

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



March 2015

**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 2015 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 CMA completed destruction of the stockpiles at the seven sites in January 2012. Through a recent Army reorganization, responsibility for closure of these sites was shifted to the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD). JPEO-CBD continues to diligently work towards closure of the remaining sites.

The Program Executive Office (PEO) for Assembled Chemical Weapons Alternatives (ACWA) program is responsible for destroying the remaining 10 percent of the declared chemical weapons stockpile stored in Pueblo, Colorado, and Richmond, Kentucky. At the Pueblo Chemical Depot (PCD) in Pueblo, Colorado, construction of the chemical agent destruction pilot plant is complete and systemization activities are well under way. At the Blue Grass Army Depot (BGAD) in Richmond, Kentucky, construction of the chemical agent destruction pilot plant is close to completion and systemization activities are progressing.

While the planned destruction operations at the Pueblo Chemical Agent-Destruction Pilot Plant and the Blue Grass Chemical Agent-Destruction Pilot Plant 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 worker and public safety and security.

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 ongoing 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 CMA sites by April 29, 2012; (2) transport portions of the stockpile to operational chemical weapons destruction facility locations; and (3) accelerate the 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.

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 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), has an approved Milestone B and an Acquisition Program Baseline that includes supplemental use of Explosive Destruction

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 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

Technology (EDT) at each site, and continues to evaluate options to accelerate the overall schedule and reduce cost.

LIFE-CYCLE COSTS AND DESTRUCTION SCHEDULE ESTIMATES

Construction and systemization is progressing at the ACWA program sites. Construction at the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) is 100 percent complete and systemization efforts are 74 percent complete. Based on the PEO ACWA’s current estimate, the PCAPP is projected to begin destruction operations in January 2016. As a supplement to the PCAPP neutralization plant, certain problematic items will be destroyed in an Explosive Destruction Technology (EDT) process which is projected to begin in March 2015.

Construction of the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) is 92 percent complete. Systemization operations at BGCAPP are 28 percent complete. The BGCAPP is on track to begin destruction operations in April 2020. Supplemental use of EDT at Blue Grass Army Depot is anticipated to begin in 2017.

The JPEO-CBD continues to focus on closing the remaining chemical weapons destruction facilities at Anniston, Alabama; Umatilla, Oregon; and Tooele, Utah. As of July 2014, demolition operations at these facilities are complete and estimates indicate they are months ahead of schedule, due to efficiencies and contract incentives for destruction operations and closure. Final administrative closure of the last facility is slated for FY 2016.

The tables below illustrates the estimated cost of the CDP and destruction schedule for the ACWA program sites based on the 2012 Acquisition Program Baseline.

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

Project/FY	Prior	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	To Complete	Total
JPEO-CBD/CMA	22,262.0	226.5	151.4	147.3	147.1	178.2	67.5	829.7	24,009.7
ACWA	5,231.5	614.5	569.3	611.5	683.8	634.8	758.4	1,890.1	10,993.9
Total	27,493.5	841.0	720.7	758.8	830.9	813.0	825.9	2,719.8	35,003.6

JPEO-CBD/CMA - Joint Program Executive Office for Chemical and Biological Defense/U.S. Army Chemical Materials Activity

ACWA - Assembled Chemical Weapons Alternatives

Note: FY 2015 is the appropriated amount, FY 2016-2020 are based on President's Budget request. Prior years include FY 2014 numbers are based on approved budgets and adjustments.

Table 2 - 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

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 destruction facilities. An operations incentive agreement is currently being negotiated with the PCAPP systems contractor, and the ACWA program will negotiate a similar agreement with the BGCAPP systems contractor at a later date.

In addition, the ACWA program continues plans for EDT use to supplement destruction at the Pueblo Chemical Depot (PCD) and the Blue Grass Army Depot (BGAD). This technology will be used for the destruction of mustard agent-filled munitions that are not suitable for processing by the PCAPP and for all mustard agent-filled munitions stored at BGAD. Use of EDT to supplement the neutralization technology will mitigate technical risk and enhance workforce safety.

In May 2013, the PEO ACWA selected the U.S. Army's Explosive Destruction System (EDS) for destruction of problematic mustard rounds at PCD. Construction of the site continues and delivery of the first system occurred in August 2014. Destruction of the known problematic munitions is expected to start in late March 2015. The EDS will remain available throughout the life of the pilot plant to destroy any additional problematic or reject munitions. The PCAPP EDS start in Pueblo, Colorado, is considered the start of PCAPP agent operations.

During operations, PCAPP will send non-contaminated fuses, bursters, and burster assemblies to the Static Detonation Chamber (SDC) located in Anniston, Alabama, for destruction. Contaminated fuses, bursters, and burster assemblies will be destroyed on site at the PCAPP EDS facility.

At BGAD, after performing an x-ray analysis of mustard-filled munitions that confirmed removal of the mustard agent from projectiles due to solidification of the chemical agent would take significantly more time than originally forecast, the systems contractor selected the SDC in November 2013 to destroy the entire mustard-filled munitions stockpile. The use of the SDC will accelerate chemical weapons destruction efforts in Kentucky by destroying the mustard projectiles ahead of the main pilot plant operations. Site clearing, grading, and road installation for the SDC site is underway. Electrical and building construction subcontracts were awarded in December 2014. Factory Acceptance Testing of the SDC process equipment is projected to occur in the third quarter of FY 2015. Delivery of the SDC equipment to the site is expected in the fourth quarter of FY 2015.

SUPPLEMENTAL CHEMICAL AGENT AND MUNITIONS DESTRUCTION TECHNOLOGIES

No supplemental chemical agent and munitions destruction technologies 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 hydrolysate or agent hydrolysate.

CONCLUSION

The JPEO-CBD is focused on completion of administrative closure of three sites. While the ACWA Program is focused on destroying the remaining 10 percent of the U.S. chemical weapons at PCD and BGAD, the operations schedules for these sites are not expected to accommodate the December 31, 2017, congressionally-mandated destruction deadline. The Department continues to evaluate options to accelerate the destruction schedules without sacrificing worker and public safety and security.