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Testimony

Before the Subcommittee on Terrorism,
Unconventional Threats and Capabilities,
Committee on Armed Services, House of
Representatives

For Release on Delivery
Expected at 10:00 a.m. EST
Thursday, April 1, 2004

CHEMICAL WEAPONS

Destruction Schedule Delays and Cost Growth Continue to Challenge Program Management

Statement of Raymond J Decker, Director
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Highlights of [GAO-04-634T](#), testimony to the Subcommittee on Terrorism, Unconventional Threats and Capabilities, Committee on Armed Services, House of Representatives

Why GAO Did This Study

Since its inception in 1985, the Chemical Demilitarization (Chem-Demil) Program has been charged with destroying the nation's large chemical weapons stockpile of over 31,000 tons of agent. The program started destroying the stockpile in 1990. As of March 2004, the program had destroyed over 27 percent of the stockpile. The program has recently reorganized into the Chemical Materials Agency (CMA) to manage seven of the nine sites. There are five sites using incineration to destroy the agent and two bulk agent only sites using neutralization. The Assembled Chemical Weapons Alternatives (ACWA) Program, in the Department of Defense (DOD), manages two sites using neutralization to destroy agent in weapons.

This testimony updates GAO's September 2003 report and October 2003 testimony. As requested, it focuses on the following issues: (1) changes in the status of schedule milestones and costs at the sites, (2) recent developments that impact the Chemical Weapons Convention (CWC) deadlines, (3) the challenges associated with managing the program, and (4) an update on the status of the Chemical Stockpile Emergency Preparedness Program (CSEPP).

www.gao.gov/cgi-bin/getrpt?GAO-04-634T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Raymond J. Decker at (202) 512-6020 or deckerrj@gao.gov.

CHEMICAL WEAPONS

Destruction Schedule Delays and Cost Growth Continue to Challenge Program Management

What GAO Found

Since GAO testified in October 2003, the Chem-Demil Program continues to fall behind its schedule milestones, which were last extended in 2001. In the last 6 months, very little agent has been destroyed. While one site has closed, no new sites have started destroying agent (two were scheduled to start by March 2004). The delays stem from incidents during operations, environmental permitting issues, concerns about emergency preparedness, and unfunded requirements. If these delays persist, GAO continues to believe that program costs will rise substantially higher than the October 2003 estimate of more than \$25 billion. These rising costs have led to the need to reallocate funds within the program's fiscal year 2005 budget.

Due to schedule delays, the United States will not meet the CWC April 2004 deadline to destroy 45 percent of the stockpile. Although it has received an extension for this task to December 2007, it is questionable if the program will meet this deadline. DOD has said it will ask for an extension of the final deadline to destroy 100 percent of the stockpile beyond 2007. Unless the program resolves the problems causing program delays, the United States risks not meeting this deadline, if extended.

One positive development in the program is that the leadership has been stabilized for over a year since the program was reorganized. However, several long-standing organizational and strategic planning issues remain. One problem is that the program's new management structure is complex, with multiple lines of authority within the Army and the separation of ACWA from the rest of the program. These complexities raise concerns about the roles and responsibilities of the different parts of the program. Program officials also told us that they are developing strategic and risk mitigation plans, as GAO recommended.

Since GAO testified in October, there continues to be improvement in the preparation of state and local communities to respond to chemical emergencies. As of January 2004, 6 of 10 states near the stockpiles report they are fully prepared. This is a marked improvement from the status we reported in 2001 when three states reported they were far from being prepared. However, CSEPP costs continue to rise because some states have expanded their preparedness requests beyond their approved budgets.

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to participate in this hearing today on the Department of Defense's (DOD) Chemical Demilitarization (Chem-Demil) Program. Since its inception in 1985, this program has been charged with destroying the nation's large chemical weapons stockpile, second only to Russia's in terms of its size. After years of planning and building new facilities, the program started destroying the stockpile in 1990. Since 1990, we have issued more than 25 reports on the Chem-Demil Program. Nearly half of the reviews have raised questions about the program's growing costs, its inability to meet its schedule milestones, and its management weaknesses.

