



**Annual Status Report  
on the  
Destruction of the United States Stockpile of Lethal  
Chemical Agents and Munitions  
for Fiscal Year 2016**

**September 30, 2016**

The estimated cost of report or study for the Department of Defense (DoD) is approximately \$2350.00 in Fiscal Years 2016-2017. This includes \$0.00 in expenses and \$2350.00 in DoD labor.

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## **I. Introduction**

The Department of Defense (DoD) is submitting this annual report for Fiscal Year 2016 (FY16) to Congress, pursuant to Section 1521(i) of Title 50 United States Code (USC). The report documents the status of the U.S. Chemical Demilitarization Program (CDP) as of September 30, 2016.

## **II. Mission**

The CDP mission is to enhance national security by eliminating chemical warfare materiel, while protecting the workforce, the public, and the environment and meeting obligations specified in the Chemical Weapons Convention (CWC)<sup>1</sup>. The CDP is a program established pursuant to Section 1521 of Title 50 USC, which directs DoD to destroy the U.S. stockpile of lethal chemical agents and munitions.

## **III. Organization**

The CDP is divided into two Acquisition Category ID Major Defense Acquisition Programs: (1) Chemical Demilitarization Program (Chem Demil) - U.S. Army Chemical Materials Activity (CMA); and (2) Chem Demil – Assembled Chemical Weapons Alternatives (ACWA). In accordance with Section 1521(g) of Title 50 USC, the Department of the Army manages Chem Demil-CMA and the Program Executive Office, ACWA manages the Chem Demil-ACWA with a direct reporting relationship to the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics.

The CMA mission included destruction of the stockpiles stored at Deseret Chemical Depot, Utah; Umatilla Chemical Depot (UMCD), Oregon; Anniston Chemical Activity (ANCA), Alabama; Pine Bluff Chemical Activity (PBCA), Arkansas; Newport Chemical Depot (NECD), Indiana; Aberdeen Proving Ground (APG), Maryland; and Johnston Atoll in the Pacific Basin. Destruction of these stockpiles is complete and these sites are closed. The CMA is also responsible for implementation of the Chemical Stockpile Emergency Preparedness Program (CSEPP) and for the execution of the Recovered Chemical Warfare Materiel (RCWM) Program (formerly known as the Non-Stockpile Chemical Materiel Project) in the United States.

The ACWA program is responsible for destruction of the remaining U.S. stockpiles stored at Pueblo Chemical Depot (PCD), Colorado, and Blue Grass Army Depot (BGAD), Kentucky. The ACWA program expects to complete destruction operations by the December 31, 2023, U.S. statutory destruction deadline.

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<sup>1</sup> The Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, commonly known as the CWC, defines the stockpile elimination deadline for 100 percent destruction of Category 1 chemical weapons as April 29, 2012, the latest date allowable under the CWC. Section 1411 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92) amended the U.S. statutory destruction deadline from “the deadline established by the Chemical Weapons Convention, but not later than December 31, 2017” to “the deadline established by the Chemical Weapons Convention, but not later than December 31, 2023.”

