



Blue Grass Chemical Agent-
Destruction Pilot Plant

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Design Changes at the Blue Grass Plant

The [Blue Grass Chemical Agent-Destruction Pilot Plant](#), or BGCAPP, will safely destroy more than 523 tons of chemical agent stored in rockets and projectiles at the [Blue Grass Army Depot](#). BGCAPP scientists and engineers regularly conduct tests of the destruction process. During such tests, two processes were identified as potentially posing challenges during the chemical weapons destruction operations. Project leaders have been informing partnering agencies and organizations, community members and the workforce on what BGCAPP is doing to resolve these issues before operations begin.

Munitions Drain Systems

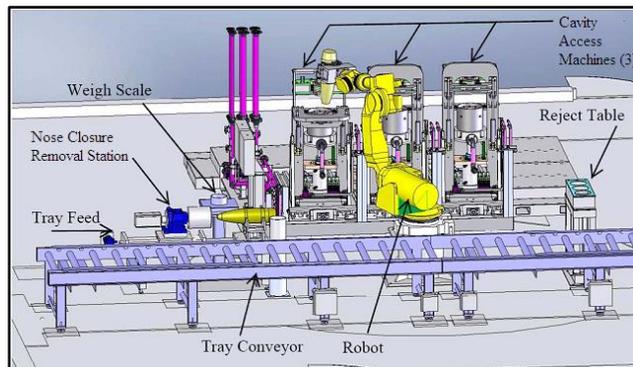
BGCAPP engineers identified a technical challenge with munitions processing involving the [Rocket Shear Machine and Munitions Washout System](#). Testing of the full-scale equipment revealed significant air entrainment during the drain and washout process which adversely impacted operation of agent drain pumps. The equipment was also found to inadequately separate drained agent from washwater, which would complicate the neutralization "recipe" and potentially result in gelling of agent, high temperatures and increased corrosion of existing piping materials.

In June 2014, a joint government/contractor team conducted a technical review and offered a revised approach to eliminate the washout process and use gravity to drain agent from the munitions. After undergoing extensive reviews, a final redesign was approved in June 2015. Now, materials and equipment are being placed to implement this modification.

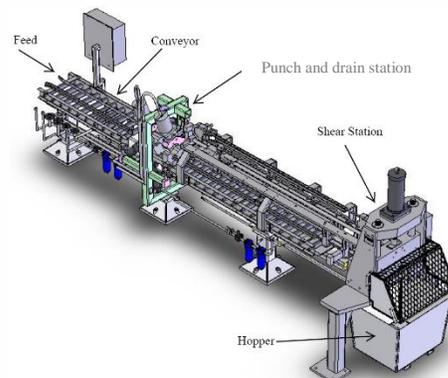
Energetics Neutralization Reactors Enhancements

In 2012, BGCAPP scientists and engineers learned that low levels of cyanide will be present in the energetics hydrolysate as a result of the energetics neutralization process. In order to reduce the potential worker hazard, a team began looking at how to lower those levels of cyanide. As a result of testing, BGCAPP is modifying existing equipment.

The Energetics Neutralization Reactors, which already heat the liquid hydrolysate to 240 degrees Fahrenheit, will now bring the hydrolysate temperature up to 300 degrees. This rise in temperature will reduce cyanide concentrations by more than 95 percent. The supercritical water oxidation process will destroy any residual cyanide in the liquid, agent neutralization is not affected and workers will not be exposed to cyanide.



This computer graphic of the Munitions Washout System highlights major system components and shows projectiles being processed through the system.



This computer graphic illustrates the main components of the Rocket Shear Machine and the path, from left to right, a rocket will move through the system.



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