



Program Executive Office
Assembled Chemical Weapons Alternatives

MEDIA TOOLKIT

Blue Grass Chemical Agent-
Destruction Pilot Plant

Updated: June 29, 2021

Video Footage: Blue Grass Chemical Agent-Destruction Pilot Plant Operations

The Blue Grass Chemical Agent-Destruction Pilot Plant, known as BGCAPP, is safely destroying the chemical weapons stockpile stored at the Blue Grass Army Depot near Richmond, Kentucky. The following video clips show the main plant facility where nerve agent is being neutralized and the Explosive Destruction Technology facility housing the Static Detonation Chamber.

Blue Grass Chemical Agent-Destruction Pilot Plant Main Plant Started Operations in January 2020

Main Plant: The main plant is destroying Kentucky's nerve agent stockpile contained in rockets and projectiles. Operations began January 2020. Editor's Note: Portions of the following video clips are blurred in accordance with Department of Defense guidelines.

- Workers move pallets of 8-inch projectiles (0:00 - 0:12)
 - Workers use forklifts to place and move pallets of 8-inch projectiles through the plant as spotters help guide them through the process.
- Unpacking and loading of a pallet of 8-inch projectiles (0:12 – 0:18)
 - Munitions are shown being moved down a conveyor system.
- Munitions Washout System (MWS) processes 8-inch projectiles (0:18 – 0:28)
 - The robot removes an 8-inch projectile from the tray on the conveyor and places it at the Nose Closure Removal Station.
- Control and Support Building (0:28 – 0:31)
 - Control Room operators communicate with technicians and remotely operate various systems throughout the facility.
- Hydrolysate Storage Area tanks (0:31 – 0:39)
 - The Hydrolysate Storage Area tanks will store hydrolysate, the product of the neutralization of chemical agent, until it is ready to be shipped to a permitted hazardous waste treatment, storage and disposal facility. A portion of this footage is sped up.
- Clean-air Exhaust Stacks (0:39 – 0:45)
 - The Clean-air Exhaust Stacks and Filter Banks are shown at sunrise. This footage has been sped up.
- Enhanced On-site Container (EONC) delivery and storage (0:45 – 1:17)
 - An EONC holding 8-inch projectiles containing GB nerve agent is delivered to the Container Handling Building (CHB).
 - A sideloader is shown coming out of the CHB, lifting the EONC off the delivery truck and bringing it into the CHB.
 - A sideloader then places the EONC next to another EONC inside the CHB.
- EONC movement from the CHB to the Munitions Demilitarization Building (MDB) (1:17 – 3:09)
 - The sideloader picks up an EONC out of a row of EONCs, moves it through a series of large blast doors and unloads it in the Unpack Area in the MDB.

- Workers open and unload 8-inch projectiles from the EONC (3:09 - 4:04)
 - Workers open, inspect and unload two pallets of 8-inch projectiles from an EONC.
- Workers move pallets of 8-inch projectiles (4:04 - 4:59)
 - Workers use forklifts to place and move pallets of 8-inch projectiles through the plant as spotters help guide them through the process.
- Unpacking and loading of a pallet of 8-inch projectiles (4:59 – 5:40)
 - Workers unstrap a pallet of 8-inch projectiles and use a hand crane to lift and lower them onto a conveyor. This is the last time human hands will touch the projectiles.
 - The munitions are then conveyed through a blast door.
- Closed Circuit Television (CCTV) footage of 8-inch projectiles passing through the conveyor room (5:40 - 6:53)
 - A tray of 8-inch projectiles passes through the blast doors along a conveyor system on their way to the MWS room.
- MWS processes 8-inch projectiles (6:53 – 8:33)
 - The robot removes an 8-inch projectile from the tray on the conveyor and places it at the Nose Closure Removal Station.
 - Automated equipment removes the lifting lug from the 8-inch projectile and is weighed on a scale.
 - The munition is transferred to a Cavity Access Machine to be drained of the GB nerve agent.
 - A robot lifts the 8-inch projectile showing the final drops of GB nerve agent draining into the MWS and is weighed again before being returned to the tray on the conveyor.
- 8-inch projectiles enter the Metal Parts Treater (MPT) (8:33 – 9:11)
 - The tray of 8-inch projectiles on a conveyor enter the MPT.
 - The projectile bodies are heated to 2000 degrees Fahrenheit for a minimum of 15 minutes to destroy any residual GB nerve agent before proceeding to the cooldown area.
- Clean-air Exhaust Stacks (9:11 – 9:16)
 - The Clean-air Exhaust Stacks are shown at sunrise. The stacks release clean, filtered air from the chemical demilitarization facility back to the atmosphere.
- MDB Filter Banks (9:16 - 9:55)
 - Carbon filters are installed in the MDB Filter Banks. The filters scrub the air of contaminants from the building before being released to the atmosphere. Continuous air-monitoring systems installed in the filter banks and air stacks monitor to ensure there is no residual agent released.
- Control and Support Building (9:55 – 10:01)
 - Control Room operators communicate with technicians and remotely operate various systems throughout the facility.

- Hydrolysate Storage Area tanks (10:01 – 10:12)
 - The Hydrolysate Storage Area tanks will store hydrolysate, the product of the neutralization of chemical agent, until it is ready to be shipped to a permitted hazardous waste treatment, storage and disposal facility. A portion of this footage is sped up.
- Clean-air Exhaust Stacks (10:12 – 10:21)
 - The Clean-air Exhaust Stacks and Filter Banks are shown at sunrise. This footage has been sped up.

