U.S. Chemical Weapons Stockpile Destruction Completion and Program Overview

The last chemical weapon in the U.S. chemical weapons stockpile, an M55 GB nerve agent-filled rocket, was destroyed July 7, 2023.

Destruction operations in the U.S. were conducted under the auspices of the Chemical Demilitarization Program (CDP). The CDP was developed to enhance national security by eliminating chemical warfare materiel, while protecting the workforce, public and environment and meeting obligations specified in a multilateral arms control treaty known as the Chemical Weapons Convention (CWC). This is the first time an international body has verified destruction of an entire category of weapons of mass destruction that were declared under the treaty.

Background

In 1986, the Department of Defense Authorization Act (Public Law 99-145) directed the Secretary of Defense to carry out the destruction of the national chemical weapons stockpile. The original U.S. stockpile totaled 30,610 tons of chemical agent.

The U.S. Army Chemical Materials Activity (CMA) (formerly U.S. Army Chemical Materials Agency) eliminated approximately 90 percent of the original U.S. stockpile which was safely stored at seven sites: Johnston Atoll in the Pacific Ocean; Aberdeen Proving Ground, Maryland; Newport Chemical Depot, Indiana; Pine Bluff Arsenal, Arkansas; Anniston Army Depot, Alabama; Umatilla Chemical Depot, Oregon; and Deseret Chemical Depot, Utah. CMA completed its stockpile destruction mission in January 2012. CMA is responsible for the safe and secure storage of the chemical weapons stockpile at two locations, the U.S. Army Pueblo Chemical Depot (PCD), Colorado, and Blue Grass Army Depot (BGAD), Kentucky, as well as emergency preparedness, treaty compliance and recovered chemical warfare materiel missions.

The Program Executive Office, Assembled Chemical Weapons Alternatives (PEO ACWA) is responsible for oversight of the safe and environmentally compliant destruction of the other 10 percent of the U.S. chemical weapons stockpile, stored in Colorado and Kentucky, using alternatives to incineration.

Former Destruction Sites - CMA

Johnston Atoll, Pacific Ocean – 705 U.S. Tons Declared
Destruction operations completed November 2000 | Destruction facility closed December 2003

The Johnston Atoll Chemical Agent Disposal System, located about 800 miles from Hawaii on Johnston Atoll, served as the Army's first full-scale chemical weapons disposal facility. The stockpile accounted for approximately six percent of the nation's original chemical weapons stockpile and consisted of nerve agents GB and VX and blister agent HD contained in various munitions and steel ton containers. Agent-destruction operations began in 1990 and were completed using high-temperature incineration technology in November 2000.

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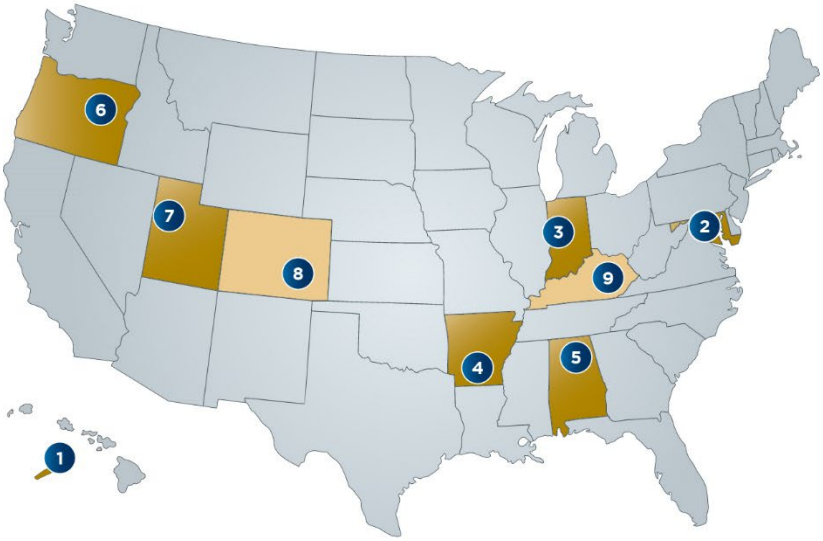

FORMER CMA DESTRUCTION SITES

1. **JOHNSTON ATOLL** — 705 U.S. TONS DECLARED
   Pacific Ocean
2. **ABERDEEN PROVING GROUND** — 1,622 U.S. TONS DECLARED
   Edgewood Area, Maryland
3. **NEWPORT CHEMICAL DEPOT** — 1,269 U.S. TONS DECLARED
   Indiana
4. **PINE BLUFF ARSENAL** — 3,851 U.S. TONS DECLARED
   Arkansas
5. **ANNISTON ARMY DEPOT** — 2,254 U.S. TONS DECLARED
   Alabama
6. **UMATILLA CHEMICAL DEPOT** — 3,720 U.S. TONS DECLARED
   Oregon
7. **DESERET CHEMICAL DEPOT** — 13,361 U.S. TONS DECLARED
   Utah

FORMER PEO ACWA DESTRUCTION SITES

8. **U.S. ARMY PUEBLO CHEMICAL DEPOT** — 2,613 U.S. TONS DECLARED
   Colorado
9. **BLUE GRASS ARMY DEPOT** — 523 U.S. TONS DECLARED
   Kentucky

Aberdeen Proving Ground (Edgewood Area), Maryland – 1,622 U.S. Tons Declared
Destruction operations completed February 2006 | Destruction facility closed June 2007

The U.S. Army safely stored approximately five percent of the nation's original chemical weapons stockpile at Aberdeen Proving Ground (Edgewood Area). The stockpile consisted of blister agent HD in ton containers. Agent-destruction operations at the Aberdeen Chemical Agent Disposal Facility began in 2003 and were completed using neutralization in February 2006.

