



**Annual Status Report
on the
Disposal of Chemical Weapons and Materiel
for Fiscal Year 2008**

September 30, 2008

TABLE OF CONTENTS

MESSAGE FROM MR. CONRAD F. WHYNE, DIRECTOR, U.S. ARMY CHEMICAL MATERIALS AGENCY	iii
MESSAGE FROM MR. KEVIN J. FLAMM, PROGRAM MANAGER, ASSEMBLED CHEMICAL WEAPONS ALTERNATIVES.....	v
EXECUTIVE SUMMARY.....	vii
I. CHEMICAL DEMILITARIZATION PROGRAM	
Introduction.....	1
Program Management.....	1
Strategic Planning	2
Safety of the Chemical Stockpile.....	3
Environmental Compliance and Chemical Agent Monitoring.....	3
Chemical Stockpile Emergency Preparedness.....	4
Public Outreach.....	5
Program Funding and Expenditures.....	7
Citizens' Advisory Commissions Travel Cost Summary	8
Program Reviews	9
FY 2009 Planned Activities.....	10
II. CHEMICAL WEAPONS CONVENTION	11
III. CHEMICAL STOCKPILE DISPOSAL	13
Deseret Chemical Depot	17
Anniston Army Depot.....	21
Umatilla Chemical Depot	25
Pine Bluff Arsenal.....	29
Newport Chemical Depot.....	33
Pueblo Chemical Depot.....	37
Blue Grass Army Depot.....	41
IV. NON-STOCKPILE CHEMICAL MATERIEL	45

APPENDICES

A	ABBREVIATIONS AND SYMBOLS
B	OCCURRENCES OF LEAKING CHEMICAL MUNITIONS
C	PROGRAM DISBURSEMENTS SUMMARY
D	CONGRESSIONAL SUPPORT
E	CHEMICAL EVENT CATEGORIES

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**MESSAGE FROM MR. CONRAD F. WHYNE, DIRECTOR,
U.S. ARMY CHEMICAL MATERIALS AGENCY**

The U.S. Army Chemical Materials Agency (CMA) celebrated several significant achievements during Fiscal Year 2008, including the elimination of all nerve agent VX rockets, spray tanks, and projectiles associated with CMA chemical agent disposal facilities; elimination of the VX stockpile at Newport Chemical Depot; and destruction of all neutralent from binary chemical weapons. These milestones reflect the remarkable progress made by CMA during the year.

As of September 30, 2008, 55.5 percent of the U.S. declared Category 1 chemical agent and 59.7 percent (or more than 1.9 million) of the Nation's munitions have been destroyed. This accomplishment illustrates the United States' commitment to the success of the Chemical Weapons Convention (CWC) and would not have been possible without CMA's dedicated work force. CMA will continue its efforts to safely destroy the chemical warfare materiel (CWM) under its charge as close to the April 29, 2012, deadline as possible, and will continue to comply with all other CWC requirements.

Our four operating facilities continue to destroy chemical agents and munitions. The facility in Tooele, Utah, continued its mustard campaign—the last major destruction campaign at this site; the facility in Anniston, Alabama, completed destruction of VX 155mm projectiles; the facility in Umatilla, Oregon, completed destruction of VX M55 rockets, VX spray tanks, and all VX projectiles; the facility in Pine Bluff, Arkansas, completed destruction of VX M55 rockets and VX M23 land mines (which eliminated VX from its stockpile). The facility in Newport, Indiana, completed the neutralization of its VX stockpile, and safely shipped the hydrolysate from the VX neutralization process to a commercial treatment, storage, and disposal facility (TSDF).

The Non-Stockpile Chemical Materiel Project has made great strides in the past year. Neutralent from the binary chemical weapon components was completely destroyed at an offsite, commercial TSDF. Explosive Destruction System operations at Pine Bluff Arsenal, Arkansas, continued to destroy the recovered CWM (RCWM) stored at the arsenal. Other activities included RCWM assessment and disposal operations at a variety of locations.

CMA personnel remain committed to the destruction mission and are dedicated to safely completing the task while protecting the work force, the public, and the environment. This safety culture continues to permeate every level of the Agency. Based on U.S. labor statistics, chemical demilitarization operations at CMA facilities are safer than the national average of similar industries. In addition, risk to the public from continued storage of the chemical weapons stockpile has been reduced by 94 percent. Finally, destruction efforts continue to be executed in an environmentally sound manner.

I am proud of our workers and the progress we have made this year. I look forward to more successes in the future. I am committed to ensuring the necessary resources are available as we continue to safely destroy chemical agents en route to

our ultimate goal—destruction of CMA’s chemical weapons stockpile and closure of its facilities.

**MESSAGE FROM MR. MR. KEVIN J. FLAMM, PROGRAM MANAGER
ASSEMBLED CHEMICAL WEAPONS ALTERNATIVES**

The Assembled Chemical Weapons Alternatives (ACWA) program has made tremendous progress in Fiscal Year 2008. Development of the final design and construction activities highlighted the effort at the Blue Grass Chemical Agent-Destruction Pilot Plant in Kentucky. Final design packages for the main processing buildings were completed and work continues on final designs for non-critical buildings. The installation of site utilities and construction of the Personnel Support Building, the Maintenance Building, and the Control and Support Building are well underway. At the Pueblo Chemical Agent-Destruction Pilot Plant in Colorado, construction continues to accelerate with infrastructure work largely complete and the Agent Processing Building, the Enhanced Reconfiguration Building, and the Multipurpose Building all in various stages of vertical construction. In addition, the fabrication and testing of first-of-a-kind equipment are moving ahead for both sites.

As program construction activity increases, ACWA personnel remain committed to a pervasive safety culture. To date, Pueblo and Blue Grass work crews have accrued more than 6 million job hours without a lost-time injury. To acknowledge this achievement, the Pueblo team has been nominated for Star Status in the Occupational Safety and Health Administration's Voluntary Protection Program. Star Status is the program's highest recognition and is only awarded to companies that have achieved injury and illness rates at or below the national average for their respective industries.

Public involvement and open communication continue to be key tenets of the ACWA program. Stakeholders at local, State, and Federal levels actively participate in the program through citizens' advisory commissions, public meetings, and construction site tours. The program's progress, key milestones, and salient issues are regularly communicated to stakeholder audiences through a wide array of outreach initiatives that both inform and solicit community comment and feedback.

The ACWA program has made great strides this year and I look forward to increasing success in the coming years. We are continually exploring opportunities for expediting stockpile destruction to reduce and ultimately eliminate the risk posed to the communities by the chemical weapons. Our common goal is to have the program staff, systems and support contractors, and stakeholders working together in "a partnership for safe chemical weapons destruction" that will make these words more than just a program motto.

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EXECUTIVE SUMMARY

Introduction

The Department of Defense is submitting this annual report for Fiscal Year (FY) 2008 to Congress, pursuant to Title 50 U.S. Code (U.S.C.), Section 1521(g). The report documents the status of the U.S. Chemical Demilitarization Program (CDP) as of September 30, 2008.

Programmatic Activities

The U.S. Army Chemical Materials Agency (CMA) and the Assembled Chemical Weapons Alternatives (ACWA) Program Office jointly manage this nationally important and internationally significant program, emphasizing safe and secure operations and providing maximum protection to the workers, the public, and the environment. The CMA mission encompasses storage of the U.S. chemical weapons stockpile, as well as safe destruction of 90 percent of the stockpile. The Assistant Secretary of the Army for Acquisition, Logistics and Technology and the Commanding General, U.S. Army Materiel Command, jointly oversee the program. The Program Manager (PM) ACWA manages chemical stockpile disposal efforts for the 10 percent of the U.S. stockpile stored in Colorado and Kentucky, in accordance with Public Law (PL) 107-248, Section 8122. PM ACWA reports directly to the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics.

During FY 2008, the CDP made significant progress destroying chemical agents and munitions at CMA facilities and continued design and construction of the ACWA facilities. All CMA destruction facilities were operating, and M55 rockets, the dominant public risk driver, were eliminated from CMA disposal sites. The neutralization facility in Newport, Indiana, completed agent operations and is undergoing closure. The Pine Bluff, Arkansas, facility recently completed nerve agent VX disposal operations, while the Umatilla, Oregon, and Anniston, Alabama, chemical agent disposal facilities (CDFs) completed disposal of nerve agent VX rockets and projectiles. In addition, the Non-Stockpile Chemical Materiel Project (NSCMP) made significant progress during the past year, completing destruction of the remainder of binary chemical weapon materiel; treaty certification for this effort was received in December 2007.

During FY 2008, the ACWA program made significant progress in the design and construction of the ACWA facilities. The Blue Grass project completed the final design packages for the main processing buildings and work continues on the final designs for non-critical buildings. Construction is underway on the Personnel Support Building, Maintenance Building, and Control and Support Building. The Pueblo project continued construction of the Multipurpose Building, Agent Processing Building, Enhanced Reconfiguration Building, and Utility Building. In addition, both sites continued testing first-of-a-kind equipment.

Both CMA and ACWA reported program breaches during FY 2008. CMA Pine Bluff Explosive Destruction System must deviate from the schedule parameters in the

Acquisition Program Baseline, but the program costs remain within budget. ACWA reported a deviation from the Acquisition Program Baseline Military Construction cost threshold, and a deviation from the Blue Grass Chemical Agent-Destruction Pilot Plant “Begin Operations” milestone.

CMA continued to manage storage of the entire U.S. chemical weapons stockpile. The chemical weapons stockpile monitoring and inspection program ensures that munition storage remains safe. During FY 2008, a total of 65 leaking chemical munitions were discovered and overpacked in accordance with long-standing procedures, without incident or endangering on or off-post communities in the vicinity of the storage sites. For historical leaker information, see Appendix B. The CMA and ACWA Program Offices are working to eliminate the storage risk by pursuing the expeditious destruction of the chemical weapons stockpile, while maintaining the commitment to safety and protection of the environment.

A rigorous safe conduct of operations philosophy is the central premise of chemical agent disposal operations for CMA; this philosophy is embraced by the entire work force. Under the Chemical Stockpile Emergency Preparedness Program (CSEPP), CMA continues to maintain emergency preparedness, enhance emergency response capabilities, and provide assistance to communities in partnership with the Department of Homeland Security and state and local governments.

Programmatic environmental activities during FY 2008 encompassed regulatory compliance, environmental management, and public involvement. The CMA and ACWA Program Offices continued relationships and worked with the relevant agencies on federal and state levels to maintain compliance with all environmental regulations.

The CMA and ACWA Public Affairs Offices continued efforts to inform and engage key stakeholders, resulting in a variety of interactions with audiences ranging from public meetings with local community members to editorial boards of local newspapers. Both offices developed and widely distributed an array of information materials, addressing program challenges and successes and soliciting feedback.

Citizens’ Advisory Commissions (CACs), which were established by PL 102-484, continued to be important partners of the CMA and ACWA programs. The CDP spent \$25,705 in FY 2008 to reimburse CAC members for mission-related travel expenses.

The FY 2008 Chemical Agents and Munitions Destruction, Defense appropriation was \$1,512.7 million and the Chemical Demilitarization Construction, Defense appropriation was \$104.2 million. The ACWA Program received \$409.9 million (including Military Construction). During FY 2008, \$1,459 million of FY 2008 and prior year funds were disbursed, as shown in the following table, for CDP activities. The table in Appendix C shows the funds disbursed as of September 30, 2008, by project and location.

FY 2008 Disbursements

Purpose	Funds Disbursed (\$ in thousands)
Construction of and equipment for chemical disposal facilities (includes systemization)	236,466
Operation of chemical disposal facilities	854,820
Dismantling and closure of chemical disposal facilities	10,083
Research and development	4,635
Program Management (includes Chemical Demilitarization Training Facility)	97,689
Non-stockpile chemical materiel disposal	77,896
Chemical Stockpile Emergency Preparedness Program	177,419
Travel and associated travel costs for CAC members	26
TOTAL	1,459,035

Source: Defense Finance and Accounting System 218 report with data as of September 30, 2008.

The total estimated cost of the program is \$35.4 billion, as reported in the December 2007 Selected Acquisition Reports for the Chemical Demilitarization-CMA and Chemical Demilitarization-ACWA Major Defense Acquisition Programs.

Chemical Weapons Convention (CWC)

The United States continued to fully comply with the requirements of the Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons and on their Destruction, commonly known as the CWC.

For CWC purposes, 55.5 percent of the declared Category 1 chemical materiel has been destroyed, as of September 30, 2008. Based on current projections, the United States does not expect to meet the extended 100 percent deadline, an expectation that was relayed to Congress by the Secretary of Defense in April 2006. The United States will continue destruction of Category 1 chemical weapons and will work to complete destruction as close to the April 2012 100 percent deadline as practicable.

During FY 2008, the United States continued to support the presence of CWC inspectors to monitor the destruction of unitary chemical weapons at CDFs, hosted inspections at chemical storage facilities, and prepared documentation in accordance with CWC requirements.

Chemical Stockpile Disposal

The GDP continued chemical agent and munition destruction at CMA facilities, while continuing design and construction of the ACWA facilities during FY 2008. CMA CDFs, as well as NSCMP, destroyed approximately 2,133 U.S. tons of chemical agent

(6.8 percent of the original U.S. stockpile of 31,499 U.S. tons) in FY 2008. The status of the facilities during FY 2008 is as follows:

The Tooele Chemical Agent Disposal Facility (TOCDF) destroyed 613 U.S. tons of blister agent mustard stored in ton containers (TCs) and 155mm projectiles. TOCDF is currently processing mustard TCs.

The Anniston Chemical Agent Disposal Facility (ANCDF) destroyed 384 U.S. tons of nerve agent VX. ANCDF completed processing VX 155mm projectiles and is currently processing VX M23 land mines.

The Umatilla Chemical Agent Disposal Facility (UMCDF) destroyed 307 U.S. tons of nerve agent VX. UMCDF completed processing VX M55 rockets, VX spray tanks, VX 155mm projectiles, and VX 8-inch projectiles in FY 2008. The destruction of the VX projectiles at UMCDF eliminated nerve agent-filled projectiles from stockpiles associated with CMA's CDFs. UMCDF is currently processing VX M23 land mines.

The Pine Bluff Chemical Agent Disposal Facility (PBCDF) destroyed 147 U.S. tons of nerve agent VX. PBCDF completed processing VX M55 rockets, which eliminated agent-filled M55 rockets from stockpiles associated with CMA's CDFs. In addition, PBCDF completed processing VX M23 land mines, which completed destruction operations of all VX at the site. PBCDF is currently changing over to the mustard TC campaign.

The Newport Chemical Agent Disposal Facility (NECDF) neutralized 435 U.S. tons of nerve agent VX. On August 8, 2008, officials at the Newport Chemical Depot confirmed that the last of the nerve agent VX from the depot's stockpile was neutralized. This milestone marks the elimination of the chemical weapons stockpile at Newport. On August 24, 2008, closure operations began at NECDF. NECDF shipped the hydrolysate from the neutralization process to a commercial treatment, storage, and disposal facility in Port Arthur, Texas, where it was destroyed.

The Pueblo Chemical Agent-Destruction Pilot Plant, Colorado, continued construction and first-of-a-kind equipment testing.

The Blue Grass Chemical Agent-Destruction Pilot Plant, Kentucky, continued final design, development, and first-of-a-kind equipment fabrication and testing. Construction and site preparation are ongoing.

Non-Stockpile Chemical Materiel Disposal

The Project Manager for Non-Stockpile Chemical Materiel (PMNSCM) carried out a variety of activities to destroy chemical warfare materiel (CWM) not classified as part of the U.S. chemical stockpile, including the following.

Under the recovered CWM mission, PMNSCM supported activities to recover and destroy CWM at Aberdeen Proving Ground-Edgewood Area (APG-EA), Maryland; Former Camp Sibert, Alabama; Fort Jackson, South Carolina; Fort Knox, Kentucky; Redstone Arsenal, Alabama; Spring Valley, Washington D.C.; Schofield Army Barracks, Hawaii; Dover Air Force Base, Delaware; and Pine Bluff Arsenal, Arkansas. The Pine Bluff Explosive Destruction System, at Pine Bluff Arsenal, Arkansas, destroyed 1,165 munitions representing 2.6 U.S. tons of chemical agent.

