Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-243

Program Executive Office
Assembled Chemical Weapons Alternatives

Chemical Demilitarization-Assembled Chemical Weapons Alternatives (Chem Demil-ACWA)

As of FY 2019 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Sensitivity Originator

No originator info Available at this time.

Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name
Chemical Demilitarization-Assembled Chemical Weapons Alternatives (Chem Demil-ACWA)

DoD Component
DoD

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References

PCAPP

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 22, 2012

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 22, 2012

BGCAPP

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 22, 2012

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 22, 2012

Mission and Description

Chemical Demilitarization-Assembled Chemical Weapons Alternatives (Chem Demil-ACWA) is performing a portion of the chemical warfare materiel elimination mission. In 1996, Congress and the President, responding to public concerns about the safe destruction of chemical weapons, established and later expanded the ACWA program (Public Laws 104-208, 105-261, 106-79, and 107-248). The DoD was charged with identifying and demonstrating two or more alternative technologies to incineration for the destruction of assembled chemical weapons. The DAE assigned PM ACWA the responsibility for developing neutralization technologies to eliminate the chemical weapons stockpiles located at Pueblo, CO, and Blue Grass, KY (July 16, 2002 and February 3, 2003, respectively). At the time of initiation, the ACWA program was known as the Assembled Chemical Weapons Assessment program. When the assessment phase was complete, the ACWA program shifted its focus from assessing chemical weapons destruction technologies to implementing full-scale pilot testing. As a result, the program was renamed Assembled Chemical Weapons Alternatives in June 2003, to better reflect the new program goals. To raise the program's visibility and obtain the necessary resources, PM ACWA was redesignated as the Program Executive Office, ACWA on October 1, 2012.

Executive Summary

This December 2017 SAR details changes to cost, schedule, and performance since last reported in the December 2016 SAR (Approved in June 2017) for Chem Demil-ACWA. Due to directive in the recently published National Defense Authorization Act, this SAR now reflects two separate sub-programs in regards to funding and schedule for the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) and Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP).

As reported in the December 2016 SAR, PEO ACWA signed a Program Deviation Report (PDR) on April 27, 2017, due to a significant cost deviation from the cost parameters contained in the March 2012 APB as well as an APB schedule threshold breach of the complete operations and complete closure milestones at the PCAPP. On June 5, 2017, Congress was notified of a significant Nunn-McCurdy cost breach. On June 25, 2017, Ms. Suzanne Milchling was named the Program Executive Officer for PEO ACWA. The new Program Executive Officer began an initiative to identify various options to accelerate munitions destruction from the current estimates, which includes the potential use of additional Explosive Destruction Technologies (EDT).

The PEO ACWA is currently developing the 2018 Program Office Estimate (POE), which is expected to be finalized in 3Q FY 2018. The 2018 POE will include revised PCAPP processing estimates based on actual processing experience and technical issues impacting the completion of Pilot Testing. The BGCAPP estimate will incorporate revisions to account for the rocket motor processing and energetic neutralization reactor mixing. The Program Executive Officer is also preparing to incorporate acceleration options. Additionally, PEO ACWA developed a detailed closure estimate for both the PCAPP and BGCAPP, which will be incorporated into the 2018 POE.

PCAPP:

PCAPP is a fixed-base, single-use system designed to perform all necessary steps for destruction of the stockpile of chemical weapons in storage at Pueblo Chemical Depot, Colorado. The PCAPP project has completed the design, construction, and systemization phases of the program. Operations began on September 7, 2016.

PCAPP agent operations have been in an outage since August 30, 2017. Multiple events led to the outage: isolators installed upstream and downstream of each Agent Neutralization Reactor (ANR) recirculation pump to prevent damage to pumps have failed; spent carbon from the Brine Reduction System (BRS) was transported for off-site processing at vendor's facility without properly identifying the material as hazardous waste; BRS distillate carbon filter breakthrough allowed thiodiglycol (TDG)-contaminated process water to enter the process water tank since the Standing Operating Procedure did not include the proper (permit defined) processes for filter line up; agent hydrolysate back-flowed from the ANR system (located in an agent area) to a Toxic Maintenance Area sump (located in a non-agent area) through steam piping; and several system set points implemented in the field do not match set points designated in the permit. The outage has led to significant corporate presence from the Systems Contractor (SC) and teaming partners, who have been onsite to support the Root Cause Analyses of the abovementioned events, and to review operational/permit set points. The PCAPP agent operations was scheduled to restart on November 20, 2017, which was delayed due to a leak in the Off-Gas Treatment System; then agent operations was scheduled to restart on February 20, 2018; however, a failure of an ANR isolator valve has extended the outage. Since the plant was nearly ready to go back into agent operations, testing of the ANR isolator valve was possible. Unfortunately after three tests, the ANR isolator valve failed while running hot water, which will require the SC to reevaluate the path forward for fixing the ANR isolator valves. PCAPP agent operations are expected to resume in 3Q FY 2018.

As part of the Pilot Test Demonstration, the PCAPP has completed the 5%, 10%, 25%, and 50% Ramp Up phases and will resume the Ramp Up phase after the outage. The PCAPP continues to optimize the Cavity Access Machines and Munitions Treatment Unit efficiency in an attempt to increase sustainable processing rates. The PCAPP focus remains on successful operations as they continue to work with the Colorado Department of Public Health and Environment (CDPHE) to assess if the Pilot Test Demonstrations to date fulfills the CDPHE requirements for the Integrated Facility Demonstration

(IFD). The IFD is currently postponed until later in 2018.

When operations resume, the PCAPP will continue processing mustard agent-filled 155mm projectiles. As of February 9, 2018, 42,897 mustard agent-filled 155mm projectiles have been processed through the main plant. Cumulatively the site (the main plant + PCAPP Explosive Destruction System (EDS)) has processed 253.0 U.S. tons of mustard agent.

A portion of the 105mm projectiles in the Pueblo stockpile are stored in wooden boxes. These boxed 105mm projectiles, totaling over 28,000, are currently going through a process called "baseline reconfiguration" in conjunction with the destruction of the 155mm projectiles. Baseline reconfiguration involves opening the boxes and removing the two 105mm projectiles that are contained in fiberboard tubes. The projectiles are then palletized and sent back to stockpile storage for later processing in the plant. Also contained in the fiberboard tubes are propellant bags and a cartridge case. These items, containing energetic material, are being sent off-site for disposal using another PEO ACWA facility in Anniston, Alabama. As of February 9, 2018, 27,914 boxed 105mm projectiles have been reconfigured. All of the 4.2 inch mortars in the stockpile are also in boxes and will go through a similar process following the reconfiguration of the remaining 105mm projectiles.

As of February 9, 2018, 83 rejected munitions have been discovered (46 155mm projectiles and 37 105mm projectiles), which will be processed through the EDS later in the operations phase. A rejected munition is a munition that cannot be processed through the main plant.

BGCAPP:

BGCAPP is a fixed-base, single-use system designed to perform all necessary steps for destruction of the stockpile of chemical weapons in storage at Blue Grass Army Depot, Kentucky. The BGCAPP project has completed the design phase, declared construction substantially complete, and systemization is ongoing. The systemization phase is expected to complete in 2Q FY 2020.

In 2017, the PEO ACWA and the Bechtel Parsons Blue Grass - Joint Venture adjusted the BGCAPP's project's focus due to cost challenges which resulted in replanning the remaining BGCAPP systemization effort as well as the EDT construction and systemization efforts. EDT construction resumed in September 2017 as planned.

The construction completion percentage at the BGCAPP remains at 99% complete. BGCAPP has completed all construction punchlist items. The remaining construction activities are associated with the installation of the Electronic Security System (ESS) and final grading, which will not be completed until 2019.

