

CHEMICAL DEMILITARIZATION PROGRAM



The Chemical Demilitarization Program is an Army managed program responsible for the destruction of the U.S. stockpile of lethal chemical agents and munitions. This program is required to comply with the Chemical Weapons Convention (CWC), which is a major arms control and nonproliferation treaty that entered-into-force on April 29, 1997.

The Chemical Stockpile Disposal Project is responsible for destruction of the U.S. stockpile of unitary chemical weapons. Nine chemical agent disposal facilities are or will be collocated with nine chemical depots. Five disposal facilities are employing the baseline chemical weapons disassembly and incineration process. The Alternative Technology and Approaches Project is responsible for conducting pilot testing of alternative (to incineration) destruction technologies. The Army has selected chemical neutralization of agent followed by post-treatment of the neutralized products for the bulk storage disposal facilities being constructed at Aberdeen Proving Ground, MD, and at the Newport Chemical Depot, IN. At the direction of Congress, the Assembled Chemical Weapons Assessment Program was established in 1996 to evaluate alternative technologies for the Pueblo and Blue Grass disposal facilities. Selection of the final destruction technologies are awaiting the Records of Decision from the Environmental Impact Statement process for those sites. Technology decisions are planned for January 2002 and July 2002, respectively.

- Incineration disposal facilities:
 1. Johnston Atoll Chemical Agent Disposal System: disposal complete, in closure.
 2. Tooele Chemical Agent Disposal Facility, Deseret Chemical Depot (UT): operational.
 3. Anniston Chemical Agent Disposal Facility (AL): construction complete, in test.
 4. Umatilla Chemical Agent Disposal Facility (OR): construction complete, in test.
 5. Pine Bluff Chemical Agent Disposal Facility (AR): under construction.
- Neutralization disposal facilities:
 6. Aberdeen Chemical Agent Disposal Facility (MD): under construction.
 7. Newport Chemical Agent Disposal Facility (IN): under construction.
- Disposal technologies still to be determined:
 8. Pueblo Chemical Agent Disposal Facility (CO).
 9. Blue Grass Chemical Agent Disposal Facility (KY).

The Non-Stockpile Chemical Materiel Project (NSCMP) is responsible for the destruction of non-stockpile chemical warfare materiel, including the components of binary chemical weapons, miscellaneous chemical warfare materiel, recovered chemical weapons, former production facilities, and buried chemical warfare materiel. The NSCMP developed and tested several mobile systems: (1) the Explosive Destruction System (EDS); (2) the Rapid Response System (RRS); (3) the Mobile Munitions Assessment System (MMAS); and (4) the Portable CAIS (Chemical Agent Identification Set) Assessment System (PCAS). Two additional variants of EDS are in development. Two non-stockpile disposal fixed facilities are planned: (1) the Munitions Assessment and Processing System (under construction) at Aberdeen Proving Ground, MD; and (2) the Pine Bluff Non-Stockpile Facility at Pine Bluff Arsenal, AR.

BACKGROUND INFORMATION

As a result of CWC entry-into-force, destruction of 100 percent of the stockpile of unitary chemical weapons is required by April 29, 2007, unless the signatories to the CWC approve a five-year extension. As of August 19, 2001, the Johnston Atoll and Tooele facilities had successfully destroyed approximately 23 percent of the total U.S. chemical weapons stockpile (originally 31,496 agent tons). The Army has met the first two milestones of the CWC (1 percent and 20 percent destruction, respectively).

The Johnston Atoll disposal facility completed chemical agent operations in November 2000, and is currently in the closure process. The Tooele disposal facility is currently the only operational facility. The Anniston and Umatilla disposal facilities are planned to begin agent operations in mid-CY02.

The disposal facilities are government owned and contractor operated. Each site's prime contractor conducts all developmental and operational testing under oversight of the Program Office and the U.S. Army Materiel Systems Analysis Activity (AMSAA). The Chemical Demilitarization Program was placed under OSD oversight in December 1994. Since then, DOT&E has provided oversight of the stockpile, non-stockpile, and alternate technologies projects within the Chemical Demilitarization Program.

TEST & EVALUATION ACTIVITY

The Anniston and Umatilla disposal facilities completed construction in June and August 2001, respectively. During construction, testing consisted of contractor-conducted component and sub-system checkout. DOT&E conducted walk-throughs of each facility and participated in on-site meetings with the Program Office, AMSAA, and the prime contractor to determine readiness to begin system developmental testing, which integrates the sub-systems for an end-to-end test with surrogate chemical agent. DOT&E supported recommendations to begin developmental testing activities at each site, which are currently in progress. DOT&E will continue to monitor the developmental test activity and independently analyze selected portions of the test data, leading to a determination of readiness to begin operational testing with active agent in CY02. The Pine Bluff, Aberdeen, and Newport disposal facilities are still under construction. Test activities in FY01 at those sites consisted of limited component and sub-system checkout. DOT&E participated with the Program Office and AMSAA through the Test Integrated Process Team to monitor progress and continue test planning for those facilities.

DOT&E reviewed and approved the TEMPs for the Umatilla, Aberdeen, and Newport facilities, and provided comments on the draft Pine Bluff TEMP, which is in development. DOT&E previously approved the Anniston TEMP in 2000.

DOT&E provided selective on-site monitoring of multiple non-stockpile test activities throughout FY01. DOT&E observed operational testing for the RRS and the PCAS, and independently assessed the test results. DOT&E actively participated in the Operational Readiness In-Process Reviews for these systems and supported the Program Manager's decision to declare both systems operational in FY01, along with the MMAS, which completed operational testing in FY00. The RRS was subsequently used to successfully dispose of the CAIS inventory contained in overpacks at Deseret Chemical Depot.

After completing successful developmental testing at Porton Downs, UK, which DOT&E observed, the prototype EDS was returned to Aberdeen Proving Ground to begin operational testing with nerve agent, mustard, and phosgene. Operational testing was temporarily suspended twice, in December 2000 and June 2001, respectively, in order to relocate the prototype EDS to the Rocky Mountain Arsenal in Denver, CO, where it was used successfully to destroy a total of ten recovered M139 GB nerve agent bomblets. DOT&E supported an Army decision to use the EDS prototype since developmental testing at Porton Downs had been conducted with live chemical agent, and independent analysis of the test data revealed that using the EDS prototype for emergency disposal operations could be done at acceptable and moderate risk. DOT&E observed this disposal activity and analyzed the data, which supplemented the operational test effort. EDS operational testing with mustard and phosgene resumed in September and was completed on October 2, 2001. DOT&E also participated in the test planning for future variants of EDS.

DOT&E reviewed and provided comments to the Program Office for a revision to the Non-Stockpile Overarching Test Concept Plan, which is a TEMP-like document covering test planning for all non-stockpile programs. DOT&E also reviewed individual test plans for each of the non-stockpile systems.

TEST & EVALUATION ASSESSMENT

U.S. Army testing of stockpile and non-stockpile systems in the Chemical Demilitarization Program has been adequate to ensure the safe and efficient disposal of the inventory of chemical warfare materiel. Operational testing of EDS-1, RRS, MMAS, and PCAS has demonstrated that these systems are operationally effective and suitable.

The U.S. Army Materiel Systems Analysis Activity is providing effective independent oversight of the testing of both stockpile and non-stockpile programs.

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