



Pueblo Chemical Agent-Destruction Pilot Plant Operations

The Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) destroyed the U.S. chemical weapons stockpile stored at the U.S. Army Pueblo Chemical Depot (PCD) in Colorado. The last munition in the Colorado stockpile was destroyed June 22, 2023.

The main plant used neutralization followed by biotreatment to destroy mustard agent contained within 155mm and 105mm projectiles and 4.2-inch mortar rounds. Two Explosive Destruction Technologies, the Static Detonation Chamber (SDC) and the Explosive Destruction System (EDS), supplemented main plant destruction operations.

Notes for media:

Portions of this video have been masked or blurred for security reasons, in accordance with Department of Defense standards.

If you wish to credit this footage, please use the following citation: Video footage courtesy of the U.S. Army.

Main Plant Operations

Sept. 7, 2016 – June 16, 2023

- (1) 0:05-0:35 – An ordnance technician uses a lift assist to place a 155mm projectile onto a conveyor inside the Enhanced Reconfiguration Building (ERB) at PCAPP.
- (2) 0:36-0:48 – An ordnance technician clips and removes metal banding from palletized 105mm projectiles so the munitions can be destroyed by PCAPP's automated system.
- (3) 0:49-1:21 – An ordnance technician removes a 105mm projectile from a conveyor belt using a lift assist in the ERB at PCAPP and places the munition in a holding pallet with other munitions for transport back to PCD before processing.
- (4) 1:22-2:04 – An ordnance technician uses a lift assist device to place a 4.2-inch mortar round onto a conveyor inside the ERB at PCAPP.
- (5) 2:05-2:39 – Inside an Explosive Containment Room, the Projectile/Mortar Disassembly system removes the nose closure, or fuze, from a projectile, while a robotic arm lifts a projectile from the burster rod removal station.
- (6) 2:40-2:54 – In the Agent Processing Building (APB), a Munitions Washout System (MWS) robot lifts a 155mm projectile from a feed conveyor, then places the projectile nose-down in a Cavity Access Machine (CAM) to remove agent from the cavity of the projectile.
- (7) 2:55-3:20 - In the APB, an MWS robot lifts a 105mm projectile from a CAM after the munition has been drained and rinsed to remove mustard agent for neutralization. The robot places the munition onto the drained munition weigh station to ensure removal of agent.



(8) 3:21-3:41 – In the Toxic Area, ordnance technicians install a lockout/tagout system on one of the agent pumps to an Agent Neutralization Reactor while replacing a discharge flex hose.

(9) 3:42-3:53 – Ordnance technicians wearing Demilitarization Protective Ensembles prepare secondary waste for disposal.

(10) 3:54-4:13 – Chemical material handlers place the first set of 155mm projectiles onto a pallet for transport from PCD storage igloos to PCAPP for destruction.

(11) 4:14-4:39 – Technicians place an overpacked pallet of agent-filled munitions into a Modified Ammunition Vehicle for transport from PCD storage igloos to PCAPP for destruction.

Static Detonation Chamber Operations

Feb. 19, 2022 – June 22, 2023

Three Static Detonation Chamber (SDC) units supplemented main plant destruction operations at PCAPP by destroying a portion of the 4.2-in. mortar rounds and other problematic munitions that could not be easily processed in the main plant. The SDC chamber is a stainless-steel vessel that used high temperatures to destroy the munitions. Explosive components were destroyed by thermal decomposition.

(12) 4:45-5:44 – In the SDC complex, a feed box containing 4.2-inch mortar rounds is conveyed to the top of the SDC vessel and fed to a loading chamber.

(13) 5:45-5:59 – A destruction chamber rotates and prepares to empty destroyed 4.2-inch mortar rounds onto a conveyor before emptying into a scrap metal recycling bin.

Explosive Destruction System Operations

March 18, 2015 – Dec. 5, 2018

The Explosive Destruction System (EDS) supplemented main plant destruction operations at PCAPP by destroying problematic munitions that could not be easily processed in the main plant. The EDS used explosive charges to detonate the munitions inside a sealed chamber and a neutralant was added to process the chemical agent.

(13) 6:05-6:24 – Workers place six 105mm munitions wired with shaped charges on a carrier into the EDS.

(14) 6:25-6:47 – An operator announces the initiation of the shaped charge within the armored EDS container. The machine rotates to ensure complete decontamination of mustard agent.

(15) 6:48-7:04 – PCAPP workers unload the remaining pieces of 105mm munitions after they have been opened, emptied of mustard agent and decontaminated in the EDS.



Pueblo Chemical Agent-Destruction Pilot Plant Closure Process

The Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) destroyed the U.S. chemical weapons stockpile stored at the U.S. Army Pueblo Chemical Depot (PCD) in Colorado. The last munition in the Colorado stockpile was destroyed June 22, 2023.

PCAPP is now being closed in a safe, environmentally compliant manner and in accordance with all applicable laws, regulations and requirements. Various systems were disassembled under a temporary authorization permit issued by the Colorado Department of Public Health and Environment as the plant awaited approval of the closure plan. The closure plan permit was approved in March 2024.

Closure involves five major factors: decontamination, decommissioning, dispositioning, demolition and administrative closeout.

Notes for media:

Portions of this video have been masked or blurred for security reasons, in accordance with Department of Defense standards.

If you wish to credit this footage, please use the following citation: Video footage courtesy of the U.S. Army.

Main Plant Closure

March 2024 – Present

- (1) 0:05-0:15 – Technicians disassemble and remove equipment from the Projectile/Mortar Disassembly (PMD) system inside Explosive Containment Room (ECR) 3 at PCAPP.
- (2) 0:16-0:39 – Technicians disassemble and remove piping from the PMD system inside ECR 3 at PCAPP.
- (3) 0:40-0:47 – Workers removed more than 120,000 gallons of residual sludge from the bottom of three storage tanks in the Biotreatment Area at PCAPP. Considered a secondary waste, the sludge was removed from the three hydrolysate storage tanks by vacuum and transferred safely to tanker trucks for off-site disposal. (*Video sped up.*)
- (4) 0:48-1:04 – Workers in Demilitarization Protective Ensembles (DPE) relocate a Cavity Access Machine (CAM) from the Munitions Washout System in the Agent Processing Building at PCAPP to a pedestal that provides more space to conduct disassembly operations.
- (5) 1:05-1:35 – Workers in DPE direct a CAM onto a platform to decontaminate and disassemble the equipment more easily.
- (6) 1:36 – 1:58 – Workers in DPE secure a CAM onto a platform after it has been relocated to allow easier access for decontamination and disassembly operations.