

Department of Defense
Chemical Demilitarization Program
Semi-Annual Report to Congress



March 2014

**Office of the Under Secretary of Defense
for Acquisition, Technology and Logistics**

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EXECUTIVE SUMMARY

As required by section 1521(j) of title 50, U.S.C., as amended by section 1421 of the National Defense Authorization Act for Fiscal Year 2013 (Public Law 112-239), the March 2014 Department of Defense (DoD) Chemical Demilitarization Program (CDP) Semi-Annual Report to Congress presents information describing the Department's progress toward destruction of the U.S. stockpile of lethal chemical agents and munitions by the Chemical Weapons Convention (CWC) destruction deadline of April 29, 2012, but not later than December 31, 2017, and provides the status of ongoing actions to accelerate the program.

The U.S. Army Chemical Materials Activity (CMA) was responsible for the destruction of approximately 90 percent of the U.S. stockpile declared under the CWC and stored at seven sites: Johnston Atoll; Aberdeen, Maryland; Anniston, Alabama; Tooele, Utah; Pine Bluff, Arkansas; Newport, Indiana; and Umatilla, Oregon. The Program Executive Office for Assembled Chemical Weapons Alternatives (PEO ACWA) is responsible for destroying the remaining 10 percent of the declared chemical weapons stockpile stored in Pueblo, Colorado, and Blue Grass, Kentucky.

The CMA destruction mission was completed on January 21, 2012. The CMA continues to diligently work towards closure of their remaining sites. As a result of an ongoing internal reorganization, the Joint Program Executive Office for Chemical and Biological Defense (JPEO CBD) is now responsible for completing remaining closure activities. Physical closure of the Pine Bluff facility is complete. Administrative closure operations at the site continue. Completion of this final stage is expected in 4th Quarter FY 2014. The CMA continues physical closure operations at the three remaining chemical weapons destruction facilities in Anniston, Alabama; Umatilla, Oregon; and Tooele, Utah.

The ACWA program is preparing to destroy the remaining U.S. chemical weapons stockpiles in Colorado and Kentucky. At the Pueblo Chemical Depot (PCD) in Colorado, construction is complete and systemization activities are well under way. At the Blue Grass Army Depot (BGAD) in Kentucky, construction is progressing at a rapid rate. Systemization activities are progressing.

While the planned stockpile destruction operations at the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) and the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) are not expected to accommodate the December 31, 2017, congressionally mandated destruction deadline, the Department continues working to minimize the time required to complete destruction of the remaining chemical weapons stockpile without sacrificing the environment or worker and public safety and security.

Chemical Demilitarization Program (CDP) Semi-Annual Report to Congress March 2014

INTRODUCTION

This report provides: (1) the status of the Department's progress toward destruction of the U.S. stockpile of lethal chemical agents and munitions by the CWC destruction deadline of April 29, 2012, but not later than December 31, 2017; and (2) the status of on-going actions to accelerate the program.

REPORTING REQUIREMENTS

Title 50, U.S.C., section 1521(j) (as amended) includes a semi-annual reporting requirement on the implementation by the United States of its chemical weapons destruction obligations under the CWC.

OPTIONS AND ALTERNATIVES FOR ACCELERATING DESTRUCTION

Starting in 2008, the Department conducted assessments to define options and alternatives for accelerating destruction of the remaining chemical weapons stockpile by the April 29, 2012, CWC destruction deadline, but not later than the December 31, 2017, congressionally-mandated deadline. The Department identified for evaluation three options to destroy the remaining chemical weapons stockpile: (1) provide performance incentives to ensure destruction is complete at the Chemical Materials Activity (CMA) sites by April 29, 2012; (2) transport portions of the stockpile to operational chemical weapons destruction facility locations; and (3) accelerate the Assembled Chemical Weapons Alternatives (ACWA) program sites destruction schedules. The Department concluded that no realistic options were available to destroy the complete U.S. stockpile by the CWC destruction deadline of April 29, 2012.

Semi-Annual Report Requirements Under Title 50 U.S.C. section 1521(j), as Amended

The report shall include:

- The anticipated schedule at the time of such report for the completion of destruction of chemical agents, munitions, and materiel at each chemical weapons demilitarization facility in the United States;
- A description of the options and alternatives for accelerating the completion of chemical weapons destruction at each such facility, particularly in time to meet the stockpile elimination deadline (currently 2017);
- A description of the funding required to achieve each of the options for accelerated destruction, and a detailed life-cycle cost estimate for each of the affected facilities included in each such funding profile;
- A description of all actions being taken to accelerate the destruction of its entire stockpile of chemical weapons, agents, and materiel in order to meet the current destruction deadline, or as soon thereafter as possible; and
- A description and justification for the use of any supplemental destruction technologies used at Pueblo and Blue Grass, during the reporting period, including Explosive Destruction Technology (EDT) and any technologies developed for the treatment and disposal of energetics or agent hydrolysates. This description and justification will include:
 - The need and justification for use of supplemental technologies
 - Site-by-site descriptions of the problematic aspects of the stockpile
 - The type of supplemental technologies used at each site and
 - Any planned future use of other supplemental technologies for each site

Following a rigorous and lengthy review mandated by title 10, U.S.C., section 2433a (commonly referred to as the Nunn-McCurdy statute), the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) certified a restructured ACWA program to Congress on June 14, 2011. The restructured program maintains current destruction technologies (neutralization followed by on-site secondary waste treatment) and has an approved Milestone B and an Acquisition Program Baseline that includes supplemental use of EDT at each site.