The binary chemical weapons disposal mission was completed with the final destruction of binary neutralent via a wet air oxidation unit. Completion of this mission allowed the United States to receive treaty credit for destruction of binary CWM in December 2007.

PMNSCM completed destruction of ancillary buildings at APG-EA, Maryland, as part of the former (chemical weapons) production facilities destruction mission. The closure report was signed by the Garrison Commander on November 30, 2007.

PMNSCM miscellaneous CWM activities during FY 2008 included the continued operation of the Pine Bluff TC Decontamination Facility.

Incidents

During FY 2008, two Category II chemical events (as defined in accordance with Army Regulation 50-6, *Chemical Surety*; see Appendix E) occurred. In addition, 16 Category I chemical events occurred. None of the events resulted in agent exposure to personnel or agent release to the environment. No Category III chemical events occurred during FY 2008.

FY 2009 Planned Activities

During FY 2009, the CDP will continue chemical agent disposal operations at the CMA CDFs in Utah, Alabama, Oregon, and Arkansas, and closure at the facility in Indiana. The CDP will continue final design work at the facility in Kentucky and construction at the facilities in Colorado and Kentucky. Disposal efforts for non-stockpile recovered and miscellaneous CWM will also continue. In addition, CSEPP will conduct annual exercises at each storage site.

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I. CHEMICAL DEMILITARIZATION PROGRAM

Introduction

The purpose of the U.S. Chemical Demilitarization Program (CDP) is to destroy the U.S. stockpile of lethal chemical agents and munitions, as well as non-stockpile chemical materiel (NSCM). Disposal of chemical warfare materiel (CWM) reduces public and environmental risk stemming from continued storage and serves to meet international obligations under the Chemical Weapons Convention (CWC). This report documents the status of the CDP as of September 30, 2008. The Department of Defense (DoD) is submitting this annual report for Fiscal Year (FY) 2008 to Congress, pursuant to Title 50 U.S. Code (U.S.C.), Section 1521(g).

Program Management

The CDP is divided into two Major Defense Acquisition Programs (MDAPs): (1) Chemical Demilitarization-U.S. Army Chemical Materials Agency (CMA), and (2) Chemical Demilitarization-Assembled Chemical Weapons Alternatives (ACWA). Until this year, Chemical Demilitarization-CMA had been subdivided into two MDAPs: CMA and CMA-Newport. On April 3, 2008, the Defense Acquisition Executive approved the Acquisition Program Baseline (APB), combining the CMA and CMA-Newport MDAPs. Chemical Demilitarization-CMA is under Army management as an acquisition category (ACAT) ID program. Chemical Demilitarization-ACWA is under DoD management as an ACAT ID program. The ACWA Program continues a direct reporting relationship with the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)). The U.S. Army Element, ACWA, was activated on November 27, 2007, and is structured as a U.S. Army Materiel Command Separate Reporting Activity under direct operational control of the DoD. The current ACWA APB is dated April 3, 2007.

Chemical Demilitarization-CMA includes chemical stockpile disposal operations at Deseret Chemical Depot (DCD), Utah; Anniston Army Depot (ANAD), Alabama; Umatilla Chemical Depot (UMCD), Oregon; Pine Bluff Arsenal (PBA), Arkansas; Newport Chemical Depot (NECD), Indiana (neutralization operations complete); Aberdeen Proving Ground-Edgewood Area (APG-EA), Maryland (operations and closure complete); and Johnston Atoll in the Pacific Basin (operations and closure complete). Chemical Demilitarization-CMA also includes the NSCM Project (NSCMP) and Chemical Stockpile Emergency Preparedness Program (CSEPP) for all sites and surrounding communities.

Chemical Demilitarization-ACWA includes chemical stockpile disposal operations at Pueblo Chemical Depot (PCD), Colorado, and Blue Grass Army Depot (BGAD), Kentucky, in accordance with Public Law (PL) 107-248, Section 8122.

Effective management of risk is a priority within the CDP. During FY 2008, CMA and ACWA utilized integrated risk management approaches to identify and assess risks against program objectives to determine impact and priority for mitigation. Mitigating

actions are incorporated into program planning and budget projections. These integrated risk management processes support the DoD strategy for the CDP, align with DoD strategic plans, and implement Defense Acquisition University guidance.

PL 109-364, Section 923, allows the CDP to use performance-based incentive clauses in chemical demilitarization contracts to accelerate the safe elimination of the U.S. chemical weapons stockpile and reduce the total cost of the CDP. During FY 2008, these clauses were negotiated into CMA system contracts. Schedule acceleration is being monitored and all systems contractors (SCs) are ahead of their recently negotiated life-cycle schedules.

PL 110-116, Section 8119, requires completion of chemical agent destruction by the CWC extended deadline of April 29, 2012, and in no circumstances later than December 31, 2017. CMA and the ACWA Program completed acceleration analyses to assess the programs' ability to satisfy PL 110-116 requirements and submitted the results to the Office of the Secretary of Defense (OSD) on March 31, 2008. On June 30, 2008, DoD submitted a report to Congress on the preliminary findings from acceleration assessments conducted by CMA and Program Manager (PM) ACWA. These preliminary findings are under review by the DoD. The results of the DoD review will be provided in the next Semi-Annual Report to Congress with the FY 2010 President's Budget request.

In August 2008, CMA reported a deviation from the Pine Bluff Explosive Destruction System (PBEDS) schedule parameters contained in the April 2008 APB for Chemical Demilitarization-CMA. Program costs remain within budget and there is no impact to the final completion of all CMA destruction operations. See page 16 for details.

In July 2008, the ACWA Program reported a program deviation from the cost and schedule parameters contained in the April 2007 APB for Chemical Demilitarization-ACWA. The Military Construction (MILCON) costs will exceed the approved threshold amount of \$753.5M (Base Year 1994), and the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) "Begin Operations" milestone will exceed the approved January 2018 threshold date. See page 14 for details.

Strategic Planning

The USD (AT&L)-formed Strategic Governance Board continued to meet quarterly throughout FY 2008 to oversee CDP strategic planning and to monitor execution against annual destruction and performance goals. At each meeting CMA and ACWA provided a status of their programs with clearly defined performance measures that address, at a minimum, safety; performance against goals; cost, schedule, and performance trends; and risk mitigation.

The performance measures monitored by the Strategic Governance Board are documented in the *Strategic Plan for Destruction of Lethal Chemical Agents and Munitions*, dated April 2005, which was prepared jointly by OSD and the Army pursuant to Title 50 U.S.C., Section 1521(d).

The CMA approach consists of five strategic goals that support the DoD plan. The objectives, tasks, and performance measures supporting these goals are aligned horizontally and vertically from the sites and headquarters office through the DoD plan. CMA also uses an annual performance planning and reporting cycle, along with the Department of the Army (DA) Strategic Management System (SMS) and a strategy map methodology to plan, track, and report the accomplishment of annual goals.

ACWA uses a five-goal strategy similar to CMA that is populated with objectives and metrics, which are being revised as the program matures. Programmatic and site-specific metrics are captured and tracked in the SMS. These data support preparation of programmatic documents, such as the annual performance plans and annual performance reports, which help ACWA track progress toward achieving goals and objectives.

The CDP is rated using performance measures developed for the Office of Management and Budget, Program Assessment Rating Tool. Results from the last rating period (2005) and recent updates are available at www.expectmore.gov, keyword "chemical demilitarization."

Safety of the Chemical Stockpile

CMA continued to assess the safety and integrity of the chemical stockpile during FY 2008 through a monitoring and inspection program that includes analytical sampling and analysis. Over time, the weapon components tend to develop leaks. CMA uses high-performance overpack containers to safely store leaking containers and munitions. Leaks that occur in storage are extremely unlikely to endanger on or off- post communities in the vicinity of the storage sites; thus, the stockpile can be safely stored for the indeterminate future. Although munition and container leaks continue to occur throughout the chemical stockpile, these occurrences continue to diminish as the stockpile is destroyed. During FY 2008, a total of 65 leaking munitions were discovered and overpacked without incident, in accordance with long-standing procedures. For historical leaker information, see Appendix B.

CMA continues to reduce storage risk as quickly as possible by destroying the most hazardous munitions and agents first. During FY 2008, VX M55 rockets, a high priority since they contained agent in proximity to propellant, were eliminated, and all VX in bulk storage was neutralized. With these actions, overall storage risk to the public has been reduced by 94 percent through destruction and mitigation.

Environmental Compliance and Chemical Agent Monitoring

CMA and ACWA continued work with DoD, DA, U.S. Environmental Protection Agency (EPA), and state and local regulatory agencies to ensure compliance with environmental regulations. In addition, CMA continued implementation of and compliance with an International Organization for Standardization (ISO) 14001 Environmental Management System (EMS) at Chemical Agent Disposal Facilities (CDFs).

Annual EMS surveillance audits were conducted at all CDFs, UMCD, and PCD to ensure continued EMS conformance with ISO 14001. The EMS surveillance audits were external assessments conducted by CMA's Environmental Office and an ISO 14001 certified contractor. All sites were found to be in conformance.

CDP chemical agent monitoring systems are the best available for the monitoring levels required and continue to provide protection to the work force, public, and environment. Operational and changeover schedules have been reviewed to determine requirements for agent-specific monitors. Significant changes to monitoring instrumentation are validated by an independent third party to ensure those changes meet or exceed quality standards. CMA revised the Programmatic Laboratory and Monitoring Quality Assurance Plan in December 2007, and is in the process of revising information about waste streams, decontamination requirements for reuse of items (such as tools) used in the demilitarization process, and closure monitoring requirements for the Programmatic Monitoring Concept Plan, taking into consideration site-specific permit requirements.

Chemical Stockpile Emergency Preparedness

The Director, CSEPP, continued to maintain emergency preparedness and improve operational readiness at chemical agent storage installations, and continued to work with the Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA) and State and local governments to provide assistance to the surrounding communities. DHS/FEMA conducts the off-post emergency preparedness program and is supported by the Army, which provides DHS/FEMA with funding for state grants and technical assistance. DHS/FEMA will provide a separate report to Congress outlining accomplishments and issues in participating civilian communities, pursuant to Title 50 U.S.C., Section 1521 (g).

Annual exercises were held at six of the seven existing stockpile sites. The seventh site, Newport, completed its CSEPP mission in FY 2008, with only grant closeout actions remaining. The Umatilla CSEPP exercise, May 5 to 7, 2008, was part of National Level Exercise 2008 (NLE 2-08); it also met the Army requirement for a biennial Service Response Force Exercise. This was the first CSEPP exercise linked to an NLE under provisions of the National Exercise Program; it allowed for extensive participation by federal agencies and more robust play at the state and local levels in order to demonstrate mitigation and recovery efforts following a simulated large-scale chemical agent release from an Army stockpile location.

The Director, CSEPP, conducted the CSEPP State and Local Forum in Denver, Colorado, June 24 to 25, 2008. More than 100 Federal, State, county, tribal, and industry representatives attended. The purpose of the forum was to raise awareness among state and local jurisdictions of the necessary requirements to successfully close a CSEPP program and to provide recommendations to DHS/FEMA and Army PMs on actions needed to assist in this effort. In support of the closeout process, the national CSEPP Closeout Integrated Process Team (IPT) published the Closeout Guidebook. The guidebook identifies federal CSEPP policies and agreements so that State, local,

and tribal governments can develop their programs in accordance with these policies. The guidebook also identifies and characterizes programmatic approaches to issues encountered during program closeout, along with risk reduction methods that are consistent with these policies.

CSEPP conforms to the Congressional mandate¹ for a single CSEPP information system with the fielding of WebPuff™, a Web-based system built around the D2-Puff™ dispersion model.² D2-Puff is a downwind dispersion model now used at all CSEPP sites. This system exports all uniquely CSEPP information in a format compliant with the latest private sector standards for information exchange (the Common Alerting Protocol and Keyhole Markup Language).³ This allows states and counties to use existing or planned commercial all-hazards information systems to manage the response to a CSEPP event, avoiding the need to train personnel on separate systems and the cost of maintaining a separate CSEPP information system.

During FY 2008, there were two releases of WebPuff, with each providing approximately 50 training sessions for approximately 300 CSEPP personnel. Additional training was provided for those personnel performing “Hazard Analysis” duties using the D2-Puff model. Training consisted of both online and instructor/classroom settings at all stockpile sites.

CSEPP communities continue to maintain effective emergency public information programs consistent with the requirements of the National Incident Management Systems (NIMS). Specifically, on- and off-post public affairs staffs at each site, with the support of Army and FEMA headquarters (HQ) personnel, jointly coordinate the establishment of a Joint Information System and Joint Information Center (JIC) for the dissemination of timely, accurate, and complete information during an emergency response. This effort includes pre-incident public education and outreach. For the second year, additional spokesperson training was provided in FY 2008 to incoming Army commanders during training at CMA HQ, in addition to long-time spokesperson training held at CSEPP stockpile locations.

Public Outreach

Public outreach is the front-line, direct communication link between site operations and local stakeholders. The outreach staff maintains a close relationship with the stakeholder base and fully understands the issues that are important to the communities. During FY 2008, CMA Public Affairs, as part of specific outreach plans and strategies, informed key stakeholders of programmatic successes and setbacks alike, as highlighted in the following paragraphs:

¹ FY 1993 Senate Appropriations Committee Report, September 17, 1992; Report 102-408 (to accompany H.R. 5504).

² Atmospheric dispersion models (plume dispersion models) predict the location and extent of the chemical plumes that could result from an accidental release of chemical warfare agents. The WebPuff model determines which specific areas could be impacted, time at which the plume could arrive, and potential concentrations. WebPuff also helps determine which protective action (for example, evacuation or sheltering) would be the best option for this particular scenario.

³ <http://www.incident.com/cap/> and <http://www.oasis-open.org/committees/emergency>

- *Last Rocket Processed at a CMA Facility* – CMA Public Affairs maximized this good news opportunity by highlighting the 94 percent reduction in risk to the Nation that the milestone represents. The story was covered by more than 37 local and national media outlets.
- *Newport Hydrolysate Shipments and Stockpile Elimination Milestone* – CMA Public Affairs kept stakeholders apprised of hydrolysate shipments and provided materials, such as fact sheets describing the Army's careful planning and attention to safely shipping the waste. The Newport stockpile was safely eliminated in August 2008, at which time CMA notified key stakeholders, the media, and the public. As part of the recognition of this destruction success story, CMA is planning a public ceremony in October 2008.
- *Service Response Force Exercise* – The CMA Public Affairs played a critical role—planning and staffing both the exercise's onsite JIC and the emergency operations center HQ during the event. Work entailed responding to mock public inquiries, providing accurate and timely information to mock media, as well as escorting media covering the event.
- *CMA Leadership Changes* – CMA Public Affairs facilitated the transition of new leadership within the Agency. Public Affairs ensured key stakeholders were informed of the change in leadership, apprised of their qualifications, and provided opportunities to meet with new CMA leaders.

The ACWA Communications and Congressional Affairs team began highlighting ACWA's activation as an Army element in FY 2008. The team was also focused on several programmatic efforts that were initiated at the conclusion of FY 2007. These initiatives continued throughout the entire year and required a variety of public involvement activities augmented by traditional ACWA outreach tools including newsletters, briefings, direct mail, and online resources.

- *Operation Swift Solution* – To support *Operation Swift Solution*, the effort to eliminate three deteriorating steel containers and their associated wastes at BGAD, Kentucky, ACWA held an informational meeting for the public in January 2008. ACWA subsequently provided several briefings at meetings held by the Kentucky Citizens' Advisory Commission (CAC) and its working groups to outline progress to date, next steps, and options for the treatment of secondary waste. ACWA also included the information in its existing information products, as well as distributing two direct mail notifications to the public per regulatory requirements.
- *Acceleration Assessment* – ACWA developed a comprehensive public outreach strategy surrounding the acceleration assessment initiated in response to PL 110-116 and PL 110-181, which mandate completing destruction of the chemical weapons stockpiles no later than December 31, 2017. Upon delivery of the Report to Congress on June 30, 2008, ACWA held a series of meetings with key stakeholders,

including Kentucky and Colorado Congressional staff and CAC leadership, to review the preliminary findings. Follow-up presentations were subsequently given at public meetings in both communities.

