Chemical Weapons Elimination

Closing U.S. Chemical Warfare Agent Disposal Facilities

In 1997, the United States ratified the Chemical Weapons Convention Treaty and agreed to destroy its declared stockpile (approximately 30,500 tons) of chemical warfare agents by April 29, 2012 (revised date). In January 2012, the final mustard munition was destroyed at the Tooele Chemical Agent Disposal Facility, resulting in the destruction of nearly 90% of the U.S. stockpile by the treaty date. Operations and plans continue for disposal of the remaining 2,700 tons at the remaining two sites in Kentucky and Colorado.

On this Page

The U.S. stockpile of chemical warfare agents (i.e., nerve agents and vesicants or blister agents) was stored at nine sites either in bulk containers or as assembled munitions. Chemical agent disposal facilities were built at each site to destroy the stockpile using either incineration or neutralization. The two organizations responsible for these activities are the

- Chemical Materials Agency (renamed Chemical Materials Activity in 2012) and
- Program Manager for Assembled Chemical Weapons Alternatives .

Status of Chemical Agent Disposal Facilities

Chemical warfare agents at seven of the nine disposal facility sites have been destroyed and those facilities are closed. Facilities are under construction at the two remaining sites.

The two sites under construction are

- Blue Grass Chemical Agent-Destruction Pilot Plant, Richmond, Kentucky .
- Pueblo Chemical Agent-Destruction Pilot Plant, Pueblo, Colorado .

The seven closed sites are

- Aberdeen Chemical Agent Disposal Facility, Aberdeen Proving Ground, Maryland.
- Anniston Chemical Agent Disposal Facility, Anniston, Alabama.
- Johnston Atoll Chemical Agent Destruction System, Johnston Atoll.
- Newport Chemical Agent Disposal Facility, Newport, Indiana.
- Pine Bluff Chemical Agent Disposal Facility, Pine Bluff, Arkansas.
- Tooele Chemical Agent Disposal Facility, Tooele, Utah.
- Umatilla Chemical Agent Disposal Facility, Umatilla, Oregon.

Find more information about sites in operation and under construction at https://www.cdc.gov/nceh/demil/sites.htm.

Closure Process

Before the closure process begins at a site, CDC, the Department of Defense (DoD), and site managers carefully plan, develop standard operating procedures, and conduct safety reviews.

The closure process involves dismantling, decontaminating, and demolishing the chemical agent disposal equipment and buildings. It also requires considering how the property might be used in the future and restoring it to the standards described in the disposal facility's environmental permit.

During the closure process, reviews of the facility's history and interviews with facility personnel help identify contaminated and potentially contaminated equipment and buildings. Decontamination methods are designed specifically for each facility's type of equipment and buildings and their level of contamination.

What happens to a facility's equipment depends on past levels of contamination and on whether the equipment can be decontaminated and reused. Equipment might be removed and reused, removed and disposed of as hazardous waste, or left in place and demolished along with a facility's structures. Equipment is dismantled as needed so interior surfaces can be checked for contamination. Air monitoring and chemical analyses continue during the decontamination process to verify that all materials are successfully decontaminated.

After the buildings and remaining equipment are decontaminated, the entire facility is demolished.

Air monitoring and chemical analyses also continue after demolition to verify that all materials are successfully decontaminated. After demolition, soil at the building sites is analyzed and cleaned up as needed. This ensures that the property is restored to the standards specified in the facility's environmental permit.

Closure Waste

Closure of chemical agent disposal facilities generates waste that includes

- Used decontamination solutions,
- Protective clothing for workers,
- Cleaning tools and supplies, and
- Equipment that cannot be reused or left at the facility.

In general, closure waste is handled in the same way as waste created during facility operations. Depending on its level of contamination, waste may be thermally treated at the facility, it may be sent to a permitted hazardous waste treatment and disposal facility, or it may be sent to a commercial disposal facility.

Land Use after Closure of Chemical Agent Disposal Facilities

After a facility closes, its land might be used by DoD or another federal agency. DoD considers local economic conditions and public comments when determining how to use the land.

For example, land at the first facility to close, Johnston Atoll Chemical Agent Destruction System, was given to the U.S. Fish and Wildlife Service and became the Johnston Island National Wildlife Refuge . After the Aberdeen Chemical Agent Disposal Facility closed, DoD kept its office building there for use by other DoD agencies. Plans for the Newport Chemical Agent Disposal Facility's land include a variety of commercial uses.

Public Participation

DoD holds public meetings to tell the public about closure plans. These meetings are held in communities where the chemical disposal facilities are located.

To comment on how land from a chemical agent disposal facility should be used after the facility closes, contact your local chemical disposal facility outreach office .

Last Reviewed: January 6, 2014