LIFE-CYCLE COSTS AND DESTRUCTION SCHEDULE ESTIMATES

The CMA continues to focus on physically closing the remaining chemical weapons destruction facilities at Anniston, Alabama; Umatilla, Oregon; and Tooele, Utah. The Arkansas facility is undergoing administrative closure, which is expected to be complete in fourth quarter, 2014. Demolition is well underway at the Alabama, Oregon, and Utah facilities. Final closure of these CMA facilities is slated for FY 2017. The CMA also continues to manage the storage of munitions at PCD and BGAD.

Progress toward the commencement of destruction operations continues at the ACWA program sites. Major construction at the PCAPP is 100 percent complete with only minor, non-critical path items remaining. Systemization efforts are approximately 46 percent complete. The PCAPP is on track to begin destruction operations in December 2015 and end operations in November 2019.

Construction of the BGCAPP is over 79 percent complete. Systemization operations at BGCAPP are 14 percent complete. The BGCAPP is on track to begin destruction operations in April 2020 and end operations in September 2023.

The Consolidated Appropriations Act, 2014 (H.R. 3547) has appropriated necessary funding with which the CDP will continue to move toward completion of the U.S. chemical demilitarization mission. The tables below illustrate the estimated cost and schedule of the CDP.

Table 1 – CDP Cost Estimate (*Then-Year \$Million*)

Project/FY	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
CMA	21,946.5	419.9	253.0	160.2	149.6	147.9	179.0	753.6	24,009.7
ACWA	4,646.4	706.8	614.5	613.7	617.8	655.9	641.8	2,497.0	10,993.9
Total	26,592.9	1,126.7	867.5	773.9	767.4	803.8	820.8	3,250.6	34,490.1

CMA - U.S. Army Chemical Materials Activity

ACWA - Assembled Chemical Weapons Alternatives

Note: CMA and ACWA cost estimates are based on the FY 2015 President's Budget

Table 2 - CDP Schedule Estimate

Milestone	ACWA	
	PCAPP	BGCAPP
Begin Operations	DEC 2015	APR 2020
Complete Operations	NOV 2019	SEP 2023

PCAPP – Pueblo Chemical Agent-Destruction Pilot Plant

BGCAPP – Blue Grass Chemical Agent-Destruction Pilot Plant

Note: The ACWA program schedule estimates are based upon the 2012 Acquisition Program Baseline.

ONGOING ACTIONS TO ACCELERATE DESTRUCTION

The ACWA program leadership is working to implement section 923 of the John Warner National Defense Authorization Act for Fiscal Year 2007 (Public Law 109-364), which authorized the Secretary of Defense to include an incentives clause in any contract for destruction of the U.S. stockpile of lethal chemical agents and munitions for the purpose of accelerating the safe elimination of the stockpile and closure of the facilities. An incentive agreement has been discussed with the PCAPP systems contractors. Discussions with the BGCAPP will begin once the incentive agreement is part of the PCAPP contract.

Additionally, the PEO ACWA approved the use of the U.S. Army Explosive Destruction System (EDS) to destroy problematic mustard-filled chemical munitions, augmenting the primary chemical agent-destruction pilot plant or the PCAPP at PCD. Incorporating EDS into the destruction process will mitigate technical risk and enhance workforce safety. The U.S. Army Corps of Engineers awarded the contract for the PCAPP EDS design and construction of the infrastructure and facilities in November 2013. Destruction of existing overpack munitions at PCD could begin as early as October 2014.

To enhance workforce safety and mitigate technical and schedule risk with destroying the mustard stockpile at Blue Grass, Kentucky, the use of an EDT system to augment the BGCAPP has been approved. The BGCAPP systems contractor chose and PEO ACWA approved the Static Detonation Chamber in November 2013 as the preferred EDT for use at Blue Grass. An assessment to determine whether using EDT for the destruction of all mustard-filled munitions could adversely affect the environment was completed with no significant impact noted. PEO ACWA is evaluating the potential to destroy the mustard stockpile at BGAD prior to initiating nerve agent destruction in the main plant. Destruction of mustard-filled munitions could begin in 2016.

SUPPLEMENTAL CHEMICAL AGENT AND MUNITIONS DESTRUCTION TECHNOLOGIES

No EDT systems have been deployed or used at either Colorado or Kentucky for the destruction of problematic munitions during this reporting period. In addition, supplemental destruction technologies are not currently being developed for the disposal of energetics or chemical agent hydrolysates.

CONCLUSION

The CMA completed all decontamination operations at its remaining sites and is squarely focused on completion of closure operations. While the currently planned destruction operations at PCAPP and BGCAPP focus on the remaining 10 percent of the U.S. chemical weapons stockpile, neither is expected to accommodate the December 31, 2017, congressionally mandated destruction deadline. The Department continues to evaluate options to improve the destruction schedule without sacrificing the environment, worker, and public safety and security.