

August 2001

CHEMICAL WEAPONS

FEMA and Army Must Be Proactive in Preparing States for Emergencies



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Abbreviations

CSEPP	Chemical Stockpile Emergency Preparedness Program
FEMA	Federal Emergency Management Agency



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United States General Accounting Office
Washington, DC 20548

August 13, 2001

The Honorable Jeff Sessions
The Honorable Gordon Smith
The Honorable Ron Wyden
United States Senate

The Honorable James V. Hansen
The Honorable Duncan Hunter
The Honorable Bob Riley
House of Representatives

Millions of people live and work near eight Army storage facilities containing nearly 30,000 tons of chemical agents and are at risk of exposure from a chemical accident at these facilities. Such an accident could affect people in 10 different states. The Army plans to destroy its entire chemical weapons stockpile by 2007 and is taking measures to protect the public before and during the demilitarization process.¹ In 1988, the Army established the Chemical Stockpile Emergency Preparedness Program to assist the 10 states with communities near the eight storage facilities obtain the additional necessary equipment and training they need to be fully prepared to protect the public, the facilities' workforces, and the environment in the unlikely event of a chemical stockpile accident. The Army and the Federal Emergency Management Agency share the federal government's responsibility for the program's funding and execution. On the basis of varying needs for critical items (such as warning sirens, protective equipment, and response plans) required by the states, the Army and the agency agree that when these items are in place, the states and communities are fully prepared to respond to a chemical emergency. The program established a self-imposed goal of reaching full preparedness by 1998. In 1999, the Army estimated that the program would cost about \$1.2 billion through 2010.

¹In April 1997, the U. S. Senate ratified the U. N.-sponsored Convention on the Prohibition of the Development, Production, Stockpiling and the Use of Chemical Weapons and on Their Destruction, commonly known as the Chemical Weapons Convention, effectively agreeing to dispose of the chemical stockpile weapons and materiel by April 29, 2007.

In 1997, on the basis of a congressional request, we reported on the status of the program and identified several key management weaknesses.² After an accidental chemical release at the storage facility in Utah in May 2000, you requested that we perform another assessment of the program's status and of any continuing management problems. As agreed with your offices, we addressed the following questions: (1) What is the status of the program's funding? (2) What progress have the communities in the 10 states made toward being fully prepared? (3) What changes in federal management relations with the states and communities in the program could help achieve the goal of full preparedness? The scope and methodology of our work are described in appendix I. Regarding reported financial information, we did not independently determine its reliability.

Results in Brief

Since its inception, the program has received over \$761 million in funding. One third of this amount, over \$250 million, has been spent on the procurement of critical items. Because each community has its own site-specific requirements, funding has varied greatly. For example, Illinois received as little as \$6 million, and Alabama received as much as \$108 million since the states first received program funding in 1989. The Army expected the states to have completed the procurement of critical items by 1998. This is not the case and currently too little planned funding remains to procure all the critical items the states have identified as needed to be fully prepared for a chemical emergency. The Army's 1999 estimate of the total funding needed to obtain all necessary items was also too low. The program has already spent over 85 percent of all the procurement funding it was expected to need through fiscal year 2010. In 2000, the Army and the Federal Emergency Management Agency increased their estimate of total program costs but still did not include all the procurement funding the states will need in the near term. The 2000 estimate is understated because the Army, the agency, and the states did not identify all the items the program will need.

Three of the 10 states (Maryland, Utah, and Washington) in the Chemical Stockpile Emergency Preparedness Program are fully prepared to respond to a chemical emergency and 4 others (Arkansas, Colorado, Illinois, and Oregon) are making progress and are close to being fully prepared. This is a considerable improvement since 1997, when no state was fully prepared.

²See *Chemical Weapons Stockpile: Changes Needed in the Management of the Emergency Preparedness Program* (GAO/NSIAD-97-91, June 11, 1997).

But the overall program has not progressed as quickly as expected and has failed to meet its own 1998 deadline for achieving full preparedness. Currently, three states (Alabama, Indiana, and Kentucky) are still considerably behind in their efforts. Calhoun county in Alabama is far from being fully prepared, does not have an agreed-upon response plan, and has not done enough to educate the public about the program. This raises the question of whether it would be able to adequately respond to a chemical emergency. Problems in federal management relations with state and local emergency management officials have contributed to delays in achieving full preparedness. Some state and local emergency management officials have said that, unless all critical items are in place, they will not support the start of the Army's destruction of chemical agents in their locality. The Army's Program Manager for Chemical Demilitarization is committed to addressing local concerns regarding readiness to avoid delays in the destruction of the chemical stockpiles.

In the last 4 years, the Federal Emergency Management Agency and the Army have made progress in tackling some long-standing program management problems. After years of disagreement, in 1997, officials signed a new memorandum of understanding defining their specific roles and responsibilities in the program. By doing so, they addressed some of the management problems that were caused by unclear roles and responsibilities and the lack of coordination. However, a number of problems have contributed to slowness in executing the program and to leading all the states and local communities to full preparedness. A lack of initiative in some areas by the Army and the agency, combined with poor working relations with some states and communities, has resulted in the failure to resolve major unresolved issues in the three states that are farther behind. Specifically, the Army and the agency are not providing Alabama, Indiana, and Kentucky and their local communities enough technical assistance and guidance to resolve outstanding issues. They have not been effective in disseminating information on emergency management or best practices and lessons learned in all seven states that are still not fully prepared. And in all 10 states, they have issued uneven and unclear performance measures, and they have not provided guidance on plans and procedures for reentry to contaminated areas.

We are making recommendations to improve the Federal Emergency Management Agency's and the Army's management and implementation of the Chemical Stockpile Emergency Preparedness Program to bring all communities to full preparedness. In comments on a draft of this report, the Agency and the Army generally concurred with our recommendations.

Both provided technical comments that we considered and incorporated in the report where appropriate.

Background

In 1985, the Congress required the Department of Defense to carry out the destruction of the U.S. stockpile of chemical agents and munitions and established an organization within the Army to manage the disposal program. The Congress directed the program to provide maximum protection to the environment, the general public, the personnel involved in disposing of the chemical weapons at the eight storage sites.³ Further, the Congress authorized the Secretary of Defense to make grants to state and local governments, either directly or through the Federal Emergency Management Agency (FEMA) to assist them in carrying out functions related to emergency preparedness. In 1988, the Army established the Chemical Stockpile Emergency Preparedness Program (CSEPP) to help communities near the stockpile storage sites establish a full level of emergency preparedness and response capabilities. CSEPP also helps to implement the emergency preparedness at the Army installations storing the chemical stockpile.

The Congress originally set 1994 as the date for the complete destruction of the stockpile. This date was later extended to 2007, after the Senate ratified the Convention on the Prohibition of the Development, Production, Stockpiling and the Use of Chemical Weapons and on Their Destruction, commonly known as the Chemical Weapons Convention, on April 24, 1997. Under the convention, April 29, 2007, is the deadline for the destruction of chemical weapons stockpiles.

CSEPP is a partnership between the Army, as custodian of the chemical stockpile, FEMA, which has long-standing experience in preparing for and dealing with all types of emergencies, and state and local governments. In October 1997, the Army and FEMA signed a revised memorandum of understanding under which FEMA assumed responsibility for off-post (civilian community) program activities. The Army continued to manage

³The storage facilities are Deseret Chemical Depot, Utah; Aberdeen Proving Ground, Maryland; Anniston Army Depot, Alabama; Newport Chemical Activity, Indiana; Pine Bluff Arsenal, Arkansas; Pueblo Chemical Depot, Colorado; Blue Grass Army Depot, Kentucky; and Umatilla Chemical Depot, Oregon. Besides the communities in the eight states listed above, communities in Illinois and Washington could also be affected by chemical accidents at Newport Chemical Activity, Indiana and Umatilla Chemical Depot, Oregon, respectively.

“on-post” (installation) emergency preparedness and provide technical and financial support for both off-post and on-post activities. FEMA provides the civilian community with expertise, guidance, training, and other support. Specifically, FEMA’s CSEPP roles and responsibilities are to (1) administer the off-post funds; (2) support the states in developing response plans; (3) prepare, develop, deliver, and evaluate training; (4) provide technical assistance; and (5) develop programs for evaluating off-post readiness. Similarly, the states and communities also have responsibility for developing response plans and evaluating resource requirements. To improve overall management, the Army and FEMA use 12 “benchmarks,” or performance measures, to execute the program and report on its status. These performance measures were revised in January 2000 and are now also used for budgeting, accountability, and for assessing the status of states’ preparedness to respond to chemical emergencies.

The Army’s Chemical Demilitarization Program (including CSEPP) has a 1999 total life-cycle (from start to finish) cost estimate of about \$15 billion.⁴ The Army periodically updates the estimate. In 1985, the Army’s original cost estimate for the disposal project, the largest portion of the program, was \$1.7 billion. This grew to nearly \$10 billion in 1999. In 1988, it estimated that the cost of CSEPP would be \$114 million. CSEPP has a 1999 life-cycle cost estimate of \$1.2 billion. Sharing responsibility for the program, the Army provides the 10 states and the local communities near the storage sites with funding for the off-post program through FEMA. As with other emergency preparedness programs, FEMA administers this program through its regional offices to the states.

Under the current management arrangement, the Army, FEMA, and the states and counties share responsibility for preparing CSEPP annual budgets. The states and counties are responsible for identifying the requirements and developing annual requests for the critical items that they believe are needed to be fully prepared to respond to a chemical emergency. After each state prepares its initial budget proposal, it

⁴The Army initially established the Chemical Stockpile Disposal Project to oversee the destruction of the nation’s chemical weapons stockpile, while providing human health and the environment with maximum protection. Since it began in 1986, it has become known as the Chemical Demilitarization Program and has expanded to include CSEPP (1988), the Non-stockpile Chemical Materiel Product (1993), the Alternative Technologies and Approaches Project (1994), and the Assembled Chemical Weapons Assessment program (1997).

negotiates an acceptable level of funding for its proposed projects with the appropriate FEMA regional office. The approved budget proposal is then forwarded to FEMA's headquarters for further review and approval. After the Army approves a total funding amount that it will transfer to FEMA for CSEPP's off-post activities, FEMA's headquarters prepares a Cooperative Agreement with specific activities, funding, and periods of performance for each state. On the basis of these Cooperative Agreements, FEMA issues funds received from the Army as needed throughout the fiscal year to match a state's budgeted CSEPP spending. The states then apportion the funds among various state agencies and the local communities (counties and cities) surrounding the sites for their CSEPP operations.

Although the Army's Program Manager for Chemical Demilitarization is responsible for the stockpile's safe destruction, the current arrangement between the Army and FEMA does not provide the Program Manager with direct responsibility for CSEPP.⁵ However, in the past, FEMA has received supplemental funding from the Program Manager to help meet CSEPP's unexpected funding needs. But the Program Manager told us that the program no longer has any uncommitted funds on hand to support CSEPP's activities.

The greatest risk to the local community is from an event that would cause a chemical release while the chemical weapons are in storage. Low-probability occurrences, such as an airplane crash, earthquake, or serious accident in the storage area, could potentially cause a cloud or plume of toxic chemical agent to be released into the air, putting the surrounding community at risk of exposure. In the unlikely event of such an incident, the professional or volunteer emergency personnel in the community would be the first responders. The type of protective action response—evacuation or sheltering in place—would be determined for each of the numerous zones in the counties that surround each site on the basis of recommendations made by emergency personnel at the Army post. To be able to effectively support the evacuation or shelter-in-place emergency response, local emergency management activities require that critical items, such as warning sirens, protective equipment, and response plans be in place. The Army and FEMA also fund joint training exercises that

⁵The Assistant Secretary of the Army (Installations and Environment) has policy, guidance and oversight responsibility for CSEPP in coordination with FEMA. The U.S. Army Soldier and Biological Chemical Command is responsible for the management and execution of the on-post activities while FEMA is responsible for the management and execution of the off-post activities.

bring together the personnel, equipment, and response plans to practice emergency response preparedness. To illustrate, figure 1 shows three scenes around a decontamination unit during (training) exercises at Anniston, Alabama on March 2, 2001 and Umatilla, Oregon on May 8, 2001.

Figure 1: Practicing Decontamination of a Victim of a Chemical Accident During Anniston, Alabama, and Umatilla, Oregon, Communities' 2001 Exercises



Preparing a victim for decontamination at Anniston, Alabama



Decontamination tent ready for victim at Umatilla, Oregon



Monitoring for chemical agent on responder at Umatilla, Oregon

Source: FEMA.

The off-post emergency preparedness program is linked to the demilitarization program through its budget and in two other ways. First, the emergency program is designed to protect the public from a chemical emergency while the chemical weapons are in storage and during the demilitarization process. The public faces the highest risk when the stockpile is in storage because that is when the greatest amount of agent is present. When the destruction of the stockpile munitions begins, the risk to the public begins to decrease as the stockpile diminishes. When the destruction of the chemical weapons at a site is complete, the risk is gone and CSEPP funding for local preparedness ceases.