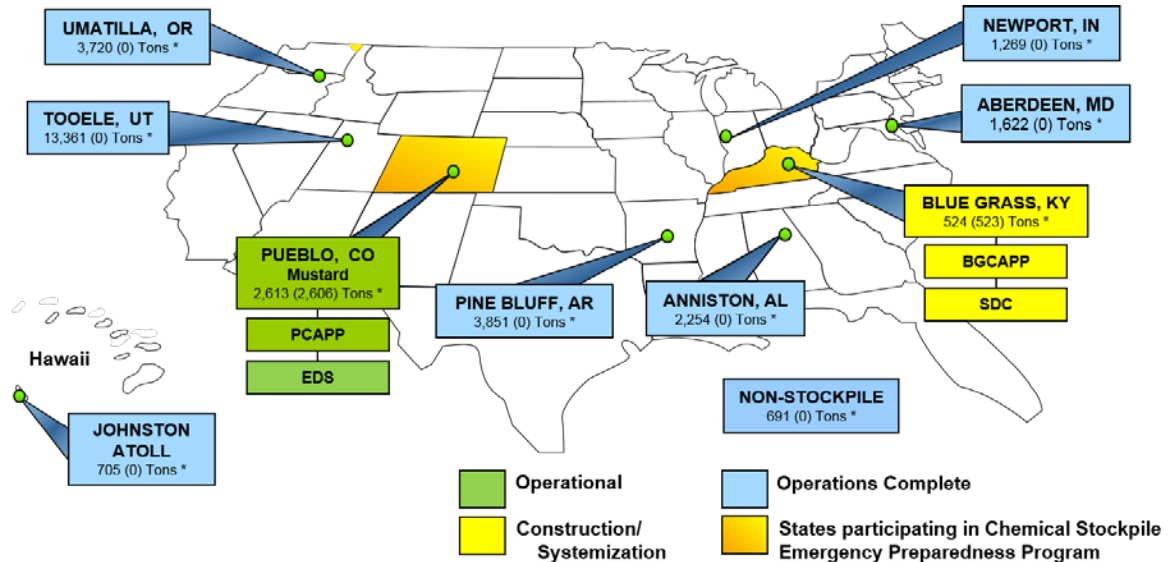
#### IV. Current Operations

The CMA continues implementation of the CSEPP in Colorado and Kentucky as well as the assessment and destruction of RCWM. The ACWA program completed systemization and began operations at the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) and continues systemization of the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP). In addition, the Explosive Destruction System (EDS) operations at PCD completed the first destruction campaign by destroying 560 munitions unsuitable for processing by the PCAPP.

#### A. Site-by-Site Description of Chemical Weapons Stockpile Destruction CDP Site Status Summary

Site	Destruction Operations	Storage Facility	Destruction Facility	Agent Destroyed (U.S. Tons)
Deseret/Tooele	Complete, Jan 2012	Closed, Jul 2013	Closed, Nov 2014	13,617
Umatilla	Complete, Oct 2011	Closed, Aug 2012	Closed, Jan 2015	3,720
Anniston	Complete, Sep 2011	Closed, May 2013	Closed, May 2014	2,254
Pine Bluff	Complete, Nov 2010	Closed, Aug 2012	Closed, Jan 2013	3,851
Newport	Complete, Sep 2008	Closed, Jun 2010	Closed, Jan 2010	1,269
Aberdeen	Complete, Feb 2006	Closed, Jun 2007	Closed, Jun 2007	1,622
Johnston Atoll	Complete, Nov 2000	Closed, Dec 2003	Closed, Dec 2003	2,031
Pueblo EDS	Began Mar 2015	Active	*Temporary Closure	1.91
Pueblo	Began Sep 2016	Active	Operational	4.89
Blue Grass SDC	TBD	Active	In construction	--
Blue Grass	TBD	Active	In systemization	--

\*PCAPP EDS is in temporary closure until needed to destroy reject munitions from the main plant.



PCAPP: Pueblo Chemical Agent-Destruction Pilot Plant  
 BGCAPP: Blue Grass Chemical Agent-Destruction Pilot Plant  
 EDS: Explosive Destruction System  
 SDC: Static Detonation Chamber

\* Declared Stockpile (Remaining Stockpile)

NOTE:  
 Tonnage destroyed prior to Treaty Declaration:  
 1,326 U.S. tons at Johnston Atoll and 256 U.S. tons at Tooele, UT

## CMA

All of the Chemical Stockpile Elimination (CSE) sites remain in administrative closure, which requires review of all contracts and subcontracts and adjustments to costs. All other physical closure actions are complete. The CMA continues to share lessons learned to facilitate greater effectiveness and efficiency within the ACWA program.

## ACWA

The ACWA program continues to implement and refine cost control initiatives, which include performance-based incentives for the Systems Contractor (SC). Section 1521(n) of Title 50 USC allows the use of performance-based incentive clauses in contracts to accelerate safe elimination of the U.S. chemical weapons stockpiles and to reduce the total life-cycle cost of the CDP.