- *Technical Studies* – ACWA coordinated community interviews in support of the Noblis technical analyses of the offsite shipment of hydrolysate in Kentucky and Colorado in December 2007 and January 2008, respectively. Throughout the year, ACWA provided several briefings to key community leaders on the Noblis study, as well as a National Research Council (NRC) study on secondary waste. These briefings were designed to resolve questions regarding the need for the studies and to reiterate that offsite shipment will remain an option, providing it can produce cost savings for the program.
- *Progress and Milestones* – Key ACWA public involvement efforts for FY 2008 were also focused on promoting site-specific construction progress and technical milestones, including the public involvement activities surrounding Pueblo's Resource Conservation and Recovery Act (RCRA) permit modification request for Stage 3 construction, the redesign effort for the Munitions Demilitarization Building in Kentucky, and the achievement of significant safety milestones at both sites.

Program Funding and Expenditures

The FY 2008 Chemical Agents and Munitions Destruction, Defense (CAMD, D) appropriation was \$1,512.7 million and the Chemical Demilitarization Construction, Defense appropriation was \$104.2 million. The ACWA Program received \$409.9 million (including MILCON).

The CDP disbursed \$1,459 million of FY 2008 and prior year funds for activities carried out under Title 50 U.S.C., Section 1521. Disbursed amounts are lower than appropriated funding because funds appropriated as multi-year funds may be obligated and disbursed in following years or some funds were obligated but not disbursed during FY 2008. The following table reflects disbursements as of September 30, 2008.

FY08 Disbursements

Purpose	Funds Disbursed (\$ in thousands)
Construction of and equipment for chemical disposal facilities (includes systemization)	236,466
Operation of chemical disposal facilities	854,820
Dismantling and closure of chemical disposal facilities	10,083
Research and development	4,635
Program Management (includes Chemical Demilitarization Training Facility)	97,689
Non-stockpile chemical materiel disposal	77,896
Chemical Stockpile Emergency Preparedness Program	177,419
Travel and associated travel costs for CAC members (detailed in the following paragraphs)	26
TOTAL	1,459,035

Source: Defense Finance and Accounting System 218 report with data as of September 30, 2008.

The table in Appendix C shows the funds disbursed as of September 30, 2008, by project and location.

The current Life Cycle Cost Estimate, as reported in the December 2007 Selected Acquisition Reports for the Chemical Demilitarization-CMA and Chemical Demilitarization-ACWA MDAPs, is \$35.4 billion. CMA and ACWA continued to implement and refine cost control initiatives; which include the Earned Value Management System and performance-based incentives (PBIs) for chemical demilitarization SCs.

Citizens' Advisory Commissions (CACs) Travel Cost Summary

The following table details funds expended for travel and associated travel costs by CAC members during FY 2008. Alabama, Arkansas, Indiana, Oregon, and Utah CAC travel funds are approved by the Deputy Assistant Secretary of the Army for the Elimination of Chemical Weapons. Colorado and Kentucky CAC travel funds are approved by OSD. The CDP has met all requirements for meeting with the CACs.

State	Expenditures
Alabama	\$6,590.98
Arkansas	\$6,341.87
Colorado	\$3,564.52
Indiana	\$2,145.37
Kentucky	\$1,789.61
Oregon	\$2,416.25
Utah	\$2,856.17
Total	\$25,704.77

Program Reviews

The Government Accountability Office (GAO) issued report GAO-08-134 in December 2007, entitled, *Additional Management Actions Needed to Meet Key Performance Goals of DoD's Chemical Demilitarization Program*. GAO reviewed CMA's strategic framework, schedules, and earned value management data from May 2006 through July 2007 to assess the progress DoD and the Army have made in implementing GAO's recommendations from the September 2003 report, number GAO 03-1031, entitled, *Chemical Weapons: Sustained Leadership, Along With Key Strategic Management Tools, Is Needed to Guide DoD Destruction Program*. DoD concurred or partially concurred with 12 of GAO's 13 recommendations.

Noblis, an independent science and engineering company formerly known as Mitretek Systems, performed a programmatic cost and schedule assessment of offsite disposal options for agent and energetics hydrolysates from Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) and BGCAPP. The assessment was conducted in accordance with the January 2007 Acquisition Decision Memorandum requiring PM ACWA to plan and budget for onsite treatment of hydrolysate, while continuing to pursue offsite treatment and disposal options, as long as it is economically beneficial. In its assessment, Noblis considered previous studies, the most recent life-cycle cost and schedule estimates for the plant, input from expanded stakeholders, and precedence for secondary waste disposal options. The draft report, based on the destruction completion estimate of 2020 for PCAPP and 2023 for BGCAPP, was delivered in March 2008. The second draft report, incorporating the new schedule estimates from the acceleration assessment, is anticipated in October 2008.

PM ACWA tasked the NRC to perform an independent programmatic assessment of offsite disposal of secondary wastes and hydrolysate (BAST-J-07-05-A). The NRC will compare the requirements for CDFs to those of similar facilities in industry that treat, store, and/or handle and ship secondary wastes. The comparison will include the following areas:

- Degree of characterization necessary for secondary waste (chemical agent and nonagent) produced during stockpile disposal and/or storage operations, which is treated onsite or shipped offsite for further treatment or disposal
- Identification of additional studies that might be required to confirm if commercial treatment, storage and disposal facilities (TSDF) can handle secondary waste from BCCAPP and PCAPP
- Recommended procedures and techniques to address public and regulatory issues
- Ramifications and limitations of existing environmental permits
- Extent and number of health risk assessments and transportation risk assessments deemed necessary

- Criteria for shipment of agent-contaminated wastes for final treatment and disposal
- Facility closure requirements.

The final report is due in the first quarter of FY 2009.

NRC is currently reviewing other topics for CMA and PM ACWA:

(1) Examination of the Disposal of Activated Carbon from the Heating, Ventilation, and Air Conditioning Systems at Chemical Agent Disposal Facilities, BAST-J-08-03-A, (2) Review of Assembled Chemical Weapons Alternatives Program Detonation Technologies, BAST-J-07-6-A, and (3) Evaluation of the Safety and Environmental Metrics for Potential Application at Chemical Agent Disposal Facilities, BAST-J-08-02-A. All of these studies are to be completed in FY 2009.

FY 2009 Planned Activities

During FY 2009, the CDP will continue chemical agent disposal operations at CMA CDFs in Utah, Alabama, Oregon, and Arkansas, and closure at the facility in Indiana. The CDP will continue final design work at the facility in Kentucky and construction at the facilities in Colorado and Kentucky. Disposal efforts for non-stockpile recovered and miscellaneous CWM will also continue. In addition, CSEPP will conduct an annual exercise at each storage facility.

II. CHEMICAL WEAPONS CONVENTION

The United States continued to fully comply with the requirements of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, commonly known as the CWC.

The original U.S. Category 1 chemical weapons stockpile amount of 31,499 U.S. tons⁷ of chemical agent includes 1,583 U.S. tons that were destroyed prior to entry into force (EIF), of the CWC on April 29, 1997. Category 1 chemical weapons include the unitary chemical stockpile, binary components, some chemical samples, and recovered chemical weapons. After EIF, the U.S. Category 1 chemical weapons declaration consisted of 29,916 U.S. tons of stockpile chemical agent and 693 U.S. tons of non-stockpile chemical agent, for a total U.S. Category 1 chemical weapons declaration of 30,609 U.S. tons. CMA is responsible for destruction of 27,473 U.S. tons (90 percent) and PM ACWA is responsible for the remaining 3,136 U.S. tons (10 percent). For CWC purposes, 55.5 percent of the declared Category 1 chemical weapons have been destroyed as of September 30, 2008.

The CWC milestone for 100 percent destruction of Category 1 chemical weapons has been extended to April 29, 2012, the latest date allowable under the CWC. Based on current projections, the United States does not expect to meet the extended deadline, an expectation that was relayed to Congress by the Secretary of Defense in April 2006. The United States will continue destruction of Category 1 chemical weapons and will work to complete destruction as close to April 2012 as practicable.

The United States continued to support the presence of CWC inspectors to monitor the destruction of unitary chemical weapons at CDFs, as well as host periodic inspections at chemical storage facilities. During FY 2008, CMA hosted 13 chemical weapons storage facility inspections, and more than 1,663 inspector-days at CDFs. CMA continued to maintain its CWC compliance readiness through workshops, sharing lessons learned, and conducting exercises to prepare for CWC inspections.

CMA prepared numerous documents that were submitted by the United States to the Organisation for the Prohibition of Chemical Weapons (OPCW), in accordance with CWC requirements. As a condition of the OPCW granting a 5-year extension to their 100 percent destruction deadlines, the United States and Russia agreed to host a visit to each of their destruction facilities. The first such visit by the OPCW Executive Council was conducted at the Anniston facility on October 22 to 23, 2007. CDP leaders communicated the U.S. commitment to disposing of the U.S. chemical weapons stockpile in a timely manner, despite the various challenges the program has faced.

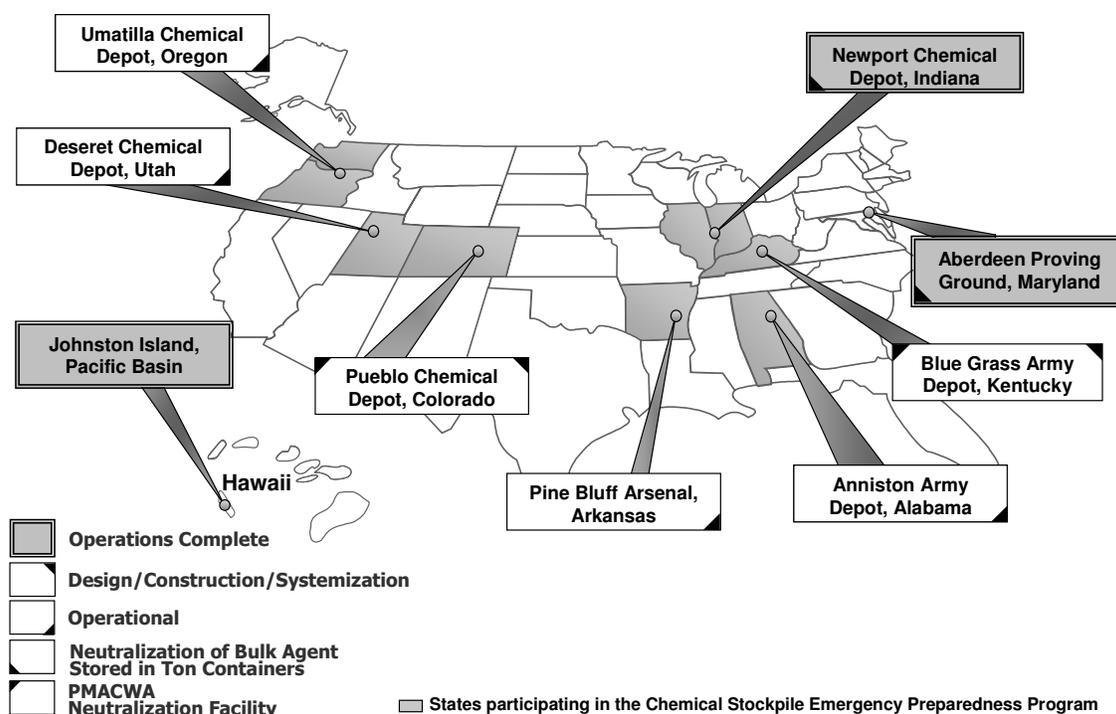
⁷ Destruction numbers in this report have been rounded to whole numbers. Calculations solely based on this report may be affected by this rounding.

FY 2009 Planned Activities

DoD will continue to demonstrate its compliance and meet all CWC documentation obligations and support OPCW inspections at U.S. chemical storage and disposal facilities.

III. CHEMICAL STOCKPILE DISPOSAL

National Chemical Stockpile Distribution by Storage Location



Note: Unless annotated, destruction technology is incineration.

The CDP continued chemical agent and munition destruction at CMA facilities and continued design and construction of the ACWA facilities during FY 2008. CMA-managed disposal facilities at Deseret, Anniston, Umatilla, Pine Bluff, and Newport were operational during FY 2008. CMA's Johnston Atoll Chemical Agent Disposal System (JACADS) continued post-closure activities. JACADS completed additional RCRA sampling for volatile organic compounds during May 2008. Aberdeen Chemical Agent Disposal Facility (ABCDF) continued administrative closeout. In May 2008, the property used for ABCDF was returned to the U.S. Army Garrison, Aberdeen Proving Ground.

CMA CDFs and the NSCMP destroyed approximately 2,133 U.S. tons of chemical agent during FY 2008 (6.8 percent of the original U.S. stockpile of 31,499 U.S. tons). The FY 2008 performance measure was 1,458 U.S. tons of chemical agent. CMA facilities have destroyed a total of 1,920,291 munitions and a total of 17,891 U.S. tons of chemical agent from the original U.S. stockpile. This is 56.8 percent of the original stockpile.

Numerous challenges have delayed progress toward meeting destruction milestones. CMA and ACWA continue to implement initiatives to identify and mitigate these challenges and utilize a program of shared lessons learned across the CDP. Challenges include those outlined in the following paragraphs.

ACWA Program Deviation

PM ACWA reported a program deviation from the cost and schedule parameters contained in the April 2007 APB. Specifically, the MILCON costs will exceed the approved threshold amount of \$753.5M (Base Year 1994), and the BGCAPP "Begin Operations" milestone will exceed the approved January 2018 threshold date.

The increased MILCON costs are attributed to higher construction costs for PCAPP, due primarily to increases in quantities of commodities, and inadequate allowances for escalation resulting in extended construction schedules. PM ACWA anticipates similar increases at BGCAPP.

The schedule deviation at BGCAPP is based on design challenges of the Munitions Demilitarization Building (MDB). The DoD Explosives Safety Board (DDESB) rejected the layout and design of the MDB in the BGCAPP Site Safety Plan submission. DDESB cited a lack of supporting data for the proposed design of the explosive containment room, which was pursued to overcome constructability issues at previous demilitarization facilities. A redesign of the MDB explosive containment area, which closely follows baseline facility blast design criteria, is being developed. The redesign is scheduled for completion by January 2009. MDB final design acceptance and DDESB approval is expected in May 2009.

Mustard Agent (HD and H) Processing Strategy

Prior sampling and analysis of approximately 1 percent of the HD ton containers (TCs) at DCD determined that some HD TCs are contaminated with varying concentrations of mercury. Some also contain solid heels (layers of solid material present within the agent) that are too large to be efficiently processed in the Metal Parts Furnace (MPF). With these sampling results and historical research on Rocky Mountain Arsenal (RMA), Colorado, mustard production history, a predictive model was developed to identify agent lots and TC serial numbers of RMA HD TCs that are likely to have low mercury content. DCD shared these trends and predictions with other sites to assist in the development of HD TC sampling and processing strategies.

DCD's sampling strategy included 100 percent sampling of the TC inventory via invasive liquid sampling and heel measurement. Sampling equipment was installed in an igloo in Area 10 at DCD. Sampling operations started on June 6, 2006, and were completed on July 29, 2008. The results of the sampling program were successfully used to develop and design a processing strategy that will allow environmentally sound destruction of the stockpile at Tooele Chemical Agent Disposal Facility (TOCDF). TCs containing low mercury (defined at TOCDF as those containers with less than 1 milligram per kilogram mercury concentration in a 1 milliliter sample of the liquid mustard) and low heels (defined as those heels that are estimated to be less than 630

pounds), can be effectively processed through the MPF. Sampling measurements identified approximately 3,000 TCs with heels above 630 pounds, resulting in the design and construction of the Heel Transfer System (HTS). The HTS will utilize warm water sprays at high pressure to liquefy heels, so portions can be pumped out of high heel “parent” TCs into empty “child” containers, reducing heel weight and allowing both to be processed through the MPF.

