



Pueblo Chemical Agent-Destruction Pilot Plant

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# Projectile/Mortar Disassembly System

When Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) operations begin, many measures will be taken to ensure the safety of the workforce and the environment. "Operations" means the disassembly of the chemical munitions to remove their energetic components, then draining the mustard agent contained inside.

One of these measures will be the use of three identical robotic systems, each called a Projectile/Mortar Disassembly (PMD) system, to dismantle the three types of munitions (105mm projectiles, 155mm projectiles and 4.2-inch mortar rounds) stored at the U.S. Army Pueblo Chemical Depot. The PMD's robotic technology allows very precise munitions placement and parts removal. PCAPP's three PMDs will remove the munitions' energetic components (bursters, boosters and fuzes) before they are transferred to the Agent Processing Building (APB) where the mustard agent is drained and neutralized.

PMDs will be positioned in three Explosion Containment Rooms (ECR) of the Enhanced Reconfiguration Building. Each ECR – with 25-inch thick concrete walls and ceilings as well as a 4-foot thick concrete floor – is designed to contain a blast in the unlikely event one should occur. The PMDs will pick up munitions one by one from a conveyer system and move them through three different disassembly stations. Each station performs a specific function to remove parts from the munition body. The fourth station checks to make sure no residual explosive material remains in the munition bodies. Control room operators, who have extensive experience and training with robotic systems, will operate and monitor the PMD, which can process munitions in 60-80 seconds.

Here's how the system works:

Station #1: The nose closure, or fuze, is unscrewed from the munition. For the 4.2-inch mortar, the energetic material is also removed at this station.

Station #2: Miscellaneous parts are removed from the munition, including the fuze well cup, and in some munitions, an energetic booster.

Station #3: The burster is removed in this station.

Station #4: The munition is checked to ensure no explosive material remains.

The energetics, or explosive parts, are then packaged for transport to the Energetics Service Magazine where they will await shipment to a permitted waste Treatment, Storage, and Disposal Facility.

Once the energetics are removed from the munition, the munition body is transported by an [Automated Guided Vehicle](#) to the APB where the chemical agent is drained and neutralized.

The proven technology of the PMD will give PCAPP operators a state-of-the-art advantage as they oversee the safe elimination of the Pueblo chemical weapons stockpile.

It is recognized that a limited number of munitions will not be able to be easily processed through the main destruction plant. These problematic munitions include those that have leaked in the past and are overpacked, as well as "rejects" whose condition does not allow for automated processing. These munitions will be safely processed in [PCAPP's Explosive Destruction System](#).



*The Projectile/Mortar Disassembly System's robotic technology will ensure the safe and efficient removal of the explosive components from the chemical munitions.*