Second, certain CSEPP and demilitarization program conditions must be met before states will agree that it is safe to begin the destruction operations. If state officials do not believe they have a satisfactory level of emergency preparedness, it will be difficult for the Program Manager for Chemical Demilitarization to begin destruction of the chemical weapons at a stockpile site. This linkage between the demilitarization and the emergency preparedness programs has thus set the official date that a state must be fully prepared for a chemical emergency as the date when the demilitarization process is scheduled to begin. If a state is not prepared and thus delays the start of demilitarization operations, it will cost the Army millions of additional dollars to pay contractors and support the facility.

The Army, FEMA, and the states continue to use the projected start of demilitarization at each facility as the goal for having the needed critical items in place at the local communities near the stockpiles. Furthermore, this date also guides their program management and funding priorities. Likewise, this date matches either state law or planning goals linking the start of demilitarization operations with CSEPP readiness. For example, Oregon requires the governor to officially sign a statement that emergency preparedness at Umatilla is adequate before operations there are authorized to begin. Officials in other states also told us that similar emergency preparedness initiatives need to be completed before demilitarization operations begin. Without state officials' agreement that their emergency preparedness is complete, the Army will not be able to begin demilitarization operations.

Funding Needed for Critical Items Exceeds Projected Costs

CSEPP's funding needs have continued to grow since 1997, after the Army said that the states would have all critical items in place by the end of 1998 and that, in particular, procurement funding requirements would diminish soon thereafter. Funding has generally been in line with the Army's estimates of total needs through fiscal year 2000, but the program has already spent nearly all the procurement funds that had been estimated as needed through fiscal year 2010. The Army and FEMA are recalculating cost estimates for fiscal years 2003-07, but according to information provided by FEMA and the states, even this revised estimate will not include money for all needed items. According to the Army's and FEMA's financial documents, through the end of fiscal year 2000, the states received about half of the total CSEPP funding. But they have received different amounts because they each have different needs.

State Requirements Are Greater Than Program Cost Projections

FEMA officials told us that the Army has generally funded the CSEPP program in line with the Army's life-cycle cost estimate and program cost projections, but they added that these projected amounts are less than past and current individual state requirements. For example, the states have requested unfunded critical items that exceeded the procurement funding that the Army predicted. To illustrate, through fiscal year 2000, the Army provided almost 88 percent of the total procurement expenses projected through fiscal year 2010. (See table 1.) Our review shows that needed procurement funding will exceed the amount estimated for fiscal years 2001-10. In contrast, during fiscal years 1988-2000, the program spent just over 53 percent of the total projected operation and maintenance funds.

Table 1: Comparison of CSEPP's Actual With Projected Funding Amounts

Dollars in millions			
Fiscal years	Operation and maintenance	Procurement	Total
Actual funding			
1988-2000	\$509.0	\$252.7	\$761.8
1999 Working life-cycle cost estimate			
1988-2010	\$948.2	\$289.1	\$1,237.3
Percent spent			
1988-2010	53.7	87.4	61.6

Source: Our analysis of funding data provided by the Department of the Army, Program Manager for Chemical Demilitarization, and the U.S. Army Soldier and Biological Chemical Command. The 1999 Working Life Cycle Cost Estimate was provided by the Army Program Manager for Chemical Demilitarization.

FEMA and the Army rely on the states and local communities to initiate funding requests. However, since the eventual funding decisions flow from the Army's budget process, the states and FEMA have found it difficult to fund any newly identifiable requirements or other valid program needs once the budget is set. Such added costs to the program arise when unanticipated critical needs are asked for by the states on the basis of unforeseen rapid population growth around some chemical storage sites or when some critical items have needed unexpected repair or replacement.

The Army's budget for CSEPP is part of the Department of Defense's overall program, planning, budgeting, and execution budget process,⁶ which entails long planning request lead times. The lead time for projecting budget requests is 18 to 24 months beyond the time required for a particular item or funding need. FEMA and the states and local communities have not always adequately planned for anticipated and replacement needs and have had many unanticipated needs arise within this budget window. For example, some new and unanticipated CSEPP requests were not included in the Army's and FEMA's budgets for fiscal years 2002 and 2003 because the Army's budget is already set and cannot be expanded. As a result, when budget cost estimates and funding are below the program's actual requirements, FEMA and Army officials told us that FEMA has had to delay or spread out funding for some critical items. When FEMA and Army officials have to deny such funding requests, or so-called "unfunded requests," from the states because funds are not available, they deny the states and local communities the opportunity for reaching full preparedness by not providing needed critical items in a timely manner.

Correspondingly, if the Army and FEMA do not assist the states and local communities in accurately identifying requirements in a timely matter and determining the appropriate levels of funding, the states may not be fully prepared when chemical demilitarization is set to start. Any delay in achieving full preparedness could, in turn, delay the start of chemical demilitarization operations and would potentially cost the Army millions of dollars and jeopardize meeting the 2007 deadline. This unacceptable scenario may call for increased federal funding and funding in a more timely fashion.

⁶The Department of Defense uses this process as its primary decision structure to determine program costs and requirements.

New Life-Cycle Cost Estimate Understates Future Requirements

The Army, with the assistance of FEMA and the states, began updating the CSEPP life-cycle cost estimate in March 2000 and recalculating cost estimates for fiscal years 2003-7. Army and FEMA officials said that the estimate would increase by about \$90 million. Though the revised cost estimate was not available to us at the time of our review, FEMA and state officials told us that not all the critical items that states will require nor the associated funding for all needed items were included. Our discussions with federal, state and local CSEPP officials identified several items, costing at least \$50 million, which were not included in the projected procurement funding requirements. State officials told us that because of population growth and unexpected equipment replacement needs, they were not able to anticipate these critical needs. Such unfunded items include a communications system for the counties and the state of Oregon, the overpressurization of facilities in Alabama, and highway reader boards (signs) in Indiana. FEMA officials told us they would try to add additional funding needs to the revised cost estimate this summer. However, it is unlikely that these additions will include all of the items needed in the near future. These needed items have to be funded through new appropriations. Though FEMA and the Army have some discretion to reprogram or reallocate some funds for newly identified CSEPP needs, this discretion is limited, and there are few available funds to reprogram to meet unfunded requests.

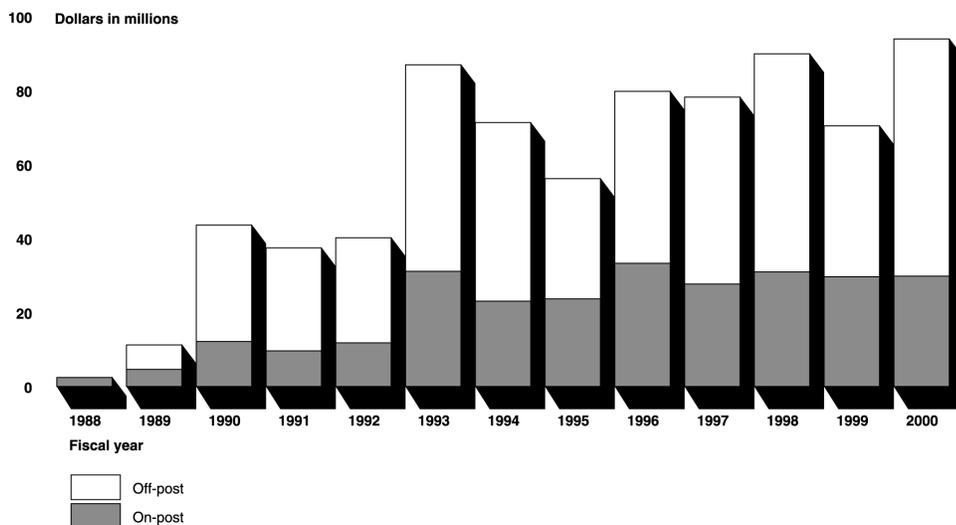
In many cases, personnel in the local communities do not have adequate experience and training to understand, identify, and prepare requests to meet federal and state budget and cost estimates. Thus, FEMA officials told us that state and local CSEPP officials have not always adequately identified the critical items they will need. As a result, the latest cost estimate is not sufficient to fund all critical items, and funding for the program will have to be increased in order to procure all needed items to achieve full preparedness.

Most CSEPP Program Funds Support Off-Post Activities

Since the inception of the CSEPP program in 1989, the Army has provided \$761.8 million in funding. As figure 2 shows, the CSEPP off-post program has received the bulk of program funds since its inception and is growing. Most of the growth in program costs has been in FEMA's off-post program, while funding for the on-post program has stabilized at about \$30 million annually since fiscal year 1993. Typical on-post-funding requirements include alert and notification and communication equipment, as well as emergency operations personnel and training expenditures. Likewise, off-post funding requirements encompass similar expenditures plus public awareness activities and exercises. The Army's

on-post activities received \$270.2 million, or about one-third of the funding, and FEMA's off-post activities received \$491.6 million, or about two-thirds. Of the total off-post amount, the states received about three-fourths, or \$368.9 million, and FEMA used the rest to fund its activities and to purchase items for the states. (See app. II for further information on CSEPP funding amounts and procedures.)

Figure 2: CSEPP's Funding by On- and Off-Post Activities, Fiscal Years 1988-2000



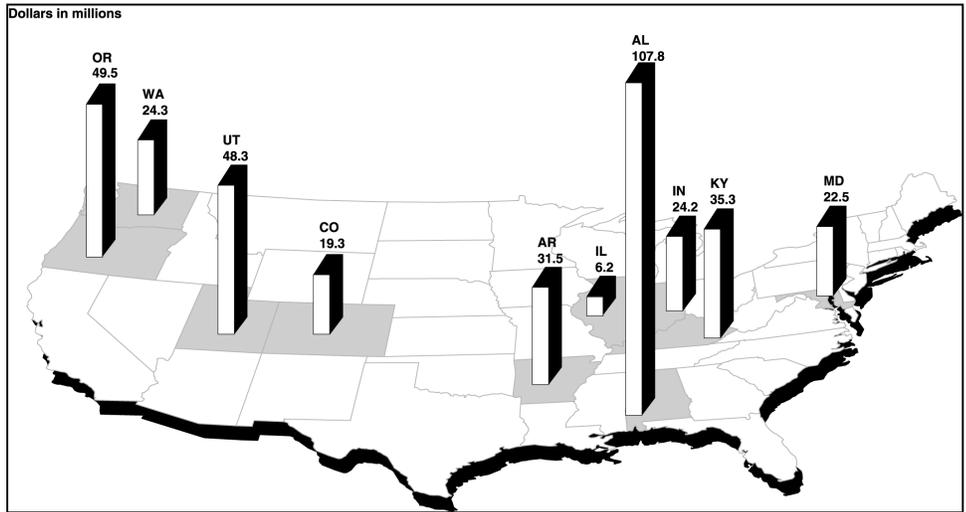
Note: The Army's on-post program began in fiscal year 1988, while FEMA's off-post program was first funded in fiscal year 1989.

Source: Our analysis of the Army funding documents provided by the Army Program Manager for Chemical Demilitarization and the U.S. Army Soldier and Biological Chemical Command and FEMA. In addition, both the Army and FEMA verified the amounts provided by the Army to FEMA.

States Received Different Amounts

The states received varying amounts of funding ranging from a low of \$6.2 million for Illinois to a high of \$107.8 million for Alabama. (See fig. 3.) Because each state had different emergency response capabilities when the program began, FEMA uses the principle of "functional equivalence" to guide resource allocation. Under this principle, FEMA provides each state or local community with adequate assets to meet a level of response capability agreed to by FEMA, the Army, and the states. Thus, FEMA and the Army provide the states with levels of funding support according to their requirements and mutually agreed-upon needs. For example, each state should have emergency warning sirens; however, the number and location of these sirens would depend upon local conditions and requests.

Figure 3: Total CSEPP Funding by State, Fiscal Years 1989-2000



Note: The above amounts represent a combination of actual expenditures and available funding. See table 2 in appendix II for more detail on the funds the states received.

Source: Our analysis of funding data provided by FEMA's headquarters, the six FEMA regional offices, and the 10 states.

CSEPP Has Enhanced Emergency Responsiveness, but Most States Still Not Fully Prepared

The Army and FEMA have made significant progress in the last 4 years in enhancing the states' emergency preparedness. Three of the 10 states are fully prepared to respond to a chemical emergency, and 4 others are close to being fully prepared. (See app. III for more details on each state's status.) In 1997, none of the states had attained all of the items deemed necessary to respond to a chemical emergency. Despite significant improvements in these states, more work is needed at the remaining three states where issues about some critical items are still unresolved. One of the counties in Alabama, Calhoun, has no agreed-upon response plan and has not informed the public about the actions they may be directed to take. This situation raises the question whether the county will be able to adequately respond to a chemical emergency. Additionally, some state and local emergency management officials indicated that until critical items are in place, they will not support the Army's initiation of the destruction of chemical weapons at the stockpile site in their communities.