As of February 9, 2018, the main plant systemization is ongoing and is 58.7% complete versus the planned 58.0% following the Replan. In FY 2017, system demonstrations were completed for the Agent Collection System; Off-Gas Treatment System for Energetics; Control and Support Building Heating, Ventilation, and Air Conditioning (HVAC); and Agent Neutralization System. In early FY 2018, the Energetic Neutralization System demonstration was completed. For the remainder of FY 2018, systemization will focus on the demonstrations for the Rocket Handling System, Metal Parts Treater and the associated Off-Gas Treatment System; Agent Monitoring System; Munitions Demilitarization Building HVAC; Energetics Batch Hydrolyzer; ESS for main plant; Facility Control System/Cybersecurity; and the Title V Operation Plan.

Upon completion of the BGCAPP systemization, the main plant will process nerve agent-filled rockets and projectiles. The BGCAPP main plant operations contract was awarded on January 30, 2018.

As reported in the December 2016 SAR, the EDT construction was paused on November 30, 2016, to reduce costs and focus on main plant systemization. The EDT will process mustard agent-filled projectiles. The SC submitted the EDT restart proposal on July 31, 2017, and the revised EDT contract will be awarded in 2Q FY 2018. The EDT work planning packages are being prepared and EDT construction activities are ongoing for areas included but not limited to the HVAC controls, EDT Enclosure Building tertiary containment sealing, Access Control Facility Building Management System sensor mount installation, Public Address System, and Compressed Air System.

There are no significant software-related issues with this program at this time.

Threshold Breaches

PCAPP

APB Breaches		
Schedule		☑
Performance		☐
Cost	RDT&E	☑
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☑
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	Significant
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Explanation of Breach

Based on the cost profile contained in this report, which was derived from the 2017 Program Office Estimate (POE), PAUC for the overall ACWA Program is $3.886M (BY$11), which exceeds the approved APB PAUC of $3.183M (BY11$) by 22.1%. Based on the 2017 POE cost and schedule estimates, PEO ACWA signed a PDR on April 27, 2017, due to a significant cost deviation from the cost parameters contained in the March 2012 APB, and an APB schedule threshold breach of the complete operations and complete closure milestones at PCAPP. The 2017 POE PAUC exceeds the March 2012 APB PAUC by more than 15%, which is a significant Nunn-McCurdy breach. Section 1415 of the National Defense Authorization Act (NDAA) of FY 2018, Public Law 115-91, required separate reporting but no breach is reported at the subprogram-level (PCAPP). The schedule, RDT&E, and PAUC breaches were reported in the December 2016 SAR.

BGCAPP

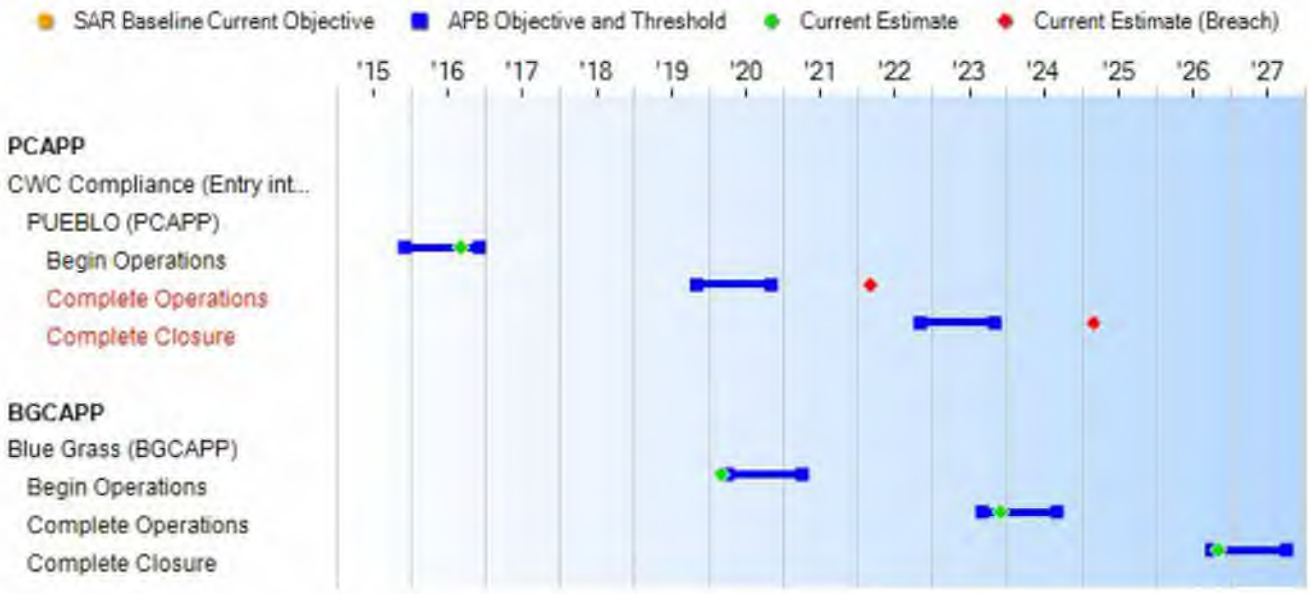
APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☑
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☑
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	Critical
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Explanation of Breach

Based on the cost profile contained in this report, which was derived from the 2017 Program Office Estimate (POE), PAUC for the overall ACWA Program is $3.886M (BY$11), which exceeds the approved APB PAUC of $3.183M (BY11$) by 22.1%. Based on the 2017 POE cost and schedule estimates, PEO ACWA signed a PDR on April 27, 2017, due to a significant cost deviation from the cost parameters contained in the March 2012 APB. The 2017 POE PAUC exceeds the March 2012 APB PAUC by more than 15%, which is a significant Nunn-McCurdy breach. Section 1415 of the NDAA of FY 2018, Public Law 115-91, required separate reporting but no breach is reported at the subprogram-level (BGCAPP). The RDT&E and PAUC breaches were reported in the December 2016 SAR.

Schedule


SAR Baseline Current Objective
APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'15
'16
'17
'18
'19
'20
'21
'22
'23
'24
'25
'26
'27
PCAPP
CWC Compliance (Entry int...
PUEBLO (PCAPP)
Begin Operations
Complete Operations
Complete Closure
BGCAPP
Blue Grass (BGCAPP)
Begin Operations
Complete Operations
Complete Closure

PCAPP

Schedule Events				
Events	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate
CWC Compliance (Entry into Force April 29, 1997)				
PUEBLO (PCAPP)				
Begin Operations	Dec 2015	Dec 2015	Dec 2016	Sep 2016
Complete Operations	Nov 2019	Nov 2019	Nov 2020	**Mar 2022**[1]
Complete Closure	Nov 2022	Nov 2022	Nov 2023	**Mar 2025**[1]

[1] *APB Breach*

Change Explanations

None

Notes

The current estimates reflect the 2017 POE, which is unchanged from the reporting in the 2016 SAR.

The APB value references in the table above are from the March 21, 2012 MDA approved APB.

Acronyms and Abbreviations

PCAPP - Pueblo Chemical Agent-Destruction Pilot Plant

BGCAPP

Schedule Events				
Events	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate
Blue Grass (BGCAPP)				
Begin Operations	Apr 2020	Apr 2020	Apr 2021	Mar 2020
Complete Operations	Sep 2023	Sep 2023	Sep 2024	Dec 2023
Complete Closure	Oct 2026	Oct 2026	Oct 2027	Nov 2026

Change Explanations

None

Notes

The current estimates reflect the 2017 POE, which is unchanged from the reporting in the 2016 SAR.