PCAPP completed systemization activities and began operations on September 7, 2016. BGCAPP declared substantial construction completion in July 2015, and continues to execute a robust systemization process that tests plant readiness in four primary areas:

- Paper: Development of all procedures and maintenance instructions, as well as test plans for all elements of the plant and documentation in support of the Facilities Construction Certification.
- Plant: Commissioning, start-up, and testing of the physical plant – ensuring all systems and subsystems within the facilities work properly and function together. A good example of this is the sophisticated fire protection system installed in the plant and the robotic equipment used to disassemble and move munitions through the destruction process. Both sites are employing risk reduction processes for their hydrolysate treatment systems, i.e., biotreatment at PCAPP and supercritical water oxidation at BGCAPP.
- People: Hiring and training of the operations and maintenance staff needed to complete the chemical weapons destruction mission. This includes training each individual for technical proficiency for their assigned duties and ensuring the highest standards are upheld for those included in the Chemical Personnel Reliability Program.
- Permitting: Working with State and Federal regulators to develop, negotiate, and resolve plant operating parameters and Resource Conservation and Recovery Act, Toxic Substance Control Act, and Clean Air Act permit conditions to prepare for plant operations and maintain regulatory compliance.

## PCD and PCAPP, Colorado

Systemization of the PCAPP was completed with the declaration of plant readiness by the SC on September 2, 2016. Following all required reviews and approvals, including final approval by the Under Secretary of Defense (Acquisition, Technology, and Logistics), PCAPP initiation of plant operations was successfully achieved on September 7, 2016. On that day, delivery of the first 128 155mm projectiles was received from storage at PCD and destruction operations began the same day. As of September 30, 2016, PCAPP had destroyed 835 munitions.

The SC and the U.S. Government worked collaboratively to implement sophisticated cybersecurity procedures and processes successfully to protect two primary systems at the PCAPP: the Laboratory Information System and the Industrial Control System. Implementation of cybersecurity Risk Management Framework protocols had previously not been required of chemical demilitarization plants, thus adding additional challenges to this initial deployment. Through a series of “cooperative” (Blue Team) and “adversarial” (Red Team) vulnerability assessments, adequate protective systems were deployed to guard against external and insider threats. This success was directly attributable to the cooperation and collaboration between the U.S. Government and SC team.

PCAPP will use a Static Detonation Chamber (SDC) located at the Anniston Army Depot for the final destruction of non-contaminated energetic materials removed during plant operations. Burstiers removed from the 155mm projectiles will be boxed and shipped to Anniston for destruction in the SDC. Contaminated burstiers, if encountered, will be stored at PCD to await destruction in the PCAPP EDS.

Operation of the PCAPP EDS first campaign began on March 18, 2015, with the destruction of chemical weapons stored at PCD that are unsuitable for processing in the PCAPP main plant, such as overpacked Surveillance Program Lethal Chemical Agents and Munitions samples and leaking munitions. In February 2016, the PCAPP EDS completed the campaign with the destruction of 560 total items. The unit was subsequently placed into temporary closure to await reject munitions from the main plant. Restart of the unit will be approximately 6 months in advance of the completion of the 155mm projectile campaign in the main plant. In addition, a second unit was fabricated and is undergoing test and evaluation at APG, Maryland, in preparation for eventual deployment to PCD to serve as a second EDS for PCAPP.

The SC for PCAPP has recorded more than 4.9 million consecutive work hours without a lost-time injury and with a Recordable Injury Rate (RIR) of 0.64, which is well below the industry average for industrial projects. The PCAPP maintains the Occupational Safety and Health Administration (OSHA) Voluntary Protection Program (VPP) Star Status.

## BGAD and BGCAPP, Kentucky

BGCAPP construction was declared substantially complete on July 31, 2015. Minor construction activities that do not affect full systemization activities are still underway such as design and installation of the Electronic Security System, assembly of a waste storage area and gas mask storage building, installation of pipe insulation, and miscellaneous landscaping, fencing, and road work.

