

Chemical Demilitarization Program (CHEM DEMIL)

Executive Summary

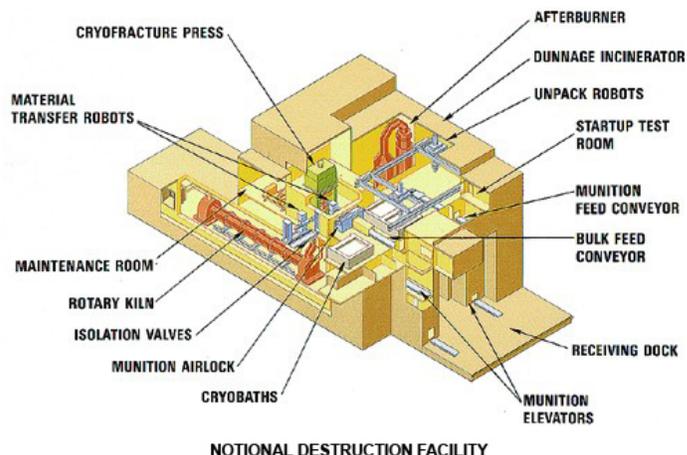
- Army testing of stockpile and non-stockpile systems in the Chemical Demilitarization Program has been adequate to ensure the safe disposal of chemical warfare material.
- All operational testing (OT) was conducted in accordance with DOT&E-approved test plans.
- The Army conducted successful testing at Anniston, Alabama; Umatilla, Oregon; and Pine Bluff, Arkansas, stockpile facilities.
- The Army conducted successful testing of non-stockpile programs for two Explosive Destruction Systems and the Transportable Detonation Chamber.
- Disposal operations of the U.S. chemical stockpile failed to meet the original Chemical Weapons Treaty deadline of April 2007, and based on the current program schedule, will fail to meet the extension to April 2012.

System

- The Chemical Demilitarization Program involves the destruction of lethal chemical agents, chemical munitions, and non-stockpile chemical warfare material.
- Four stockpile disposal facilities are employing the baseline chemical weapons disassembly and incineration process:
 - Anniston, Alabama
 - Pine Bluff, Arkansas
 - Tooele, Utah
 - Umatilla, Oregon
- Two stockpile disposal facilities are in development at Blue Grass, Kentucky, and Pueblo, Colorado. They will employ chemical neutralization of agents followed by post-treatment of the neutralized products.
- The Linear Projectile Mortar Disassembly system is a new munitions processing system being developed for use at the Anniston, Blue Grass, and Pueblo sites.
- There is one non-stockpile fixed facility: Ton Container Decontamination Facility at Pine Bluff Arsenal.
- There are four non-stockpile transportable systems:
 - Explosive Destruction System – 1
 - Explosive Destruction System – 2
 - Large Item Transportable Access and Neutralization System
 - Transportable Detonation Chamber

Activity

- Chemical Demilitarization Programs are not traditional acquisition programs under DOT&E oversight. DOT&E oversight began in 1999 when Congress directed that DoD oversee these programs as major defense acquisition programs due to cost and schedule overruns.



Mission

- The United States is using the Chemical Demilitarization Program to comply with the Chemical Weapons Convention. This is an arms control and nonproliferation treaty that requires the destruction of the U.S. stockpile of lethal chemical agents, chemical munitions, and non-stockpile chemical warfare material.
- The Non-stockpile Chemical Material Project is responsible for the destruction of non-stockpile chemical warfare material, including the components of binary chemical weapons (complete), miscellaneous chemical warfare material, recovered chemical weapons, former production facilities (complete), and buried chemical warfare material.

Prime Contractors

- Chemical Materials Agency, Aberdeen, Maryland
- Baseline sites: URS Corporation, EG&G Division, Gaithersburg, Maryland
- Assembled Chemical Weapons Alternatives (ACWA) sites: Bechtel National, Inc., San Francisco, California, and Parsons Infrastructure and Technology Group, Inc., Pasadena, California

- The test and evaluation program for each stockpile incineration disposal facility consists of several phases:
 - The developmental testing (DT) phase consists of subsystem component testing without agent.

DOD PROGRAMS

- The DT/OT phase employs surrogate agents in all test events, culminating in trial burns of the furnaces and end-to-end operations of the facility.
- The OT phase consists of agent trial burns and initial operations with agent.
- OT supports a decision to proceed to full operational status for a specific agent/munitions campaign. For example, one campaign would destroy 8-inch projectiles equipped with Sarin nerve agent, another would destroy M55 rockets with Sarin, and a third would destroy 1-ton containers of mustard blister agent. After completion of each campaign, the facility reverts to OT status for the next planned campaign. This process is repeated until destruction of all agent/munitions configurations in the site's stockpile is complete. DOT&E monitors the test activity and independently analyzes test data for all stockpile facilities and non-stockpile systems.
- As of August 2009, approximately 64 percent of the total U.S. chemical weapons stockpile (originally 31,498 agent tons) had been destroyed. FY09 test activity for stockpile facilities and non-stockpile systems is summarized in the table below.

Assessment

- Army testing of stockpile and non-stockpile systems in the Chemical Demilitarization Program has been adequate to ensure the safe disposal of chemical warfare material. The U.S. Army Material Systems Analysis Activity is providing effective independent oversight of the testing of both stockpile and non-stockpile programs. Fully integrated operational demonstrations that confirm all phases of operations (including preparation, destruction/neutralization, and disposal) remain critical prerequisites before transition to operations with live agents.
- Disposal operations of the U.S. chemical stockpile failed to meet the original Chemical Weapons Treaty deadline of April 2007 and based on the current program schedule, will fail to meet the extension to April 2012.

Recommendations

- Status of Previous Recommendations. There are no outstanding previous recommendations.
- FY09 Recommendations. None.

CHEMICAL DEMILITARIZATION TEST AND EVALUATION ACTIVITY

Facility/System	Technology	FY09 Activity	Agent Tested	Planned FY10 Activity
Anniston	Incineration	OT	Mustard (HT) 4.2-inch Mortars	OT Mustard (HD) 4.2 Mortars
Umatilla	Incineration	OT	Mustard (HD) Ton Containers	Operations Only
Pine Bluff	Incineration	OT	Mustard (HD/HT) Ton Containers	Operations Only
Newport	Neutralization	Closure Activities	Not Applicable	Closure Activities
Linear Projectile Mortar Disassembly	Not Applicable (Munitions Disassembly Only)	DT/OT	Mustard (HD/HT) Munitions: 155/105 mm Projectiles 4.2-inch Mortars	OT
Explosive Destruction System Phase 1	Neutralization	OT	Arsenicals German Traktor Rockets Sarin (GB)	TBD (Pending new missions and munitions)
Explosive Destruction System Phase 2	Neutralization	OT	Arsenicals German Traktor Rockets VX	FOT&E Arsenicals German Traktor Rockets
Large Item Transportable Access and Neutralization System	Neutralization	Testing Suspended (recovered munitions unavailable)	Not Applicable	Testing Suspended (recovered munitions unavailable)
Transportable Detonation Chamber	Thermal Decomposition	DT/OT	Mustard (HD)	DT/OT HD, GB, VX
Pine Bluff Ton Container Decontamination Facility	Magnetic Induction Heating	Operations	Trace Agents during Ton Container Processing	Operations