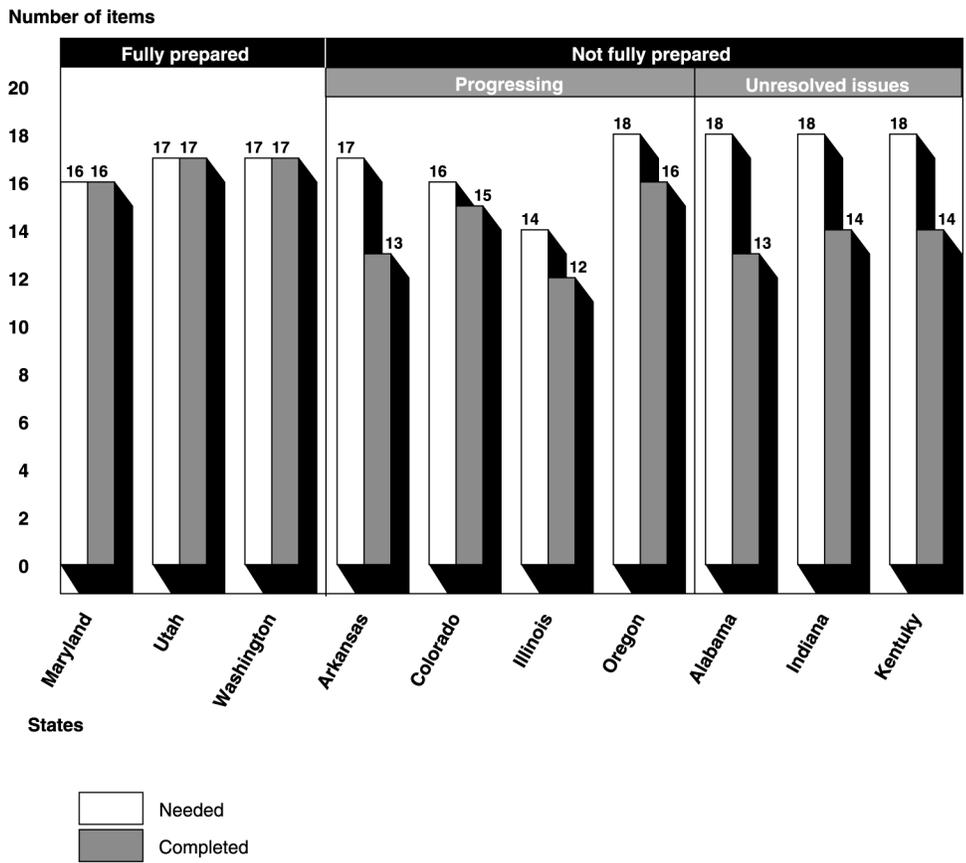
Three States Now Fully Prepared

All the locations we visited indicated that their program has improved since our June 1997 report. In 1997, none of the 10 states had attained all of the program's critical items considered necessary for emergency preparedness; now 3 of the 10 states have. (See fig. 4.)

The three states (Maryland, Utah, and Washington) considered fully prepared to respond to a chemical emergency individually cited several reasons for their program's success. For example, Maryland and Washington state and local CSEPP officials indicated that their state had an extensive disaster control program in place prior to CSEPP because of their involvement in the Radiological Emergency Program.⁷ In addition, the Maryland state CSEPP director told us that an active cooperative community effort, such as participation in integrated process team meetings, helped CSEPP achieve its goals in Maryland. Utah's and Washington's CSEPP officials indicated that communications, cooperation, teamwork, and interpersonal relationships are the root of their success in implementing CSEPP. Additionally, Washington state's CSEPP officials cited the inclusion of state and local CSEPP officials in the budgeting process as contributing factors to the program's success. These three states, like the others, have ongoing needs for equipment upgrades, equipment replacement, and/or expanding response capability. For example, additional equipment such as sirens may be required to accommodate a change in population growth. (For further information about these additional needs in each state, see app. IV.)

⁷Because of the proximity of communities in Maryland and Washington to nuclear power plants, those states follow federal guidelines issued by both the U.S. Nuclear Regulatory Commission and the Federal Emergency Management Agency.

Figure 4: Status of CSEPP-Funded Critical Items by State, February 2001



Note: States require different numbers of critical items to achieve a fully prepared emergency response capability.

Source: Our analysis of data provided by FEMA, the Army, and state and county emergency management agencies.

Four States Are Close to Full Preparedness

Four states (Arkansas, Colorado, Illinois, and Oregon) continue to lack all the items critical for responding to a chemical emergency. But these states have plans and actions in place to acquire the needed critical items by 2003. FEMA has either funded the items or has taken action to bring the states into compliance with CSEPP guidance. In some cases, the items are currently being distributed. Accordingly, we judged these states to be progressing toward performance goals and full preparedness.

- Arkansas still has gaps in four of its critical items. For example, not all of the personal protective equipment has been distributed to the emergency

responders. Additionally, two overpressurization projects⁸ will not be completed until August 2002. The current tone alert radios⁹ do not work as intended and need to be replaced, and not all medical response personnel have received the necessary CSEPP training.

- Colorado is in the process of distributing its tone alert radios. Once Colorado completes this distribution effort, it will be considered fully prepared.
- Illinois still has capability gaps in two of its critical items. Although FEMA approved funding for 40 tone alert radios in February 2001, they have not yet been delivered and distributed. And only one of three hospitals participating in the program has a full supply of antidote.
- Oregon still has capability gaps in two of its critical items. The current communications system is cumbersome to use and does not meet CSEPP's standards. A recent proposal to over-pressurize five facilities is under review. Although not an item included in the assessment of CSEPP's preparedness by the Army and FEMA, the state also wants monitoring equipment to analyze an area to determine if it is safe to enter after a chemical accident.

Three States Lack Many Critical Items and Have Major Unresolved Issues

The remaining three states (Alabama, Indiana, and Kentucky) do not have several critical items in place. It will require a major effort by the Army, FEMA, and the states and their communities to have them in place in the near future because the states have many unresolved issues concerning these outstanding critical items. If these issues are not resolved shortly, the start of demilitarization operations may have to be delayed. Army efforts to destroy the stockpile within the Chemical Weapons Convention's mandated time frame may also be compromised. For example, plans are for the Anniston, Alabama, site to be operational by March/April 2002—some 9 to 10 months from now—requiring all critical items to be in place by this date. Among the unresolved issues facing the three states are controversies surrounding what facilities to over-pressurize, the number of

⁸An overpressurization system creates a higher air pressure inside a building so that no outside air can enter the facility. This device allows people to remain safely inside during a chemical accident.

⁹A tone alert radio transmits to households in a response zone information about the protective action they are to follow. They are placed in all houses and transmit the same information as sirens in the zone.

highway reader boards to order, the number of shelter-in-place kits to order, and the strategy for both evacuation and sheltering in place. Delays have been attributed to issues such as (1) complicated projects that were initially managed at the local level but were later assigned to a more experienced entity to manage and (2) the lack of timely federal response to requests.

- Alabama has major unresolved issues with FEMA and the Army and is lacking five critical items (overpressurization, tone alert radios, coordinated plans, CSEPP staffing, and shelter-in-place kits). There are unresolved issues with two of these five items. Specifically, Army's, FEMA's, and Alabama's CSEPP officials have not agreed on how best to address the state's overpressurization projects and its coordinated plans. State officials told us that Calhoun County and FEMA have not agreed on the number of facilities requiring overpressurization systems. FEMA is planning to over-pressurize some portion of 28 different facilities but has funded only eight of these projects. FEMA advised us that it believes an additional request by Calhoun County is without merit and not supported by science. The issue of coordinated response plans centers on local preference for a strategy of evacuation. Despite attempts by the Army and FEMA to have the state and Calhoun County officials consider a strategy combining evacuation and sheltering in place, Alabama's overall immediate response zone counties' protective action strategy covered evacuation only. In 1999, the Army funded a study that designed a strategy with both evacuation and sheltering in place.¹⁰ Talladega county, Alabama, uses the study's guidebook to determine its response strategy. However, Calhoun county's CSEPP leaders and FEMA still do not agree on how to incorporate and resource a strategy that includes shelter in place. As a result, Calhoun county has not participated in FEMA's outreach campaign. In addition to five critical items, Alabama is also seeking additional sirens and is considering requesting additional personal protective suits and decontamination equipment. FEMA is in the process of reviewing the request for the additional sirens.
- Indiana is lacking four critical items (personal protective equipment, tone alert radios, mobile highway reader boards, and shelter-in-place kits). Three of these items have been received but they are in storage and will not be distributed until later in the year. Indiana has an unresolved issue

¹⁰ *Alabama CSEPP Protective Action Recommendation Guidebook*, Innovative Emergency Management, Inc. (Baton Rouge, La., Feb. 15, 2000).

with its capability to use highway reader boards. According to state CSEPP officials, the state had proposed using the Indiana Department of Transportation's mobile reader boards during a chemical emergency. However, the transportation department decided that it could not share its reader boards with CSEPP. Now, Indiana's CSEPP managers say they need additional funding to purchase reader boards for CSEPP. According to FEMA officials, the agency has not received a request for highway reader boards. Indiana is also seeking additional sirens and FEMA is in the process of reviewing this request.

- Kentucky is lacking four critical items (overpressurization, tone alert radios, coordinated plans, and medical planning). CSEPP officials and FEMA have yet to resolve the issues involving overpressurization, coordinated plans, and medical planning. Although two schools and one hospital will be over-pressurized, state officials have identified at least another 35 facilities that will require additional protection. FEMA and state and local CSEPP officials have not agreed on the number of facilities and type of protection they need. FEMA officials said the U. S. Corps of Engineers has studied the need for overpressurization and will recommend the number of facilities. Also, the state and counties are using draft plans that have not yet been approved by state CSEPP officials. Additionally, not all of the 13 hospitals that participate in the program have the needed chemical antidotes. FEMA has not decided whether it will provide funding to fully resource these hospitals. In addition to these four items, Kentucky is seeking additional personal protective equipment, decontamination equipment, and sirens. FEMA is in the process of reviewing the request for these additional items.

States Want Emergency Response Programs in Place Before Destruction of Chemical Weapons Begins

Army and state CSEPP officials were concerned that without an approved CSEPP response capability, states will delay the issuance of environmental permits needed before the destruction of chemical weapons can take place. In August 2000, the governor of Oregon appointed an executive review panel to evaluate whether an adequate emergency response program was in place and fully operational for any emergency arising from the storage or destruction of chemical weapons at the Umatilla Chemical Depot.¹¹ The panel is expected to provide an interim recommendation in

¹¹The Oregon Executive Review Panel's membership consists of representatives from Umatilla and Morrow Counties, the States of Oregon and Washington, first responders, mayors, Citizens Advisory Commission, Oregon Health Department, Environmental Quality Commission, the Department of Environmental Quality, Oregon state police, Confederated Tribes of Umatilla Indian Reservation.

June 2001 and a final recommendation in October 2001 on whether the governor should certify CSEPP as fully effective and operational. State CSEPP officials were concerned that the lack of a CSEPP-approved tactical communications system and the state's need for equipment to monitor for chemical agent will delay the issuance of environmental permits in that state. FEMA officials however told us they had approved funding for equipment to monitor for chemical agent.

Although Alabama does not have a CSEPP certification requirement, state and county CSEPP officials told us they will not support the Army's goal to begin the destruction phase of the chemical demilitarization program until critical CSEPP items are in place and fully operational. CSEPP officials in Indiana and Kentucky expressed similar sentiments. The Program Manager for Chemical Demilitarization has gone on record as being committed to addressing local communities' concerns regarding CSEPP's readiness to avoid delays in the start of demilitarization operations.

FEMA's and Army's Management Relations Have Improved, but Relations With Some States Are Still Poor

The Army and FEMA have improved their joint management of CSEPP since our 1997 report, which found that no state was fully prepared and cited several major management weaknesses. Since then, the Army and FEMA have acted upon our recommendations. They have improved their working relations with each other and have more clearly defined their individual roles and responsibilities. They have not, however, been as successful in their working relations with states and local communities. FEMA, in particular, has not always taken a proactive approach to helping states and their local communities with technical support, using best practices, and disseminating information. FEMA has not provided as much guidance as it could to help local communities fully understand all critical aspects of the program. Thus, the local communities have not been able to take advantage of all available resources, maximize coordination and efficiency, and assume their place as full partners in the program. Additionally, the national benchmarks and accompanying planning guidelines for interpreting and assessing the program's progress are unclear. As a result, communities interpret the benchmarks differently and apply different measures of capability. Moreover, the Army and FEMA have failed to provide enough guidance on an essential element of the program—reentry to areas potentially contaminated by chemical agents. This lack of program guidance has caused uncertainty and concern among state and local CSEPP officials.

Federal Management Problems Have Been Addressed

Since we reported on a number of management problems with CSEPP in 1997, FEMA and the Army have made considerable progress in how they work together.¹² Among the problems we reported on were that (1) management roles and responsibilities were fragmented between Army and FEMA offices and were not well defined, (2) planning guidance was imprecise, (3) the budget process lacked coordination and communications, and (4) financial data and internal controls were inadequate. Partially in response to our recommendations, in October 1997 they signed a new memorandum of understanding that clarified their roles and responsibilities in the program. This arrangement has greatly reduced conflict in their direction and guidance of oversight. They also revised benchmarks that are used to identify local communities' needs and progress. In addition, they use national planning guidance to shore up their efforts to enhance accountability and performance.¹³

Since 1997, the Army and FEMA have both been placing greater emphasis on public awareness and readiness campaigns. For instance, FEMA has helped local communities establish procedures for the dissemination of accurate and coordinated information in case of an emergency, and it has established an "integrated process team" at each storage site to obtain community input into initiatives. Also, FEMA and the Army have established a site on the World Wide Web that provides a list of materials that an emergency manager or planner can consult for basic information about the program, including technical reports and publications. The Army and FEMA have not, however, been able to develop the effective working relations with all states and local communities that they developed with each other.