As negotiated with the Utah regulators, compliance with mercury emission levels for the TOCDF MPF will be provided through the installation of mercury sorbent traps located on the off-gas duct to the common stack. Installation of an additional mercury pollution abatement system filtration system (PFS), with mercury removal by sulfur-impregnated carbon (SIC) fixed beds, is underway for the Liquid Incinerator (LIC) and MPF for processing of the high-mercury TCs. Experimental measurements of mercury removal efficiencies by various SIC fixed beds were completed between September and October 2007, to support PFS design efforts. Although this mustard processing strategy is site-specific to TOCDF, other sites with mustard TCs will benefit from this experience and lessons learned.

The other baseline incineration CDFs already have PFS units that can be retrofitted to add SIC fixed beds prior to the start of mustard campaigns. Additional testing is underway to further evaluate different types of SIC and to refine the operating strategies for the various CDFs.

VX Hydrolysate Treatment and Disposal

The nerve agent VX neutralization process employed at Newport Chemical Agent Disposal Facility (NECDF) produced a caustic wastewater, known as hydrolysate, which was regulated as hazardous waste and required additional treatment to meet final CWC destruction requirements.

In June 2007, a lawsuit was filed against the Army by the Sierra Club and other plaintiffs in the United States District Court for the Southern District of Indiana challenging the shipment of hydrolysate and citing violations of the RCRA and the National Environmental Policy Act (NEPA). Plaintiffs filed a motion for a preliminary injunction to halt further shipments. CMA voluntarily halted the shipments on June 19, 2007, pending the court’s resolution of the motion. A hearing was held on July 18, 2007, and on August 3, 2007, the court denied the motion. Shipments resumed on August 7, 2007. The plaintiffs submitted a motion for summary judgment on November 13, 2007. On September 22, 2008, the Court denied the plaintiff’s motion for summary judgment, granted the Government’s motions for summary judgment, and ruled for the Government on all counts. The plaintiffs have 60 days to appeal to the Circuit Court of Appeals.

Pine Bluff Explosive Destruction System (PBEDS)

PBEDS is a site-specific system at PBA, Arkansas, consisting of three Explosive Destruction System (EDS) units set up to destroy approximately 1,200 recovered munitions. Included in these munitions were 473 German Traktor Rockets (GTRs), 56 with propellant-filled motors (the balance with expended motors). A GTR with a propellant-filled motor exceeds the net explosive weight of the PBEDS. The initial plan was to separate the warheads from the motors, destroy the warheads in the PBEDS, and destroy the propellant-filled motors by open detonation. The Army decided to pursue an alternate destruction technology because open detonation of the potentially contaminated GTR motors was deemed unacceptable by the Army. Destruction operations (with the exception of the 56 GTRs with propellant-filled motors) are on schedule to meet the APB threshold date of December 2008 for the Complete Operations milestone. PBEDS will enter a maintenance/stand-by mode until the method of destruction of the propellant-filled GTRs is determined.

Deseret Chemical Depot, Tooele Chemical Agent Disposal Facility, and Chemical Agent Munitions Disposal System, Utah

Highlights

TOCDF continued the mustard agent (HD, H) campaign, processing a total of 330 HD TCs and 54,453 H 155mm projectiles during FY 2008. Closure activities continued at the Chemical Agent Munitions Disposal System (CAMDS) with the dismantling of the process equipment and buildings.

TOCDF Operations

TOCDF completed 12 years of chemical weapons destruction operations on August 22, 2008. As of September 30, 2008, TOCDF has destroyed a total of 1,071,207 munitions (94.1 percent of the total number of munitions in the DCD stockpile).

The mustard agent campaign is the last major destruction campaign at TOCDF. There were nearly 6,194 U.S. tons of mustard agent stored at DCD. Most of the mustard agent was stored in TCs at the remote depot, located 60 miles southwest of Salt Lake City, Utah. This is the largest chemical agent destruction campaign that CMA will undertake to eliminate aging U.S. stockpiles.

During FY 2008, TOCDF continued destruction of chemical agent mustard and destroyed 613 U.S. tons of the blister agent, exceeding the FY 2008 performance measure of 461 U.S. tons of chemical agent. TOCDF began the year processing HD TCs with low mercury content and low heel. On November 5, 2007, TOCDF changed over to process H 155mm projectiles, retaining the option to return to TC processing. Destruction of all baseline H 155mm projectiles was completed on August 8, 2008. There are 198 overpacked and reject projectiles remaining that will be processed in a future campaign. TC destruction operations resumed on August 22, 2008. Planning continues for GA (2 U.S. tons) and lewisite (13 U.S. tons) destruction.

TOCDF completed an MPF agent trial burn (ATB)⁵ for H 155mm projectiles in the MPF on January 19, 2008. On February 13, 2008, the Utah Division of Solid and Hazardous Waste (DSHW) approved the MPF Preliminary ATB Report, which increased the projectile feed rate to the MPF from 50 to 75 percent of that demonstrated during the trial burn. Utah DSHW notified TOCDF on April 11, 2008, that the facility could increase its MPF feed rate to 100 percent.

TOCDF continued to sample TCs for mercury content and heel size during FY 2008. Sampling of all 6,397 TCs was completed on July 29, 2008. The project,

⁵ To show that chemical agent can be destroyed successfully, CDFs perform ATBs before processing a new agent. The CDFs are then authorized to process at 50 percent of the demonstrated processing rate until the preliminary ATB report is approved, which allows a 75 percent processing rate. When the final report is approved, a 100 percent processing rate is permitted.

jointly accomplished by workers from DCD's Area 10 and TOCDF's SC, safely sampled the TCs in just over 3 years, nearly 14 months ahead of schedule. The results of the sampling program were used to develop and design a processing strategy to allow environmentally sound destruction of the remaining mustard TC stockpile at TOCDF. This process included efficient staging of TCs to support continued plant operations, by first destroying the 2,462 TCs that met the criteria for baseline incineration (low mercury and low heel); 2,441 of these TCs have been processed through the TOCDF MPF. To process the 3,028 TCs with low mercury levels and high heels, the TOCDF pilot tested and built the HTS. The remaining 907 TCs have high mercury levels, which will be addressed by adding a new PFS to the MPF and LIC. Design, procurement, and installation of the PFS are underway and are expected to be completed in FY 2009.

Offsite shipment of secondary wastes provides an opportunity for cost savings. During FY 2008, TOCDF completed its first two offsite shipments of decontaminated HD secondary waste (60,669 pounds of secondary waste was previously shipped offsite during the GB and VX campaigns). These two shipments totaled 21,475 pounds and consisted largely of Demilitarization Protective Ensemble (DPE) suits and toxicological agent protective gear. The DPE shipments were the first at TOCDF to use headspace monitoring as a means of waste characterization rather than analytical extractions. CMA utilized equipment, processes, and regulations established by the U.S. Department of Transportation (DOT) and RCRA for managing and shipping the waste. Additional waste shipments will be scheduled as needed.

TOCDF personnel reached a major safety milestone on May 31, 2008, by recording more than 5 million consecutive hours of operations without a lost-time injury. As of September 30, 2008, TOCDF personnel have recorded over 5.6 million consecutive hours (1,076 days) of operations without a lost-time injury.

Environmental Compliance

During FY 2008, all necessary permitting requirements were met, and permits continue to be maintained. An Environmental Assessment and Finding of No Significant Impact (FONSI) were completed for an autoclave for the processing of secondary waste. The Record of Environmental Consideration (REC) to update TOCDF's 1989 Environmental Impact Statement (EIS) was finalized. The REC concluded that there was no significant change to the conclusions in the EIS. The RCRA Class 2 permit modification for the HTS was approved September 10, 2008. This modification also included a temporary authorization for construction. For the PFS, the RCRA Class 2 permit modification for construction only, and Title V permit modification were completed in 2008. The CAMDS facility is undergoing RCRA closure. An annual EMS surveillance audit was conducted by CMA's Environmental Office and an ISO 14001 certified contractor, and TOCDF conforms to ISO 14001.

Chemical Stockpile Safety

The remainder of the chemical stockpile at DCD continues to be stored safely. During FY 2008, eight leaking munitions and overpack containers were identified at Utah facilities (see the summary table in Appendix B). Leakers were handled in

accordance with chemical surety procedures, and there was no release of chemical agent to the environment. Ongoing disposal and mitigation actions have resulted in a greater than 99 percent reduction of risk to the public stemming from the potential for a low-probability, high-consequence accident associated with the storage of chemical munitions and agent at DCD at the end of FY 2008.

Public Outreach

During FY 2008, the DCD Public Affairs team continued to proactively address stakeholder questions and concerns. Topics of interest over the course of the FY included the mustard campaign strategy, closure of CAMDS, secondary waste, disposal of GA and lewisite, as well as challenges and milestones. The Public Affairs team kept stakeholders well informed using communication methods, such as the DCD Monthly Update, information packets for new residents, public meetings, CAC sessions, and facility tours. The outreach office also focused efforts on updating widespread information products such as the outreach video and fact sheets, and the public affairs team has focused on educating local media by providing depot/facility tours.

Chemical Stockpile Emergency Preparedness

Cooperation among the Army, DHS/FEMA, the state of Utah, and local governments continued to be excellent. DCD has all CSEPP enhancements in place and is in sustainment. The Closeout IPT is reviewing its closeout plan to ensure it remains on track with the demilitarization schedule. The depot has taken steps to adopt the NIMS, and emergency plans have begun to incorporate NIMS principles. Spokesperson crisis communication training was conducted in August 2008 for the DCD command staff and local community officials.

A robust training program was maintained for emergency responders. The annual CSEPP exercise took place on September 10, 2008. Emergency preparedness was maintained and overall communications system operability was enhanced by upgrading radio equipment.

Chemical Agent Munitions Disposal System Operations

In FY 2008, the Project Manager for Non-Stockpile Chemical Materiel (PMNSCM) continued management of portions of closure at CMA's direction. These closure activities are detailed in the NSCMP section of this report.

On May 1, 2008, the Utah DSHW approved limited activities involving closure of the decontaminated agent operations buildings and equipment at CAMDS, which is expected to be completed in 2011.

Incidents

During FY 2008, there were two Category II chemical events (defined in accordance with Army Regulation (AR) 50-6, Chemical Surety; see Appendix E) at Utah

facilities; both were liquid leakers. There were two Category I chemical events. At no time was the community or environment at risk of exposure to chemical agent.

FY 2009 Planned Activities

During FY 2009, TOCDF plans to continue processing mustard TCs.

Anniston Army Depot and Anniston Chemical Agent Disposal Facility, Alabama

Highlights

The Anniston Chemical Agent Disposal Facility (ANCDF) completed the nerve agent VX 155mm projectile campaign. Following a munitions changeover, ANCDF began processing VX M23 land mines.

ANCDF Operations

ANCDF completed 5 years of chemical weapons destruction operations on August 9, 2008. As of September 30, 2008, ANCDF has destroyed a total of 332,016 munitions (50.2 percent of the total number of munitions in the ANAD stockpile).

ANCDF completed the destruction of VX 155mm projectiles on May 24, 2008, destroying 139,581 projectiles containing 418.5 U.S. tons of VX. Following a VX munitions changeover, ANCDF began processing VX M23 land mines on August 2, 2008; 14,343 land mines containing 78 U.S. tons of VX have been destroyed. ANCDF destroyed a total of 384 U.S. tons of nerve agent VX during FY 2008, exceeding the FY 2008 performance measure of 316 U.S. tons of chemical agent.

On October 16, 2007, ANCDF received approval from the Alabama Department of Environmental Management (ADEM) for the ATB Preliminary Report for VX processing in the MPF. This approval allowed ANCDF to increase the feed rate of projectiles to the MPF from 50 to 75 percent of the demonstrated rate. On March 24, 2008, ANCDF received notification from ADEM to increase the MPF feed rate from 75 percent to 100 percent.

As of September 30, 2008, ANCDF personnel have recorded over 2.0 million consecutive hours (443 days) of operations without a lost-time injury.

ANCDF is participating in the Linear Projectile/Mortar Disassembly (LPMD) machine joint project with ACWA to provide PCAPP and BGCAPP with a fully operational LPMD machine. This will also provide ANCDF with a group of "energetic free" mustard projectiles that will reduce production losses during periods of Deactivation Furnace System (DFS)/Projectile/Mortar Disassembly machine/Heated Discharge Conveyor downtime. The LPMD project will:

- Verify that vendor's functional design requirements were met
- Demonstrate system performance/reliability
- Test LPMD machine using site developed/approved test plans
- Operate LPMD machine using site developed/approved procedures
- Remove energetic components from HD/HT-filled munitions (such as, 4.2-inch mortars, 105mm projectiles, 155mm projectiles)
- Test and operate the Single Munitions Burster-well Monitoring System

On September 19, 2008, ADEM approved a permit modification to permit the LPMD systemization, operation, and closure at the existing chemical munitions reconfiguration facility. Testing will begin in FY 2009.

Environmental Compliance

During FY 2008, all necessary permitting requirements were met, and permits are being maintained. The RCRA permit renewal application was approved and reissued by ADEM in November 2007. ANCDF requested and received approval of their Toxic Substances Control Act polychlorinated biphenyl (PCB) closure by the National Program Chemical Division of EPA in November 2007. An annual EMS surveillance audit was conducted by CMA's Environmental Office and an ISO 14001 certified contractor, and ANCDF conforms to ISO 14001.

Chemical Stockpile Safety

The remainder of the chemical stockpile at ANAD continues to be stored safely. During FY 2008, 40 leaking munitions and overpack containers were identified at Alabama facilities (see summary table in Appendix B). Leakers were handled in accordance with chemical surety procedures, and there was no release of chemical agent to the environment. Ongoing disposal operations and mitigation actions have resulted in greater than 99 percent reduction of risk to the public stemming from the potential for a low-probability, high-consequence accident associated with the storage of chemical munitions and agents at ANAD at the end of FY 2008.

Public Outreach

The Anniston Public Affairs team continued to keep community members apprised of mission progress in FY 2008. Notable outreach activities included the May 2008 announcement of completion of the site's nerve agent VX 155mm projectile campaign. That announcement, coupled with feature stories by the Associated Press and *The Anniston Star*, resulted in editorials citing mission accomplishments. An August 2008 roundtable meeting was held with community stakeholders to recognize the fifth anniversary of successful and safe operations.

Chemical Stockpile Emergency Preparedness

ANAD has all CSEPP enhancements in place and is in sustainment. The Closeout IPT has started to focus on CSEPP closeout issues, anticipating the successful elimination of chemical weapons.

The annual CSEPP emergency response exercise took place on March 5, 2008. An out-of-sequence partial evacuation of ANAD was successfully executed as a test of the depot's Emergency Operations Plan. A Recovery Tabletop exercise took place on March 6, 2008, focusing on managing limited access to restricted areas and coordinating recovery-phase monitoring and sampling. Throughout the year, emergency preparedness was maintained by upgrading equipment in the Emergency Operations Center (EOC). The Incident Command System (ICS) training program has

been very effective and emergency plans have been revised to incorporate the NIMS format.

Incidents

During FY 2008, there were no Category I or II chemical events (defined in accordance with AR 50-6, Chemical Surety; see Appendix E) at Alabama facilities. At no time was the community or environment at risk of exposure to chemical agent.

FY 2009 Planned Activities

During FY 2009, ANCDF is scheduled to continue processing VX M23 land mines, conduct agent changeover, begin mustard TC destruction operations, and conduct testing of the LPMD machine with the destruction of mustard projectiles.

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Umatilla Chemical Depot and Umatilla Chemical Agent Disposal Facility, Oregon

Highlights

During FY 2008, the Umatilla Chemical Agent Disposal Facility (UMCDF) completed the VX M55 rocket, the VX TMU-28/B spray tank, the VX 155mm projectile, and the VX 8-inch projectile campaigns.

UMCDF Operations

UMCDF completed 4 years of chemical weapons destruction operations on September 8, 2008. As of September 30, 2008, UMCDF has destroyed a total of 207,057 munitions (93.9 percent of the total number of munitions in the UMCD stockpile).

