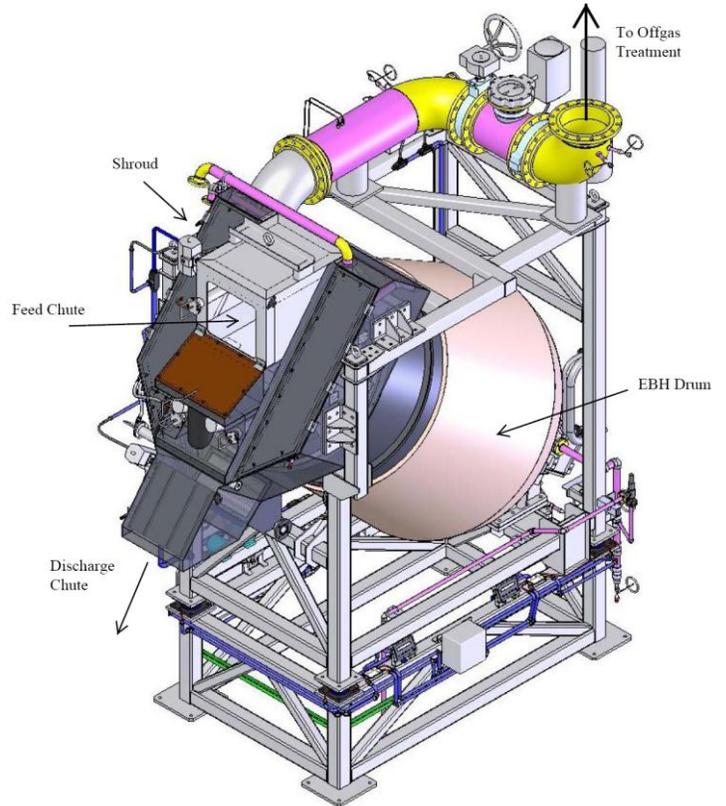
# Blue Grass-Specific Equipment: Energetics Batch Hydrolyzer

The Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) is being built to safely destroy a chemical weapons stockpile that comprises more than 500 tons of nerve and blister agent in weapons stored at the Blue Grass Army Depot. The plant will remove both explosive components (energetics) and chemical agents from the munitions and neutralize them in separate processes. These processes involve equipment specifically designed, engineered and extensively tested for this use.

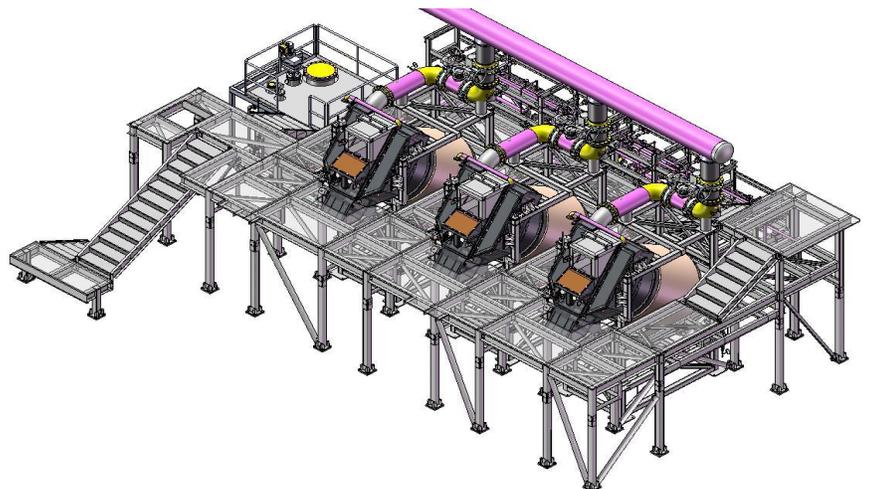
One of the specialized pieces of equipment developed for BGCAPP is the Energetics Batch Hydrolyzer (EBH), which was fabricated and tested in San Diego, Calif., by General Atomics, a joint venture company of the Bechtel Parsons Blue Grass team. The three EBH units were installed at the BGCAPP site in January 2012.

These units will treat munitions' parts in batches, neutralizing explosives and other munition components with water and caustic through a process known as "hydrolyzing."

The EBH system consists of large, rotating drums similar to cement mixers, along with robots, tanks and pumps. The system will use robots to transfer hoppers of munition pieces into the rotating drums. Components to be treated in the EBH include sheared rocket warheads and projectile burster charges.



*This computer graphic illustrates the main components of the Energetics Batch Hydrolyzer system.*



*The complete Blue Grass Chemical Agent-Destruction Pilot Plant Energetics Batch Hydrolyzer system includes several processing lines, which can treat munitions parts and related components simultaneously.*

## Blue Grass-Specific Equipment: Energetics Batch Hydrolyzer (continued)

The drum will be filled with water and caustic, munitions parts will be placed inside, and the EBH will rotate and mix for two to three hours while the drum's temperature is maintained at approximately 240 degrees Fahrenheit. When processing is complete, the solids and liquids will be separated. The solids will be collected in a waste tray and transferred onto a conveyor for processing in the Metal Parts Treater. The liquid, known as energetics hydrolysate (caustic wastewater), will be collected and pumped to the Energetics Neutralization Reactors for further processing.



*This robot is an integral part of the Energetics Batch Hydrolyzer (EBH) system, as it will transfer munitions pieces into the EBH drums without the need for hands-on interaction.*