

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



September 2016

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 \$2,790 for the 2016 Fiscal Year. This includes \$1,130 in expenses and \$1,660 in DoD labor.

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## EXECUTIVE SUMMARY

As required by section 1521(j) of title 50, United States Code (U.S.C.), the September 2016 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. The CMA completed destruction of the stockpiles at the seven sites in January 2012. In addition, the CMA is responsible for the Chemical Stockpile Emergency Preparedness Program and the Recovered Chemical Warfare Materiel Project (formerly known as the Non-Stockpile Chemical Materiel Project). All site Government field offices and Resource Conservation and Recovery Act permits for each destruction facility are now closed. The closure activities that remain include the Defense Contract Audit Agency audits.

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 of the chemical agent destruction pilot plant is complete, and systemization activities are concluding. DoD is preparing to initiate operations at the main destruction plant at Pueblo by September 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 to make steady progress. The main Blue Grass destruction facility is on track to begin operations by April 2020.

The 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 by 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.

## 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 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 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**

As of July 31, 2016, construction of the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) is complete, and the site is in the final stages of systemization. The start of destruction operations is planned by September 2016. The Under Secretary of Defense for Acquisition, Technology, and Logistics will only approve the start of operations once all operational, safety, security, surety, environmental, and treaty compliance requirements have been met.

As of July 31, 2016, construction of the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) is substantially complete. Minor construction activities that do not affect full systemization activities are still underway. Plant systemization is 53 percent complete. 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). The SDC is anticipated to begin operations in November 2017.

The destruction missions of the other seven chemical weapons destruction facilities at Aberdeen, Maryland; Anniston, Alabama; Johnston Island in the Pacific; Newport, Indiana; Pine Bluff, Arkansas; Tooele, Utah; and Umatilla, Oregon, are complete. The facilities, field offices, and associated Resource Conservation and Recovery Act permits are closed.

**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	FY88-15	FY16	FY17	FY18	FY19	FY20	FY21	To complete	Total
<b>CMA</b>	22409.9	130.5	170.1	151.8	170.9	67.0	164.7	432.3	23697.2
<b>ACWA</b>	5976.7	569.3	380.9	729.6	770.7	850.5	604.7	1107.7	10990.1
<b>TOTAL</b>	28386.6	699.8	551.0	881.4	941.6	917.5	769.5	1540.0	34687.3

Note: FY 2016 is the appropriated amount, FY 2017-2021 are based on FY 2017 President's Budget request. Prior years include FY 2015 actuals based on approved budgets and adjustments. Numbers may not total due to rounding.

**Table 2—Schedule Estimate**

Milestone	ACWA	
	PCAPP	BGCAPP
<b>Begin Operations</b>	SEP 2016	APR 2020
<b>Complete Operations</b>	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 based on current working estimates.

**ONGOING ACTIONS TO ACCELERATE DESTRUCTION**

The ACWA program leadership is working to implement section 1521(n) of title 50, U.S.C., which authorizes 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 and closure incentive agreement for the Blue Grass and Pueblo sites has been developed and is currently being staffed for approval.

In addition to accelerating schedules, use of Explosive Destruction Technology to supplement the neutralization technology will mitigate technical risk and enhance workforce safety. Destruction operations using the Explosive Destruction System (EDS) for 560 problematic mustard-filled munitions stored at PCD began in March 2015 and were completed in March 2016. The EDS will remain available throughout the life of the pilot plant to destroy any additional problematic or reject munitions.

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

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. Construction of the SDC Enclosure Building and other associated structures has begun. The service magazine walls and roof have been installed. The Support Building has been fabricated, delivered, and installed. The SDC unit was delivered to the BGAD site in August 2015 and is expected to begin operations in November 2017. As of July 31, 2016, construction of the SDC is 75 percent complete, and systemization is 28 percent complete.

## **CONCLUSION**

Calendar Year 2016 has been an event-filled year in the CDP, with the ACWA program completing destruction of problematic munitions using the EDS at PCD, beginning destruction operations at the main Pueblo facility, and preparing for the start of SDC operations at the Blue Grass site. The ACWA program continues to focus on destroying the remaining U.S. chemical weapons stockpiles located at PCD and BGAD and expects to complete destruction operations by 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.