UMCDF began the VX M55 rocket campaign on October 29, 2007, and completed the campaign on January 23, 2008, destroying 14,519 rockets. While continuing with the M55 rockets, UMCDF completed the VX spray tank campaign on December 24, 2007, destroying 156 TMU-28/B spray tanks. On March 21, 2008, UMCDF started processing VX 155mm projectiles, destroying all 32,313 projectiles by June 27, 2008. On July 16, 2008, UMCDF started processing VX 8-inch projectiles, and destroyed all 3,752 projectiles by August 6, 2008. The destruction of the VX projectiles at UMCDF eliminates nerve agent-filled projectiles from stockpiles associated with CMA's CDFs. UMCDF began processing M23 VX land mines on September 25, 2008. UMCDF destroyed a total of 307 U.S. tons of nerve agent VX during FY 2008, exceeding the FY 2008 performance measure of 178 U.S. tons of chemical agent.

UMCDF completed ATBs for processing VX in the MPF on December 18, 2007, the LIC on January 20, 2008, and the DFS on January 22, 2008. On June 3, 2008, UMCDF received concurrence from the Oregon Department of Environmental Quality (ODEQ) that the LIC 1 VX ATB Report sufficiently demonstrated compliance with the performance standard of the permit. This allowed UMCDF to increase processing feed rate restrictions from 50 percent to 75 percent on the LICs.

As of September 30, 2008, UMCDF personnel have recorded over 3.8 million consecutive hours (821 days) of operations without a lost-time injury.

Environmental Compliance

During FY 2008, all necessary permitting requirements were met, and permits are being maintained. ODEQ is in the process of preparing the air permit for public comment issuance in FY 2009. UMCDF continues to operate under its original permits and completed the *Review and Evaluation of Information for Updating the 1996 Revised Final Environmental Impact Statement*. The REC concluded that no update was necessary. An annual EMS surveillance audit was conducted by CMA's Environmental Office and an ISO 14001 certified contractor, and UMCDF conforms to ISO 14001.

ODEQ approved a class 1 permit modification after several years of negotiating, which allowed UMCD to ship legacy liquid waste for disposal offsite. Legacy waste is primarily agent-free spent decontamination solution used to clean igloos. In November 2007, UMCD shipped over 300 drums of legacy liquid waste. The liquid waste was incinerated at an approved disposal facility.

On March 7, 2008, the Multnomah County Circuit Court ordered the Oregon Environmental Quality Commission (EQC) to review the Best Available Technology (BAT) findings on the role of the PFS, and on the processing of mustard agent containing higher than anticipated levels of mercury. The government stopped processing secondary waste that was originally intended for the Dunnage Incinerator pending results of this review. On June 19, 2008, the Oregon EQC decided that the DFS and MPF are the BAT to treat agent-contaminated secondary wastes. UMCDF resumed processing secondary waste on July 3, 2008, in the MPF. Subsequently, on August 21, 2008, the Oregon EQC made the decision that baseline incineration with the addition of enhanced carbon in the PFS is the BAT at the UMCDF to treat mustard agent that contains higher than anticipated levels of mercury. The EQC also clarified the role of the PFS as an integral part of the baseline incineration process, and that the system, as a whole, is the BAT with respect to all waste streams at UMCDF.

Chemical Stockpile Safety

The remainder of the chemical weapons stockpile at UMCD continues to be stored safely. During FY 2008, 14 leaking munitions and overpack containers were identified at Oregon facilities (see summary table in Appendix B). Leakers were handled in accordance with chemical surety procedures, and there was no release of chemical agent to the environment. Ongoing disposal operations and mitigation actions have resulted in a greater than 99 percent reduction of risk to the public stemming from the potential for a low-probability, high-consequence accident associated with the storage of chemical munitions and agents at UMCD at the end of FY 2008.

Public Outreach

UMCD and UMCDF celebrated several milestones with the community during FY 2008. Milestones included the safe start and completion of the site's VX rockets, spray tanks, and 155mm and 8-inch projectile destruction campaigns. Public affairs staff recognized these events and other operational successes and challenges through news releases, a comprehensive newspaper insert, and various other internal and external publications.

Chemical Stockpile Emergency Preparedness

UMCD has all CSEPP enhancements in place and is in sustainment. An aggressive joint public outreach and education program keeps the public alerted and informed about CSEPP. Spokesperson crisis communication training was conducted in October 2007 for the UMCD command staff and local community officials. Planning for CSEPP closeout continues.

The annual CSEPP community exercise was conducted May 5 to 7, 2008. This was the first CSEPP exercise linked to an NLE under provisions of the National Exercise Program. It also met the Army requirement for a biennial Service Response Force Exercise.

Incidents

During FY 2008, there were no Category II chemical events (defined in accordance with AR 50-6, Chemical Surety; see Appendix E) at Oregon facilities. There were seven Category I chemical events. At no time was the community or environment at risk of exposure to chemical agent.

FY 2009 Planned Activities

During FY 2009, UMCDF plans to complete processing VX land mines, conduct agent change over, and begin mustard TC destruction operations.

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Pine Bluff Arsenal and Pine Bluff Chemical Agent Disposal Facility, Arkansas

Highlights

The Pine Bluff Chemical Agent Disposal Facility (PBCDF) completed destruction of VX M55 rockets and VX M23 land mines during FY 2008. This destruction removed the last weaponized chemical agent and the last nerve agent from the Pine Bluff Arsenal (PBA) stockpile. PBCDF also completed sampling mustard TCs for mercury and heel, and reached 10 million hours of safe operation during FY 2008.

PBCDF Operations

PBCDF completed 3 years of chemical weapons destruction operations on March 29, 2008. As of September 30, 2008, PBCDF has destroyed a total of 119,397 munitions (97.0 percent of the total number of munitions in the PBA stockpile).

PBCDF started destruction of VX M55 rockets on October 13, 2007, and completed destruction on February 29, 2008, destroying 19,608 rockets. This campaign eliminated agent-filled M55 rockets from stockpiles associated with CMA's CDFs. After munition changeover, PBCDF began destruction of VX M23 land mines on May 3, 2008, destroying all 9,378 mines by June 20, 2008. PBCDF destroyed a total of 147 U.S. tons of nerve agent VX during FY 2008, exceeding the FY 2008 performance measure of 98 U.S. tons of chemical agent.

PBCDF completed a VX ATB for the LIC on January 16, 2008, and for the DFS on January 20, 2008. The MPF VX ATB runs were completed on June 18, 2008.

On November 16, 2007, mustard TC sampling was completed at PBA. The purpose of this sampling project was to definitively determine the heavy metal content of the unique mustard stockpile at PBA. The analytical data obtained from this sampling project will be used to evaluate potential refinement of plans, procedures, and the Pollution Abatement System (PAS) to be used during future disposal of the mustard stockpile at PBCDF.

On December 22, 2007, PBCDF achieved a safety milestone by recording 10 million safe hours of operations without a lost-time injury. This achievement is a reflection of the excellent safety culture and efforts of the PBCDF work force, and on March 5, 2008, a ceremony was held at PBCDF recognizing the achievement and acknowledging the site's acceptance into the Occupational Health and Safety Administration's (OSHA) Voluntary Protection Program (VPP) Star Status. On August 19, 2008, the Arkansas Department of Labor presented the PBCDF Field Office with a plaque for 10 years of safety.

Environmental Compliance

During FY 2008, all necessary permitting requirements were met, and permits are being maintained and renewed as necessary. The PBCDF permit modifications required to begin the mustard campaign have been submitted for approval and are on track to support timely initiation of the facility's last campaign. An annual EMS surveillance audit was conducted by CMA's Environmental Office and an ISO 14001 certified contractor, and PBCDF conforms to ISO 14001.

Chemical Stockpile Safety

The chemical stockpile at PBA continues to be stored safely. During FY 2008, there was one leaking munition identified at Arkansas facilities (see summary table in Appendix B). Ongoing disposal operations and mitigation actions have resulted in greater than 99 percent reduction of risk to the public stemming from the potential for a low-probability, high-consequence accident associated with the storage of chemical munitions and agents at PBA at the end of FY 2008.

Public Outreach

The Pine Bluff Outreach Office continued to inform local community members of storage and disposal operations in FY 2008. Communications included the staffing of information booths at community events, a popular speaker bureau, and the creation of project-related collateral and display materials. Outreach highlights include the site's announcement of the complete destruction of M55 rockets in February 2008, and complete destruction of VX M23 land mines in June 2008, thus marking the elimination of the arsenal's original stockpile of nerve agents. Because safety continues to be at the forefront of operations, outreach staff ensured recognition of the achievement of 10 million man-hours worked without a lost-time accident and receipt of the U.S. Department of Labor OSHA's VPP award by hosting a ceremony in March 2008.

Chemical Stockpile Emergency Preparedness

PBCA has all CSEPP enhancements in place and is in sustainment. Construction of the new CSEPP-funded EOC has been completed. A new mask fit and safety video was developed for PBCA workers and visitors.

The annual CSEPP community exercise was conducted on March 26, 2008. A media campaign was conducted in the Pine Bluff area during the reporting period.

Incidents

During FY 2008, there were no Category II chemical events (defined in accordance with AR 50-6, Chemical Surety; see Appendix E) at Arkansas facilities. There were two Category I chemical events. At no time was the community or environment at risk of exposure to chemical agent.

FY 2009 Planned Activities

PBCDF is scheduled to begin processing mustard TCs in FY 2009, which is the last campaign for the site.

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Newport Chemical Depot and Newport Chemical Agent Disposal Facility, Indiana

Highlights

NECDF completed chemical agent neutralization operations and began facility closure operations during FY 2008. NECDF completed shipment of the hydrolysate from this neutralization to an offsite TSDf for secondary treatment.

NECDF Operations

NECDF completed 3 years of chemical weapons destruction operations on May 5, 2008. As of September 30, 2008, NECDF has drained and neutralized the VX in all 1,690 TCs (the NECD stockpile).

NECDF completed chemical agent VX neutralization operations on August 8, 2008. A total of 575 TCs were drained; 435 U.S. tons of agent were neutralized, exceeding the FY 2008 performance measure of 349 U.S. tons of chemical agent; and 610 TCs were processed through the decontamination facility. An approximate total of 800,000 gallons of hydrolysate was safely transported to a permitted commercial TSDf, located in Port Arthur, Texas. Hydrolysate from the VX neutralization process underwent a secondary treatment process at the TSDf before credit for destruction was received for CWC purposes. OPCW inspectors accepted the process and confirmed destruction of the source agent. The hydrolysate from neutralization of all of NECD's stockpiled VX agent has been destroyed and treaty verified. Closure of the NECDF facility was initiated on August 24, 2008.

NECDF completed modifications to the drum repack building where the metal waste drums are repackaged into poly drums to facilitate offsite treatment and disposal. On February 6, 2008, Army contractors at NECDF made the first shipment of secondary waste to a TSDf with approval and coordination with the Centers for Disease Control and Prevention (CDC).

On April 18, 2008, an earthquake, which measured about 5.2 on the Richter scale, occurred in the vicinity of NECD. The demilitarization facility was designed to withstand seismic events far beyond those actually observed, and this event was well within the facility design limits. Neutralization operations that had already been started were continued to reach a safe condition, while an engineering review and visual inspection of the buildings, equipment, and utilities were carried out. There were no worker injuries, and there has been no observable structural damage on the installation.

In June 2007, the Sierra Club et al. filed a lawsuit against the U.S. Army challenging the shipment of hydrolysate and citing violations of the RCRA. On September 22, 2008, the District Court of Southern Indiana denied the plaintiff's motion for summary judgment and granted the Government's motions for summary judgment and ruled for the Government on all counts. The court specifically determined that transport of hydrolysate did not violate 50 U.S.C. § 1512a(a) because hydrolysate is not a munition, and further ruled that the Government did not violate NEPA and that the

plaintiffs had failed to show that transport or incineration of the hydrolysate creates an imminent and substantial endangerment to human health or the environment under RCRA.

As of September 30, 2008, NECDF personnel have recorded over 1.1 million consecutive hours (366 days) of operations without a lost-time injury.

Environmental Compliance

During FY 2008, all necessary permitting requirements have been met, and permits are being maintained. An annual EMS surveillance audit was conducted by CMA's Environmental Office, and NECDF conforms to ISO 14001.

The Indiana Department of Environmental Management (IDEM) reviewed the cleaning of intermodal containers, which have held hydrolysate, to determine the required documentation for considering them "RCRA empty" (when the hazardous waste residue in an empty container is exempt from regulation). NECDF demonstrated the cleaning process to IDEM on five intermodal containers with all rinse waters at the non-detect levels for chemical agent VX and another breakdown product. After this demonstration, no further testing to achieve "RCRA Empty" was required. Of the 100 intermodal containers that were in use, approximately 94 have been cleaned and returned to the vendor.

IDEM issued a draft Miscellaneous Treatment permit for the Ton Container Line-Enhanced Steam Decontamination System to support closure. The comment period closed on May 26, 2008, and no public comments were received. The Ton Container Line-Enhanced Steam Decontamination System permit was approved in June 2008. A recent decision was made to not use this device for closure, and reference to it will be removed from the RCRA permit in 2009.

NECDF REC was completed for shipment of greater than 1 vapor screening level waste for offsite treatment/disposal. The transportation risk assessment was approved by the CDC. NECDF has been shipping this waste, which includes waste generated from routine maintenance activities such as personal protective equipment and tools that have been in an agent-contaminated atmosphere, without incident.

NECDF obtained a hardship variance from IDEM to allow for processing 106 pounds of VX recovered from the former chemical agent production facility and allow for reprocessing of flammable hydrolysate initially produced at the beginning of neutralization operations. The hydrolysate from the first neutralization batches had a flashpoint of less than 141° F, which is considered flammable by DOT regulations. On July 8, 2008, the NECDF work force safely destroyed the recovered chemical agent. On August 21, 2008, the flammable hydrolysate was reprocessed through the agent reaction tanks and retested for its flashpoint. The flashpoint was then greater than 141° F, which is nonflammable by DOT regulations. The hydrolysate was then shipped to and destroyed at the TSDF.

Chemical Stockpile Safety

The chemical stockpile at NECD was stored safely during FY 2008, with no leaking containers identified. All chemical agent stored at NECD has been destroyed.

Public Outreach

The Newport Public Affairs team focused outreach efforts on communicating destruction progress and preparing the local community for the elimination of the chemical stockpile stored at the depot. In March 2008, the public affairs team provided assistance by planning an Employee Career Information Day to help site personnel prepare for the transition that would take place once the stockpile was destroyed and closure activities commenced.

In the months preceding the complete elimination of the stockpile, Newport Public Affairs saw an increase in media requests and coverage. Public Affairs staff launched a multimedia campaign announcing the achievement of complete destruction of the Newport stockpile and planned a public ceremony, scheduled for October 2008, to recognize the partnership between the Army and community in attainment of the complete destruction milestone. Community stakeholders continue to express a growing interest in the Army's plans to close the installation. At the present time, the depot is the largest employer within Vermillion County, Indiana.

Chemical Stockpile Emergency Preparedness

With the elimination, through neutralization, of the last of the VX TCs on August 8, 2008, the CSEPP portion of the Congressional mandate to provide maximum protection to the workers, community, and the environment was successfully accomplished.

The Newport CSEPP community IPT was active throughout the year preparing for a smooth closeout of CSEPP and the transition of all emergency preparedness functions to the appropriate state and local governments. Lessons learned from the closeout process are being shared throughout CSEPP for other communities to build upon.

Incidents

During FY 2008, there were no Category II chemical events (defined in accordance with AR 50-6, Chemical Surety; see Appendix E) at Indiana facilities. There was one Category I chemical event. At no time was the community or environment at risk of exposure to chemical agent.

FY 2009 Planned Activities

NECDF is scheduled to continue closure of the CDF in FY 2009. Newport CSEPP operations will be closed in FY 2009.

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Pueblo Chemical Depot and Pueblo Chemical Agent-Destruction Pilot Plant, Colorado

Highlights

The PCAPP construction continues and first-of-a-kind equipment testing is ongoing.