As you requested, my statement updates GAO's testimony from October 2003 and focuses on the following issues: (1) changes in the status of schedule milestones and costs at the sites, (2) recent developments that impact the Chemical Weapons Convention (CWC) deadlines, (3) the challenges associated with managing the program, and (4) an update on the status of the Chemical Stockpile Emergency Preparedness Program (CSEPP).

As of March 2004, the Chem-Demil Program had destroyed an estimated 8,691 tons (27.6 percent) of the total 31,500 tons of the original agent stockpile stored at nine sites in the United States and the Pacific Ocean at Johnston Atoll. Since our testimony in October 2003, the program has destroyed very little additional agent (about 1.5 percent). Of the four sites that have begun agent destruction operations, Johnston Atoll has destroyed its entire stockpile and is closed; Tooele, Utah, has reduced its stockpile by about 47.1 percent; Anniston, Alabama, has destroyed 5.1 percent of its stockpile; and Aberdeen, Maryland, has destroyed 7.9 percent of its stockpile. Current schedule estimates show that the Army will not complete destruction of the entire stockpile until after the year 2012.

For this testimony, we conducted work that included discussions with officials from DOD, the Army, and FEMA. We also drew on the work we conducted for our September 2003 report¹ and October 2003 testimony.²

¹U.S. General Accounting Office, *Chemical Weapons: Sustained Leadership, Along with Key Strategic Management Tools, Is Needed to Guide DOD's Destruction Program*, [GAO-03-1031](#) (Washington, D.C.: Sept. 5, 2003).

We performed our work in March 2004 in accordance with generally accepted government auditing standards.

Summary

In summary, we found the following:

- Since we testified in October 2003, the Chem-Demil Program continues to fall behind its schedule milestones, which were extended in 2001. These schedule delays led to increased program costs and very little agent destruction over the last 6 months. We testified that four incineration sites and one bulk agent site would miss their scheduled milestones. However, since then, one of the incineration sites has closed and an additional bulk agent site has missed its scheduled milestone, resulting in five sites remaining behind approved destruction schedules. The remaining three sites—two Assembled Chemical Weapons Alternatives (ACWA) sites and one incineration site have not yet missed schedule milestones, but they too have experienced delays. The delays stem from ongoing incidents during operations, environmental permitting issues, concerns about emergency preparedness, and unfunded requirements. If these delays persist, we continue to believe that program costs will rise substantially higher than the October 2003 estimate of more than \$25 billion. These rising costs have led to the need to reallocate funds within the program's fiscal year 2005 budget.
- Because of schedule delays, the United States will not meet CWC's April 2004 deadline to destroy 45 percent of the chemical stockpile. The United States asked the governing body of the convention for and received an extension for this deadline to December 2007. Although it has received an extension for this task, it is questionable if the program will meet this deadline. Moreover, DOD has said it will ask for an extension of the final deadline to destroy 100 percent of the stockpile beyond 2007. Unless the Chem-Demil Program is able to resolve the problems that have caused schedule delays to destroy the stockpile, the United States also risks not meeting CWC's deadline to destroy the entire stockpile, if extended to 2012.³
- We previously testified that despite efforts to improve the management and reorganize the Chem-Demil Program, the program has suffered from

²U.S. General Accounting Office, *Chemical Weapons: Better Management Tools Needed to Guide DOD's Stockpile Destruction Program*, [GAO-04-221T](#) (Washington, D.C.: Oct. 30, 2003).

³The CWC allows extensions of up to 5 years to the 2007 deadline.

several long-standing and unresolved management, organizational, and strategic planning issues. Recently, under the new organization, the leadership of the program has stabilized. However, the program's complex management structure, with multiple lines of authority within the Army and the separation of program components between the Army and DOD, raises concerns about the roles and responsibilities of the different parts of the program. For example, DOD manages two of the program's nine sites separately from the Army's management of the other sites. In addition, the absence of an overarching, comprehensive management strategy has resulted in a program without a clear road map to closely guide and integrate all of its activities and monitor its performance. Neither DOD nor the Army has adopted a comprehensive risk management approach that could help mitigate potential problems that affect program schedules, costs, and safety by anticipating problems and developing proactive plans. Program officials also told us that they are developing strategic and risk mitigation plans, as we have recommended.