As of September 30, 2016, BGCAPP main plant systemization is 59 percent complete. Systemization activities continue in the Control and Support Building, Utility Building, Munitions Demilitarization Building, Supercritical Water Oxidation Processing Building, Standby Diesel Generator/Fuel Oil Storage Tank Area, Yard Area, and Bulk Chemical Storage Area. Development of the test and demonstration plans that were needed during the startup and demonstration phases of systemization also continues.

Simulated munitions arrived at BGCAPP on December 8, 2015, where the project partnered with the Blue Grass Chemical Activity to begin transportation training. In addition, the refurbishing of Enhanced On-site Containers previously used at the Pine Bluff and Anniston sites to safely transport the munitions from storage to processing began.

The SDC will be used for the destruction of the mustard-filled munitions stored at BGAD. As of September 30, 2016, construction of the facilities required to operate and support the SDC is approximately 82 percent complete and systemization is approximately 55 percent complete. Site preparation work, final fencing, and utility installation to the Access Control Facility is ongoing.

The BGCAPP Medical Facility became operational on April 11, 2016. The facility holds 30 personnel including a physician, advanced practice registered nurses, paramedics, and administrative support. Staff are trained to provide occupational health support and decontamination in the unlikely event a worker should be exposed to chemical agent.

The SC for BGCAPP has logged more than 6 million consecutive work hours without a lost-time injury and a RIR of 0.53, which is well below the industry average for industrial projects. The BGCAPP also maintains OSHA VPP Star Status.

### **B. Safety Status of Chemical Weapons Stockpile Storage**

The CMA, through its subordinate relationship with the U.S. Army Materiel Command, is responsible for safe storage of the remaining chemical weapons stockpiles stored at PCD and BGAD. The CMA continues a monitoring and inspection program that includes analytical sampling and analysis along with an enhanced ammunition surveillance program to assess the safety and integrity of the stockpile munitions, agent, and explosives involved. The CMA continues to test the stockpile to ensure that there is no degradation of any components involved. The stockpile can be safely stored until treated and/or destroyed. The CMA uses high-performance overpack

containers to store leaking chemical agent-filled containers and munitions safely. Leaks that occur in storage are extremely unlikely to endanger on- or off-post communities in the vicinity of the storage sites. During FY 2016, no leaking munitions or non-surety emergencies were identified at either PCD or BGAD. At no time was the community or environment at risk of exposure to chemical agents.

For historical leaker information, see Appendix B. Totals were adjusted from the FY 2015 report based on a search of historical leaker records at PCD and BGAD, and a review of the leaker history of M55 rockets.

## V. Funding Execution

The Consolidated Appropriations Act, 2016 (Public Law 114-113) set funding for the Chemical Agents and Munitions Destruction, Defense (CAMD,D) appropriation at \$699.821 million; there were no funds appropriated for Chemical Demilitarization Construction, Defense (CDC,D). The ACWA program portion of the CAMD,D appropriation was \$569.339 million.

The following table reflects disbursements as of September 30, 2016.

**FY16 Disbursements**  
(includes disbursement amounts for all active fiscal years)  
(\$ IN THOUSANDS)

Purpose	Funds Disbursed
Construction of and equipment for CWDFs (includes systemization)	677,162
Operation of CWDFs	500
Dismantling and closure of CWDFs	9,747
RCWM research and development	13,313
Program Management (includes CMA, PM CSE and ACWA)	38,059
RCWM disposal	50,416
CSEPP (On and Off Post)	82,089
Travel and associated travel costs for Chemical Demilitarization Citizens' Advisory Commission members (detailed in the following paragraphs)	0
<b>TOTAL</b>	<b>871,286</b>

Note: Total ±1 thousand dollars due to rounding

Sources: (1) Defense Finance and Accounting System 218 report with data as of September 30, 2016 and (2) General Fund Enterprise Business System Reconciliation reports as of September 30, 2016

The table at Appendix C shows a detailed listing of funds disbursed by project and location as of September 30, 2016.