FEMA and the Army Not Always Proactive in Providing Technical Assistance

FEMA and the Army have not been proactive in providing some much-needed technical assistance, advice, and budget guidance. This void left some state and local CSEPP officials in seven states without assistance in areas where it was clearly needed. Three states and their communities are still experiencing trouble carrying out their roles and have unresolved issues. For example, many local CSEPP officials do not have either the training or substantial expertise in chemical weapons, budgeting, or the acquisition of very specialized high-tech equipment needed for emergency

¹²See [GAO/NSIAD-97-91](#).

¹³See *Planning Guidance for the Chemical Stockpile Emergency Preparedness Program* (CSEPP, May 17, 1996).

response systems. Yet in spite of complaints by some local CSEPP officials that they need more and better technical and budgetary assistance, Army and FEMA officials have not always reached out to help communities learn what they need, how to get it, or, most importantly, who they can turn to for assistance. Army and FEMA officials said that they have provided both general and specific information on many of these topics via training opportunities, publications, and copies of exercise reports. But because they view the program as primarily a state-managed endeavor, they also normally rely on the state and local community officials to ask for such assistance.

We found a number of cases where FEMA did not offer specific technical assistance when local CSEPP officials were having difficulties with complicated administrative processes or were unaware of available options to meet requirements. For example, several local community officials said they were unaware that various radio communication systems (tone alert radios) and alert and notification (sirens) options are available or that different states had varying experiences with contractors. Similarly, various state officials said they needed additional technical risk assessment assistance from the Army and FEMA to evaluate the toxic properties of various stored chemicals and the potential adverse exposure effects they may have on humans.¹⁴ Furthermore, several local community officials said that unfamiliarity with federal contracting procedures and accounting practices have caused unnecessary program delays and confusion. Particularly in the case of CSEPP's budgeting matters, the lack of assistance and guidance has created delays in requesting needed items. Many local CSEPP officials told us they still do not understand how the Army's budget process works and how to plan ahead for future requirements and acquisitions. Without accurate and timely estimates, program officials have difficulty determining how much funding they will need and when they will need it.

We recognize the need for the Army and FEMA to give states and local communities both flexibility and sufficient independence in carrying out their programs. However, we believe that the Army and FEMA also have a responsibility to fully inform state and local CSEPP officials of the types of assistance the federal government is able and willing to provide. The FEMA officials we spoke with agreed that some local CSEPP officials may

¹⁴The National Resource Council is studying air borne chemical agent exposure limits for the Army.

not know of the types of assistance available, but said they had, in most cases, responded to the local officials' needs. FEMA officials said that, starting in January 2001, they began to formally educate state and local officials on budgetary issues through a seminar. However, this single seminar did not reach all CSEPP staff in the states and local communities and will need to be repeated. In commenting on a draft of this report, FEMA said it is providing other budgetary assistance and guidance in the form of additional instruction on topics such as federal grants and financial processes. Most of these new initiatives had not been fully implemented at the time we ended our review.

Ineffective Dissemination of Information and Best Practices

Although FEMA and the Army have both been placing greater emphasis on public awareness campaigns, they have not always carried out effective public information or awareness campaigns about CSEPP in local communities. As a result, communities in some states are openly hostile or suspicious of the overall aims and goals of the program and do not see it as their own. Furthermore, FEMA has not taken the lessons learned from some of the more successful states and applied them elsewhere to avoid public relations problems or to increase overall understanding and acceptance of the program.

One prime example of such problems has been the controversy in Alabama over two different types of responses to a chemical emergency: "shelter in place," whereby people seek shelter in whatever building they are in and take specific protective actions, and evacuation, which involves leaving an area of risk until the hazard has passed and the area is safe for return. Alabama's local CSEPP communities had only planned for evacuation for years. The Army funded the production of a guidebook published in 2000 that provides emergency personnel with step-by-step instructions to evacuate or shelter in place in the event of a chemical accident or incident at the Alabama storage site. County officials claim that the Army and FEMA have been trying to use the guidebook to persuade them to adopt shelter-in-place strategies without addressing several outstanding safety issues. The Army, which funded the guidebook through FEMA under an existing Army contract at the request of the state and counties, initially refused to endorse or assume any ownership of the study. However, the Army acknowledged that local communities' continued reservations to the idea of sheltering in place raised questions about the whole CSEPP concept of sheltering-in-place. It has now formally supported the guidebook, provided that its use does not hamper the Army's ability to meet mandated alert and notification times to the off-post

community. The Army also announced that it would evaluate the assumptions and scope of the guidebook for correctness and applicability.

Much of the controversy surrounding the study and its recommended response strategy of sheltering or evacuation was due to poor relations with the Calhoun county CSEPP officials. FEMA and Army officials did not have a “partnered” strategy with local community participants and a coordinated public information initiative on the study, thus causing a public relations problem that placed both agencies on the defensive and in a reactive, rather than proactive, mode. FEMA has had other controversies that led to similar public relations problems, though not as severe, in Indiana, Kentucky, and Oregon. At various times, some local community leaders have been advocating a greater proactive role by the Army and FEMA in public relations and team-building initiatives for the program—not just for emergency planning, but also for the decision-making process that comes before the planning and that requires local CSEPP officials’ involvement, support, and ownership. Strategies that include resources for proactive information campaigns can be very effective in building local CSEPP officials’ ownership.

FEMA has rarely leveraged the lessons learned from some of the more successful state efforts and applied them elsewhere to increase effectiveness while avoiding public relations problems. An example of a successful approach that has not been used is FEMA’s very positive experience in Oregon, where innovative management schemes and practices were implemented to improve coordination, services, and local community participation. We recommended such program coordination in our 1999 report identifying strategies and results-oriented organizational frameworks for enhancing the program’s implementation in Oregon.¹⁵ There, FEMA and the state of Oregon placed both of their CSEPP representatives inside the local community (rather than at state or regional headquarters) to provide a concrete and daily presence that is both reassuring and more immediately effective. In addition, the state of Oregon has organized a governing ruling board—composed of all key state and local CSEPP officials—to provide more direction, coordination, and oversight at the local level. All the Oregon CSEPP community participants we spoke with expressed great satisfaction with this arrangement and feelings of accomplishment, thanks to the new organizational structure.

¹⁵See *Chemical Stockpile Emergency Preparedness Program for Oregon and Washington* (GAO/NSIAD-00-13, Oct. 26, 1999).

Although FEMA is not actively considering setting up or endorsing similar structures elsewhere, officials said they had explored such an arrangement in Alabama.

FEMA also has no plans to disseminate best practices or lessons learned among the different states and communities. The Army and FEMA use the quarterly meetings of CSEPP's State Directors and annual gatherings of all CSEPP stakeholders as an opportunity for participants to share information and experiences. Only recently, in November, 2000, did FEMA create a public affairs team to recommend ways to ensure that the public is aware of protective action strategies. In addition, FEMA provides an inventory of literature that may have implications for emergency preparedness on a Web-site. This is not enough. If FEMA had a more timely, proactive approach to sharing lessons learned with all 10 states and had taken the initiative to apply them where unresolved issues were slowing progress, the program would be farther along. A more proactive management approach to share and apply success stories, such as with special tone alert radios purchased by Arkansas, may have helped resolve issues in Indiana.

Performance Measures Vary Because Guidance Is Inconsistent and Not Standardized

The benchmarks FEMA uses to measure performance are not defined consistently in the national planning guidance and in FEMA's policy papers. The information about the benchmarks in these documents cannot be fully reconciled and used for measuring compliance. Additionally, FEMA officials told us that the benchmarks were not evaluated with the same standards in all states. This makes it difficult to measure and compare performance or accountability and to identify requirements correctly to assist in budgetary determinations.

The new and revised national benchmarks that FEMA issued in August 2000 identify both the items and processes necessary for full chemical emergency preparedness. Also in 2000, FEMA and the Army issued supplementary information (policy papers) to the national planning guidance for the development of local emergency response plans. However, the 1996 guidance does not consistently match the definition of terms in the revised benchmarks. Furthermore, the guidance for measuring compliance with the benchmarks (known as "community profile" guidance) is not always internally consistent. For example, one benchmark says that communities must have a "functioning communications system" (so emergency personnel can talk to one another) and another mentions a "functioning alert and notification system" (to alert citizens of an emergency). But the community profile

guidance does not specify what constitutes a functioning item, and the 1996 guidance cannot be traced to the definition of terms in the revised benchmarks to determine what constitutes a functioning item.

The Army and FEMA believe that states are in the best position to determine their priorities and requirements. They cite “functional equivalency”—the concept that it is not necessary to provide every local community with identical assets and resources, as long as the community’s basic emergency management capabilities meet CSEPP’s guidance. Thus, CSEPP policy allows benchmarks to be modified from state to state as appropriate to address any unique community circumstances. In some cases, however, states do need clarification on the benchmarks and additional guidance in order to perform their responsibilities. For example, at least three states (Alabama, Indiana, and Kentucky) have had problems interpreting some of the benchmarks for 2000. And because there is limited guidance on how to measure the local communities’ compliance with the benchmarks, state and federal assessments are not standardized. Alabama, Oregon, and Utah, for example, use different grading systems to measure local community compliance. At the same time, FEMA’s regional offices have, at times, used their own and different criteria for measuring compliance. Some state officials expressed concerns about the lack of standardization of benchmark measurement. For example, about the possible adverse effects that this unevenness may have on funding in states with more rigorous standards.

FEMA and the Army Have Not Completed Key Planning Guideline

One of the areas where the Army and FEMA do not agree concerns planning guidance for what is known as “reentry.” Reentry is the process of determining if and when it is safe to return to a contaminated area or leave shelters after a chemical accident. In 1996, we reported that the planning guidelines for reentry were missing and needed to be developed. Although the Army did develop draft guidance in 1997, 5 years later no site-specific guidelines for reentry have been distributed or used. Additionally, we found that no one at FEMA knew of generic (not site-specific) guidance issued by the Army in 1997. Neither the Army nor FEMA has endorsed or funded any technical or support studies to assist local communities in planning for reentry. Currently, a working group,

composed primarily of state, local, and installation planners, is studying reentry and recovery.¹⁶

The Army believes it has provided an adequate comprehensive framework to communities for developing site specific plans to address reentry in any given scenario. It said it has conducted classroom simulation exercises on reentry with some communities. However, we do not believe the guidance or exercises are sufficient. The guidance is not site-specific, and the exercises are tabletop—not on-the-ground exercises—and have been limited in number. State and local CSEPP officials do not agree that the Army has provided sufficient guidance for their planning purposes.

The principal reason for inaction is a disagreement over whether reentry is in fact part of the initial response to a chemical stockpile emergency, and therefore part of CSEPP. If it is not considered an element of CSEPP, then it is exclusively under the purview of the Army. While FEMA has been largely noncommittal on the issue, Army officials insist that reentry must be implemented and planned by the Army's Service Response Force,¹⁷ with assistance from state and local officials. Army officials also believe that because every emergency is different and unpredictable, there is no way to assess local preparedness for reentry or make specific reentry plans until an emergency actually happens. State and local CSEPP officials disagree with the Army and have been working together on an interim conceptual plan.

A 1994 planning concept paper on recovery from a chemical weapons accident was prepared for the Army. But it contained only limited public awareness information and no guidance based on it was distributed to the states and their communities. The only guidance prepared by the Army has not been distributed to the CSEPP community nor to FEMA officials we interviewed. Furthermore, the guidance does not address the local CSEPP officials' concerns. The Army and FEMA have, thus, left unanswered a number of questions on such issues as participants' roles and responsibilities, effective monitoring and verification schemes, and the appropriate types of protective clothing that would be required.

¹⁶ FEMA did not create this working group until December 2000, near the end of our review. The group has formed five subcommittees to develop policy recommendations.

¹⁷ An emergency response organization commanded by a general officer tasked with performing and sustaining the Chemical Accident/Incident Response and Assistance plan.

Conclusions

While the Army and FEMA have made considerable progress in assisting state and local communities to be fully prepared to respond to a chemical emergency, thousands of people who live near at least three of the eight chemical storage sites are still at a higher risk of exposure to a chemical accident than necessary. Since the Army and FEMA have not always actively assisted the states in determining their local communities' CSEPP needs, seven states have not been able to provide local emergency responders with all the necessary items. Of these seven, three are still seriously unprepared to respond to a chemical accident. The Army may not be able to begin destroying its chemical agents at two of these sites on schedule unless further improvements are made in the emergency preparedness of those communities. As a result, residents will face higher risks for a longer period, the Army may incur millions of additional dollars to maintain the program beyond its projected completion date; and the Army may not meet the Chemical Weapons Convention destruction deadline.

To ensure that communities are safe and that demilitarization can begin on schedule, the Army and FEMA need to move in a timely manner to apply lessons learned and best practices to improve poor working relations with these states and their communities, especially with those where demilitarization of the stockpile is most threatened by delays. These lessons include better guidance to the state and local CSEPP officials in the three states with unresolved issues to determine needed critical items and additional technical assistance to acquire them. In addition, the Army and FEMA need to improve the accuracy of the life-cycle cost estimate for CSEPP so that estimated funding is sufficient to procure all needed items as quickly as possible. They also need to make the measurement of the program's benchmarks consistent in all states to better monitor accountability and identify requirements correctly, and they need to provide guidance and planning for reentry to all states and their communities.