The APB value references in the table above are from the March 21, 2012 MDA approved APB.

Acronyms and Abbreviations

BGCAPP - Blue Grass Chemical Agent-Destruction Pilot Plant

Performance

PCAPP

Performance Characteristics				
SAR Baseline Development Estimate	**Current APB Development Objective/Threshold**		**Demonstrated Performance**	**Current Estimate**
Environmental Laws and Regulations				
Meets DoD, State, and/or Federal Requirements	Meets DoD, State, and/or Federal Requirements	Meets DoD, State, and/or Federal Requirements	On Track	Meets DoD, State, and/or Federal Requirements
Safety and Occupational Health Laws and Regulations				
Meets DoD, State, and/or Federal Requirements	Meets DoD, State, and/or Federal Requirements	Meets DoD, State, and/or Federal Requirements	On Track	Meets DoD, State, and/or Federal Requirements
Chemical Agent Release				
0	0	0	On Track	0
Chemical Agent Exposure				
0	0	0	On Track	0

Requirements Reference

ORD dated September 2, 1994

Change Explanations

None

Notes

Environmental Laws and Regulations: Facility is operating in compliance with all conditions specified in environmental permits and applicable laws and regulations. The threshold is breached if violation of law or regulation warrants a stop-work order issued by the DoD, the State, the Department of Health and Human Services, or the Environmental Protection Agency and causes a schedule delay of more than 12 months.

Safety and Occupational Health Laws and Regulations: Facility is operating in compliance with the conditions specified in safety and occupational health laws and regulations. The threshold is breached if a violation warrants a stop-work order issued by the DoD, the State, or the Occupational Safety and Health Administration and causes a schedule delay of more than 12 months.

Chemical Agent Release: An event involving chemical agent-destruction pilot plants or EDTs where the following occurs:
a. Confirmed chemical agent release above the General Population Limit at the installation boundary measured in accordance with the approved monitoring and/or modeling plan with the pilot plant as the identified source.
b. Confirmed chemical agent release from the pilot plant's exhaust air filter stack above the allowable threshold limit. Allowable threshold limits are calculated as vapor screening level ceiling values.

Chemical Agent Exposure: Department of the Army Implementation Guidance Policy for Revised Airborne Exposure Limits (June 18, 2004) Appendices A and B, defines a chemical agent exposure as an event when an individual exhibits clinical signs or symptoms of being exposed to chemical agent.

The APB value references in the table above are from the March 21, 2012 MDA approved APB.

Acronyms and Abbreviations

EDT - Explosive Destruction Technology

BGCAPP

Performance Characteristics				
SAR Baseline Development Estimate	**Current APB Development Objective/Threshold**		**Demonstrated Performance**	**Current Estimate**
Environmental Laws and Regulations				
Meets DoD, State, and/or Federal Requirements	Meets DoD, State, and/or Federal Requirements	Meets DoD, State, and/or Federal Requirements	On Track	Meets DoD, State, and/or Federal Requirements
Safety and Occupational Health Laws and Regulations				
Meets DoD, State, and/or Federal Requirements	Meets DoD, State, and/or Federal Requirements	Meets DoD, State, and/or Federal Requirements	On Track	Meets DoD, State, and/or Federal Requirements
Chemical Agent Release				
0	0	0	On Track	0
Chemical Agent Exposure				
0	0	0	On Track	0

Requirements Reference

Operational Requirements Document (ORD) dated September 2, 1994

Change Explanations

None

Notes

Environmental Laws and Regulations: Facility is operating in compliance with all conditions specified in environmental permits and applicable laws and regulations. The threshold is breached if violation of law or regulation warrants a stop-work order issued by the DoD, the State, the Department of Health and Human Services, or the Environmental Protection Agency and causes a schedule delay of more than 12 months.

Safety and Occupational Health Laws and Regulations: Facility is operating in compliance with the conditions specified in safety and occupational health laws and regulations. The threshold is breached if a violation warrants a stop-work order issued by the DoD, the State, or the Occupational Safety and Health Administration and causes a schedule delay of more than 12 months.

Chemical Agent Release: An event involving chemical agent-destruction pilot plants or EDTs where the following occurs:
a. Confirmed chemical agent release above the General Population Limit at the installation boundary measured in accordance with the approved monitoring and/or modeling plan with the pilot plant as the identified source.
b. Confirmed chemical agent release from the pilot plant's exhaust air filter stack above the allowable threshold limit. Allowable threshold limits are calculated as vapor screening level ceiling values.

Chemical Agent Exposure: Department of the Army Implementation Guidance Policy for Revised Airborne Exposure Limits

(June 18, 2004) Appendices A and B, defines a chemical agent exposure as an event when an individual exhibits clinical signs or symptoms of being exposed to chemical agent.

The APB value references in the table above are from the March 21, 2012 MDA approved APB.

Acronyms and Abbreviations

EDT - Explosive Destruction Technology

Track to Budget

PCAPP

RDT&E

Appn	BA	PE
Defense-Wide	0390	02	0708007A

Project	Name		
	Chemical Agents and Munitions Destruction	(Shared)	(Sunk)

Appn	BA	PE
Defense-Wide	0390	02	0708083D

Project	Name	
	Chemical Agents and Munitions Destruction	(Shared)

MILCON

Appn	BA	PE
Defense-Wide	0391	01	0708007D

Project	Name	
	Pueblo Chemical Depot Ammunition Demilitarization Facility	(Sunk)

BGCAPP

RDT&E

Appn	BA	PE
Defense-Wide	0390	02	0708007A

Project	Name		
	Chemical Agents and Munitions Destruction	(Shared)	(Sunk)

Appn	BA	PE
Defense-Wide	0390	02	0708083D

Project	Name	
	Chemical Agents and Munitions Destruction	(Shared)

MILCON

Appn	BA	PE
Defense-Wide	0391	01	0708007D

Project	Name	
	Blue Grass Army Depot Ammunition Demilitarization	(Sunk)

Cost and Funding

Cost Summary - Total Program

Total Acquisition Cost - Total Program							
Appropriation	BY 2011 $M			BY 2011 $M	TY $M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	8615.5	8615.5	--	10833.1	9246.6	9246.6	11983.2
Procurement	0.0	0.0	--	0.0	0.0	0.0	0.0
Flyaway	--	--	--	0.0	--	--	0.0
Recurring	--	--	--	0.0	--	--	0.0
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	0.0	--	--	0.0
Other Support	--	--	--	0.0	--	--	0.0
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	1365.3	1365.3	--	1354.4	1370.5	1370.5	1351.2
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	9980.8	9980.8	N/A	12187.5	10617.1	10617.1	13334.4

Cost and Funding

Cost Summary - PCAPP

Total Acquisition Cost - PCAPP							
Appropriation	BY 2011 $M			BY 2011 $M	TY $M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	4096.7	4096.7	4506.4	4904.4[1]	4353.2	4353.2	5342.9
Procurement	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flyaway	--	--	--	0.0	--	--	0.0
Recurring	--	--	--	0.0	--	--	0.0
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	0.0	--	--	0.0
Other Support	--	--	--	0.0	--	--	0.0
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	606.5	606.5	667.2	558.9	593.1	593.1	541.4
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	4703.2	4703.2	N/A	5463.3	4946.3	4946.3	5884.3

[1] *APB Breach*

Cost Notes

In accordance with Section 842 of the National Defense Authorization Act for FY 2017, which amended title 10 U.S.C. § 2334, the Director of Cost Assessment and Program Evaluation, and the Secretary of the military department concerned or the head of the Defense Agency concerned, must issue guidance requiring a discussion of risk, the potential impacts of risk on program costs, and approaches to mitigate risk in cost estimates for MDAPs and major subprograms. The information required by the guidance is to be reported in each SAR. This guidance is not yet available; therefore, the information on cost risk is not contained in this SAR.