Chemical Demilitarization Citizens' Advisory Commissions (CACs), in accordance with Section 1521(m) of Title 50 USC, continued to be important partners of the ACWA program. There were no funds expended for travel and associated travel costs incurred by CAC members during FY 2016. Colorado and Kentucky CAC travel funds are approved by the Office of the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, when travel is required.



## **VI. Chemical Stockpile Emergency Preparedness Program (CSEPP)**

The CSEPP is a joint program between the Army (CMA) and the Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA) with the Army responsible for the on-post mission and DHS/FEMA responsible for the off-post mission. The DHS/FEMA accomplishes its off-post mission through cooperative agreements with States to augment emergency preparedness in the communities surrounding the chemical storage sites. The CSEPP activities have been implemented at all continental U.S. chemical weapons storage sites. As of September 30, 2016, the CSEPP is only active at the PCD and BGAD storage sites. The CMA on-post mission continued to maintain emergency preparedness and readiness at chemical weapons storage installations, and DHS/FEMA executed the off-post mission with State and local governments to meet the CDP mandate of maximum protection. The CMA continues to participate in Community Integrated Process Teams (IPTs). These IPTs consist of representatives from the affected counties and State, along with representatives from DHS/FEMA Region and Headquarters, the local installation, and CMA. The IPTs maintain emergency plans, synchronize efforts with community partners, and address specific community issues. The DHS/FEMA provides a separate report to Congress outlining accomplishments and issues in participating civilian communities, pursuant to Section 1521(e) of Title 50 USC.

In July 2016, DHS/FEMA reported that the Blue Grass and Pueblo communities remain in compliance with the 12 CSEPP benchmarks for emergency preparedness. The CSEPP benchmarks establish the capabilities that enable the communities to respond effectively to a chemical accident/incident at the stockpile storage sites. The CMA will continue to support sustainment and maintain state-of-the-art capabilities for both the depots and the communities until the chemical weapons stockpiles are eliminated.

At the Pueblo and Blue Grass sites, initial testing of local implementation of the national Integrated Public Alert and Warning System laid the foundation for greater speed and effectiveness in alerting the public to emergencies. In Kentucky, three new county Emergency Operations Centers became operational, with work on the remaining facility in Fayette County scheduled for completion in late 2016.

The CMA conducted joint annual CSEPP exercises with the Pueblo community on May 4, 2016, and with the Blue Grass community on September 21, 2016. In 2016, the Automation IPT conducted a workshop and Table Top Exercise (TTX) to assess CSEPP Critical Systems Infrastructure (CSI). The workshop objectives were to assess capabilities, exercise senior leadership decision making, validate information sharing, identify policies/issues that hinder or support response, and identify processes/procedures for communicating system status with stakeholders. The CSI workshop and TTX met their objectives and provided CSEPP leadership awareness and assurance in the capability and reliability of the CSI.

To coordinate activities locally, the CMA and DHS/FEMA participated in community IPT meetings held regularly at both sites in 2016. At the national level, Program Management Team meetings were held in February 2016 in Arlington, Virginia, and in July 2016 in Pueblo, Colorado. Attendees included personnel from CMA; PEO ACWA; FEMA headquarters and Regions IV and VIII, Kentucky Emergency Management and Colorado Division of Homeland Security and Emergency Management; BGAD; PCD; and CSEPP counties surrounding the installations.