Recommendations for Executive Action

We recommend that the Secretary of the Army and the Director of the Federal Emergency Management Agency adopt a more proactive approach to improve working relations with Chemical Stockpile Emergency Preparedness Program states and communities. Better relations would help assure the states and their communities that all the necessary actions will be taken to fully prepare them and keep them prepared to respond to a chemical accident. Specific actions should (1) provide technical assistance, guidance, and leadership to the three states with long-standing issues to resolve their concerns, especially Alabama and its issues with

sheltering-in-place, evacuation, and the collective protection of facilities; (2) provide all states and their communities with training and assistance in preparing budget and life-cycle cost estimates and guidance and plans on reentry; and (3) establish specific measures of compliance with the benchmarks to more evenly assess performance and to correctly identify requirements.

Agency Comments and Our Evaluation

In commenting on a draft of this report, the FEMA and the Army generally concurred with our recommendations.

In its comments, FEMA focused on the “need to capture and share lessons learned and best practices” with local communities and cited a series of very recent initiatives it has undertaken to do so. However, FEMA’s characterization of this issue as one of our key concerns is incorrect. Capturing and sharing lessons learned and best practices is only one of several areas in which we believe FEMA and the Army need to become more proactive. These include providing technical assistance, planning guidance, and outreach.

FEMA also disagreed with our finding that three states are not fully prepared to respond to a chemical emergency and claimed that the tables in appendix III and IV show that all states are indeed fully prepared. FEMA claimed that “the language in the body of the report does not accurately reflect the GAO findings displayed in Appendix III and IV.” We disagree. As our report and the tables in the appendices clearly show, seven states do not have all the critical items they need to have in place and functioning in order to respond to a chemical emergency—as FEMA’s own criteria (in CSEPP guidance and in FEMA’s benchmarks) clearly state that they should. The three states in question, furthermore, are even farther behind in their preparedness than the other four. Furthermore, in its comments, FEMA also acknowledged that Calhoun county, Alabama, is “far from being fully prepared.”

The Army’s comments are included in their entirety in appendix V. FEMA’s comments are reproduced in appendix VI.

We are sending copies of this report to the appropriate congressional offices; the Secretary of Defense; the Secretary of the Army; the Assistant Secretary of the Army (Installations & Environment); the Under Secretary

of Defense (Comptroller); the Director, Federal Emergency Management Agency; and the Director, Office of Management and Budget.

Please contact me at (202) 512-6020 if you have any questions. Key contributors to this report were Donald Snyder, Joseph Faley, Bonita Oden, James Ohl, and Stefano Petrucci.

A handwritten signature in black ink that reads "Raymond J. Decker". The signature is written in a cursive style with a long, sweeping underline.

Raymond Decker
Director, Defense Capabilities
and Management

Appendix I: Scope and Methodology

During our review, we interviewed officials and obtained data from the Department of Defense, including the Office of the Inspector General. Within the Department of the Army, we interviewed and obtained data from officials in the offices of the Assistant Secretary of the Army for Acquisition, Logistics, and Technology. In addition, we obtained data from representatives of the Program Manager for the Chemical Demilitarization Program and the U.S. Army Soldier and Biological Chemical Command. Since we recently examined the Army's on-post efforts, we focused our efforts on FEMA's off-post or civilian community activities.¹ Accordingly, we met with officials of and obtained data from FEMA's headquarters and its regional offices concerned with CSEPP. Furthermore, we conducted site visits and interviewed program officials at the Anniston Army Depot, Alabama; Pine Bluff Arsenal, Arkansas; Pueblo Chemical Depot, Colorado; Newport Chemical Depot, Indiana; Blue Grass Chemical Activity, Kentucky; Edgewood Chemical Activity, Maryland; Umatilla Chemical Depot, Oregon; and Deseret Chemical Depot, Utah. We either visited or contacted state emergency management officials in the 10 states involved in CSEPP: Alabama, Arkansas, Colorado, Illinois, Indiana, Kentucky, Maryland, Oregon, Utah, and Washington.

The counties closest to the chemical stockpile storage sites, and therefore the off-post areas most at risk during a chemical accident, are known as the Immediate Response Zone counties. The adjacent counties, and the areas with a lesser risk, are known as the Protective Action Zone counties. Funding and time schedule restraints did not allow us to visit all of these counties. However, we did interview emergency management officials in all of the Immediate Response Zone counties. These counties are: Calhoun and Talladega counties, Alabama; Grant and Jefferson counties, Arkansas; Pueblo county, Colorado; Parke and Vermillion counties, Indiana; Madison county in Kentucky; Morrow and Umatilla counties, Oregon; Tooele county, Utah; and Benton county, Washington. The state of Maryland refers to the at-risk area as the Emergency Planning Zone; we visited and interviewed emergency management officials in Baltimore, Harford, and Kent counties. We also visited and interviewed emergency management officials in St. Clair, Alabama, and Pulaski, Arkansas, both of which are Protective Action Zone counties.

¹See *Chemical Weapons Disposal: Improvements Needed in Program Accountability and Financial Management* (GAO/NSIAD-00-80, May 8, 2000).

To assess FEMA's financial management controls over CSEPP, we traced the funding provided for this program from the Army through FEMA to the states and local communities. We interviewed officials, obtained data, and examined records to determine (1) the extent of CSEPP's off-post funding provided by the Army to FEMA for fiscal years 1989 through 2000, (2) FEMA's use of these funds, and (3) the funding FEMA provided for the 10 CSEPP states. For the fiscal years 1989 through 2000, we reconciled CSEPP's off-post funding that the Army stated it provided for FEMA with the funding that FEMA stated it received from the Army. We similarly reconciled the amount of funding FEMA stated that it provided for the states with the amount of funding that the states stated they received from FEMA. We initially wanted to determine the amount of funding used by each of the 10 CSEPP states in terms of the CSEPP National Benchmarks. However, we found that consistent and reliable data were not available, especially for the earlier fiscal years, from either FEMA or the 10 CSEPP states. We also attempted to determine the further distribution of the funding provided to the states and to the local communities. However, not all states were able to easily provide this information for the earlier fiscal years, so we were unable to report these amounts.

In performing this review, we used the same accounting records and financial reports that the Army, FEMA, and the 10 CSEPP states used to manage and monitor the Chemical Stockpile Emergency Preparedness Project. We did not independently determine the reliability of the reported financial information. In some cases, because of the age of the financial data collected, we had to rely upon oral statements and verified this information to the extent possible and practical.

To determine the status of achieving CSEPP preparedness in communities near the chemical weapons stockpiles and what remains to be done, we started with our 1997 CSEPP report results.² Since our 1997 report, FEMA has established new CSEPP National Benchmarks used to identify the capabilities being funded and for the annual reporting to the Congress. In our 1997 report, we considered 8 critical items and have since then, in keeping with CSEPP's evolving measures, considered 19 critical items during this assessment. In determining our performance measures we, in some cases, identified sub-elements within a benchmark and included reentry. According to Army officials, reentry is not a CSEPP issue. Since

²See *Chemical Weapons Stockpile: Changes needed in the Management of the Emergency Preparedness Program* (GAO/NSIAD-97-91, June 11, 1997).

the Army and FEMA have yet to resolve their positions on reentry, we did not consider it when determining whether a state is fully prepared. We did, however, solicit comments regarding reentry planning from CSEPP managers at the federal, state, and local levels. For our assessment of its status, a state must have all its required items (with the exception of reentry) in place and operational by February 2001 to be considered fully prepared. (See table 4 and table 5 in app. III for a status update.)³

We then obtained FEMA's latest categorization of the preparedness status of the 10 CSEPP states as they relate to these CSEPP National Benchmarks. We then visited each state except Illinois and discussed the preparedness status of its program with the appropriate state emergency management personnel. To the extent possible and practical, we also contacted FEMA personnel from the appropriate FEMA regional offices as well as county emergency management personnel. From this information, we determined the preparedness status of each state's program in terms of how many critical items were in place and determined changes since our 1997 report. We then sent a structured questionnaire to the emergency management personnel in the 10 states to confirm our analysis and obtain their comments.

To ascertain how CSEPP lessons learned are developed and shared among Army, FEMA, and the local communities and how this process might be improved, we initially contacted the Army and FEMA. We discovered that there is no formal, established CSEPP lessons learned process. Accordingly, we asked Army, FEMA, state, and county officials for examples of the lessons learned that they had shared with each other. We also obtained their concerns and opinions about management issues confronting the program.

³Our measure of preparedness was constant for each state. We found that when state and federal assessments of a local community's compliance with the national benchmarks was made, the criteria often varied.

We performed our review from November 2000 through April 2001 in accordance with generally accepted government auditing standards, except for limitations regarding financial information.

Appendix II: CSEPP's Funding and Life-Cycle Cost Estimates

Army Funds the CSEPP Program

Since the inception of the Chemical Stockpile Emergency Preparedness Program (CSEPP) in 1988, the Army has provided \$761.8 million—\$509 million in operation and maintenance funding and \$252.7 million in procurement funding.¹ The Army-managed on-post activities at the eight storage sites received \$270.2 million (one-third) of the total. The Federal Emergency Management Agency (FEMA)-managed off-post activities received \$491.6 million (two-thirds) of the total. The off-post funds are to be used to help the communities surrounding the storage sites in 10 states enhance their emergency management and response capabilities in the unlikely event of a chemical stockpile accident. The Army funds and FEMA manages the procurement of the additional items needed to bring each community to a CSEPP standard of preparedness. The Army has made several life-cycle cost estimates for the program.

FEMA's Use of Off-Post Funds

Of the \$491.6 million provided for the off-post activities, FEMA used \$122.6 million (one-fourth) through fiscal year 2000, including some funds used to support the efforts by the 10 states.² This included \$79.4 million used by FEMA.

- \$29 million of the operation and maintenance funding was used to support FEMA's headquarters and the six regional offices involved with CSEPP.
- \$42.3 million of the operation and maintenance funding was used to support planning, exercises, training, public affairs, and automation efforts being performed by the CSEPP states.
- \$8.1 million in procurement funding was also used to support the CSEPP states' efforts.

In addition, FEMA currently has \$41 million in unissued funding—\$1.9 million in operation and maintenance funding for fiscal year 2000 and \$39.1 million in procurement funding for fiscal years 1998 through 2000. Most of these funds will be issued to the states for their program efforts

¹Operation and maintenance funds are available for obligation for 1 year (2 years starting with fiscal year 2000) and procurement funds are available for obligation for 3 years. Appropriation accounts are closed 5 years after the obligation period has expired.

²Also included in the \$122.6 million is \$2.2 million (\$1.2 million in operations and maintenance funding and \$1 million in procurement funding) consisting of (1) funding that lacks supporting documentation for FEMA funding used in fiscal years 1989 through 1996 and (2) expired funding subsequently returned to the Treasury.

with smaller amounts retained for FEMA's headquarters and regional offices.

The remaining \$368.9 million, or 75 percent of the off-post total of \$491.6 million, was distributed to the 10 states, as shown in table 2. Annually, each state prepares a budget proposal and, in essence, negotiates a level of projects and funding with the appropriate FEMA regional office. Then, the approved budget proposal is forwarded to FEMA's headquarters for further review and approval. Once approved, FEMA's headquarters prepares cooperative agreements with specific activities, funding, and periods of performance for each state. On the basis of these cooperative agreements, FEMA issues funds in increments through the fiscal year to match the state's budget proposal and agreed upon activities. The funding provided is within the Army's life cycle cost estimate. In turn, the states disburse the funds received from FEMA to the various state offices and local communities.

Table 2: CSEPP's Funding by State, Fiscal Years 1989–2000

Dollars in millions											
Fiscal year	Alabama	Arkansas	Colorado	Illinois	Indiana	Kentucky	Maryland	Oregon	Utah	Washington	Total
1989	\$0.1	\$0.1	\$0.1	\$0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0	\$0.8
1990	1.6	4.6	2.2	0.1	4.0	1.0	0.4	1.1	3.7	1.0	19.6
1991	1.3	3.3	1.2	0.2	0.6	0.7	1.2	0.9	1.5	0.6	11.6
1992	5.5	3.5	2.9	0.6	3.8	2.0	0.4	0.6	1.0	0.5	20.8
1993	9.9	1.5	1.4	0.4	0.9	5.3	7.7	8.1	7.0	8.3	50.6
1994	11.5	1.6	1.4	0.8	2.1	5.1	3.7	7.8	5.3	1.3	40.6
1995	16.0	4.7	3.6	0.7	1.3	3.8	3.7	3.9	2.8	3.9	44.4
1996	8.2	2.0	1.6	0.5	1.7	3.4	1.6	2.7	6.9	1.4	30.0
1997	6.0	1.9	1.4	0.6	1.6	4.0	1.5	5.4	4.6	1.7	28.7
1998	6.9	1.8	0.3	0.6	3.0	5.3	0	7.4	4.9	2.0	32.2
1999	34.8	2.5	1.7	1.0	3.2	2.1	0.9	4.4	4.8	1.5	56.8
2000	5.9	4.1	1.5	0.6	2.1	2.5	1.3	6.9	5.7	2.2	32.8
Total	\$107.8	\$31.5	\$19.3	\$6.2	\$24.2	\$35.3	\$22.5	\$49.5	\$48.3	\$24.3	\$368.9

Note: Funding as of September 30, 2000. The above amounts represent a combination of actual expenditures and remaining funds. For earlier fiscal years' appropriation accounts that are no longer available for obligation or are closed, the amounts are actual expenditures incurred. These amounts equate to the funding received less any unused funds returned to FEMA. For appropriation accounts that are available for obligation or open, the amounts represent a combination of actual expenditures and remaining funds available for obligation. In addition, numbers may not total because of rounding.