- Since our October 2003 testimony, states and communities have continued to improve their emergency preparedness to respond to chemical incidents. Based on the states' self-assessments and FEMA's reviews, 6 of the 10 states near the eight storage sites are fully prepared and the remaining 4 are close to being fully prepared. In addition, in response to recommendations in our 2001 report,⁴ FEMA and the Army have implemented a number of actions to improve technical assistance and guidance, training, and compliance measures to assess preparedness. However, despite these accomplishments, CSEPP costs continue to rise because some state and local communities have expanded their emergency preparedness requests beyond their approved budgets. The requests for fiscal years 2004 and 2005 exceeded approved budgets by a total of \$88 million. In a few communities, these requests have grown as the sites have moved closer to the agent operations phase. These unfunded requirements have caused further delays in overall program operations because funds have to be diverted from other sites approved budgets to pay for these communities' requirements. To date, CSEPP has spent a total of \$723 million in local communities.

⁴ *Chemical Weapons: FEMA and Army Must Be Proactive in Preparing States for Emergencies*, GAO-01-850 (Washington, D.C.: Aug. 13, 2001).

Most Sites Will Miss Schedule Milestones Due to Program's Inability to Anticipate and Influence Issues

Since our October 2003 testimony, the Chem-Demil Program continues to struggle to meet its schedule milestones and remain within its cost estimates. These schedule delays led to increased program costs and very little agent has been destroyed over the last 6 months. We testified then that most incineration sites would miss their scheduled milestones established in 2001. At that time Anniston, Umatilla, and Pine Bluff had missed their 2001 milestones to begin agent destruction operations and Johnston Atoll had missed its milestone for shutting down the facility. However, since then, three of these sites have experienced further delays. Table 1 shows the delays at Umatilla, Pine Bluff, and Johnston Atoll incineration sites since October 2003. The delays stem from incidents during operations, environmental permitting issues, emergency preparedness, and unfunded requirements. If these delays persist, we continue to believe that program costs will rise substantially higher than the October 2003 estimate of more than \$25 billion. These rising costs have led to the need to reallocate funds within the program's fiscal year 2005 budget.

Table 1: Delays in Meeting Schedule Milestones, by Incineration Site

Site	Next schedule milestone	October 2003 estimate to begin next milestone	Current estimates to begin next phase ^a	Difference between 2003 status and current estimate (no. of months)
Umatilla	Operations	Mar. 2004	July 2004	+4
Pine Bluff	Operations	Apr. 2004	July 2004	+3
Johnston Atoll	End of closure	Nov. 2003	Dec. 2003	+1

Sources: DOD and the U.S. Army.

^a Actual date that Johnston Atoll closed and program manager's official estimates for Pine Bluff and Umatilla to start operations.

As of March 2004, the two bulk-agent only sites, Aberdeen and Newport, have experienced delays and Aberdeen has missed its scheduled milestone for draining the agent from the ton containers. In 2002, DOD approved using an accelerated method that was expected to increase the rate of destruction at these two sites. The Army estimated that this process would reduce the scheduled end of operations at both sites by 5 years, from 2008 to 2003 at Aberdeen and from 2009 to 2004 at Newport. However, Aberdeen has encountered unanticipated problems with the processing of the mustard agent in the ton containers and has extended its planned completion date from October 2003 to December of 2004. The program has

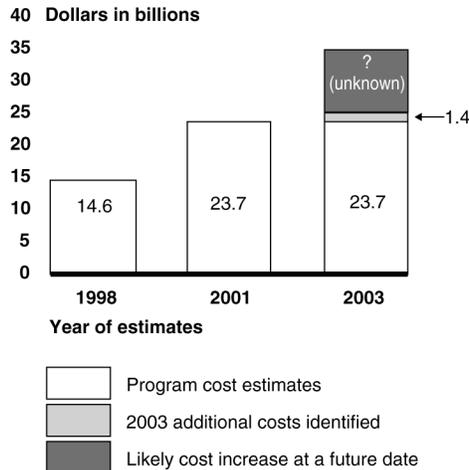
exceeded the 6-month period it estimated would be needed for accelerated destruction of the agent. Additionally, the site has only drained 152 of the 1,817-ton containers as of March 2004. Even if finished by December 2004, this time frame only covers the first stage of the operation to remove the mustard agent from the containers. An added problem, the hardening and congealing of residual agent in the ton containers, will require a second stage of operation to remove the residual agent. In addition, Newport has faced construction delays and community resistance to offsite treatment of waste byproducts. As a result of these delays, Newport extended its planned start date for agent operations twice: first from October 2003 to February 2004, and again to August 2004. However, the current plan to ship the waste to a treatment facility in New Jersey from Indiana has not been finalized and faces opposition from residents, workers, and environmental groups. DOD has not programmed funds to treat the waste on-site or to store it there until a disposal location has been finalized.