PCAPP Construction

During FY 2008, work continued on the Agent Processing Building, Enhanced Reconfiguration Building (ERB), Multipurpose Building, Automated Guide Vehicle (AGV) Corridor, pipe rack, natural gas supply line, and underground power distribution system.

Testing continues on site-specific first-of-a-kind equipment, including the munitions treatment unit and linear projectile/mortar disassembly machine, in preparation for testing in FY 2009.

Environmental Compliance

A Temporary Authorization Request (TAR) was submitted to the Colorado Department of Public Health and Environment (CDPHE) on September 27, 2007, for authorization to start construction before the Stage 3 modification is approved. The TAR addresses a limited scope of Stage 3 construction and is broken into two parts: Agent Processing Building foundation and ERB. An informal modification request for the Agent Processing Building was submitted to Pueblo County on December 6, 2007, and was accepted on December 17, 2007. CDPHE issued the TAR for the Agent Processing Building on December 21, 2007. The approved Stage 3 Certificate of Designation is not required for this limited scope of construction. County commissioners agreed to informal notification after CDPHE approval of the TAR. An informal modification request for the ERB was submitted to Pueblo County on January 31, 2008, and was accepted on February 15, 2008. CDPHE issued the TAR for the ERB on June 11, 2008.

Two additional TARs were submitted to CDPHE for authorization to start construction prior to the issuance of the Stage 3 modification: AGV Corridor; and the Agent Filtration Area (AFA) Slab and 30-Day Tank Foundation. The AGV Corridor TAR was submitted to CDPHE on March 6, 2008, and issued on March 7, 2008. The AFA Slab and 30-Day Tank Foundation TAR was submitted to CDPHE on July 2, 2008, and issued on July 18, 2008. An informal modification request for the AGV Corridor was submitted to Pueblo County on March 6, 2008, and was accepted on March 13, 2008. An informal modification request for the AFA Slab and 30-Day Tank Foundation was submitted to Pueblo County on July 2, 2008, and was accepted on July 21, 2008.

The final Multi-Pathway Health Risk Assessment (MPHRA) report, using initial facility data, was submitted on May 29, 2008, and was accepted by CDPHE on June 24, 2008. The MPHRA report will be considered by CDPHE when reviewing the already submitted RCRA permit modification for Stage 3 construction. CDPHE

acceptance of MPHRA report results was a prerequisite for issuance of the Stage 3 draft permit.

CDPHE issued a Compliance Advisory to the USD (AT&L) and PM ACWA on November 9, 2007, concerning the expeditious disposal of overpacked munitions stored at PCD. CDPHE stated that the program schedule is not expeditious in bringing PCD in compliance with Colorado's hazardous waste regulations. PM ACWA submitted a summary of treatment options for the overpacked munitions to CDPHE by April 1, 2008. CDPHE issued a Compliance Order to PM ACWA and the Commander, PCD, on June 16, 2008, ordering DoD, PCD, and PM ACWA to provide a Chemical Weapons Waste Treatment Plan for the munitions waste and other wastes within 60 days of receiving the order. The plan was required to include a proposed schedule with a completion date for the destruction of all wastes by December 31, 2017. On July 15, 2008, PM ACWA and the PCD Commander provided a Notice of Appeal of the Compliance Order to CDPHE and requested a hearing in accordance with Colorado Regulation Statute. In September 2008, CDPHE withdrew the Compliance Order and filed a lawsuit in federal district court.

Chemical Stockpile Safety

The chemical weapons stockpile at PCD continues to be stored safely. During FY 2008, no leaking munitions were identified at PCD (see summary table in Appendix B).

Public Outreach

During FY 2008, the Pueblo outreach team continued to communicate programmatic and site-specific information to stakeholders and the surrounding communities, through stakeholder advisories and the quarterly newsletters. The team supported several site tours for Senator Ken Salazar and other Congressional representatives and CAC members. The team also supported public involvement activities required for a Stage 3 modification to PCAPP's RCRA permit. This included providing information materials including visual aids and information materials to the CDPHE for three public availability sessions in Boone, Avondale, and Pueblo.

With vertical construction underway, the team also was focused on promoting construction site progress during quarterly briefings to local elected officials, at community events, and in a variety of information products. In addition, 13 pilot plant tours were held for a variety of community members including local business leaders, CAC members, elected officials, representatives from emergency management, the media, and oversight and regulatory agencies. During these tours, participants were able to see construction progress first-hand and ask questions of project staff.

Finally, during the 2007-2008 school year, more than 2,500 students and teachers participated in the PCAPP education outreach program, which emphasizes the history of chemical warfare and the PCAPP mission. The outreach team has subsequently expanded the program from 1 to 2 days, to provide additional

opportunities for older students to ask questions and receive more detailed information regarding future job opportunities.

Chemical Stockpile Emergency Preparedness

Emergency preparedness continued with a high degree of cooperation among stakeholders. PCD has all CSEPP enhancements in place and is in sustainment. The ICS training program has been very effective; virtually all of the depot staff has completed the required training. Emergency preparedness was enhanced by upgrades to the depot Operations Center. CMA HQ sponsored media training for Army and civilian officials, and their Public Affairs and Public Information officers during the reporting period.

There is an active joint exercise program in place; the off-post community frequently participates in the depot's Chemical Accident or Incident Response and Assistance exercises. The annual CSEPP community exercise took place on June 4, 2008.

Incidents

During FY 2008, there were no Category I or II chemical events (defined in accordance with AR 50-6, Chemical Surety; see Appendix B) at Colorado facilities. At no time was the community or environment at risk of exposure to chemical agent.

FY 2009 Planned Activities

During FY 2009, construction activities will continue on the Multipurpose Building, Agent Processing Building, ERB, and Utility Building. Testing of first-of-a-kind equipment will continue and PM ACWA will monitor and respond as necessary to the evolving legal issues related to the CDPHE lawsuit.

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Blue Grass Army Depot and Blue Grass Chemical Agent-Destruction Pilot Plant, Kentucky

Highlights

The BGCAPP final design, development, and first-of-a-kind equipment fabrication and testing continue. Construction and site preparation is ongoing.

BGCAPP Design and Construction

During FY 2008, BGCAPP completed the final design packages of the main processing buildings, specifically the MDB, control and support building, and Supercritical Water Oxidation processing building. Final design packages for the main processing buildings have been accepted by the Government, except for the MDB, which is linked with resolution of the explosive containment design issue.

DDESB rejected the layout and design of the MDB in the BGCAPP Site Safety Plan submission, citing a lack of supporting data for the alternate design of the explosive containment room. PM ACWA worked with the U.S. Army Corps of Engineers (USACE) and SC to assess the path for gaining DDESB acceptance of the design proposed in the submission; however, considering the time needed to collect the additional data to validate the proposed design, the SC has reverted to a more traditional wall design. Portions of the MDB explosive containment area are being redesigned to incorporate this approach.

During FY 2008, various construction elements were completed (access control point, earthworks/site excavation, craft change house, badging facility, and the temporary electrical substation). Construction efforts continue on electrical and communications services, site utilities, the personnel support building, the maintenance building, the electrical substation, and the control and support building.

Fabrication and testing continues on site-specific first-of-a-kind equipment, including the metal parts treater (MPT) and energetics batch hydrolyzer.

Environmental Compliance

Sampling for the Background Site Investigation Work Plan was completed the week of March 19, 2007. The Background Soil and Water Investigation report was submitted on September 7, 2007, and accepted by ACWA on January 28, 2008. Acceptance of the report is one of the criteria to allow the construction of the MDB to commence.

The Kentucky Department for Environmental Protection (KDEP) issued the final Title V Air Permit Revision 2, which included administrative changes, in November 2007. The SC anticipates that the next major modification to the

Title V Air Permit for the revised BGCAPP design will be issued in April 2010.

Chemical Stockpile Safety

The chemical stockpile at BGAD continues to be stored safely. During FY 2008, two leaking munitions were identified (see summary table in Appendix B). The leakers were handled in accordance with chemical surety procedures, and there was no release of chemical agent to the environment. The potential of a lightning strike causing a low-probability, high-consequence accident associated with the storage of chemical munitions and agents remains the dominant risk driver at this location. Placement of dielectric barriers has been completed, resulting in an approximate 33 percent reduction of overall risk to the public during storage.

The effects of an earthquake were experienced in central Kentucky on April 18, 2008. The earthquake registered 5.2 magnitude on the Richter scale with the epicenter located three miles below ground, six miles northwest of Mount Carmel, Illinois, and 38 miles north-northwest of Evansville, Indiana, according to the U.S. Geological Survey. Subsequent 100 percent air monitoring and visual inspection of selected storage structures by the chemical workers revealed no physical damage, agent leakage, or other negative impact to the BGAD stockpile as a result of this seismic event.

During the first quarter FY 2008, PM ACWA initiated Operation *Swift Solution*, the plan to destroy the contents of three deteriorating TCs at BGAD. The Chemical Agent Transfer System (CHATS) will be operated by the Edgewood Chemical Biological Center (ECBC) and used to drain and neutralize the GB and GB breakdown products in the containers. A full-scale test using the CHATS was conducted in March 2008, which resulted in successful agent neutralization. Two TARs were submitted to KDEP. In July 2008, KDEP deemed the first TAR technically complete, which allows site preparation, construction of the aggregate pad, and associated improvements, concrete work, and other site mobilization actions. Coordination continues to gain approval of the second TAR, which will cover permitted storage for 180 days. Treatment operations are scheduled to commence in November 2008 with completion in January 2009.

Public Outreach

During FY 2008, the Blue Grass outreach team focused its outreach efforts on updating stakeholders of construction progress at the pilot plant site and informing them of technical issues affecting the project through a variety of public outreach tools. Newsletters and direct mail updates were distributed to more than 2,500 recipients on a quarterly basis. The team also supported 11 pilot plant tours throughout the year, which provided congressional leaders, local elected officials, and community leaders the opportunity to view the progress in-person. Additionally, the outreach team arranged speaking

opportunities with community organizations and staffed information booths at local community events, reaching close to 700 community members.

In support of the effort to eliminate three deteriorating TCs and their associated wastes at BGAD, the team took on the additional outreach mission of Operation *Swift Solution*. In January 2008, they coordinated and facilitated an information session at Eastern Kentucky University regarding *Swift Solution*. Throughout the year, the team developed and distributed numerous information products to support this effort, including direct mail public notifications, fact sheets, briefings, and online information. The team also hosted several Chemical Destruction Community Advisory Board (CDCAB) working group meetings regarding Operation *Swift Solution* secondary waste throughout the spring and summer months.

Furthermore, the team also worked with stakeholders regarding a variety of technical issues. Following the DDESB's rejection of the MDB design in March 2008, the outreach team kept the community and key stakeholders informed of the status of discussions among ACWA, the SC, and the DDESB, regarding the redesign of this important pilot plant structure. Additionally, the team supported the activities of a new CDCAB subgroup, focused on monitoring issues.

Chemical Stockpile Emergency Preparedness

BGAD has all CSEPP enhancements in place and is in sustainment. A close working relationship and a high level of cooperation between the Army, DHS, and local community continued to address emergency preparedness issues. A new telephone system was installed in the BGAD EOC. The new CSEPP community JIC has been completed and is in use.

The annual CSEPP community exercise was held on October 24, 2007.

Program Reviews

PM ACWA is overseeing the efforts of the SC in first-of-a-kind equipment development and testing. In FY 2007, PM ACWA requested that NRC form a committee to review the ongoing testing of BGCAPP's MPT to investigate issues regarding MPT design. The NRC issued its final report entitled, *Review and Assess Developmental Issues Concerning the Metal Parts Treater Design for the Blue Grass Chemical Agent Destruction Pilot Plant* (ISBN: 0-309-11516-7) in March 2008. The document provides a technical description and evaluation of the MPT plus an evaluation of the technical feasibility of replacing the MPT with a munitions treatment unit and supplemental decontamination units and autoclaves such as those being designed and tested for PCAPP.

Incidents

During FY 2008, there were no Category II chemical events (defined in accordance with AR 50-6, *Chemical Surety*; see Appendix B) at Kentucky facilities. There were four Category I chemical events. At no time was the community or environment at risk of exposure to chemical agent.

FY 2009 Planned Activities

During FY 2009, final design of non-critical buildings, fabrication and testing of first-of-a-kind equipment, and construction activities will continue. PM ACWA will continue to work with KDEP to secure authorizations to conduct Operation *Swift Solution* and will engage stakeholders in discussions regarding secondary waste treatment, as well as continuing to assess funding requirements and acceleration assessment options in coordination with DoD.

IV. NON-STOCKPILE CHEMICAL MATERIEL

During FY 2008, the PMNSCM pursued the following activities to safely destroy NSCM.

Recovered Chemical Warfare Materiel Mission

- *Munitions Assessment and Processing System (MAPS)*. MAPS is a unique fixed-facility located at APG-EA, Maryland, designed to process recovered chemical warfare materiel (RCWM) by safely separating the chemical payload from the explosive component. In February 2008, MAPS was activated from a warm shutdown status to conduct sampling of possible RCWM at APG-EA.
 - In November 2007, PMNSCM processed six riot control munitions transported to APG-EA on September 20, 2007. These munitions were previously recovered, and during processing, each munition was drilled, sampled, and resealed at the MAPS. The samples were analyzed to validate Portable Isotopic Neutron Spectroscopy (PINS) spectra derived from in-the-field assessments and will be used to validate PINS spectra for riot control agents (CNB and CNS) and CG fills. Three of the mortars were found to contain CNB and three contained CNS. Once the MAPS portion of the operation was completed, the resealed munitions were put into storage pending destruction in the EDS.
 - In consideration of the absence of RCWM in storage at APG, and the restrictions on the active remediation of potential CWM burial sites at APG, the likelihood of any significant increase of RCWM inventory at APG is low. Based on this situation, PMNSCM has decided to relinquish assignment of the MAPS facility and has conducted the necessary inspections, prepared the necessary paperwork, and on June 30, 2008, obtained CMA approval to relinquish the assignment of the MAPS. On July 1, 2008, this approved paperwork was delivered to the APG Garrison for final processing and to the Maryland Department of the Environment requesting that CMA be removed as a co-operator from the MAPS Research, Development, and Demonstration Permit.
- *Large Item Transportable Access and Neutralization System (LITANS)*. LITANS provides the capability to access, transfer, and neutralize the chemical fill of RCWM larger than can be accommodated by existing NSCMP treatment systems. The LITANS development program successfully completed developmental testing/operational testing in October 2007. In April 2008, PMNSCM conducted an Operational Decision In-Process Review and received CMA approval to treat 500-pound (M78) and 1,000-pound (M79) CG-filled bombs.
- *Explosive Destruction System (EDS)*. PMNSCM procured an EDS Phase 2 Unit 3, which will serve as a replacement for the EDS Prototype Phase 1 Unit 1.

Delivery of this replacement unit occurred in August 2008, with acceptance testing beginning in September 2008.