Source: Our analysis of funding data provided by FEMA's headquarters, the six FEMA regional offices, and the 10 states.

Army funding provided through fiscal year 2000 included \$509 million in operation and maintenance funding and \$252.7 million in procurement funding, as shown in table 3 below. Of this amount, the Army managed on-post activities at the eight Army storage sites that received total funding of \$270.2 million.

Life-Cycle Cost Estimates and Army Funding Through Fiscal Year 2000

The \$761.8 million total funding from fiscal year 1988 through fiscal year 2000 is slightly below the Army's projected funding. As part of an acquisition program, the Army prepares a life-cycle cost estimate for CSEPP. In 1997, the Army estimated the life-cycle cost of this program to be \$1,273.6 million (in 1997 current-year dollars). Of this amount, \$776.2 million (\$536.4 in operation and maintenance funding and \$239.8 million in procurement funding) was incurred through fiscal year 2000, and the remaining funds are estimated costs through fiscal year 2010. In 1999, the Army prepared a working life-cycle cost estimate that reflected a slight decrease to \$1,237.3 million (in 1999 current-year dollars). This estimate included \$781.7 million (\$517.7 million in operation and maintenance funding and \$264.1 million in procurement funding) incurred through fiscal year 2000, and the remaining funds are estimated costs through fiscal year 2010. The 1999 working estimate is \$19.9 million above the \$761.8 million in actual funding provided by the Army through fiscal year 2000. In addition, the Army has an ongoing Defense Acquisition Board Review whereby it and FEMA are undertaking a complete review of the CSEPP life-cycle cost estimate through fiscal year 2009 to more adequately address required resources-based upon requirements established by the various on-and off-post entities.

Table 3: CSEPP's On- and Off-Post Funding by Operation and Maintenance and Procurement Categories, Fiscal Years 1988–2000 (as of Oct. 1, 2000)

Dollars in millions									
Fiscal year	On-post funding			Off-post funding			Total funding		
	O&M	Procurement	Total	O&M	Procurement	Total	O&M	Procurement	Total
1988	\$2.5	\$0	\$2.5	\$0	\$0	\$0	\$2.5	\$0	\$2.5
1989	2.4	2.3	4.7	1.0	5.6	6.6	3.4	7.9	11.3
1990	4.0	8.2	12.2	9.9	21.6	31.5	13.9	29.7	43.7
1991	6.3	3.3	9.6	13.6	14.3	27.8	19.8	17.6	37.5
1992	10.0	1.8	11.8	15.2	13.2	28.4	25.2	15.0	40.2
1993	24.5	6.6	31.1	26.7	29.2	55.8	51.2	35.8	87.0
1994	19.6	3.5	23.1	27.5	20.8	48.2	47.1	24.3	71.3
1995	23.7	0	23.7	30.2	2.3	32.5	53.9	2.3	56.2
1996	30.0	3.4	33.3	26.9	19.6	46.5	56.8	22.9	79.8

**Appendix II: CSEPP's Funding and Life-Cycle
Cost Estimates**

Dollars in millions									
Fiscal year	On-post funding			Off-post funding			Total funding		
	O&M	Procurement	Total	O&M	Procurement	Total	O&M	Procurement	Total
1997	27.5	0.2	27.7	29.0	21.5	50.5	56.5	21.7	78.2
1998	30.5	0.4	31.0	32.7	26.3	58.9	63.2	26.7	89.9
1999	28.5	1.2	29.7	28.7	12.1	40.8	57.2	13.3	70.5
2000	28.1	1.7	29.8	30.2	33.9	64.1	58.4	35.6	93.9
Total	\$237.6	\$32.6	\$270.2	\$271.5	\$220.1	\$491.6	\$509.0	\$252.7	\$761.8

Legend:

O&M = operation and maintenance

Note: Funding as of September 30, 2000. The Army's on-post program began in fiscal year 1988 while FEMA's off-post program was first funded in fiscal year 1989.

Numbers may not sum to total because of rounding.

Source: Our analysis of the Army's funding documents provided by the Army Program Manager for Chemical Demilitarization and the Army Soldier and Biological Chemical Command and FEMA. In addition, both the Army and FEMA verified the amounts provided by the Army to FEMA.

Appendix III: CSEPP's Performance Measures and Critical Items

This appendix reviews the development of the CSEPP benchmarks used by the Army and FEMA to measure the program's status and guide funding. We used subcategories of these benchmarks—specific critical items—to measure the program's status in 2001. Overall, half of the needed items are in place in all the states. In 1997, none of the critical items were in place in all the states.

Army and FEMA CSEPP Performance Measures Have Evolved

As CSEPP has developed, its performance measures have expanded. In 1993 and 1996, the Army and FEMA issued CSEPP benchmarks and program guidance that identified off-post items critical to respond to a chemical stockpile emergency. Specifically, the National CSEPP Benchmark guidance issued in 1993 identified nine items needed for emergency preparedness: alert and notification system, emergency operations center, communications system, automated-data-processing system, training programs, exercise programs, community involvement (for public information and education), CSEPP personnel, and coordinated plans.

The CSEPP National Planning Guidance, dated May 6, 1997 supplements this list by describing various aspects about each needed item so that it meets CSEPP's standards. For example, the 1993 benchmark lists the need for a functional communications system; the planning guidance further states that the system must be reliable with at least two independent methods of simultaneous communications to protect against equipment failure.

In August 2000, FEMA and Army issued CSEPP Policy Paper Number 18, which reaffirms the 1993 guidance and adds three additional benchmarks that include administrative support, medical program, and protective action strategy. And, according to the FEMA CSEPP FY 2000 Annual Report to Congress (Dec. 15, 2000), personal protective equipment, decontamination equipment, and medical preparedness are needed for operations at the CSEPP sites. These items are now considered in the program's benchmarks.

GAO's Performance Measures

We used the Army's and FEMA's guidance to measure whether the 18 critical items were in place, were being put in place, or were not agreed to by the states and local communities, the Army, and FEMA. In our 1997 assessment, we considered eight critical CSEPP items. Since that report, we have added 10 more items needed to meet CSEPP's guidance for full preparedness. Some of our critical items are subcategories of the CSEPP

benchmarks. For example, in table 4, we divide the CSEPP benchmark alert and notification system into the following categories: sirens, tone alert radios, and highway reader boards. We also included reentry, for a total of 19 items considered.

To judge preparedness, we looked at 18 critical items to determine if they were in place and operational (we excluded reentry in this analysis because it does not affect the ability to respond to an emergency). If an item met the requirements that the states, communities, and FEMA and the Army had agreed to, we measured its status as "Yes." If the states and communities were in the process of acquiring the item, we measured it as "Partial." If the item was not in the process of being acquired and there was no agreement to obtain it, then it was measured as "No." In cases where a state had a critical item in place but required additional equipment, such as sirens to place near newly constructed housing, we coded the status as "Yes*." This means that the initial requirement had been met, but as the benchmark item was being completed, needs had changed and more of the item was requested.

We found that 9 of the 18 CSEPP-funded items are in place and operational in all states where the item was part of the preparedness requirements. Table 5 compares the eight items we reported on in 1997 and in 2001 and shows only four of eight items in place and operational in all states. Table 6 contains the additional 10 items we reviewed and shows 5 of 11 items in place and operational.

Table 4: Critical Items Measure States' Emergency Preparedness

Critical items	Performance measure used in GAO's assessment
Alert and notification <ul style="list-style-type: none"> sirens tone alert radios reader boards 	Measure: document that all alert and notification components are in place and operational.
Automated data processing	Measure: determine whether the on- and off-post emergency operations centers have functional automated-data-processing systems.
Communications system	Measure: determine whether a CSEPP standard communication system is in place and operational.
Coordinated plans	Measure: determine whether coordinated plans are approved and exercised.
Emergency operations center <ul style="list-style-type: none"> joint information center 	Measure: document that a functional emergency operations center is in place for each immediate response zone county and that the state has a joint information center.
Exercise program	Measure: document that approved exercise programs are in place and have been utilized.
Medical support <ul style="list-style-type: none"> decontamination units 	Measure: identify the number of hospitals participating in the program; determine whether medical staff have received CSEPP training; and determine the availability of antidote, if applicable. Determine if required decontamination units are in place and operational.

**Appendix III: CSEPP's Performance Measures
and Critical Items**

Critical items	Performance measure used In GAO's assessment
Personnel vacancies/CSEPP staffing	Measure: determine if all CSEPP-funded positions are filled.
Personal protective equipment/suits	Measure: determine if personal protective suit components are in place and operational.
Protective actions	Measure: determine if work on identified facilities requiring overpressurization has been completed.
• overpressurization projects	
• shelter-in-place kits	Determine if required shelter-in-place kits are in place and operational.
Public outreach/education	Measure: determine if there is a mechanism in place for citizens to voice their concerns regarding the program.
• community involvement	
• public awareness campaign	Determine if state and counties sponsor CSEPP calendars, brochures, pamphlets, newsletters, and other similar materials to educate the public about CSEPP.
Training	Measure: document that approved training programs are in place and have been utilized.
Reentry planning	Measure: document that the state and counties have a reentry plan.

Source: FEMA's guidance on benchmarks.

Table 5: Status of Eight Critical CSEPP-Funded Items in 1997 and 2001

Program element	Alabama and counties	Arkansas and counties	Colorado and county	Illinois and counties	Indiana and counties	Kentucky and counties	Maryland and counties	Oregon and counties	Utah and counties	Washington and county
Automated data processing system	P	P	P	P	P	P	P	P	P	P
1997 status	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2001 status										
Emergency operations centers(s)										
1997 status	Y	Y	Y	Y	P	Y	P	P	Y	P
2001 status	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Communications system	P	Y	Y	P	Y	P	Y	P	P	Y
1997 status	Y	Y	Y	Y	Y	Y	Y	P	Y	Y
2001 status										
Personal protective equipment										
1997 status	P	N	N	N	N	N	N	Partial	Y	N
2001 status	Y*	P	Y	Y*	P	Y*	Y	Y*	Y*	Y
Decontamination equipment	P	Y	N	N	N	N	P	N		N
1997 status	Y*	Y	Y	Y	Y	Y*	Y	Y	Y	Y
2001 status										

**Appendix III: CSEPP's Performance Measures
and Critical Items**

Program element	Alabama and counties	Arkansas and counties	Colorado and county	Illinois and counties	Indiana and counties	Kentucky and counties	Maryland and counties	Oregon and counties	Utah and counties	Washington and county
Overpressurization projects	N	Y	N	NR	N	NR	Y	N	NR	NR
1997 status	P	P	NR	NR	Y	P	Y	P	NR	NR
2001 status										
Sirens										
1997 status	Y	Y	N	NR	Y	Y	P	N	Y	Y
2001 status	Y*	Y*	Y	NR	Y*	Y*	Y	Y*	Y*	Y
Tone alert radios	N	N	N	NR	N	P	N	N	P	N
1997 status	P	P	P	N	N	P	NR	Y	Y	Y
2001 status										

Legend:

Y (Yes) means that the CSEPP-funded item is fully operational and meets standards

Y* (Yes*) means item is in place. However, there is a new requirement for additional items; local communities are acquiring the additional capability

P (Partial) means that local community is in the process of acquiring the capability to fulfill an earlier requirement

NR means that the state and counties do not have a requirement for the CSEPP item

N (No) means the state and counties do not have the required CSEPP item, although funding may have been approved

Note: Status as of February 2001

Source: 1997 information is from our prior report, *Chemical Weapons Stockpile: Changes Needed in the Management of the Emergency Preparedness Program* (GAO/NSIAD-97-91, June 11, 1997). Information for 2001 is based on our analysis of data provided by FEMA, the Army, and state and county emergency management agencies.

Four of the eight CSEPP-funded items evaluated in our 1997 report are in place and operational in all 10 states. Since the time of our 1997 report, all 10 states have acquired CSEPP-approved automated data processing systems and emergency operations centers. In addition, the initial requirement for sirens and decontamination equipment has been funded and items are in place and operational. However, some states have identified a need to expand their capability in these two areas to accommodate changes in local demographics, such as population growth, and to replace outdated equipment.

In some locations, the remaining four items—overpressurization projects, personal protective equipment, tactical communications systems, and tone alert radios—are in varying stages of readiness.