At the two ACWA sites, Pueblo, Colorado, and Blue Grass, Kentucky, DOD directed that they pursue accelerated destruction methods. According to program officials, the initial accelerated approaches proposed by the contractors exceeded DOD programmed funding and have to be reevaluated. Until the plans are approved, final schedule milestones cannot be set. This means both projects have been delayed while additional design work is completed.

These delays and schedule extensions⁵ have contributed directly to program cost growth, according to program officials. As a result, DOD's total program cost estimate grew from \$15 billion to \$24 billion between 1998 and 2001. (See fig. 1.) Because of delays encountered since the 2001 revisions, the Army is now in the process of developing new milestones that will extend beyond those adopted in 2001. According to a DOD official, the program will use events that have occurred since 2001 in presenting new cost estimates to DOD for preparation of the fiscal year 2006 budget submission. Program officials told us that they estimate new costs had increased by \$1.4 billion as of October 2003, and this estimate is certainly going to rise further, given the information we obtained on schedule delays from fiscal year 2005 budget documents and from program officials.

⁵ Schedule extensions or slippages are caused primarily by actual destruction rates being lower than planned.

Figure 1: Comparison of 1998, 2001, and 2003 Cumulative Program Cost Estimates



Source: DOD.

As an example of the impact schedule delays have on the program, DOD's fiscal year 2005 budget request includes a realignment of \$147 million from the ACWA program to the rest of the program. Additional requirements have been identified that will likely delay the schedule further if future realignments are necessary.

Schedule Delays Required CWC Extension of Deadlines

Although the United States met the first two chemical weapons treaty deadlines, the continuing delays in the schedule jeopardize its ability to meet the final two deadlines. (See table 2.) The program will not meet the April 2004 CWC deadline to destroy 45 percent of the stockpile. Although it has received an extension for this task to December 2007, it is questionable if the program will meet this deadline. Unless the Chem-Demil Program is able to resolve the problems that have caused schedule delays to destroy the stockpile, the United States will likely risk not meeting the deadline, if extended to 2012, to eliminate 100 percent of the stockpile.

Table 2: CWC Deadlines

Required percentage of agent destroyed	Deadlines for destruction	Date United States met deadline
1	April 29, 2000	September 1997
20	April 29, 2002	July 2001
45	April 29, 2004	Will not meet
100	April 29, 2007	Will not meet

Sources: CWC and U.S. Army.

Long-standing Management and Strategic Planning Weaknesses Hamper Program Progress

Despite recent efforts to improve the management and change the organization of the Chem-Demil Program, the program continues to falter because several long-standing management, organizational, and strategic planning weaknesses remain unresolved. While the program has lacked sustained leadership in the recent past, this situation has stabilized. However, the program's complex structure, with its many lines of authority within the Army and between the Army and DOD, raises questions about the roles and responsibilities of its various offices. In addition, the program lacks strategic and risk management plans to guide and integrate its activities.

Program Management Structure Remains Complex

Although the program has experienced turbulence in key leadership positions in the recent past, the current leadership has been in place for more than a year, and these leaders have a substantial history of involvement with the program. The new leadership team is clarifying its roles, responsibilities, decision-making authority, and accountability.

However, despite the recent reorganization, this change has not streamlined the program's complex organization, as we documented in our 2003 report.⁶ The establishment of the Chemical Materials Agency (CMA) in January 2003 has left the Director reporting to two different senior Army organizations. The reorganization has also divided the responsibility for various program phases between two offices within CMA. One organization, the Program Manager for the Elimination of Chemical Weapons, will manage the first three phases (design, construction, and systemization) for each site, and a newly created organization, the Director of Operations, will manage the final two phases (operations and

⁶ [GAO-03-1031](#).

closure). Moreover, the reorganization did not address the relationship between the Assembled Chemical Weapons Alternatives (ACWA) program and the Army's CMA since DOD manages ACWA separately from the Army, as congressionally directed.

