



Pueblo Chemical Agent-
Destruction Pilot Plant

**FOR MORE
INFORMATION
CONTACT:**

Pueblo Chemical
Stockpile
Outreach Office
104 West B Street
Pueblo, CO 81003
(719) 546-0400
PuebloOutreach@iem.com

Pueblo Chemical Agent-
Destruction Pilot Plant Public
Affairs
(719) 549-4959

U.S. Army
Pueblo Chemical Depot
Public Affairs Office
(719) 549-4135
usarmy.pueblo.usamc.list.pa
o@mail.mil



**A Partnership for Safe
Chemical Weapons
Destruction**



www.peocwa.army.mil

How the U.S. Army's Explosive Destruction System Supported the Pueblo Chemical Agent-Destruction Pilot Plant

The [Pueblo Chemical Agent-Destruction Pilot Plant](#), is destroying the chemical weapons stockpile stored at the U.S. Army Pueblo Chemical Depot. A two-step technology, [neutralization followed by biotreatment](#), is the process selected to destroy the large majority of the stockpile. However, a number of the weapons posed a problem for the main plant's automated equipment to process, requiring the selection and deployment of an additional method, the [Explosive Destruction System](#), or EDS, to augment PCAPP. During two campaigns from March 2015 to December 2018, the EDS eliminated 951 items resulting in 3.82 tons of mustard agent destroyed, which was reported to the Organisation for the Prohibition of Chemical Weapons.

Q. What technology is being used at PCAPP to safely destroy chemical weapons?

A. The main facility is using neutralization followed by biotreatment.

During the neutralization process, munitions are taken apart and energetics (explosives and propellants) are removed. The mustard agent is drained and the munitions bodies rinsed. The agent is then mixed vigorously with warm water and sodium hydroxide, which destroys the agent. The resulting product, known as hydrolysate, is held and tested to ensure agent destruction before proceeding to a secondary process known as biotreatment, where ordinary sewage-treatment-type bacteria breaks down the hydrolysate into carbon dioxide, water and minerals.

Q. What technology was used by PCAPP EDS?

A. PCAPP EDS used neutralization.

PCAPP EDS used cutting charges to explosively access the mustard agent inside the munition. Operators added neutralization chemicals to destroy the agent. The detonation of the cutting charges also eliminated the explosive components of the munition. A heavy sealed stainless-steel vessel contained the blast, vapor and fragments from this process. Before the vessel was reopened, elimination of the chemical agent was confirmed by sampling residual liquid and air from the interior of the vessel.

Q. Why was PCAPP EDS necessary?

A. It was needed to destroy "overpacks" and "rejects" that posed a problem to process in the main plant.

"Overpack" refers to chemical munitions that have leaked or were sampled in the past to determine the condition of the mustard agent. In both instances, operators placed these munitions in air-tight sealed canisters, or "overpacks," for continued safe storage "Reject" chemical munitions have conditions that pose difficulties for automated processing. These munitions were destroyed using the PCAPP EDS process.