The APB value references in the table above are from the March 21, 2012 MDA approved APB.

The December 2016 SAR was the Nunn-McCurdy SAR and was based on estimated requirements. This SAR is based on the funding in the President's Budget 2019 submission. The Then-Year totals are the same for each SAR. However, this SAR has a lower FYDP funding profile and a higher To-Complete funding profile.

Total Quantity - PCAPP			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	2613	2613	2613
Procurement	0	0	0
Total	2613	2613	2613

Quantity Notes

There was no actual change in Quantities from PB 2018 to PB 2019. PB 2018 Quantities were not yet allocated at the Subprogram level. PB 2019 Quantities reflect allocations at the Subprogram level.

Cost Summary - BGCAPP

Total Acquisition Cost - BGCAPP							
Appropriation	BY 2011 $M			BY 2011 $M	TY $M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	4518.8	4518.8	4970.7	5928.7[1]	4893.4	4893.4	6640.3
Procurement	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flyaway	--	--	--	0.0	--	--	0.0
Recurring	--	--	--	0.0	--	--	0.0
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	0.0	--	--	0.0
Other Support	--	--	--	0.0	--	--	0.0
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	758.8	758.8	834.7	795.5	777.4	777.4	809.8
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	5277.6	5277.6	N/A	6724.2	5670.8	5670.8	7450.1

[1] *APB Breach*

Cost Notes

In accordance with Section 842 of the National Defense Authorization Act for FY 2017, which amended title 10 U.S.C. § 2334, the Director of Cost Assessment and Program Evaluation, and the Secretary of the military department concerned or the head of the Defense Agency concerned, must issue guidance requiring a discussion of risk, the potential impacts of risk on program costs, and approaches to mitigate risk in cost estimates for MDAPs and major subprograms. The information required by the guidance is to be reported in each SAR. This guidance is not yet available; therefore, the information on cost risk is not contained in this SAR.

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The December 2016 SAR was the Nunn-McCurdy SAR and was based on estimated requirements. This SAR is based on the funding in the President's Budget 2019 submission. The Then-Year totals are the same for each SAR. However, this SAR has a lower FYDP funding profile and a higher To-Complete funding profile.

Total Quantity - BGCAPP			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	523	523	523
Procurement	0	0	0
Total	523	523	523

Quantity Notes

There was no actual change in Quantities from PB 2018 to PB 2019. PB 2018 Quantities were not yet allocated at the Subprogram level. PB 2019 Quantities reflect allocations at the Subprogram level.

Cost and Funding

Funding Summary - Total Program

Appropriation Summary									
FY 2019 President's Budget / December 2017 SAR (TY$ M)									
Appropriation	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
RDT&E	5696.7	831.9	880.3	922.5	841.1	688.6	721.6	1400.5	11983.2
Procurement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MILCON	1351.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1351.2
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2019 Total	7047.9	831.9	880.3	922.5	841.1	688.6	721.6	1400.5	13334.4
PB 2018 Total	7047.9	831.9	935.0	934.5	940.0	901.0	728.2	1015.9	13334.4
Delta	0.0	0.0	-54.7	-12.0	-98.9	-212.4	-6.6	384.6	0.0

Cost and Funding

Funding Summary - PCAPP

Appropriation Summary FY 2019 President's Budget / December 2017 SAR (TY$ M)									
Appropriation	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
RDT&E	2858.8	421.7	406.4	429.5	389.3	314.6	232.3	290.3	5342.9
Procurement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MILCON	541.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	541.4
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2019 Total	3400.2	421.7	406.4	429.5	389.3	314.6	232.3	290.3	5884.3
PB 2018 Total	7047.9	831.9	935.0	934.5	940.0	901.0	728.2	1015.9	13334.4
Delta	-3647.7	-410.2	-528.6	-505.0	-550.7	-586.4	-495.9	-725.6	-7450.1

Funding Notes

PB 2018 Funding was not yet allocated at the Subprogram level. PB 2019 Funding reflects allocations at the Subprogram level.

Quantity Summary FY 2019 President's Budget / December 2017 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Development	2613	0	0	0	0	0	0	0	0	2613
Production	0	0	0	0	0	0	0	0	0	0
PB 2019 Total	2613	0	0	0	0	0	0	0	0	2613
PB 2018 Total	3136	0	0	0	0	0	0	0	0	3136
Delta	-523	0	0	0	0	0	0	0	0	-523

Funding Summary - BGCAPP

Appropriation Summary FY 2019 President's Budget / December 2017 SAR (TY$ M)									
Appropriation	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
RDT&E	2837.9	410.2	473.9	493.0	451.8	374.0	489.3	1110.2	6640.3
Procurement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MILCON	809.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	809.8
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2019 Total	3647.7	410.2	473.9	493.0	451.8	374.0	489.3	1110.2	7450.1
PB 2018 Total	--	--	--	--	--	--	--	--	0.0
Delta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7450.1

Funding Notes

PB 2018 Funding was not yet allocated at the Subprogram level. PB 2019 Funding reflects allocations at the Subprogram level.

Quantity Summary FY 2019 President's Budget / December 2017 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Development	523	0	0	0	0	0	0	0	0	523
Production	0	0	0	0	0	0	0	0	0	0
PB 2019 Total	523	0	0	0	0	0	0	0	0	523
PB 2018 Total	0	0	0	0	0	0	0	0	0	0
Delta	523	0	0	0	0	0	0	0	0	523

Cost and Funding

Annual Funding By Appropriation - PCAPP

Annual Funding - PCAPP 0390 | RDT&E | Chemical Agents and Munitions Destruction, Defense							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1997	--	--	--	--	--	--	19.6
1998	--	--	--	--	--	--	2.0
1999	--	--	--	--	--	--	16.3
2000	--	--	--	--	--	--	54.2
2001	--	--	--	--	--	--	39.3
2002	--	--	--	--	--	--	12.2
2003	--	--	--	--	--	--	73.3
2004	--	--	--	--	--	--	75.1
2005	--	--	--	--	--	--	91.7
2006	--	--	--	--	--	--	2.6
2007	--	--	--	--	--	--	105.5
2008	--	--	--	--	--	--	199.3
2009	--	--	--	--	--	--	130.1
2010	--	--	--	--	--	--	196.8
2011	--	--	--	--	--	--	179.2
2012	--	--	--	--	--	--	197.6
2013	--	--	--	--	--	--	292.7
2014	--	--	--	--	--	--	251.8
2015	--	--	--	--	--	--	318.7
2016	--	--	--	--	--	--	307.7
2017	--	--	--	--	--	--	293.1
2018	--	--	--	--	--	--	421.7
2019	--	--	--	--	--	--	406.4
2020	--	--	--	--	--	--	429.5
2021	--	--	--	--	--	--	389.3
2022	--	--	--	--	--	--	314.6
2023	--	--	--	--	--	--	232.3
2024	--	--	--	--	--	--	186.5
2025	--	--	--	--	--	--	84.7
2026	--	--	--	--	--	--	15.1
2027	--	--	--	--	--	--	4.0
Subtotal	2613	--	--	--	--	--	5342.9