Program Lacks Strategic and Risk Management Plans

In response to our recommendations in our September 2003 report, according to DOD officials, the Army is developing a strategic plan to address the goals, objectives, and performance measures of the program. DOD says it is now in the process of developing a risk management plan. In the past, because the program had used a crisis management approach, it was forced to react to, rather than control issues. We believe a risk management approach would allow DOD and the Army to proactively anticipate and address potential problems that could adversely affect program schedule, costs, and safety.

Emergency Preparedness Program Is Improving, but Costs Are Rising

FEMA and the Army continue to provide assistance to state and local communities to improve their emergency preparedness. Since our October 2003 testimony, states and communities have continued to improve their emergency preparedness to respond to chemical incidents. Additionally, FEMA has provided software and training to state and local communities to help them simplify development of CSEPP financial reporting documents. FEMA also has published a Recovery Workbook.⁷ The workbook fills a void in state and local guidance for emergency responders to follow in the event of a chemical emergency. FEMA also expanded its capability assessment readiness tool to assist local communities in quantifying benchmark scores. In January 2004, FEMA reported to Congress that these achievements have aided CSEPP communities in reaching 95 percent of their benchmark compliance. Six of 10 states near the eight storage sites reported that they are fully prepared and the remaining 4 reported being close to fully prepared.

Despite these accomplishments, CSEPP costs continue to rise because, according to Army and FEMA officials, some state and local communities continue to identify additional emergency requirements that exceed DOD's

⁷ U.S. General Accounting Office, *Chemical Weapons: FEMA and Army Must Be Proactive in Preparing States for Emergencies*, [GAO-01-850](#) (Washington, D.C.: Aug. 13, 2001). Recovery plans refer to support activities that occur following a chemical event. The primary purpose is to protect the public health and safety while returning the community to normal conditions.

programmed funding. This situation occurs because of the open interpretation of “maximum protection” concept that governs CSEPP. These unfunded requests have two effects. First, they cause the benchmarks showing how prepared each community is to change from fully compliant to not compliant from year to year. Second, they cause funds to be transferred from destruction activities to CSEPP and result in further delays in the destruction schedule. Army and FEMA officials explain that the states often identify and expand their requirements, especially as destruction facilities move closer to the start of the operations phase. For example, the states of Colorado, Alabama, and Oregon have requested additional funds for infrastructure support, including roads and bridges that exceed their CSEPP budgets. These requests follow a pattern that occurred at Anniston in 2001 when it received \$40.5 million for additional CSEPP items. Currently, the communities around the Umatilla facility are demanding that substantial additional funding be provided as the onset of operations comes closer. Programwide, new requirements continue to exceed approved CSEPP funding levels. FEMA has little control over the additional funding requests made by the states. As of October 2003, FEMA had identified total \$88 million in unfunded CSEPP requirements for fiscal years 2004 and 2005. As of fiscal year 2004, the total cost for CSEPP has risen to \$723.1 million. Funding for individual states ranges from \$9.7 million to \$259.6 million for the period of 1989 to 2004. (See table 4.)

Table 4: CSEPP Funding by State, Fiscal Years 1989-2004

State	Fiscal years 1989-2004	Percent of total spending
Alabama	\$259,612,223	35.9
Arkansas	80,311,665	11.1
Colorado	30,233,930	4.2
Illinois	9,724,039	1.3
Indiana	46,201,152	6.4
Kentucky	60,055,596	8.3
Maryland	30,472,755	4.2
Oregon	93,484,394	12.9
Utah	74,596,336	10.3
Washington	38,388,929	5.3
Total	\$723,071,019	100.0

Source: FEMA data. The Army and FEMA have recently recognized the Confederated Tribes of the Umatilla Indian Reservation as a separate funding entity. The confederated tribes have received \$2.5 million to date.

Mr. Chairman, this concludes my statement. I would be pleased to respond to any questions that you or Members of the Subcommittee may have.

Contacts and Acknowledgments

For future questions regarding this testimony, please contact me at (202) 512-6020. Individuals making key contributions to this testimony include Donald Snyder, Rodell Anderson, Bonita Oden, John Buehler, Nancy Benco, Rick Yeh, Susan Mason, and Mike Zola.

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