**Appendix III: CSEPP's Performance Measures
and Critical Items**

Table 6: Status of 11 Other Critical CSEPP-Funded Items

Program element	Alabama and counties	Arkansas and counties	Colorado and counties	Illinois and counties	Indiana and counties	Kentucky and counties	Maryland and counties	Oregon and counties	Utah and counties	Washington and counties
Coordinated preparedness/ response plans	P	Y	Y	Y	Y	P	Y	Y	Y	Y
Community involvement program	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CSEPP staffing	P	Y	Y	Y	Y	Y	Y	Y*	Y	Y*
Exercise program	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Joint information center	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Highway reader boards	Y	Y	Y	NR	N	Y	Y	Y	Y*	Y
Medical planning / equipment	Y	P	Y	P	Y	P	Y	Y	Y	Y
Public awareness program	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Shelter-in-place kits	N	NR	NR	NR	N	Y	NR	Y	Y	Y
Training	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Reentry planning	N	N	P	N	N	N	N	N	P	P

Legend:

Y (Yes) means that the CSEPP-funded item is fully operational and meets standards

Y* (Yes*) means the item is in place. However, there is a new requirement for more of this item

P (Partial) means the local community is in the process of acquiring the capability to fulfill an earlier requirement

N (No) means the state and counties do not have the required CSEPP item, although funding may have been approved

NR means that the state and counties do not have a requirement for the CSEPP item

Note: Status as of February 2001

Source: Our analysis of data provided by FEMA, the Army, and state and county emergency management agencies.

Five of the 11 other CSEPP-funded items are in place and operational. All 10 states have CSEPP-approved community involvement, exercise, and training programs in place. They also have functional joint information centers and on-going public awareness campaigns. The other six items (coordinated plans, CSEPP staffing, highway reader boards, medical planning/support, shelter-in-place kits, and reentry plans) are at varying stages of completeness.

CSEPP federal managers have not prepared guidance on reentry planning. Some local officials have begun to plan on their own for reentry after a chemical accident. For example, CSEPP managers in Colorado, Utah, and Washington have indicated that they have preliminary local community plans in place. These plans identify the roles and responsibilities of state emergency response agencies during the reentry phase. We measured the status of this item by whether the local communities and/or the state had developed a plan. All state CSEPP officials told us they are eager for FEMA to issue reentry guidance and they want to have nationally approved CSEPP coordinated plans. However in commenting on our draft report, the Army believes it has adequately provided a comprehensive framework to the communities for developing site specific plans to address the reentry and restoration for any given scenario and said it has recently begun classroom simulation exercises on reentry and restoration with some CSEPP communities

Appendix IV: Status of CSEPP's Critical Items in 10 States

This appendix presents the results of our review of the emergency preparedness in the 10 CSEPP states. For each state, we list the 19 critical items and provide our assessment of each. We include a summary of the condition of each item in each state, on the basis of our observations and interviews with state and local CSEPP officials in the state. The status of the critical items is discussed for each state in alphabetical order within the categories of fully prepared, progressing, and unresolved issues. Table 7 presents our summary of the comments of state and local CSEPP officials we talked to concerning the status of the 19 critical items in the states.

States That Are Fully Prepared

- Maryland's CSEPP officials said that the state had an extensive disaster control program in place prior to CSEPP because of its involvement in the Radiological Emergency Program.¹ It's easier to plan for a chemical event in Maryland because only one chemical agent (mustard) is stored in bulk in Maryland and according to the Army, mustard agent is the most stable and least toxic agent in the U.S. stockpile. The local CSEPP officials credited the mitigation activities undertaken by the Army that reduced the "at risk" population from 333,000 to 55,000. In addition, the Maryland State CSEPP director told us that a cooperative community effort, such as participation in the integrated process team (a group of key CSEPP personnel that focus on a particular issue), helps CSEPP achieve its goals in Maryland.
- Utah's CSEPP officials said that communications, cooperation, teamwork, and interpersonal relationships are the root of Utah's success in implementing CSEPP. For example, Utah integrated all of the affected parties and entities into its CSEPP effort early in the program to facilitate effective communications and foster good working relationships amongst the CSEPP stakeholders.
- Washington state's CSEPP officials said that like Maryland it too had an extensive disaster control program in place prior to CSEPP because of its involvement in the Radiological Emergency Program. And like Utah, Washington's CSEPP officials cite good coordination among all

¹Because of the proximity of some locations to nuclear power plants, they follow federal guidelines for radiological emergency preparedness issued by both the U.S. Nuclear Regulatory Commission and the Federal Emergency Management Agency.

participating agencies and the inclusion of state and local CSEPP officials in the budgeting process as contributing factors to the program's success.

States That Are Progressing Toward Full Preparedness

- Arkansas still has gaps in five of its critical items. For example, not all of the personal protective equipment has been distributed to the first responders. According to state CSEPP officials, the overpressurization project at the local high school is underway and expected to be completed in August 2001. The elementary school project is in the design phase, and its estimated completion date is August 2002. FEMA approved the overpressurization project for an elementary school for \$2.25 million. According to a state CSEPP official, 15 additional sirens are needed and FEMA is reviewing this issue. The current tone alert radios do not work as intended, and Arkansas has \$2.5 million to replace them. Medical training is ongoing. Thus far not all medical response personnel have received the necessary CSEPP training.
- Colorado is in the process of distributing its tone alert radios. Once Colorado completes this distribution effort, it will be considered fully prepared.
- Illinois still has capability gaps in three of its critical need items. For example, a state CSEPP official indicated that the state has a need for additional replacement personal protective suits and FEMA is reviewing this issue. Although FEMA approved funding for 40 tone alert radios in February 2001, they have not yet been delivered and distributed in Vermillion County. In addition, only one of three hospitals participating in the program has a full supply of antidote.
- Oregon still has capability gaps in five of its critical items. The current communications system, consisting of a high-banded very high frequency radio, is cumbersome to use and does not meet CSEPP's standards. A 450-megahertz communications system project has been studied and approved. Its estimated cost is \$7.2 million; FEMA is committed to funding the project, which is expected to be complete no later than August 2002. A proposal for five additional overpressurization projects is under review. The state and counties identified a need for additional personal protective suits, sirens, and CSEPP staff. FEMA will then validate the need for more suits and it has funded a sound propagation study to validate the need for the seven additional sirens requested. FEMA officials said they will consider the need for more staff. Oregon has also recently requested chemical-monitoring equipment to allow reentry after a chemical accident.

States With Unresolved Issues

- Alabama has at least two unresolved issues involving overpressurization projects and coordinated plans, resulting in gaps in its emergency response capability. State officials told us that Calhoun County, the Army, and FEMA have yet to agree on the number of facilities requiring overpressurization systems.² Calhoun County requested that more than 130 facilities be over-pressurized. Excluding the emergency operations centers, currently there are no facilities in the immediate response zone that have been over-pressurized. According to FEMA officials, they are planning to over-pressurize some portion of 28 different facilities but has only funded eight of these projects. Part of the delay in these projects was due to the limited procurement experience of the county. The projects were turned over to the U.S. Army Corps of Engineers to manage, and work has begun on five schools.
- Another unresolved issue in Alabama centers around its coordinated emergency response plans. Despite the Army's attempt to have the state and Calhoun county consider a strategy including both evacuation and sheltering, Alabama's overall immediate response zone counties' protective action strategy remained for evacuation only. As early as November 5, 1993, the Army informed the local emergency management directors of both of Alabama's immediate response zone counties that an evacuation-only strategy may not be feasible. In 1999, the Army funded a study to produce a guidebook with step-by-step instructions to Alabama county emergency personnel on how best to respond to a chemical emergency. The study supported the Army's position that a strategy of evacuation and shelter-in-place provided the safest response to a chemical incident. Talladega county, Alabama, uses the guidebook to determine its emergency response strategy. However, Calhoun county's CSEPP leaders and FEMA still do not agree on how to incorporate and fund the guidebook strategy. FEMA is in the process of funding Alabama's shelter-in-place kits, providing the resources to purchase additional sirens, hiring additional staff, and supporting a public awareness campaign.
- In Indiana, it isn't clear whether FEMA will provide more funding for highway reader boards. According to state CSEPP officials, the state now needs more funding for highway reader boards, which FEMA approved earlier. The state later reprogrammed the funds in support of another

²An overpressurization system creates a higher air pressure inside a building so that no outside air can enter the facility. This device allows people to remain safely inside during a chemical accident.

CSEPP project but was hoping to use the Indiana Department of Transportation's reader boards during a chemical emergency. However, the transportation department decided that it did not have enough reader boards for CSEPP to use. Now Indiana's CSEPP managers are in need of more funding to purchase this capability. The state is also now considering purchasing shelter-in-place kits, but FEMA has not yet provided funding. FEMA is also funding personal protective equipment.

- Kentucky's CSEPP officials and FEMA have yet to resolve issues involving enhanced sheltering projects, coordinated plans, and medical planning. Although 2 schools and 1 hospital will be over-pressurized, the state identified over 35 facilities that will require enhanced sheltering. FEMA and state and local CSEPP officials have not yet finalized the number of facilities. Also, CSEPP needs school buses to be placed by two schools to evacuate students during an emergency. Additionally, the state and counties are using draft plans that have not yet been approved. A state CSEPP official we interviewed was unaware of a target date for final approval. Additionally, of the 13 hospitals that participate in the program, only about half have the needed chemical antidote. Local CSEPP officials are concerned that FEMA has not acted in a timely fashion to fill this gap. FEMA has not decided if it will provide funding to fully outfit these hospitals.

Table 7: Detail on 10 States' CSEPP Preparedness, February 2001

Alabama

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Alert and notification		
• sirens	Yes*	CSEPP provided 98 sirens off-post. Alabama now needs additional sirens.
• tone alert radio	Partial	Tone alert radio distribution is currently under way.
• reader boards	Yes	Three highway reader boards have been funded and procured.
Automated data processing	Yes	The Emergency Management Information System and the Federal Emergency Management Information System are installed in the state and counties. The state and three counties use the Federal Emergency Management Information System. The remaining three counties, along with the Anniston depot, use the Emergency Management Information System.
Communications system	Yes	The CSEPP-approved automated telephone dialing system, dedicated phone lines, and 800-megahertz communication system are complete and operational.
Coordinated plans	Partial	Plans are in place and have been exercised; questions remain on how to best incorporate evacuation and sheltering protective action strategies.
Emergency operations center	Yes	Calhoun and Talladega County Emergency Operation Centers have been in operation since 1994.
• joint information center	Yes	The Joint Information Center is located at the former Ft. McClellan and has been used during exercises.

**Appendix IV: Status of CSEPP's Critical Items
in 10 States**

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Exercise program	Yes	The state participates in tabletop, federally managed full-scale and alternate year exercises. They also participate in quarterly Chemical Accident/Incident Response and Assistant exercises.
Medical support	Yes	Nine hospitals participate in the program, training has been provided for the emergency medical staff, and the antidote is available.
• decontamination units	Yes*	CSEPP purchased five units; they are operational. More funding is needed to purchase additional decontamination units.
CSEPP's staffing/personnel vacancies	Partial	All CSEPP positions are filled. FEMA recently provided Calhoun County with funding for five additional full-time equivalent positions. According to county officials, three more full-time equivalent positions are still needed to perform the 24-hour manning task.
Personal protective equipment/suits	Yes*	CSEPP purchased over 2,000 suits for emergency workers in Alabama. A need for additional suits has been identified.
Protective actions		
• overpressurization projects	Partial	The Army is constructing over-pressurization systems in five schools in Calhoun County. FEMA is planning to over-pressurize a total of 28 facilities in Alabama. However, local CSEPP officials have additional facilities they want FEMA to consider.
• shelter-in-place kits	No	FEMA approved the request for shelter-in-place kits. There are no kits in the Alabama communities at this time.
Public outreach/education		
• community involvement	Yes	A Citizens Advisory Commission is in place and functional
• public awareness campaign	Yes	Brochures, calendars, and other similar materials are being used in the communities to educate the public about CSEPP.
Training	Yes	Training programs meeting CSEPP standards are in place and offered regularly.
Reentry planning	No	After the closing of Ft. McClellan, Alabama was left without a reentry plan.

Arkansas

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Alert and notification		
• sirens	Yes*	CSEPP provided 58 sirens; 38 are off-post. Arkansas wants additional sirens.
• tone alert radios	Partial	The tone alert radios are experiencing mechanical problems and must be replaced.
• reader boards	Yes	CSEPP provided six highway reader boards.
Automated data processing	Yes	The Emergency Management Information System and the Federal Emergency Management Information System are installed in the state and counties; the Emergency Management Information System is used regularly.
Communications system	Yes	CSEPP's approved automated telephone dialing system, dedicated phone lines, and 800-megahertz communication system are complete and operational.
Coordinated plans	Yes	Plans are in place and have been exercised.
Emergency operations center	Yes	The immediate response zones have fully operational emergency operations centers.
• joint information center	Yes	The joint information center is located in Jefferson County and has been used during exercises.