Annual Funding - PCAPP 0390 | RDT&E | Chemical Agents and Munitions Destruction, Defense							
Fiscal Year	Quantity	BY 2011 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1997	--	--	--	--	--	--	24.5
1998	--	--	--	--	--	--	2.4
1999	--	--	--	--	--	--	19.7
2000	--	--	--	--	--	--	65.2
2001	--	--	--	--	--	--	46.8
2002	--	--	--	--	--	--	14.3
2003	--	--	--	--	--	--	85.8
2004	--	--	--	--	--	--	86.0
2005	--	--	--	--	--	--	102.1
2006	--	--	--	--	--	--	2.8
2007	--	--	--	--	--	--	111.4
2008	--	--	--	--	--	--	206.2
2009	--	--	--	--	--	--	133.0
2010	--	--	--	--	--	--	198.2
2011	--	--	--	--	--	--	173.8
2012	--	--	--	--	--	--	192.2
2013	--	--	--	--	--	--	280.7
2014	--	--	--	--	--	--	236.6
2015	--	--	--	--	--	--	295.6
2016	--	--	--	--	--	--	281.1
2017	--	--	--	--	--	--	263.2
2018	--	--	--	--	--	--	372.2
2019	--	--	--	--	--	--	352.2
2020	--	--	--	--	--	--	365.0
2021	--	--	--	--	--	--	324.4
2022	--	--	--	--	--	--	257.0
2023	--	--	--	--	--	--	186.0
2024	--	--	--	--	--	--	146.4
2025	--	--	--	--	--	--	65.2
2026	--	--	--	--	--	--	11.4
2027	--	--	--	--	--	--	3.0
Subtotal	2613	--	--	--	--	--	4904.4

Annual Funding - PCAPP 0391 | MILCON | Chemical Demilitarization Construction, Defense	
Fiscal Year	TY $M
	Total Program
2001	10.7
2002	18.0
2003	38.0
2004	88.0
2005	44.8
2006	--
2007	41.8
2008	35.2
2009	65.1
2010	92.5
2011	65.4
2012	15.4
2013	26.5
Subtotal	541.4

Annual Funding - PCAPP 0391 | MILCON | Chemical Demilitarization Construction, Defense	
Fiscal Year	BY 2011 $M
	Total Program
2001	12.7
2002	20.9
2003	43.0
2004	96.9
2005	47.9
2006	--
2007	43.1
2008	35.8
2009	65.0
2010	90.8
2011	63.2
2012	14.7
2013	24.9
Subtotal	558.9

Annual Funding By Appropriation - BGCAPP

Annual Funding - BGCAPP 0390 | RDT&E | Chemical Agents and Munitions Destruction, Defense							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1997	--	--	--	--	--	--	19.6
1998	--	--	--	--	--	--	2.0
1999	--	--	--	--	--	--	16.3
2000	--	--	--	--	--	--	54.1
2001	--	--	--	--	--	--	39.2
2002	--	--	--	--	--	--	10.0
2003	--	--	--	--	--	--	24.2
2004	--	--	--	--	--	--	92.2
2005	--	--	--	--	--	--	82.8
2006	--	--	--	--	--	--	49.9
2007	--	--	--	--	--	--	110.3
2008	--	--	--	--	--	--	106.4
2009	--	--	--	--	--	--	153.2
2010	--	--	--	--	--	--	256.0
2011	--	--	--	--	--	--	206.3
2012	--	--	--	--	--	--	204.3
2013	--	--	--	--	--	--	334.9
2014	--	--	--	--	--	--	340.9
2015	--	--	--	--	--	--	258.9
2016	--	--	--	--	--	--	261.6
2017	--	--	--	--	--	--	214.8
2018	--	--	--	--	--	--	410.2
2019	--	--	--	--	--	--	473.9
2020	--	--	--	--	--	--	493.0
2021	--	--	--	--	--	--	451.8
2022	--	--	--	--	--	--	374.0
2023	--	--	--	--	--	--	489.3
2024	--	--	--	--	--	--	565.4
2025	--	--	--	--	--	--	337.4
2026	--	--	--	--	--	--	187.8
2027	--	--	--	--	--	--	19.6
Subtotal	523	--	--	--	--	--	6640.3

Annual Funding - BGCAPP 0390 | RDT&E | Chemical Agents and Munitions Destruction, Defense							
Fiscal Year	Quantity	BY 2011 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1997	--	--	--	--	--	--	24.5
1998	--	--	--	--	--	--	2.4
1999	--	--	--	--	--	--	19.7
2000	--	--	--	--	--	--	65.1
2001	--	--	--	--	--	--	46.6
2002	--	--	--	--	--	--	11.7
2003	--	--	--	--	--	--	28.3
2004	--	--	--	--	--	--	105.5
2005	--	--	--	--	--	--	92.2
2006	--	--	--	--	--	--	54.0
2007	--	--	--	--	--	--	116.5
2008	--	--	--	--	--	--	110.1
2009	--	--	--	--	--	--	156.6
2010	--	--	--	--	--	--	257.8
2011	--	--	--	--	--	--	200.1
2012	--	--	--	--	--	--	198.7
2013	--	--	--	--	--	--	321.2
2014	--	--	--	--	--	--	320.3
2015	--	--	--	--	--	--	240.1
2016	--	--	--	--	--	--	239.0
2017	--	--	--	--	--	--	192.9
2018	--	--	--	--	--	--	362.1
2019	--	--	--	--	--	--	410.7
2020	--	--	--	--	--	--	419.0
2021	--	--	--	--	--	--	376.4
2022	--	--	--	--	--	--	305.5
2023	--	--	--	--	--	--	391.9
2024	--	--	--	--	--	--	443.9
2025	--	--	--	--	--	--	259.7
2026	--	--	--	--	--	--	141.7
2027	--	--	--	--	--	--	14.5
Subtotal	523	--	--	--	--	--	5928.7

Annual Funding - BGCAPP 0391 | MILCON | Chemical Demilitarization Construction, Defense	
Fiscal Year	TY $M
	Total Program
2000	2.0
2001	1.1
2002	11.3
2003	18.6
2004	16.2
2005	37.1
2006	--
2007	89.2
2008	69.0
2009	79.2
2010	95.4
2011	59.3
2012	59.9
2013	110.3
2014	122.5
2015	38.7
Subtotal	809.8

Annual Funding - BGCAPP 0391 | MILCON | Chemical Demilitarization Construction, Defense	
Fiscal Year	BY 2011 $M
	Total Program
2000	2.4
2001	1.3
2002	13.1
2003	21.1
2004	17.8
2005	39.7
2006	--
2007	92.0
2008	70.3
2009	79.1
2010	93.6
2011	57.3
2012	57.1
2013	103.7
2014	112.1
2015	34.9
Subtotal	795.5

Low Rate Initial Production

PCAPP

There is no LRIP for this Subprogram.

Foreign Military Sales

PCAPP

None

BGCAPP

None

Nuclear Costs

PCAPP

None

BGCAPP

None

Unit Cost

PCAPP

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2011 $M Current UCR Baseline (Mar 2012 APB)	BY 2011 $M Current Estimate (Dec 2017 SAR)	% Change
Program Acquisition Unit Cost			
Cost	4703.2	5463.3	
Quantity	2613	2613	
Unit Cost	1.800	2.091	+16.17[1]
Average Procurement Unit Cost			
Cost	0.0	0.0	
Quantity	0	0	
Unit Cost	--	--	--

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2011 $M Revised Original UCR Baseline (Mar 2012 APB)	BY 2011 $M Current Estimate (Dec 2017 SAR)	% Change
Program Acquisition Unit Cost			
Cost	4703.2	5463.3	
Quantity	2613	2613	
Unit Cost	1.800	2.091	+16.17
Average Procurement Unit Cost			
Cost	0.0	0.0	
Quantity	0	0	
Unit Cost	--	--	--

[1] *Nunn-McCurdy Breach*

A significant Nunn-McCurdy breach against the current APB for the Chem-Demil ACWA MDAP was previously reported in the December 2016 SAR. Section 1415 of the FY 2018 NDAA, Public Law 115-91, requires the Chem-Demil ACWA MDAP to reflect separate acquisition reporting in regards to funding and schedule for PCAPP and BGCAPP, which is shown in this Unit Cost section. Although BGCAPP is showing a PAUC increase of 27.41% (above the critical Nunn-McCurdy threshold if it was a separate MDAP), the approved baseline for the program remains the full Chem-Demil ACWA program, with an approved PAUC of $3.183M (BY 2011$). The current PAUC for the overall program is $3.886M (BY 2011$), which exceeds the threshold by 22.1%. There is no breach at the subprogram level since the Chem-Demil ACWA MDAP is not baselined for subprograms. The PEO ACWA is currently developing a 2018 Program Office Estimate, which is expected to be finalized in the 3rd quarter of FY 2018.