**APPENDIX A**  
**ABBREVIATIONS AND SYMBOLS**

## APPENDIX A ABBREVIATIONS AND SYMBOLS

ACWA	Assembled Chemical Weapons Alternatives
ANCA	Anniston Chemical Activity
ANCDF	Anniston Chemical Agent Disposal Facility
APG	Aberdeen Proving Ground
BGAD	Blue Grass Army Depot
BGCAPP	Blue Grass Chemical Agent-Destruction Pilot Plant
CAC	Citizens' Advisory Commission
CAMD,D	Chemical Agents and Munitions Destruction, Defense
CDC,D	Chemical Demilitarization Construction, Defense
CDP	Chemical Demilitarization Program
Chem Demil	Chemical Demilitarization
CMA	U.S. Army Chemical Materials Activity
CSEPP	Chemical Stockpile Emergency Preparedness Program
CSE	Chemical Stockpile Elimination
CSI	Critical Systems Infrastructure
CWC	Chemical Weapons Convention
CWDF	Chemical Weapons Destruction Facility
DHS	Department of Homeland Security
DoD	Department of Defense
EDS	Explosive Destruction System
FEMA	Federal Emergency Management Agency
FY	Fiscal Year [October 1 through September 30]
IPT	Integrated Process Team
NECD	Newport Chemical Depot
OSHA	Occupational Safety and Health Administration
PBCA	Pine Bluff Chemical Activity
PBCDF	Pine Bluff Chemical Disposal Facility
PCAPP	Pueblo Chemical Agent-Destruction Pilot Plant
PCD	Pueblo Chemical Depot
PM CSE	Project Manager for Chemical Stockpile Elimination
RCWM	Recovered Chemical Warfare Material
RIR	Recordable Injury Rate

SC	Systems Contractor
SDC	Static Detonation Chamber
SUPLECAM	Surveillance Program, Lethal Chemical Agents and Munitions
TOCDF	Tooele Chemical Agent Disposal Facility
TTX	Table Top Exercise
UMCD	Umatilla Chemical Depot
UMCDF	Umatilla Chemical Agent Disposal Facility
USC	United States Code
VPP	Voluntary Protection Program