- *Mobile Munitions Assessment System (MMAS)*. PMNSCM is procuring three replacement MMAS units. Delivery of the first replacement MMAS was accepted on December 21, 2007. Delivery of the second and third units is expected in FY 2009.
- *Pine Bluff Arsenal, Arkansas*. Approximately 1,200 recovered munitions have been stored at PBA. The stored munitions were predominantly 4.2-inch mortars and GTRs. The following PMNSCM projects were utilized during FY 2008 to dispose of these items and include the following:
 - *Pine Bluff Explosive Destruction System (PBEDS)*. The PBEDS consists of three separate EDS units (two operating continually, one as a backup) at one location to destroy the current stock of RCWM at PBA. Operations began in FY 2006. As of September 30, 2008, 1,165 munitions have been processed, including 704 4.2-inch mortars; 418 GTRs; all 19, 75mm projectiles; 6 of 10 bombs; 1 contaminated cylinder; and all 16 Livens projectiles. Of the 1,165 munitions destroyed, 501 are treaty-declared items. Of the 474 GTRs, 56 have propellant-filled motors and the balance have expended motors. The GTRs with propellant-filled motors exceed the Net Explosive Weight processing capability of the PBEDS. PMNSCM is currently evaluating options to dispose of those munitions. PBEDS is on schedule to destroy the entire GTR inventory except the 56 GTRs with propellant-filled motors by December 31, 2008.
 - *German Traktor Rocket Separation System (GTRSS)*. The GTRSS was used by NSCMP to separate GTR warheads from rocket motors, via an abrasive waterjet cutting system, to facilitate destruction of the warheads in the PBEDS. The GTRSS is located inside an Environmental Enclosure adjacent to the former Pine Bluff Munitions Assessment System building, and the cutting operation was performed inside an Explosive Containment Chamber. Operations during FY 2007 resulted in the separation of 177 GTRs without propellant. Site closure will be completed in FY 2009.
- *Schofield Army Barracks, Hawaii*. A total of 71 RCWM were recovered at the Schofield Army Barracks. Of the 71 munitions, 70 contained CG; one munition contained chloropicrin. NSCMP directed the operation to destroy the munitions using the Transportable Detonation Chamber (TDC), a commercial system able to destroy munitions using an enclosed batch thermal process. NSCMP used the TDC to destroy 71 munitions – 38, 155mm projectiles; 22, 75mm projectiles; and 11, 4.2-inch mortars. The TDC activities began on April 15, 2008; operations were suspended on May 12, 2008, due to unscheduled equipment maintenance relating to the heat exchanger. At that time, six CG-filled munitions remained to be treated. The heat exchanger was replaced and TDC operations resumed on July 30, 2008. On July 31, 2008, the final six munitions were destroyed and operations were deemed complete.

- *Recovery and Destruction of CWM.* PMNSCM supported a variety of remediation operations in FY 2008. These activities included the recovery, assessment, and destruction of CWM and suspect CWM. Additionally, PMNSCM supported USACE during site scoping studies, site remediation, and range clearing missions. PMNSCM has supported activities at the following locations:
 - *Aberdeen Proving Ground-Edgewood Area (APG-EA), Maryland.*
 - On November 5, 2007, two warheads were recovered close to the Route 24 Gate. A Materiel Assessment Review Board (MARB) was conducted on December 5, 2007. Both items were found to contain water and were recommended for local destruction.
 - Two E118 bomblets were recovered near G Street on December 4, 2007. A MARB was conducted on December 13, 2007. Both items were found to contain water and were recommended for local destruction.
 - On April 16, 2008, a Chemical Agent Identification Set (CAIS) container with multiple CAIS items was recovered at K-Field of APG-EA. The 20th Support Command (Chemical, Biological, Radiological, Nuclear and High Yield Explosives) (20th SUPCOM) responded, overpacked the item in a drum, and transported it to the N-Field bunker. PMNSCM will use these CAIS items for testing a new non-intrusive assessment technology that is currently under evaluation.
 - On June 17, 2008, a 75mm projectile was recovered from H-Field. A MARB was conducted on June 27, 2008, and the item was found to contain CG. The item is in storage at the N-Field Bunker.
 - *Former Camp Sibert, Alabama.* The 20th SUPCOM was deployed on October 31, 2007, to assess seven items previously recovered at Camp Sibert. None of these items was found to contain CWM. Additional items have been recovered and are temporarily being stored in the interim holding facility onsite, pending assessment.
 - *Fort Jackson, South Carolina.* The 748th Explosive Ordnance Disposal (EOD) Detachment at Fort Jackson was in possession of an E139 bomblet marked “inert.” The item was X-rayed locally and determined to be armed and fuzed, and to contain a liquid fill. The MMAS was deployed on April 16, 2008, and conducted an assessment on April 17, 2008. A MARB was conducted on April 17, 2008, which determined the fill to be an antifreeze and water mixture. Local disposition of the item was recommended.
 - *Fort Knox, Kentucky.* On May 2, 2008, approximately 20 Stokes mortars were found inside a concrete vault at Fort Knox, Kentucky. The Fort Campbell EOD was requested to investigate. On May 5, 2008, a team from

20th SUPCOM, including MMAS, determined the items to be 3-inch Stokes mortars and not 4-inch Stokes mortars. Three-inch Stokes mortars were never fielded with a chemical agent fill, allowing a conventional EOD team to complete disposition.

– *Redstone Arsenal, Alabama.*

- As part of the continued support for a military construction project, unexploded ordnance contractors working for USACE discovered six 4.2-inch mortars on November 13, 2007. USACE contracted with 20th SUPCOM for support at this site. A MARB was conducted September 16, 2008, and none of the items was found to be CWM. All 16 items were recommended for local disposition.
- On April 16, 2008, a rusted 8-inch projectile with unknown fill was discovered among conventional training aids; markings were consistent with a chemical round. The 20th SUPCOM personnel supporting the nearby Former Camp Sibert responded and overpacked the item in a Multiple Round Container. The projectile was transported to a bunker currently used to store possible RCWM items from an ongoing construction project at Redstone Arsenal. In coordination with the Redstone Arsenal Commander, all items will be assessed at the completion of the construction project.

– *Spring Valley, Washington D.C.*

- On October 23, 2007, PMNSCM briefed the Spring Valley Partners, with USACE District personnel involved in the project, USACE contractors, regulators, American University representatives, and restoration advisory board members in attendance. The briefing discussed assessment technology used to help identify fill of the recovered items, historical assessment results, and possible disposal options. The stakeholders were comfortable with the Army's ability to identify the standard chemical fills, but expressed concern about the ability to accurately identify experimental fills known to have been attempted at the site. The PMNSCM representative informed the stakeholders that if non-intrusive assessment data for newly recovered items was vastly dissimilar from the assessment library of fill types, items containing those fills would be considered possible candidates for intrusive evaluation and chemical analysis, and stakeholders would be kept informed of assessment results and disposal options.
- The MMAS was deployed in December 2007 to assess recovered items. A MARB was conducted on December 5, 2007, for eight of the items: seven 75mm projectiles and one pipe. One 75mm projectile was determined to contain arsine fill; the remainder were empty or contained water, including the pipe. A MARB was conducted on December 13,

2007, for five 75mm projectiles. One was found to contain suspect mustard fill; the remainder were water-filled.

- The MMAS was deployed in March 2008 to assess four 75mm projectiles and one pipe. A MARB was conducted on March 6, 2008. None of the items was determined to contain chemical fill; local disposition was recommended.
- The MMAS was deployed in July 2008 to assess eight items recovered between April 28 and June 30, 2008. A MARB was conducted on July 21, 2008. The MARB concluded that four items contained water, two contained arsine, one contained white phosphorus, and one contained manganite (an experimental chemical agent).
 - *Schofield Army Barracks, Hawaii.* On April 19, 2008, 20th SUPCOM personnel conducted an assessment of two 4-inch mortars found on a range at Schofield Barracks. The items were armed, fuzed, and considered unsafe to move. On April 21, 2008, the MARB convened and determined the fill was not CWM, and recommended the items be destroyed in place.
 - *Dover Air Force Base (AFB), Delaware.* On June 30, 2008, a 75mm munition was recovered at a clam shell processing plant in Milford, Delaware. The item was packaged in a Multiple Round Container and transported to a bunker at Dover AFB, Delaware, where it was assessed. On July 1, 2008, the MARB convened and determined the item contained energetics and a mustard fill. The MARB recommended EDS demilitarization. NSCMP expects to deploy an EDS to complete the destruction in November 2008.

Binary Chemical Weapons Disposal

All binary components (DF and QL⁶) were destroyed via neutralization during FY 2006. Neutralization wastes were shipped to a commercial TSDf for final disposition via a wet air oxidation (WAO) unit. The WAO unit completed QL neutralization operations on April 27, 2007. Destruction of the DF neutralization was completed on November 27, 2007. A final treaty inspection visit was conducted and the certificate of destruction was received on December 4, 2007.

Decontamination of the WAO was completed on January 15, 2008, and the unit was turned over to the contractor on February 29, 2008. The binary chemical weapons disposal mission is complete.

⁶ DF is the military symbol for methylphosphonic difluoride, the critical binary precursor of the nerve agent in what would have been the GB₂ binary munition (the M687 binary projectile). QL is the military symbol for an organophosphorus ester, the critical binary precursor to form nerve agent in what would have been the VX₂ binary munition (the Bigeye bomb).

Former Chemical Weapons Production Facility Destruction

Ancillary Buildings, APG-EA, Maryland. All demolition activities have been completed, and demobilization was completed on September 28, 2007. A Closure Report was signed by the Garrison Commander on November 30, 2007. The former production facility destruction mission is complete.

Miscellaneous Chemical Warfare Materiel Disposal

Activities during FY 2008 to destroy miscellaneous CWM, which includes empty TCs, CWC Category 3 chemical weapons,⁷ and chemical samples, included the following:

- *Chemical Samples Stored at Other Locations.* Pending issuance and/or modification of applicable environmental permits and in coordination with CDF operating schedules, disposal of chemical samples is scheduled to occur between FY 2009 and FY 2016. PMNSCM will continue to coordinate the disposal of NSCM chemical samples with the operating schedules at the following sites: ANCDF, BGCAPP, PBCDF, PCAPP, TOCDF, and UMCDF.
- *PBA, Arkansas, Empty TC Disposal.* TC decontamination operations using a series of rinses were suspended in August 2006, to pursue development of a thermal decontamination process to achieve an Army 5X decontamination status (no detectable agent). Ramp-up to thermal decontamination operations began in October 2007 and full-scale operations began in January 2008. Transport of thermally treated TCs to a TSDF began in November 2007. As of September 30, 2008, 1,226 TCs have been thermally treated and 428 have been shipped for recycling.

No Category 3 items were discovered in FY 2008. To date, all known Category 3 items are destroyed.

Chemical Agent Munitions Disposal System (CAMDS)

PMNSCM oversees the dismantling and destruction of CAMDS at the DCD for the Project Manager for Chemical Stockpile Elimination (PMCSE). The Army constructed CAMDS to: (1) develop and test new technology for demilitarization and disposal of toxic chemical munitions, (2) develop a technical data package for use in design and construction of other similar plants, and (3) process any/all unserviceable chemical munitions. CAMDS has operated since 1979, conducting research, developing and demonstrating various methods of demilitarizing chemical munitions, and treating the waste resulting from demilitarization processes.

In FY 2008, nonagent destruction activities continued. In May 2008, agent-related destruction work commenced after approval by the Utah DSHW of the

⁷ Category 3 chemical weapons include unfilled munitions and devices, and equipment designed specifically to employ chemical weapons.

closure plan for the DFS PAS. PMCSE awarded a contract modification in September 2008 to transition the lead responsibility of CAMDS closure activities from the current contractor to the TOCDF SC.

Technology Test Program

PMNSCM is pursuing short-term improvements to the PINS and investigating an advanced design concept PINS for NSCMP assessment mission requirements. PMNSCM also plans to evaluate two new commercial portable Raman units. Raman units non-intrusively identify and evaluate the contents of CAIS using laser light and matching the results to known samples.

PMNSCM is currently working with Sandia National Laboratories (SNL) on several projects for improving throughput of the EDS. SNL is modeling the EDS vessel in both computer simulations and actual scale testing to increase the explosive limits for existing EDS vessels.

Additional EDS development work is focused on reducing the 2-day treatment process to 1-day for the system, including designing a method of heating the vessel contents from the inside, which will reduce process time. The vessel contents are currently heated from the outside of the vessel. Donor charges that open the munitions in the EDS are being refined to reduce the Net Explosive Weight required for each detonation. New fragmentation suppression system units are also being designed that are reusable, which will reduce the cost of consumables as well as reduce the waste created.

Environmental Compliance

During FY 2008, PMNSCM successfully conducted the following tasks to support ongoing NSCMP projects and as team members of other CWM projects to safely manage CWM.

- PMNSCM closed a RCRA-permitted EDS unit at PBEDS. The closure activities and closure certification have been completed, including an Arkansas Department of Environmental Quality inspection to verify the unit had been closed.
- Prepared two PBEDS RCRA permit modification notices that added new drawings to the RCRA permit depicting fragment suppression systems for an M70A1 bomb and 155mm projectile in May and September 2008.
- Operation Swift Solution Team consisting of PMNSCM, ACWA, ECBC, and Blue Grass Chemical Activity/BGAD prepared two RCRA TARs with supporting operation documents. One authorization request was to perform short-term treatment of three GB TCs using the CHATS, followed by TC and Waste Decontamination operations. The second authorization request is for short-term storage of liquid hazardous wastes at the CHATS site Hazardous Waste Storage Area for up to 180 days.

- A RCRA Emergency Hazardous Waste Treatment permit was requested and issued from the Hawaii Department of Health Solid and Hazardous Waste Branch to operate the TDC to destroy and treat 71 recovered chemical munitions that were found during a range clearing activity at Schofield Barracks, Hawaii. In addition, an Air permit exemption was requested from Hawaii Department of Health Clean Air Branch and granted for the operation of diesel-fueled generators that provide primary and backup power to the TDC and support equipment. Performed RCRA closure of the unit according to the approved closure plan so that the unit could be demobilized for reuse on the mainland.
- Prepared a Destruction Plan and currently coordinating operation efforts to use the EDS at Dover AFB to treat a recovered mustard round discovered in a clam processing plant in Delaware.
- Coordinating operation efforts with Dugway Proving Ground, Utah, and the state of Utah to use the EDS to treat/destroy CWM items containing nerve agent GB/G currently stored at Igloo G, a RCRA-permitted storage igloo. Operation will most likely occur under a state-issued Consent Order.
- PMNSCM assisted APG in their RCRA permit renewal application by providing information on the EDS pertaining to operation, drawings, chemistry, contingency plan, and closure.

Public Outreach

During FY 2008, CMA Public Affairs continued to support PMNSCM by communicating important information to interested stakeholders and by highlighting success in the safe identification, storage, and destruction of CWM. Tools used to accomplish these efforts include:

- *Media Relations.* Media releases were issued on subjects including the assessment and treatment technologies and destruction of the nation's former chemical weapons facilities. PMNSCM media relations were accentuated by the in-house development and maintenance of a Web-supported multimedia center, providing media to illustrate CMA stories with access to current, accurate images. PMNSCM continues to foster media relations through activities such as supporting the Schofield Barracks Public Affairs media day, and providing press packets containing information on NSCMP's assessment activities at the installation. PMNSCM also facilitated media interviews with NSCMP engineers, highlighting the successful facilitation of the TDC mission in cooperation with the Deputy Assistant Secretary of the Army (Environment, Safety, and Occupational Health). NSCMP also garnered positive media attention with its "Lewisite Ladies" feature story, which highlighted the award of a patent to individual engineers on the project.
- *Public Outreach.* Public Outreach highlights include monthly updates on PMNSCM activities at CAC meetings at PBA, Arkansas. Update support is

provided by NSCMP technical personnel, who discuss in detail the status of NSCMP activities at PBA and receive feedback from key community leaders. The event draws positive input from attendees and favorable media attention for CMA.

- *Communication Tools.* In addition to thorough reviews and updates of the existing fact sheet inventory, PMNSCM developed fact sheets and interactive information products on new technologies, such as LITANS. As the technology proves ready for deployment, information products will be available on the CMA Web site for public review and media reference.

Program Reviews

There were no program reviews specific to the NSCMP in FY 2008.

Incidents

There were no chemical events during FY 2008.