APB Unit Cost History					
Item	Date	BY 2011 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	Apr 2003	1.434	N/A	1.355	N/A
APB as of January 2006	Apr 2003	1.434	N/A	1.355	N/A
Revised Original APB	Mar 2012	1.800	N/A	1.893	N/A
Prior APB	Mar 2012	3.183	N/A	3.386	N/A
Current APB	Mar 2012	1.800	N/A	1.893	N/A
Prior Annual SAR	Dec 2016	3.877	N/A	4.252	N/A
Current Estimate	Dec 2017	2.091	N/A	2.252	N/A

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)									
PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
1.893	-0.029	0.000	0.321	0.000	0.067	0.000	0.000	0.359	2.252

Current SAR Baseline to Current Estimate (TY $M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.000	--	--	--	--	--	--	--	--	0.000

An APUC Unit Cost History is not available, since no Initial APUC Estimate had been calculated due to a lack of defined quantities.

Chem Demil-ACWA currently has no Procurement requirement.

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone I	N/A	N/A	N/A	N/A
Milestone II	N/A	N/A	N/A	N/A
Milestone III	N/A	N/A	N/A	N/A
IOC	N/A	N/A	N/A	N/A
Total Cost (TY $M)	N/A	N/A	2430.4	5884.3
Total Quantity	N/A	N/A	0	2613
PAUC	N/A	N/A	N/A	2.252

BGCAPP

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2011 $M Current UCR Baseline (Mar 2012 APB)	BY 2011 $M Current Estimate (Dec 2017 SAR)	% Change
Program Acquisition Unit Cost			
Cost	5277.6	6724.2	
Quantity	523	523	
Unit Cost	10.091	12.857	+27.41[1]
Average Procurement Unit Cost			
Cost	0.0	0.0	
Quantity	0	0	
Unit Cost	--	--	--

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2011 $M Original UCR Baseline (Mar 2012 APB)	BY 2011 $M Current Estimate (Dec 2017 SAR)	% Change
Program Acquisition Unit Cost			
Cost	5277.6	6724.2	
Quantity	523	523	
Unit Cost	10.091	12.857	+27.41
Average Procurement Unit Cost			
Cost	0.0	0.0	
Quantity	0	0	
Unit Cost	--	--	--

[1] *Nunn-McCurdy Breach*

A significant Nunn-McCurdy breach against the current APB for the Chem-Demil ACWA MDAP was previously reported in the December 2016 SAR. Section 1415 of the FY 2018 NDAA, Public Law 115-91, requires the Chem-Demil ACWA MDAP to reflect separate acquisition reporting in regards to funding and schedule for PCAPP and BGCAPP, which is shown in this Unit Cost section. Although BGCAPP is showing a PAUC increase of 27.41% (above the critical Nunn-McCurdy threshold if it was a separate MDAP), the approved baseline for the program remains the full Chem-Demil ACWA program, with an approved PAUC of $3.183M (BY 2011$). The current PAUC for the overall program is $3.886M (BY 2011$), which exceeds the threshold by 22.1%. There is no breach at the subprogram level since the Chem-Demil ACWA MDAP is not baselined for subprograms. The PEO ACWA is currently developing a 2018 Program Office Estimate, which is expected to be finalized in the 3rd quarter of FY 2018.

APB Unit Cost History					
Item	Date	BY 2011 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	Mar 2012	10.091	N/A	10.843	N/A
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	Mar 2012	10.091	N/A	10.843	N/A
Prior Annual SAR	Dec 2016	N/A	N/A	N/A	N/A
Current Estimate	Dec 2017	12.857	N/A	14.245	N/A

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)									
PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
10.843	-0.002	0.000	2.622	0.000	0.782	0.000	0.000	3.402	14.245

Current SAR Baseline to Current Estimate (TY $M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.000	--	--	--	--	--	--	--	--	0.000

An APUC Unit Cost History is not available, since no Initial APUC Estimate had been calculated due to a lack of defined quantities.

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	N/A	N/A	N/A
Milestone C	N/A	N/A	N/A	N/A
IOC	N/A	N/A	N/A	N/A
Total Cost (TY $M)	N/A	5670.8	N/A	7450.1
Total Quantity	N/A	523	N/A	523
PAUC	N/A	10.843	N/A	14.245

Cost Variance

PCAPP

Summary TY $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	4353.2	--	593.1	4946.3
Previous Changes				
Economic	-7.5	--	-44.3	-51.8
Quantity	--	--	--	--
Schedule	+838.4	--	--	+838.4
Engineering	--	--	--	--
Estimating	+255.6	--	-7.4	+248.2
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+1086.5	--	-51.7	+1034.8
Current Changes				
Economic	-24.2	--	+0.2	-24.0
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-72.6	--	-0.2	-72.8
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-96.8	--	--	-96.8
Total Changes	+989.7	--	-51.7	+938.0
CE - Cost Variance	5342.9	--	541.4	5884.3
CE - Cost & Funding	5342.9	--	541.4	5884.3

Summary BY 2011 $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	4096.7	--	606.5	4703.2
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	+648.2	--	--	+648.2
Engineering	--	--	--	--
Estimating	+223.0	--	-47.4	+175.6
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+871.2	--	-47.4	+823.8
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-63.5	--	-0.2	-63.7
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-63.5	--	-0.2	-63.7
Total Changes	+807.7	--	-47.6	+760.1
CE - Cost Variance	4904.4	--	558.9	5463.3
CE - Cost & Funding	4904.4	--	558.9	5463.3

Previous Estimate: September 2017

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-24.2
Adjustment for current and prior escalation. (Estimating)	+4.7	+5.2
Revised estimate to reflect actuals. (Estimating)	-1.3	-1.8
Revised estimate due to funding adjustments between subprograms. (Estimating)	-66.9	-76.0
RDT&E Subtotal	-63.5	-96.8

MILCON	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+0.2
Adjustment for current and prior escalation. (Estimating)	-0.2	-0.2
MILCON Subtotal	-0.2	0.0

Cost Variance

BGCAPP

Summary TY $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	4893.4	--	777.4	5670.8
Previous Changes				
Economic	-8.5	--	+42.0	+33.5
Quantity	--	--	--	--
Schedule	+1371.2	--	--	+1371.2
Engineering	--	--	--	--
Estimating	+287.4	--	-9.6	+277.8
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+1650.1	--	+32.4	+1682.5
Current Changes				
Economic	-33.7	--	-0.6	-34.3
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+130.5	--	+0.6	+131.1
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+96.8	--	--	+96.8
Total Changes	+1746.9	--	+32.4	+1779.3
CE - Cost Variance	6640.3	--	809.8	7450.1
CE - Cost & Funding	6640.3	--	809.8	7450.1

Summary BY 2011 $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	4518.8	--	758.8	5277.6
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	+1072.4	--	--	+1072.4
Engineering	--	--	--	--
Estimating	+245.9	--	+36.1	+282.0
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+1318.3	--	+36.1	+1354.4
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+91.6	--	+0.6	+92.2
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+91.6	--	+0.6	+92.2
Total Changes	+1409.9	--	+36.7	+1446.6
CE - Cost Variance	5928.7	--	795.5	6724.2
CE - Cost & Funding	5928.7	--	795.5	6724.2