**APPENDIX B**  
**OCCURRENCES OF LEAKING CHEMICAL MUNITIONS**

## APPENDIX B: OCCURRENCES OF LEAKING CHEMICAL MUNITIONS

Fiscal Year	Leaker Occurrences by Type				Leaker Occurrences by State or Territory <sup>a</sup>									
	M55 Rockets <sup>b</sup>	SUPLECAM Samples <sup>c</sup> and Overpack Containers	All Other Munitions	TOTAL	AL	AR	CO	IN	JI	KY	MD	OR	UT	Other
2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	1	1	0	0	0	0	0	1	0	0	0	0
2014	1	0	0	1	0	0	0	0	0	1	0	0	0	0
2013	0	0	3	3	0	0	3	0	0	0	0	0	0	0
2012	3	0	10 <sup>i</sup>	13 <sup>i</sup>	0	0	1 <sup>i</sup>	0	0	12	0	0	0	0
2011	0	0	5	5	0	0	5	0	0	0	0	0	0	0
2010	1	3	15 <sup>i</sup>	19 <sup>i</sup>	0	0	7 <sup>i</sup>	0	0	7	0	5	0	0
2009	4	1	344 <sup>i</sup>	349 <sup>d/i</sup>	184 <sup>e</sup>	0	1 <sup>i</sup>	0	0	9	0	154 <sup>e</sup>	1	0
2008	0	3	62	65 <sup>d</sup>	40	1	0	0	0	2	0	14	8	0
2007	0	7	59	66 <sup>d/f</sup>	5	0	1	0	0	1	0	25	34	0
2006	4 <sup>i</sup>	6	65 <sup>i</sup>	75 <sup>d/i</sup>	4	2	8 <sup>i</sup>	0	0	1	0	45	14	0
2005	15 <sup>i</sup>	28	132 <sup>i</sup>	166 <sup>d/i</sup>	14	1	17 <sup>i</sup>	0	0	9 <sup>i</sup>	0	20	114	0
2004	34	46	69 <sup>i</sup>	158 <sup>d/i</sup>	33	0	1 <sup>i</sup>	0	0	0	1	11	103	0
2003	17 <sup>i</sup>	7	24 <sup>i</sup>	48 <sup>i</sup>	15	0	0 <sup>i</sup>	0	0	2	0	8	21	0
2002	43 <sup>i</sup>	18	32	93 <sup>d/i</sup>	40	6	0	0	0	0	0	8	41	0
2001	70 <sup>i</sup>	35	186 <sup>i</sup>	291 <sup>d</sup>	58	0	0 <sup>i</sup>	0	2	6	0	8	205	0
2000	71 <sup>i</sup>	142	36 <sup>i</sup>	249 <sup>d/i</sup>	51	2	1 <sup>i</sup>	0	0	6	0	6	180	0
1999	73 <sup>i</sup>	69	226 <sup>i</sup>	368 <sup>d/i</sup>	65	1	4 <sup>i</sup>	0	0	8	0	4	286	0
1998	26 <sup>i</sup>	27	45	98 <sup>d</sup>	17	2	0	0	0	0	0	5	74	0
1997	62 <sup>i</sup>	11	46	119 <sup>d/i</sup>	62	2	12	0	1	2	0	6	33	0
1996	153	3	98	254 <sup>d</sup>	119	0	2	0	70	7	0	3	53	0
1995	108 <sup>i</sup>	11	17	136 <sup>i</sup>	66	0	0	0	0	1	0	13	55	0
1994	146 <sup>i</sup>	29	27	202 <sup>i</sup>	82	4	2	0	0	6	0	5	103	0
1993	77 <sup>i</sup>	3	37	117 <sup>i</sup>	37	1	1	0	2	11	0	7	61	0
1992	81	139	51 <sup>i</sup>	271 <sup>i</sup>	52	1	0 <sup>i</sup>	1	6	21	0	7	183	0
1991	67 <sup>i</sup>	3	43 <sup>i</sup>	113	28	3	1 <sup>i</sup>	0	5	6	0	8	63	0
1990	76	5	27	108	17	11	1	0	7	2	0	12	58	0
1980 <sup>g</sup> - 1989	819 <sup>h/i</sup>	60	931 <sup>i</sup>	1,810 <sup>i</sup>	317	15	29 <sup>i</sup>	0	70	111 <sup>i</sup>	0	280	993	27
<b>TOTAL<sup>i</sup></b>	<b>1,951<sup>i</sup></b>	<b>656</b>	<b>2,591<sup>i</sup></b>	<b>5,198<sup>i</sup></b>	<b>1,306</b>	<b>52</b>	<b>97<sup>i</sup></b>	<b>1</b>	<b>163</b>	<b>232<sup>i</sup></b>	<b>1</b>	<b>654</b>	<b>2,683</b>	<b>27</b>

Notes:

- a AL Alabama (ANCA) (operations completed in 2011)
- AR Arkansas (PBCA) (operations completed in 2010)
- CO Colorado (PCD)
- IN Indiana (NECD) (operations completed in 2008)
- JI Johnston Island (includes the storage site and Johnston Atoll Chemical Agent Disposal System; operations completed in 2000)
- KY Kentucky (Blue Grass Chemical Activity)
- MD Maryland (Edgewood Area of APG) (operations completed in 2006)
- OR Oregon (UMCD) (operations completed in 2011)
- UT Utah (Dugway Proving Ground and Deseret Chemical Depot) (operations completed in 2012)
- Other Germany (munitions from German retrograde program that were transferred to Johnston Island in December 1990)
- b Includes GB and VX rockets and rocket warheads.
- c Surveillance Program, Lethal Chemical Agents and Munitions (SUPLECAM) (leaks from drilled and plugged holes in munitions selected for ammunition stockpile reliability testing).
- d Some leaking munitions were detected during disassembly at the Chemical Demilitarization Facilities prior to destruction, rather than at the storage area (69 in FY 1996, 10 in FY 1997, 37 in FY 1998, 211 in FY 1999, 30 in FY 2000, 152 in FY 2001, 27 in FY 2002, 61 in FY 2004, 116 in FY 2005, 36 in FY 2006, 33 in FY 2007, 57 in FY 2008, and 333 in FY 2009). All leaks detected during these operations were under engineering controls.
- e The apparent spike in leakers at AL and OR in 2009 was due to the processing of M23 mines at those locations.
- f Leaker numbers were updated after the final submission of the FY 2007 Annual Report.
- g Specific totals for years prior to FY 1980 were not included, as early records were incomplete, and any total incorporating those time frames could not be considered accurate.
- h A large number of M55 GB rockets were inspected in 1984 and 1985, and a more sophisticated and more sensitive monitoring protocol was adopted. Quarterly storage monitoring inspections of M55 GB rockets were conducted thereafter.
- i Totals adjusted from FY 2015 report based on a search of historical leaker records at PCD and BGAD, and a review of the leaker history of M55 rockets.