FY 2009 Planned Activities

- Complete site closeout of GTRSS and PBMAS
- Transition lead responsibility of CAMDS closure activities to demilitarization SC
- Respond, as requested, to chemical weapon recoveries and support USACE during site remediation activities
- Continue thermal decontamination operations for empty TCs at PBA
- Complete acceptance testing of EDS unit
- Complete procurement and acceptance testing of two MMAS units
- Complete technology selection for GTR disposal at PBA.
- Prepare LITANS for HD testing in FY 2009

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APPENDIX A
ABBREVIATIONS AND SYMBOLS

APPENDIX A ABBREVIATIONS AND SYMBOLS

ABCDF	Aberdeen Chemical Agent Disposal Facility
ACAT	acquisition category
ACWA	Assembled Chemical Weapons Alternatives
ADEM	Alabama Department of Environmental Management
AFA	Agent Filtration Area
AFB	Air Force Base
AGV	Automated Guidance Vehicle
ANAD	Anniston Army Depot
ANCDF	Anniston Chemical Agent Disposal Facility
APB	Acquisition Program Baseline
APG-EA	Edgewood Area of Aberdeen Proving Ground
AR	Army Regulation
ATB	Agent Trial Burn
BAT	Best Available Technology
BGAD	Blue Grass Army Depot
BGCAPP	Blue Grass Chemical Agent-Destruction Pilot Plant
CAC	Citizens' Advisory Commission
CAIS	chemical agent identification set
CAMDS	Chemical Agent Munitions Disposal System
CAMD, D	Chemical Agents and Munitions Destruction, Defense
CDC	Centers for Disease Control and Prevention
CDCAB	Chemical Destruction Community Advisory Board
CDF	chemical agent disposal facility
CDP	Chemical Demilitarization Program
CDPHE	Colorado Department of Public Health and Environment
CG	phosgene
CHATS	Chemical Agent Transfer System
CMA	U.S. Army Chemical Materials Agency
CNB	tear gas solution containing 10 percent chloroacetophenone (CN), 45 percent carbon tetrachloride, and 45 percent benzene
CNS	tear gas solution containing 23 percent CN, 38.4 percent PS, and 38.4 percent chloroform
CSEPP	Chemical Stockpile Emergency Preparedness Program
CWC	Chemical Weapons Convention
CWM	chemical warfare materiel
DA	Department of the Army
DCD	Deseret Chemical Depot
DDESB	DoD Explosives Safety Board
DF	military symbol for the critical binary precursor for GB ₂ , which is methylphosphonic difluoride
DFS	Deactivation Furnace System
DHS	Department of Homeland Security

DoD	Department of Defense
DPE	Demilitarization Protective Ensemble
DSHW	Division of Solid and Hazardous Waste
EDS	Explosive Destruction System
EIF	Entry into Force
EIS	Environmental Impact Statement
EMS	Environmental Management System
EOC	Emergency Operations Center
EOD	Explosive Ordnance Disposal
EPA	U.S. Environmental Protection Agency
EQC	Environmental Quality Commission
ERB	Enhanced Reconfiguration Building
FEMA	Federal Emergency Management Agency
FY	Fiscal Year [October 1 through September 30]
GA	tabun (nerve agent)
GAO	Government Accountability Office
GB	military symbol for the nonpersistent nerve agent sarin
GB ₂	military symbol for the nonpersistent nerve agent sarin formed from the binary munition
GTR	German Traktor Rocket
GTRSS	German Traktor Rocket Separation System
H	mustard agent
HD	mustard agent (distilled)
HQ	Headquarters
HTS	Heel Transfer System
ICS	Incident Command System
IDEM	Indiana Department of Environmental Management
IPT	Integrated Process Team
ISO 14001	International Organization for Standardization's standard for environmental management systems
JACADS	Johnson Atoll Chemical Agent Disposal System
JIC	Joint Information Center
JIS	Joint Information System
KDEP	Kentucky Department for Environmental Protection
LIC	Liquid Incinerator
LITANS	Large Item Transportable Access and Neutralization System
LPMD	Linear Projectile/Mortar Disassembly
M55	military model number for nerve agent GB or VX 115mm rocket
MAPS	Munitions Assessment and Processing System

MARB	Materiel Assessment Review Board
MDAP	Major Defense Acquisition Program
MDB	Munitions Demilitarization Building
MILCON	Military Construction
MMAS	Mobile Munitions Assessment System
MPF	Metal Parts Furnace
MPHRA	Multi-Pathway Health Risk Assessment
MPT	Metal Parts Treater
NECD	Newport Chemical Depot
NECDF	Newport Chemical Agent Disposal Facility
NIMS	National Incident Management Systems
NLE	National Level Exercise
NRC	National Research Council
NSCM	non-stockpile chemical materiel
NSCMP	Non-Stockpile Chemical Materiel Project
ODEQ	Oregon Department of Environmental Quality
OPCW	Organisation for the Prohibition of Chemical Weapons
OSD	Office of the Secretary of Defense
OSHA	Occupational Safety and Health Administration
PAS	pollution abatement system
PBA	Pine Bluff Arsenal
PBCA	Pine Bluff Chemical Activity
PBCDF	Pine Bluff Chemical Agent Disposal Facility
PBEDS	Pine Bluff Explosive Destruction System
PBI	performance-based incentives
PBMAS	Pine Bluff Munitions Assessment System
PCAPP	Pueblo Chemical Agent-Destruction Pilot Plant
PCB	polychlorinated biphenyl
PCD	Pueblo Chemical Depot
PFS	pollution abatement system filtration system
PINS	Portable Isotopic Neutron Spectroscopy
PL	Public Law
PM	Program Manager
PM ACWA	Program Manager Assembled Chemical Weapons Alternatives
PMCSE	Project Manager for Chemical Stockpile Elimination
PMNSCM	Project Manager for Non-Stockpile Chemical Materiel
QL	military symbol for the critical binary precursor for VX ₂ , which is O-Ethyl O-2-diisopropylaminoethyl methylphosphonite
RCRA	Resource Conservation and Recovery Act
RCWM	recovered chemical warfare materiel
REC	Record of Environmental Consideration
RMA	Rocky Mountain Arsenal

SC	systems contractor
SIC	sulfur-impregnated carbon
SMS	Strategic Management System
SNL	Sandia National Laboratories
SUPCOM	Support Command (Chemical, Biological, Radiological, Nuclear and High Yield Explosives)
TAR	Temporary Authorization Request
TC	ton container
TDC	Transportable Detonation Chamber
TOCDF	Tooele Chemical Agent Disposal Facility
TSDf	treatment, storage, and disposal facility
UMCD	Umatilla Chemical Depot
UMCDF	Umatilla Chemical Agent Disposal Facility
USACE	U.S. Army Corps of Engineers
U.S.C.	U.S. Code
USD(AT&L)	Under Secretary of Defense for Acquisition, Technology and Logistics
VPP	Voluntary Protection Program
VX	military symbol for a persistent nerve agent, which is o-ethyl S-(2-diisopropylaminoethyl)methylphosphonothioate
VX ₂	military symbol for a persistent nerve agent VX formed from the binary munition
WAO	wet air oxidation

APPENDIX B
OCCURRENCES OF LEAKING CHEMICAL MUNITIONS

**APPENDIX B
OCCURRENCES OF LEAKING CHEMICAL MUNITIONS**

Fiscal Year	Leaker Occurrences by Type				Leaker Occurrences by State ^a									
	M55 Rockets ^b	SUPLECAM Samples ^c and Overpack Containers	All Other Munitions	TOTAL	AL	AR	CO	IN	JI	KY	MD	OR	UT	Other
2008	0	3	62	65	40	1	0	0	0	2	0	14	8	0
2007	0	7	59	66 ^d	5	0	1	0	0	1	0	25	34	0
2006	3	6	57	66 ^e	4	2	0	0	0	1	0	45	14	0
2005	14	28	131	173 ^e	14	1	16	0	0	8	0	20	114	0
2004	34	46	77	157 ^e	33	0	9	0	0	0	1	11	103	0
2003	15	7	25	47 ^e	15	0	1	0	0	2	0	8	21	0
2002	45	18	32	95 ^e	40	6	0	0	0	0	0	8	41	0
2001	58	35	187	280 ^e	58	0	1	0	2	6	0	8	205	0
2000	68	142	35	245 ^e	51	2	0	0	0	6	0	6	180	0
1999	72	69	222	363 ^e	65	1	0	0	0	8	0	4	286	0
1998	27	27	45	99 ^e	17	2	0	0	0	0	0	5	74	0
1997	61	11	46	118 ^e	62	2	12	0	1	2	0	6	33	0
1996	153	3	98	254 ^e	119	0	2	0	70	7	0	3	53	0
1995	107	11	17	135 ^e	66	0	0	0	0	1	0	13	55	0
1994	144	29	27	200	82	4	2	0	0	6	0	5	103	0
1993	82	3	37	122	37	1	1	0	2	11	0	7	61	0
1992	81	139	52	272	52	1	1	1	6	21	0	7	183	0
1991	68	3	42	113	28	3	0	0	5	6	0	8	63	0
1990	76	5	27	108	17	11	1	0	7	2	0	12	58	0
1989	131	9	44	184	19	5	3	0	12	7	0	14	124	0
1988	50	5	26	81	14	2	3	0	2	0	0	20	40	0
1987	44	22	45	111	41	3	0	0	6	3	0	6	52	0
1986	82	18	28	128	40	0	11	0	12	4	0	10	51	0
1980 ^f - 1985	544 ^g	6	779	1,329	203	5	9	0	38	91	0	230	726	27
TOTAL	1,959	652	2,198	4,811	1,122	52	73	1	163	195	1	495	2,682	27
Qty Destroyed	1,832	467	1,724	4,011	1011	8	48 ^h	1	163	45 ^g	1	346	2,361	27

Notes:

- a AL Alabama (ANAD)
- AR Arkansas (PBA)
- CO Colorado (PCD)
- IN Indiana (NECD)
- JI Johnston Island (includes the storage site and Johnston Atoll Chemical Agent Disposal System; operations completed in 2000)
- KY Kentucky (BGAD)
- MD Maryland (Edgewood Area of APG) (Operations complete in 2006)
- OR Oregon (UMCD)
- UT Utah (DPG)
- 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 Leaker numbers were updated after the final submission of the FY2007 Annual Report.
- e Some leaking munitions were detected during disassembly at the CDFs prior to destruction, rather than at the storage area (5 in 1995, 64 in 1996, 11 in 1997, 102 in 1998, 161 in 1999, 24 in 2000, 168 in 2001, 6 in 2002, 16 in 2003, 45 in 2004, 116 in 2005, and 36 in 2006). All leaks detected during these operations were under engineering controls.
- f Specific totals for years prior to FY 1980 are not included; as early records are incomplete, and any total incorporating these timeframes cannot be considered accurate.
- g 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.
- h These leakers were destroyed in the Drill and Transfer System (DATS) circa 1985/6.

APPENDIX C
PROGRAM DISBURSEMENTS SUMMARY

APPENDIX C
U.S. ARMY CHEMICAL DEMILITARIZATION PROGRAM
FY 2008 DISBURSEMENTS SUMMARY - AS OF SEPTEMBER 30, 2008
(INCLUDES FY 2008 AND PRIOR YEAR FUNDS)
(\$ IN THOUSANDS)

Project/Facility Programmatic Function	Chemical Agents and Munitions Destruction, Army				Military Construction ^a
	RDT&E	PROC	O&M	Total	Total
Program Management (CMA)	-	-	26,871	26,870	20
Program Management (PMCSE)	-	911	44,934	45,845	-
Chemical Demilitarization Training Facility	-	-	6,442	6,442	-
CAMDS (Operations)	-	-	20,022	20,022	-
JACADS (Closure)	-	-	7,380	7,380	-
TOCDF (Operations)	-	13,625	169,039	182,664	-
ANCDF (Operations)	-	641	160,813	161,455	(0)
UMCDF (Operations)	-	3,487	176,221	179,708	-
PBCDF (Operations)	-	1,271	146,594	147,867	620
Alternative Technologies and Approaches Project Program Management	(2)	-	10	8	-
ABCDF (Operations)	1	-	2,703	2,704	(11)
NECDF (Operations)	(624)	-	163,104	162,480	(120)
Non-Stockpile Chemical Materiel	5,260	871	77,026	83,156	-
ACWA Program Management	18,549	-	-	18,549	-
PCAPP (Construct & Equip)	64,882	-	-	64,882	41,717
BGCAPP (Design) (Construct & Equip)	91,987	-	-	91,987	37,370
Chemical Stockpile Emergency Preparedness ^b	-	61,040	116,380	177,419	-
TOTAL	180,052	81,846	1,117,540	1,379,438	79,597

Notes:
Source: Defense Finance and Accounting System 218 report with data as of September 30, 2008.
^a Military Construction for Program Management refers to Planning and Design for various locations.
^b FY 2008 CSEPP funding disbursements include \$78.5 million provided for direct grant funds and funding for contracts managed by DHS/Federal Emergency Management Agency Headquarters on behalf of states. For additional information, refer to the FY 2008 CSEPP Report to Congress.

ABCDF = Aberdeen Chemical Agent Disposal Facility (operations and closure complete)
ACWA = Assembled Chemical Weapons Alternatives
ANCDF = Anniston Chemical Agent Disposal Facility
BGCAPP = Blue Grass Chemical Agent-Destruction Pilot Plant
CAMDS = Chemical Agent Munitions Disposal System
CMA = U.S. Army Chemical Materials Agency
JACADS = Johnston Atoll Chemical Agent Disposal System (operations and closure complete)
NECDF = Newport Chemical Agent Disposal Facility

O&M = Operations and Maintenance
PBCDF = Pine Bluff Chemical Agent Disposal Facility
PCAPP = Pueblo Chemical Agent-Destruction Pilot Plant
PMCSE = Project Manager for Chemical Stockpile Elimination
PROC = Procurement
RDT&E = Research, Development, Test and Evaluation
UMCDF = Umatilla Chemical Agent Disposal Facility

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APPENDIX D
CONGRESSIONAL SUPPORT

APPENDIX D CONGRESSIONAL SUPPORT

The U.S. Army Chemical Materials Agency and the Program Manager Assembled Chemical Weapons Alternatives continue to implement and maintain initiatives to facilitate safe and efficient mission accomplishment. Congressional support is requested in the following areas to support those initiatives.

Continue to support funding, consistent with the President's budget, of the Chemical Demilitarization Program.

The Chemical Demilitarization Program is funded by the Chemical Agents and Munitions Destruction, Defense appropriation and the Chemical Demilitarization Construction, Defense appropriation to execute current requirements. Reductions in future President's budget requests may delay agent destruction and reduce the ability of the program to mitigate cost and schedule risks. This would likely result in increased life cycle costs and extend the risk posed by continued storage.

Continue to support future efficiency initiatives, as they are identified and requested by the Program.

The Department of Defense continues to investigate cost and schedule saving initiatives for the program without sacrificing safety or environmental compliance.

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APPENDIX E
CHEMICAL EVENT CATEGORIES

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Category I: Non-surety emergency (informational)

- Unexpected chemical surety-related occurrences reported to state or local jurisdictions as provided in local agreements but not mandated by law
- Any unexpected occurrences (without release of chemical agent to the atmosphere), which have a potential for negative reactions by the news media, state, or local officials towards chemical agent operations at Army installations during storage, transportation, or demilitarization; this includes circumstances where, in the judgment of the reporting installation commander, the occurrence could cause embarrassment to the Army
- Workers reporting that they were exposed to chemical agent, regardless of whether the postulated exposure is confirmed by clinical or laboratory evaluation
- Confirmed detection of chemical agent exceeding the established airborne exposure limits cited in Army Regulation (AR) 385-61, outside the primary engineering controls but within secondary engineering controls
- Discovery of recovered chemical warfare materiel

Category II: Limited area/post only emergency (site response)

- Confirmed presence of liquid agent outside munitions, bulk containers, or overpack containers
- Confirmed detection of agent occurring for any period of time outside of engineering controls into the environment, exceeding the airborne exposure limit source emission limit cited in AR 385-61; this includes agent operations conducted in a closed system (filtered bunkers, filtered igloos, overpack containers, onsite containers, demilitarization operating facilities, and outdoor glovebox operations) designed to protect unprotected workers or the ambient environment
- Any known release of chemical agent above the airborne exposure limit cited in AR 385-61 for unmasked agent workers where unprotected or inadequately protected personnel have been present or likely to have been present at the time of release
- Personnel exhibiting signs or symptoms associated with chemical agent exposure
- A deliberate attempt to release Army chemical agents that is unauthorized or during the commission of a criminal act

Category III: Community emergency (external response)

- Explosion or fire where chemical agents are involved, resulting in personnel injury or substantial structure damage
- Actual theft of chemical agent material
- Any release of chemical agent into the atmosphere that is projected by approved downwind hazard projection methods, which indicate a hazard greater than no effects, will extend beyond the installation boundary
- Any release of chemical agent into the atmosphere, confirmed by an approved detection method, which exceeds the general population airborne exposure limit in AR 385–61, which may extend beyond the installation boundary