Previous Estimate: September 2017

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-33.7
Revised estimate to reflect actuals. (Estimating)	-1.3	-1.8
Revised estimate due re-phasing of funds. (Estimating)	+88.4	+127.4
Adjustment for current and prior escalation. (Estimating)	+4.5	+4.9
RDT&E Subtotal	+91.6	+96.8

MILCON	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.6
Adjustment for current and prior escalation. (Estimating)	+0.6	+0.6
MILCON Subtotal	+0.6	0.0

Contracts

Contract Identification

Appropriation: RDT&E
Contract Name: Pueblo
Contractor: Bechtel National Inc.
Contractor Location: Pueblo, CO 81003
Contract Number: DAAA09-02-D-0025/1
Contract Type: Cost Plus Fixed Fee (CPFF), Cost Plus Award Fee (CPAF)
Award Date: September 27, 2002
Definitization Date: September 30, 2002

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
178.2	N/A	2613	3368.0	N/A	2613	5720.9	4105.2

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to additional tasks being awarded. The initial contract price only included the initial design effort.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (11/19/2017)	-397.7	-100.6
Previous Cumulative Variances	-376.5	-43.8
Net Change	-21.2	-56.8

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to not processing munitions at previously planned rates. Operations have encountered difficulties maintaining plant equipment reliability.

The unfavorable net change in the schedule variance is due to not processing munitions at previously planned throughput rates. Operations have encountered difficulties maintaining plant equipment reliability.

Notes

This contract was initially a cost plus incentive fee, multi-phase Task Order (TO) contract. The restructured contract transitioned from an incentive fee structure to an award fee structure on September 26, 2013, via Modification 68. The Initial Contract Target Price ($178.2M) only included the initial design effort. By December 2010, the restructured contract included the original contract (TOs 1 through 6) and a new contract covering Pre-Systemization and Systemization. Operations phase was added via Modification 95 in April 2015, and Closure phase will eventually be added. The Current Contract Target Price of $3,370.7 incorporates all contract modifications to date.

TO 1, which was definitized on September 30, 2002, required the Systems Contractor (SC) to develop the Design Build Plan and was awarded for a total contract value of $3.9M. The revised Budget at Completion (BAC) is $3.6M. All deliverables are complete.

TO 2, which was definitized on May 5, 2003, required the SC to design the facility. (Design completion is now included in TO 6.) This task had a total contract value of $173.5M when initiated in April 2003. A subsequent Stop Work Order budget adjustment issued in February 2012 resulted in an adjusted total contract value of $142.1M. The revised BAC for this TO is $127.8M. All deliverables are complete.

TO 3, which was definitized on December 14, 2004, required the SC to conduct special studies as required and support design and fabrication of First-Of-A-Kind (FOAK) equipment. This task has a total contract value of $41.8M. The revised BAC for this TO is $36.5M. All deliverables are complete.

TO 4, which was definitized on November 1, 2003, required the SC to provide Project Services support, including public outreach, to the contract. This task, which is complete, has a total contract value of $52.5M and was primarily level of effort work. The revised BAC for this TO is $49.4M.

TO 5 was negotiated and definitized in multiple stages. The first stage was definitized on September 7, 2005, and the final stage being definitized on October 15, 2008. This task required the SC to construct the PCAPP facilities. This task has a current total contract value of $821.2M. The revised BAC for this TO is $758.7M. The SC declared construction complete in December 2012 with exclusions. Exclusions were completed in FY 2016.

TO 6, which was definitized on September 7, 2005, required the SC to complete the optimized redesign. This task has a total contract value of $97.6M. The revised BAC for this TO is $87.5M. All deliverables are complete.

Systemization was awarded in two parts: Part 1, Pre-Systemization and Part 2, Systemization. Part 1, which includes work during the Construction phase associated with preparation of the Systemization phase documentation, was awarded in June 2009. Part 2, which includes all the major tasks, was awarded in December 2010. The total contract value of Systemization is $873.2M. The revised BAC for this task is $813.8M. All deliverables are complete.

Operations was awarded via Modification 95 on April 9, 2015. The total contract value of Operations is $1,335.7M. The revised BAC for this task is $1,241.7M. Estimated price at completion is $3,352.2M.

Estimate at Completion (EAC) Changes: The Contract Level EAC increased $1,895.2M since last SAR submission, from $3,583.0M to $5,478.2M; the primary driver of the EAC increase was a six-year extension to the forecast duration of plant operations. The forecast schedule was extended based on the inability to sustain plant throughput at previously-estimated rates.

Contract Identification

Appropriation: RDT&E
Contract Name: Blue Grass
Contractor: Bechtel Parsons JV
Contractor Location: Richmond, KY 40475
Contract Number: DAAA09-03-D-0023/1
Contract Type: Cost Plus Award Fee (CPAF), Cost Plus Fixed Fee (CPFF)
Award Date: June 13, 2003
Definitization Date: June 13, 2003

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
138.0	N/A	523	2904.6	N/A	523	3616.8	3723.8

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to additional tasks and CLINs being awarded. The initial contract price only included the initial design effort.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (11/19/2017)	-149.8	+3.5
Previous Cumulative Variances	-154.1	-16.8
Net Change	+4.3	+20.3

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to CLIN 002 Construction subcontractor cost reconciliations experienced during accounts payable closeout procedures, Systemization Direct Support underruns in ODC and Teaming Partner control accounts, and the incorporation of the EDT Change Proposal into the Performance Measurement Baseline (PMB) per Government letter ACO-17-0015.

The favorable net change in the schedule variance is due to the incorporation of the EDT Change Proposal into the Performance Measurement Baseline (PMB) per Government letter ACO-17-0015, Systemization Direct Support underruns in ODC and Teaming Partner control accounts.

Notes

The Government awarded Contract W52P1J-09-C-0013 to Bechtel Parsons Blue Grass Team (BPBGT) on March 19, 2009 CLIN. The Procuring Contracting Officer established and executed Contract W52P1J-09-C-0013 strictly as an administrative change which restructured and converted Contract DAAA09-03-D-0023 (the original competitively solicited and awarded indefinite delivery, indefinite quantity contract) into Contract W52P1J-09-C-0013 (a multi-year, life cycle, cost reimbursable, systems contract). Contract W52P1J-09-C-0013 permits the Government and BPBGT to complete project life cycle planning and execution. This contract is a CPAF/CPIF CLIN contract. The total Negotiated Contract Cost for this contract is $2,367.9M (excluding fees of $279.1M).

CLIN 002 (Construction Phase IV) was definitized via Contract Modification on March 31, 2011, and consists of completing all BGCAPP construction required for plant systemization and operations. Another Contract Modification was issued on July 11, 2013 to incorporate the FY 2013 Continued Resolution Authority impacts to this CLIN. It was followed by another Contract Modification issued on February 14, 2014, to incorporate transfer of scope to Systemization CLIN 003. This CLIN currently has a total contract value of $1,489.2M (includes fee) and has a BAC of $1,329.9M. The current EAC for this CLIN is $1,482.9M.

CLIN 003 (Systemization) was partially definitized on June 4, 2011, and consists of planning, scheduling, staffing, supporting, and managing the first FY of plant Systemization (subsequently referred to as FY 2012 Pre-Systemization). The Balance of Systemization proposal was submitted in November 2011 and was awarded in September 2012. A Contract Modification was issued on February 14, 2014, to incorporate transfer of scope from Construction CLIN 002 to Systemization. Another Contract Modification was issued on December 1, 2014, to incorporate a cost avoidance by eliminating the EVM system flow down requirement for Teaming Subcontractors. This CLIN currently has a total contract value of $633.3M (includes fee) and has a BAC of $984,9M. The current EAC for this CLIN is $955.8M.

