

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



September 2017

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

The estimated cost of this report or study for the Department of Defense is approximately \$1,590 for the 2017 Fiscal Year. This includes \$200 in expenses and \$1,390 in DoD labor.

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EXECUTIVE SUMMARY

As required by title 50, United States Code (U.S.C.), section 1521(j), the September 2017 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 not later than December 31, 2023, 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 Chemical Weapons Convention (CWC) and stored at seven sites: Johnston Atoll; Aberdeen, Maryland; Anniston, Alabama; Tooele, Utah; Pine Bluff, Arkansas; Newport, Indiana; and Umatilla, Oregon. CMA completed destruction of the stockpiles at the seven sites in January 2012. In addition, CMA is responsible for the Chemical Stockpile Emergency Preparedness Program and the Recovered Chemical Warfare Material Program. All site Government field offices, Resource Conservation and Recovery Act permits, and contracts for each destruction facility are now closed.

The Program Executive Office (PEO) for Assembled Chemical Weapons Alternatives (ACWA) 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 and systemization of the chemical agent destruction pilot plant are complete and operations began on September 7, 2016. At the Blue Grass Army Depot (BGAD) in Richmond, Kentucky, construction of the chemical agent destruction pilot plant is substantially complete and systemization activities continue. The main Blue Grass destruction facility is on track to begin operations by April 2020.

PEO ACWA continues to focus on destroying the remaining U.S. chemical weapons stockpiles located at PCD and BGAD, and expects to complete destruction operations before the December 31, 2023, congressionally mandated destruction deadline. On June 5, 2017, Mr. James A. MacStravic, Performing the Duties of (PTDO) the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)), determined and notified Congress of the ACWA program significant unit cost growth, in accordance with of title 10, U.S.C., section 2433. The Department continues to evaluate options to accelerate the destruction schedules without sacrificing worker and public safety, security, and the environment.

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; and (2) the status of ongoing actions to accelerate the program.

REPORTING REQUIREMENTS

Title 50, U.S.C., section 1521(j) 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 congressionally mandated deadline (currently December 31, 2023). The Department identified three options to destroy the remaining chemical weapons stockpile for evaluation: (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 review mandated by title 10, U.S.C., section 2433a (commonly referred to as the Nunn-McCurdy statute), the 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), has an approved Milestone B and an Acquisition Program Baseline (APB) that includes supplemental use of Explosive Destruction Technology at each site, and continues to evaluate options to accelerate the overall schedule and reduce cost.

Semi-Annual Report Requirements under Title 50, U.S.C., Section 1521(j)

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 2023);
- 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 CWC 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.

PROGRAM STATUS INCLUDING USE OF SUPPLEMENTAL TECHNOLOGY

On June 5, 2017, Mr. James A. MacStravic, PTDO USD(AT&L), determined and subsequently notified Congress of a significant Nunn-McCurdy breach. This unit cost growth is primarily attributable to revised systemization estimates and operational experience for Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP), revised systemization schedule for the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP), and revised Explosive Destruction Technology (EDT) requirements at both sites.

Destruction operations at the PCAPP began on September 7, 2016. As of July 31, 2017, the site has destroyed approximately 229 U.S. tons of chemical agent. Specifically, the PCAPP main plant has destroyed 38,829 mustard-filled 155mm projectiles, containing approximately 227 U.S. tons of chemical agent. Between March 2015 and February 2016, the Explosive Destruction System (EDS) destroyed 560 problematic mustard-filled munitions, containing approximately two U.S. tons of chemical agent.

As of July 31, 2017, the BGCAPP systemization is 49 percent complete. The systemization complete percentage has decreased since the last report due to a re-planned systemization schedule, which reset the required hours to complete the remaining systemization effort. The BGCAPP is on track to begin destruction operations by April 2020. The supplemental technology to be used at the BGAD to destroy the mustard-filled munitions is the Static Detonation Chamber (SDC).

LIFE-CYCLE COSTS AND DESTRUCTION SCHEDULE ESTIMATES

The tables below show the CDP cost estimate and the ACWA program sites destruction schedule.

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

Project/FY	FY88-16	FY17	FY18	FY19	FY20	FY21	FY22	To complete	Total
CMA	22566.0	142.8	129.8	123.9	132.8	126.4	126.	553.9	23901.6
ACWA	6539.9	507.9	831.9	886.9	930.7	809.9	687.5	851.0	12045.7
TOTAL	<i>29105.9</i>	<i>650.7</i>	<i>961.7</i>	<i>1010.8</i>	<i>1063.5</i>	<i>936.3</i>	<i>813.5</i>	<i>1404.9</i>	<i>35947.3</i>

Note: FY 2017 is the appropriated amount, FY 2018-2022 are based on FY 2018 President's Budget. Prior years include FY 2016 actuals based on approved budgets and adjustments. Numbers may not total due to rounding.

Table 2—Schedule Estimate

Milestone	ACWA	
	PCAPP	BGCAPP
Begin Operations	SEP 2016	APR 2020
Complete Operations	NOV 2019	SEP 2023

Note: The ACWA program schedule estimates are based on the 2012 Acquisition Program Baseline, except for the start of operations at PCAPP, which is the actual month operations began.

ONGOING ACTIONS TO ACCELERATE DESTRUCTION

In accordance with title 50, U.S.C., section 1521(n), the PEO ACWA developed a draft operations and closure incentive clause for incorporation into the contracts for destruction of the remaining U.S. chemical weapons stockpile. The draft operations and closure incentive agreement for the PCAPP and BGCAPP is currently under review. The purpose of the incentive clause is to provide the contractor an incentive to accelerate the safe elimination of the U.S. stockpile and to reduce the total cost of the CDP by early completion of operations and closure of the destruction facilities.

In addition to using the incentive clause to accelerate destruction operations, PEO ACWA will continue to use EDT to supplement the neutralization technology, in order to mitigate technical risk and enhance workforce safety. The EDS will remain available throughout the operation of the PCAPP to destroy any problematic or reject munitions. At the BGCAPP, efforts continue to complete construction and systemization of the SDC and associated structures.

CONCLUSION

The ACWA program continues destruction operations at the PCAPP and systemization at the BGCAPP. Focus remains on complete destruction of the U.S. chemical weapons stockpile before the December 31, 2023, congressionally-mandated destruction deadline. The Department continues to evaluate options to accelerate the destruction schedules without sacrificing worker and public safety and security.