**APPENDIX C**  
**PROGRAM DISBURSEMENTS SUMMARY**

**APPENDIX C**  
**CHEMICAL DEMILITARIZATION PROGRAM**  
**FY 2016 DISBURSEMENTS SUMMARY – AS OF SEPTEMBER 30, 2016**  
**(INCLUDES DISBURSEMENT AMOUNTS FOR ALL ACTIVE FISCAL YEARS)**  
**(\$ IN THOUSANDS)**

Project/Facility	Chemical Agents and Munitions Destruction, Defense				Chemical Demilitarization Construction, Defense
	RDT&E	PROC	O&M	Total*	Total
Programmatic Function					
Program Management (CMA)	-	-	2,604	2,604	-
Program Management (PM CSE)	-	-	8,950	8,950	-
CAMDS (Closure)	-	-	-	-	-
JACADS (Closure)	-	-	-	-	-
TOCDF (Operations)	-	-	71	71	-
TOCDF (Closure)	-	-	4,729	4,729	-
ANCDF (Operations)	-	-	-	-	-
ANCDF (Closure)	-	-	1,460	1,460	-
UMCDF (Operations)	-	-	-	-	-
UMCDF (Closure)	-	-	1,995	1,995	-
PBCDF (Operations)	-	-	429	429	-
PBCDF (Closure)	-	-	83	83	-
NECDF (Closure)	-	-	1,480	1,480	-
ABCDF (Closure)	-	-	-	-	-
RCWM Program	13,313	-	50,416	63,729	-
ACWA Program Management	26,505	-	-	26,505	-
PCAPP (Construction & Equipment)	337,126	-	-	337,126	(292)
BGCAPP (Construction & Equipment)	314,159	-	-	314,159	26,169
CSEPP	-	7,946	74,144	82,089	-
<b>TOTAL</b>	<b>691,103</b>	<b>7,946</b>	<b>146,360</b>	<b>845,409</b>	<b>25,876</b>
			<b>GRAND TOTAL</b>		<b>871,286</b>

\*Totals ±due to rounding

- |  |   |
|--|---|
| ABCDF = Aberdeen Chemical Agent Disposal Facility          | NECDF = Newport Chemical Agent Disposal Facility            |
| ACWA = Assembled Chemical Weapons Alternatives             | O&M = Operations and Maintenance                            |
| ANCDF = Anniston Chemical Agent Disposal Facility          | PBCDF = Pine Bluff Chemical Agent Disposal Facility         |
| BGCAPP = Blue Grass Chemical Agent-Destruction Pilot Plant | PCAPP = Pueblo Chemical Agent-Destruction Pilot Plant       |
| CAMDS = Chemical Agent Munitions Disposal System           | PM CSE = Project Manager for Chemical Stockpile Elimination |
| CMA = U.S. Army Chemical Materials Activity                | PROC = Procurement  |
| CSEPP = Chemical Stockpile Emergency Preparedness Program  | RCWM = Recovered Chemical Warfare Material                  |
| FY = Fiscal Year   | RDT&E = Research, Development, Test and Evaluation          |
| JACADS = Johnston Atoll Chemical Agent Disposal System     | TOCDF = Tooele Chemical Agent Disposal Facility             |
|  | UMCDF = Umatilla Chemical Agent Disposal Facility           |