BGCAPP Main Plant Completed VX155mm Projectile Operations in May 2021

Main Plant: The main plant is destroying Kentucky's nerve agent stockpile contained in rockets and projectiles. On Jan. 10, 2021, the first VX 155mm projectiles were destroyed. The campaign completed on May 28, 2021.

- Loading VX 155mm Projectiles (0:00-0:10)
 - A munitions handler positions a 155mm projectile containing VX nerve agent for placement into a tray within the Unpack Area of the Munitions Demilitarization Building to begin the destruction process.
- Enhanced On-site Container (EONC) Delivery (0:10-0:15)
 - A truck pulling an EONC holding VX 155mm projectiles arrives at the entry to the Container Handling Building. The EONCs are transportation containers designed to safely transport the chemical munitions from their monitored storage on the Blue Grass Army Depot to the Blue Grass Chemical Agent-Destruction Pilot Plant for destruction.
- Agent Designation (0:15-0:18)
 - A worker places a marker designating the specific agent in the unloading operation on a sign board readily visible to operation personnel in the Container Handling Building.
- EONC Unloading (0:18-0:26)
 - A munitions handler checks the projectiles inside an EONC as the door is opened inside the Unpack Area in the main plant.
- EONC Unloading (0:27-0:37)
 - A spotter watches as a forklift driver removes a pallet of VX 155mm projectiles from an EONC inside the main plant's Unpack Area.
- Moving Projectile Pallets (0:37-0:46)
 - A sequence of clips showing workers moving a pallet of VX 155mm projectiles for staging for placement into the destruction process.
- Removing Positioning Rings (0:47-0:50)
 - A worker uses a crowbar to loosen a positioning ring on a projectile in a pallet. The rings need to be removed before the projectiles are placed into form-fitting trays for entry into the destruction process.
- Loading Projectiles into Trays (0:51-1:14)

- A series of clips depicting workers using a lift assist to pick up projectiles from pallets and place them into trays for entry into the destruction process in the Munitions Demilitarization Building.
- Loading Projectiles into Trays (1:14-1:21)
 - A loaded tray of VX 155mm projectiles is conveyed into the automated section of the plant to begin the destruction process. Human hands will not touch these projectiles again as part of the standard destruction process.
- Munitions Washout System (1:21-2:27)
 - The Munitions Washout System robot moves nerve-agent projectiles through each element of the system. The projectile nose closure is removed. The projectile is then checked for energetics or explosives. Next, it is placed in the Cavity Access Machine to drain the liquid chemical agent. Finally, it is weighed and then placed in the projectile tray to be thermally decontaminated in the Metal Parts Treater.
- Metal Parts Treater (2:27-2:40)
 - A series of clips depicting a tray of projectiles progressing through the Metal Parts Treater, which inductively heats them to more than 1,000 degrees Fahrenheit for at least 15 minutes to thermally cleanse them.
- Cool Down Area (2:40-2:44)
 - A worker checks a pallet of projectiles after it has been thermally decontaminated and cooled to room temperature in the Cool Down Area in the Munitions Demilitarization Building. The projectile bodies are clean and will be taken off site for recycling at a permitted facility.
- Control and Support Building (2:44-2:55)
 - Control Room operators communicate with technicians and remotely operate various systems throughout the facility.
- Hydrolysate Storage Area tanks (2:55-3:06)
 - The Hydrolysate Storage Area tanks store hydrolysate, the product of the neutralization of chemical agent, as it awaits shipment to an off-site facility for processing. A portion of this footage is sped up.
- Clean-air Exhaust Stacks (3:06-3:15)
 - The Clean-air Exhaust Stacks and Filter Banks are shown at sunrise. The stacks release clean, filtered air from the chemical demilitarization facility back to the atmosphere. This footage has been sped up.

Blue Grass Chemical Agent-Destruction Pilot Plant Explosive Destruction Technology Started Operations in June 2019

Explosive Destruction Technology Facility: This facility, housing a Static Detonation Chamber unit, is destroying Kentucky's mustard agent munitions. Agent destruction operations began June 2019. By September 2020, 50% of the mustard munitions were destroyed. Editor's Note: Portions of the following video clips are blurred in accordance with Department of Defense guidelines.

For additional information please visit the PEO ACWA website at www.peoacwa.army.mil

- Munitions delivery (0:00-0:15)
 - Munitions are delivered in an Enhanced On-site Container (EONC) before being unloaded at the Explosive Destruction Technology Facility.
- Munitions movement (0:15-0:30)
 - Munitions handlers use a lift-assist crane to move 155mm projectiles filled with mustard agent from a pallet to boxes in preparation for processing.
- Rotating ban removal (0:30-0:38)
 - Munitions handlers use metal snips to remove the rotating ban from the projectile and place it inside the box to be processed in the Static Detonation Chamber (SDC).
- Box sealing and marking (0:38-0:56)
 - Munitions handlers use a lift-assist crane to lower the projectile into the cardboard box before sealing it closed and marking it in preparation for processing.
- Munitions elevator (0:56-1:14)
 - Boxes containing the projectiles are transported to the top of the SDC using an elevator.
 - At the top, the box is transferred to the chamber vessel by the Airlock Feed Conveyor.
- SDC (1:14-1:30)
 - The Explosive Destruction Technology Enclosure Building holds a SDC unit. This equipment uses thermal destruction technology to safely destroy Kentucky's mustard munitions stockpile.
- Recycled munitions (1:30-1:36)
 - Once munitions are destroyed, the decontaminated scrap bodies exit the SDC on a conveyor and are stored in roll-off bins for recycling.