

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. 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.

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 disposal facilities at the two bulk agent storage sites in Aberdeen, Maryland, and Newport, Indiana. 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 is awaiting the Records of Decision from the Environmental Impact Statement process for those sites. Technology decisions are planned for 4QFY02 and 1QFY03, respectively. Due to the events of September 11, 2001, accelerated destruction is being implemented at the two bulk storage sites and the Pueblo site to reduce the risk of continuing agent storage.

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 has developed, tested, and fielded several mobile systems: the Explosive Destruction System, Phase 1, System 1 (EDS-1/1); the Rapid Response System; the Mobile Munitions Assessment System; and the Portable Raman System. Two additional variants of EDS are in testing. Two mobile systems are in development: Single Chemical Agent Identification Set Access Neutralization System, and Large Items Transportable Accessing and Neutralization System. Three non-stockpile disposal fixed facilities are in development: the Munitions Assessment and Processing System at Aberdeen Proving Ground, Maryland; the Pine Bluff Non-Stockpile Facility at Pine Bluff Arsenal, Arkansas; and the Pine Bluff empty ton container recycling facility.

As of June 30, 2002, the Johnston Atoll and Tooele facilities had successfully destroyed approximately 26 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 FY03.

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. 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.



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ARMY PROGRAMS

TEST & EVALUATION ACTIVITY

The Anniston and Umatilla disposal facilities have completed the DT phase of testing. In FY02, DOT&E supported recommendations to begin Developmental Test/Operational Test at each site, which are currently in progress. DOT&E will monitor the 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 FY03. The Pine Bluff, Aberdeen, and Newport disposal facilities are still under construction. Test activities in FY02 at those sites consisted of limited component and sub-system checkout.

DOT&E reviewed and approved the Pine Bluff Test and Evaluation Master Plan (TEMP). DOT&E previously approved the Anniston, Umatilla, Aberdeen, and Newport TEMPs. In implementing accelerated destruction at the Aberdeen and Newport sites, the program office has proposed replacing the approved TEMPs for those sites with Test Concept Plans (TCPs). The TCPs would still be subject to DOT&E approval. DOT&E is reviewing the proposed draft TCPs.

DOT&E provided selective on-site monitoring of non-stockpile test activities throughout FY02. DOT&E observed operational testing for the EDS, Phase 1, System 2 (EDS-1/2), and independently assessed the test results. DOT&E will actively participate in the Operational Readiness In-Process Reviews for these systems, which will support a Program Manager's decision to declare EDS-1/2 operational in FY02. FOT&E of EDS-1/2 will follow this decision. Early Developmental Test of EDS, Phase 2 (EDS-2) system commenced in FY02.

DOT&E approved the Non-Stockpile Overarching Test Concept Plan, which is a TEMP-like document covering test planning for all non-stockpile programs. DOT&E also reviews 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. The implementation of accelerated destruction at three sites increases the amount of manual handling of agent materiel, thereby increasing the risk of safe operation of these facilities. DOT&E will monitor the safety issue closely during testing of these facilities.

Operational testing of EDS-1/2 to date has been inadequate to make a determination of operational effectiveness and suitability. DOT&E anticipates that upon completion of the EDS-1/2 Follow-on Test & Evaluation, the operational testing will be adequate to make this determination. DOT&E is concerned at the absence of a defined vessel vacuum "go/no-go" criterion for the EDS systems. Absence of this criterion increases the risk of inadvertent agent release from the EDS vessel when detonation occurs without a proper seal. Although risks of agent release are very low for the EDS-1 systems, the subsequent EDS-2 system that employs more powerful explosives will incur greater risks, and will require a defined "go/no-go" criterion for the vessel.

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