Newport Chemical Depot, Indiana – 1,269 U.S. Tons Declared
Destruction operations completed August 2008 | Destruction facility closed January 2010

The U.S. Army safely stored approximately four percent of the nation's original chemical weapons stockpile at the Newport Chemical Depot. The stockpile consisted of nerve agent VX in ton containers. Agent-destruction operations at the Newport Chemical Agent Disposal Facility began in 2005 and were completed using neutralization in August 2008.

Pine Bluff Arsenal, Arkansas – 3,851 U.S. Tons Declared
Destruction operations completed November 2010 | Destruction facility closed January 2013

The U.S. Army safely stored approximately 12 percent of the nation's original chemical weapons stockpile at the Pine Bluff Arsenal. The stockpile consisted of nerve agents GB and VX and blister agent HD in various munitions and ton containers. Agent-destruction operations at the Pine Bluff Chemical Agent Disposal Facility began in 2005 and were completed using high-temperature incineration in November 2010.

Anniston Army Depot, Alabama – 2,254 U.S. Tons Declared
Destruction operations completed September 2011 | Destruction facility closed May 2014

The U.S. Army safely stored approximately seven percent of the nation's original chemical weapons stockpile at the Anniston Army Depot. The stockpile contained nerve agents GB and VX and blister

agents HD and HT in various munitions and ton containers. Agent-destruction operations at the Anniston Chemical Agent Disposal Facility (ANCDF) began in 2003 and were completed using high-temperature incineration in September 2011.

In 2014, PEO ACWA established the Anniston Field Office at the Anniston Army Depot to ensure that the technical expertise and experience of the staff at the former ANCDF, as well as the facility's Static Detonation Chamber, or SDC, was preserved and was accessible to be leveraged during chemical weapons destruction in Colorado and Kentucky.

Umatilla Chemical Depot, Oregon – 3,720 U.S. Tons Declared
Destruction operations completed October 2011 | Destruction facility closed January 2015

The U.S. Army safely stored approximately 12 percent of the nation's original chemical weapons stockpile at the Umatilla Chemical Depot. The stockpile contained nerve agents GB and VX and blister agent HD in various munitions and ton containers. Agent-destruction operations began at Umatilla Chemical Agent Disposal Facility in 2004 and were completed using high-temperature incineration in October 2011.

Deseret Chemical Depot, Utah – 13,361 U.S. Tons Declared
Destruction operations completed January 2012 | Destruction facility closed November 2014

The U.S. Army safely stored approximately 44 percent of the nation's original chemical weapons stockpile at the Deseret Chemical Depot. The stockpile contained nerve agents GB, GA and VX and blister agents H, HD, HT and Lewisite in various munitions and ton containers. Agent-destruction operations at the Tooele Chemical Agent Disposal Facility began in 1989 and were completed using high-temperature incineration in January 2012.

Former Destruction Sites – PEO ACWA

U.S. Army Pueblo Chemical Depot, Colorado – 2,613 U.S. Tons Declared
Last munition destroyed June 22, 2023

The U.S. Army safely stored approximately eight percent of the nation's original chemical weapons stockpile at the U.S. Army Pueblo Chemical Depot. The original stockpile contained blister agent HD and HT in projectiles and mortar rounds. PEO ACWA worked together with the community to select neutralization followed by biotreatment to destroy the chemical weapons stockpile stored at the depot. Agent-destruction operations began at the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) in 2016.

SDC technology was selected to augment the baseline technology to destroy chemical munitions that could not be easily processed by the main plant's automated equipment. The SDC complex operated from 2022 to 2023. The Explosive Destruction System, an explosive destruction technology, augmented the pilot plant by destroying problematic munitions in Pueblo from 2015 to 2018.

Blue Grass Army Depot, Kentucky – 523 U.S. Tons Declared
Last munition destroyed July 7, 2023

The U.S. Army safely stored approximately two percent of the nation's original chemical weapons stockpile at the Blue Grass Army Depot. The original stockpile contained nerve agents GB and VX in rockets and projectiles and mustard agent HD in projectiles. PEO ACWA worked with the community to select neutralization followed by supercritical water oxidation to destroy the chemical weapons stored at the depot. Later, the decision was made to not use the supercritical water oxidation system to process hydrolysate, the product of the neutralization process. This secondary waste was shipped to a licensed and permitted hazardous waste treatment, storage and disposal facility. Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) destruction operations began in 2020.

The BGCAPP main plant was augmented by SDC units. An SDC destroyed all of the mustard agent stockpile from 2019 to 2021, and is scheduled to begin destruction of drained rocket warheads, considered secondary waste, in the fall of 2023. A larger SDC 2000 augmented the main plant by destroying drained and undrained rocket warheads, rockets unsuitable for processing in the main plant, overpacked rockets and munitions components, and will continue to destroy secondary waste during the plant's closure phase as well.