CLIN 006 (FOAK Part II) was definitized on May 31, 2011, and consists of manufacturing, testing, and delivering six (6) Munitions Washout System cavity access machines, two (2) rocket cutting and shearing lines, two (2) neutralization system sampling stations, and three (3) Supercritical Water Oxidation systems with aluminum filtration systems. This CLIN currently has a total contract value of $134.1M (includes fee). The total work under this CLIN is 100% complete, and has a BAC of $116.2M representing 4.5% of the total BAC for both contracts. The EAC (i.e., final actual cost) for this CLIN is $113.5M, completed in September 2013.

CLIN 007 Explosive Destruction Technology (EDT) Part "A") was definitized on May 31, 2011, and consists of conducting a comprehensive feasibility study analysis and comparison of alternate approaches for processing problematic mustard munitions. The EDT Part "A" Extension was awarded in September 2012, and EDT Part "B" was awarded in June 2013. In November 2013, an undefinitized portion of EDT Part "C" was established as authorized unpriced work based on the incremental proposed value through July 2014. The negotiated EDT Part "C" Extension was awarded via Contract Modification on June 30, 2014. This CLIN currently has a total contract value of $208.8M (includes fee) and has a BAC of $153.6M. The current EAC for this CLIN is $228.7M.

CLIN 008 (Treaty Compliance) was definitized via Contract Modification on February 25, 2015, and consists of all facilities, equipment, documentation services, personnel, and technical and administrative support necessary to destroy the onsite chemical weapons stockpile in accordance with the Chemical Weapons Convention Treaty. This CLIN currently has a total contract value of $4.2M (includes fee) and has a BAC of $3.7M. The current EAC for this CLIN is $2.5M.

CLIN 009 (Information Technology) was definitized via Contract Modification on June 17, 2015, and consists of a Cybersecurity Risk Management Framework to ensure the security of the Main Plant Facility Control System and the Customer First Agreement to keep it maintained. This CLIN currently has a total contract value of $34.0M (includes fee) and has a BAC of $30.3M. The current EAC for this CLIN is $30.9M.

EAC Changes:

The total EAC increased $1.1M from the previous SAR from $3,259.9M to $3,261.0M.

The EAC increase for CLIN 002 Construction is primarily due to Support to Post Construction Complete as a result of the

2017 SC Replan.

The EAC increase for CLIN 003 Systemization is primarily due to increases to the Start Up from Field Emergent Work.

The EAC increase for CLIN 007 EDT is primarily due to extension of the EDT schedule..

Deliveries and Expenditures

PCAPP

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	822	253	2613	9.68%
Production	0	0	0	--
Total Program Quantity Delivered	822	253	2613	9.68%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	5884.3	Years Appropriated	22
Expended to Date	3291.8	Percent Years Appropriated	70.97%
Percent Expended	55.94%	Appropriated to Date	3821.9
Total Funding Years	31	Percent Appropriated	64.95%

The above data is current as of February 12, 2018.

The above financial data is updated quarterly.

As of February 9, 2018, 42,897 mustard agent-filled 155mm projectiles have been processed through the main plant. Cumulatively the site (the main plant + PCAPP Explosive Destruction System (EDS)) has processed 253.0 U.S. tons of mustard agent. The 2017 POE forecasted that PCAPP would process 822.0 U.S. tons of mustard agent by December 31, 2017, but due to slower than anticipated processing rates and extended downtimes, this goal was not achieved.

BGCAPP

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	523	0.00%
Production	0	0	0	--
Total Program Quantity Delivered	0	0	523	0.00%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	7450.1	Years Appropriated	22
Expended to Date	3471.8	Percent Years Appropriated	70.97%
Percent Expended	46.60%	Appropriated to Date	4057.9
Total Funding Years	31	Percent Appropriated	54.47%

The above data is current as of February 12, 2018.

The above financial data is updated quarterly.

BGCAPP is expected to complete main plant systemization in Second Quarter FY 2020 and begin agent operations.

Operating and Support Cost

PCAPP

Cost Estimate Details

Date of Estimate:

Source of Estimate:

Quantity to Sustain:

Unit of Measure:

Service Life per Unit:

Fiscal Years in Service:

Sustainment Strategy

Sustainment Strategy statement from the January 2012 Acquisition Strategy for PEO ACWA approved on February 3, 2012: Unlike other DoD acquisition programs, the PEO ACWA program does not result in fielded items for the warfighter. Upon successful performance of the contractual requirements, all United States chemical agent munitions stockpiles will be eliminated and the destruction facilities will be decontaminated, decommissioned, and demolished. Thus, there are no requirements for future sustainability. As part of the current contracts, the contractors are required to maintain and sustain the facilities until closure of the facilities.

Antecedent Information

No Antecedent.

Annual O&S Costs BY2011 $M		
Cost Element	**PCAPP**	**No Antecedent (Antecedent)**
Unit-Level Manpower	0.000	0.000
Unit Operations	0.000	0.000
Maintenance	0.000	0.000
Sustaining Support	0.000	0.000
Continuing System Improvements	0.000	0.000
Indirect Support	0.000	0.000
Other	0.000	0.000
Total	--	--

Item	Total O&S Cost $M			
	PCAPP			No Antecedent (Antecedent)
	Current Development APB Objective/Threshold		Current Estimate	
Base Year	N/A	N/A	N/A	N/A
Then Year	N/A	N/A	N/A	0.0

O&S Cost Variance

Category	BY 2011 $M	Change Explanations
Prior SAR Total O&S Estimates - Sep 2017 SAR	0.0	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	0.0	
Current Estimate	0.0	

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2011 $M): 0.0

BGCAPP

Cost Estimate Details

Date of Estimate:

Source of Estimate:

Quantity to Sustain:

Unit of Measure:

Service Life per Unit:

Fiscal Years in Service:

Sustainment Strategy

Sustainment Strategy statement from the January 2012 Acquisition Strategy for PEO ACWA approved on February 3, 2012: Unlike other DoD acquisition programs, the PEO ACWA program does not result in fielded items for the warfighter. Upon successful performance of the contractual requirements, all United States chemical agent munitions stockpiles will be eliminated and the destruction facilities will be decontaminated, decommissioned, and demolished. Thus, there are no requirements for future sustainability. As part of the current contracts, the contractors are required to maintain and sustain the facilities until closure of the facilities.

Antecedent Information

No Antecedent.

Annual O&S Costs BY2011 $M		
Cost Element	**BGCAPP**	**No Antecedent (Antecedent)**
Unit-Level Manpower	--	--
Unit Operations	--	--
Maintenance	--	--
Sustaining Support	--	--
Continuing System Improvements	--	--
Indirect Support	--	--
Other	--	--
Total	--	--

Item	Total O&S Cost $M			
	BGCAPP			No Antecedent (Antecedent)
	Current Development APB Objective/Threshold		Current Estimate	
Base Year	N/A	N/A	N/A	N/A
Then Year	N/A	N/A	N/A	0.0

O&S Cost Variance		
Category	**BY 2011 $M**	**Change Explanations**

Prior SAR Total O&S Estimates - Sep 2017 SAR	0.0
Programmatic/Planning Factors	0.0
Cost Estimating Methodology	0.0
Cost Data Update	0.0
Labor Rate	0.0
Energy Rate	0.0
Technical Input	0.0
Other	0.0
Total Changes	0.0
Current Estimate	0.0

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2011 $M):