**Appendix IV: Status of CSEPP's Critical Items
in 10 States**

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Exercise program	Yes	The state participates in tabletop, federally managed full-scale and alternate-year exercises. They also participate in quarterly Chemical Accident/Incident Response and Assistant exercises.
Medical support	Partial	Twenty-three hospitals participate in the program; some medical emergency staff have not received CSEPP training. The antidote is available.
• decontamination units	Yes	CSEPP purchased 13 units; they are operational.
CSEPP staffing/personnel vacancies	Yes	All CSEPP positions are filled. The state would like to convert some part-time positions to full-time.
Personal protective equipment/suits	Partial	CSEPP purchased 2,030 suits for first responders in Arkansas. These suits have not all been distributed to the first responder agencies. A need for additional suits has been identified.
Protective actions		
• over-pressurization projects	Partial	White Hall High School project is not complete, and the Moody Elementary School project is in the design phase.
• shelter-in-place kits	NR	Arkansas did not request shelter-in-place kits; they are not required at this time.
Public outreach/education		
• community involvement	Yes	A Citizens Advisory Commission is in place and functional
• public awareness campaign	Yes	Brochures, calendars, and other similar materials are being used in the communities to educate the public about CSEPP.
Training	Yes	Training programs meeting CSEPP's standards are in place and offered regularly.
Reentry planning	No	Arkansas does not have a reentry plan at this time.

Colorado

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Alert and notification		
• sirens	Yes	CSEPP provided 19 sirens; 13 are off-post. No additional sirens are needed at this time.
• tone alert radios	Partial	Tone alert radio distribution is under way. These radios have not all been distributed to the local community.
• reader boards	Yes	CSEPP provided five highway reader boards.
Automated data processing	Yes	The state and county have both the Emergency Management Information System and the Federal Emergency Management Information System; each is operational. The State uses a Department of Energy hazardous prediction model regularly, while the county uses the Emergency Management Information System regularly.
Communications system	Yes	CSEPP's approved automated telephone dialing system, dedicated phone lines, and 800-megahertz communication system are complete and operational.
Coordinated plans	Yes	Plans are in place and have been exercised.
Emergency operations center	Yes	The immediate response zone has a fully operational emergency operations center.
• joint information center	Yes	The joint information center is located at the University of Southern Colorado and has been used during exercises.
Exercise program	Yes	The state participates in tabletop, federally managed full-scale, and alternate-year exercises. They also participate in quarterly Chemical Accident/Incident Response and Assistant exercises

**Appendix IV: Status of CSEPP's Critical Items
in 10 States**

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Medical support	Yes	Two hospitals participate in the program, and training has been provided for the emergency medical staff. Antidotes are not necessary, because of the type of agent stored in Colorado.
• decontamination units	Yes	CSEPP purchased four units; they are operational.
CSEPP staffing/personnel vacancies	Yes	All CSEPP positions are filled. The state noted that it is difficult to attract and retain highly qualified automation specialists.
Personal protective equipment/suits	Yes	CSEPP purchased more than 600 suits for first responders in Colorado. Most have been provided to the first responder agencies.
Protective actions		
• over-pressurization projects	NR	The state, with FEMA's input, decided that overpressurization was not required, given the distance between the stockpile site and the nearest community. However, this protection was offered only to the residents living nearest to the stockpile.
• shelter-in-place kits	NR	The state, with FEMA's input, decided that shelter-in-place kits were not required, given the distance between the stockpile site and the nearest community. The kits were provided to residents living nearest to the stockpile.
Public outreach/education		
• community involvement	Yes	A Citizens Advisory Commission is in place and functional. Also, the Sierra Club has expressed its interest in the program.
• public awareness campaign	Yes	Brochures, calendars, and other similar materials are being used in the communities to educate the public about CSEPP.
Training	Yes	Training programs meeting CSEPP's standards are in place and offered regularly.
Reentry planning	Partial	Colorado's CSEPP team formalized a reentry plan with Army/FEMA/EPA in March 1999 and conducted full-scale reentry Alternate Year Exercise in April 2000. This is not considered a nationally approved plan.

Illinois

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Alert and notification		
• sirens	NR	There is no requirement for sirens in the protective action zone.
• tone alert radios	No	FEMA funded 40 tone alert radios in February 2001; they are not yet in place.
• reader boards	NR	The state does not have a requirement for highway reader boards.
Automated data processing	Yes	The state has both the Emergency Management Information System and the Federal Emergency Management Information System; each is operational. However, the states and counties use the Emergency Management Information System regularly.
Communications system	Yes	The CSEPP-approved 800-megahertz communication system is complete and operational. The state also uses a high-band radio frequency, pagers, and the radio amateur civil emergency service. A dedicated hotline system is now being installed.
Coordinated plans	Yes	Plans are in place and have been exercised.
Emergency operations center	Yes	The emergency operations centers are fully operational.
• joint information center	Yes	Illinois uses the facility in Indiana. The joint information center is located in Rockville, Indiana, and has been used during exercises.
Exercise program	Yes	The state participates in federally managed full-scale and alternate year exercises.

**Appendix IV: Status of CSEPP's Critical Items
in 10 States**

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Medical support	Partial	Only one of three hospitals is stocked with the needed antidote; more antidote is needed.
• decontamination units	Yes	CSEPP purchased 10 units; they are operational.
CSEPP staffing/personnel vacancies	Yes	All CSEPP positions filled.
Personal protective equipment	Yes*	CSEPP provided funding to purchase 400 suits for first responders in Illinois. The state identified a need for additional suits for their replacement cycle.
Protective actions		
• over-pressurization projects	NR	The state, with FEMA's input, decided that overpressurization was not required, given the distance between the stockpile site and the nearest community.
• shelter-in-place kits	NR	The state along with FEMA's input decided that shelter-in-place kits were not required, given the distance between the stockpile site and the nearest community.
Public outreach/education		
• community involvement	Yes	Illinois does not have its own Citizens Advisory Commission but has representation on the Citizens Advisory Commission in Indiana.
• public awareness campaign	Yes	Brochures, calendars, and other similar materials are being used in the communities to educate the public about CSEPP.
Training	Yes	Training programs meeting CSEPP's standards are in place and offered regularly.
Reentry planning	No	Illinois does not have a reentry plan.

Indiana

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Alert and notification		
• sirens	Yes*	CSEPP provided 27 off-post sirens. Indiana may now needs additional sirens.
• tone alert radios	No	Tone alert radios distribution has not begun; they are now stored in a warehouse.
• reader boards	No	CSEPP intended to use the state department of transportation's mobile reader boards. However, they are not available for CSEPP to use.
Automated data processing	Yes	The state and counties have both the Emergency Management Information System and the Federal Emergency Management Information System; each is operational. However, they use the Emergency Management Information System regularly.
Communications system	Yes	The CSEPP approved 800-megahertz communication system is complete and operational. The state also uses a high-band radio frequency and is considering using an automated telephone dialing system and cellular telephones. Phase one of their microwave system is almost complete.
Coordinated plans	Yes	Plans are in place and have been exercised.
Emergency operations center	Yes	The emergency operations centers are fully operational.
• joint information center	Yes	The joint information center is located in Rockville, Indiana and has been used during exercises.
Exercise program	Yes	The state participates in tabletop, federally managed full-scale and alternate year exercises. The state also participates in quarterly Chemical Accident/Incident Response and Assistant exercises.

**Appendix IV: Status of CSEPP's Critical Items
in 10 States**

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Medical support	Yes	One hospital participates in the program, training has been provided to the emergency medical staff, and the antidote is available. New antidote kits have been ordered to replace expired kits. Although Indiana's in place medical support meets our criteria, the local CSEPP officials expressed concern about the contracted ambulance service. It will not transport contaminated victims because it has no proper way to clean the vehicle. The Veterans' Administration in Danville, Ill., will provide the ambulance service.
• decontamination units	Yes	CSEPP provided 22 units; they are operational.
CSEPP staffing/personnel vacancies	Yes	All CSEPP positions filled.
Personal protective equipment	Partial	Only 32 of 200 suits have been distributed, distribution is ongoing.
Protective actions		
• overpressurization projects	Yes	The Vermillion County jail is over-pressurized. The state is considering over-pressurizing two schools located in the immediate response zone.
• shelter-in-place kits	No	The counties have the funding needed to purchase the sheltering kits. Indiana has no sheltering kits in place at this time.
Public outreach/education		
• community involvement	Yes	A Citizens Advisory Commission is in place and functional.
• public awareness campaign	Yes	Brochures, calendars, and other similar materials are being used in the communities to educate the public about CSEPP.
Training	Yes	Training programs meeting CSEPP's standards are in place and offered regularly.
Reentry planning	No	Indiana does not have a reentry plan at this time

Kentucky

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Alert and notification		
• sirens	Yes*	CSEPP provided 29 all are in the immediate response zone. According to the state, five additional sirens will be installed in July 2001.
• tone alert radios	Partial	The tone alert radio distribution has not been completed. The local communities plan to complete distribution by September 2001.
• reader boards	Yes	CSEPP provided three highway reader boards.
Automated data processing	Yes	The Emergency Management Information System and the Federal Emergency Management Information System are installed in the state and counties; the Emergency Management Information System is used regularly.
Communications system	Yes	CSEPP's approved automated telephone dialing system is in five of nine counties. Kentucky also has dedicated phone lines and an 800-megahertz communication system; both are complete and operational.
Coordinated plans	Partial	Coordinated plans are still in draft form; they have not yet been approved.

**Appendix IV: Status of CSEPP's Critical Items
in 10 States**

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Emergency operations center	Yes	The emergency operations centers are fully operational.
• joint information center	Yes	The joint information center is located across from the emergency operations center in Madison County. It has been used during exercises.
Exercise program	Yes	The state participates in tabletop, federally managed full-scale and alternate year exercises. It also participates in quarterly Chemical Accident/Incident Response and Assistant exercises
Medical support	Partial	Thirteen hospitals participate in the program. Only half the hospitals have the needed antidote and more medical training is required.
• decontamination units	Yes*	CSEPP purchased 13 units; they are operational. Madison County wants to purchase three Wells Fargo storage trailers to accompany the decontamination units.
CSEPP staffing/personnel vacancies	Yes	All requested CSEPP positions are funded.
Personal protective equipment/suits	Yes*	CSEPP purchased over 1,000 suits. The state identified a need for 200 additional suits for replacement and training.
Protective actions		
• overpressurization projects	Partial	The Army is installing overpressurization systems at two schools and one hospital. At least 35 additional facilities will need other forms of enhanced sheltering capability, such as the installation of carbon filters. In addition, Kentucky will use prepositioned school buses to evacuate children if an incident occurs during school hours. FEMA is planning to fund this effort.
• shelter-in-place kits	Yes	The shelter-in-place kits distribution began Dec. 2000.
Public outreach/education		
• community involvement	Yes	A Citizens Advisory Commission is in place and functional.
• public awareness campaign	Yes	Brochures, calendars, and other similar materials are being used in the communities to educate the public about CSEPP.
Training	Yes	Training programs meeting CSEPP's standards are in place and offered regularly.
Reentry planning	No	Kentucky does not have a reentry plan at this time.

Maryland

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Alert and notification		
• sirens	Yes	CSEPP provided 15 sirens; 9 are off-post. They are in place and operational.
• tone alert radios	NR	Tone alert radios are no longer required because of the Army implementing effort to reduce the risk of an incident occurring at the stockpile site. The population "at risk" was reduced from 333,000 to 55,000.
• reader boards	Yes	CSEPP did not provide highway reader boards; this capability was in existence prior to CSEPP.
Automated data processing	Yes	The Emergency Management Information System and the Federal Emergency Management Information System are installed in the state and counties; the Emergency Management Information System is used regularly.

**Appendix IV: Status of CSEPP's Critical Items
in 10 States**

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Communications system	Yes	CSEPP's approved automated telephone dialing system is in place. Maryland also has dedicated phone lines, an 800-megahertz communication system, cellular telephones, and pagers. The state has access to the radio amateur civil emergency service.
Coordinated plans	Yes	Plans are in place and have been exercised.
Emergency operations center	Yes	The emergency operations centers are fully operational.
• joint information center	Yes	The joint information center is located across from the emergency operations center in Madison County. It has been used during exercises.
Exercise program	Yes	The state participates in tabletop, federally managed full-scale and alternate-year exercises. It also participates in quarterly Chemical Accident/Incident Response and Assistant exercises
Medical support	Yes	Six hospitals participate in the program, training has been provided, and no antidote is required given the chemical agent stored at the stockpile site.
• decontamination units	Yes	CSEPP purchased two units; they are operational.
CSEPP staffing/personnel vacancies	Yes	All CSEPP positions are filled. The state noted that it is difficult to attract and retain highly qualified automation specialists.
Personal protective equipment/suits	Yes	CSEPP purchased over 400 suits. The suits have been distributed to the state's first responder agencies.
Protective actions		
• overpressurization projects	Yes	Army collective protection specialists are working to enhance the overpressure capability at one of the four schools that have this system.
• shelter-in-place kits	NR	Shelter-in-place kits are no longer required due to the Army implementing effort to reduce the risk of an incident occurring at the stockpile site. Population "at risk" was reduced from 333,000 to 55,000
Public outreach/education community involvement	Yes	A Maryland Citizens Advisory Commission and Maryland Community Integrated Process Team are in place and functional.
• public awareness campaign	Yes	Brochures, calendars, and other similar materials are being used in the communities to educate the public about CSEPP.
Training	Yes	Training programs meeting CSEPP's standards are in place and offered regularly.
Reentry planning	No	Maryland does not have a reentry plan at this time.

Oregon

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Alert and notification		
• sirens	Yes*	CSEPP provided 49 sirens, 42 are off-post. A new study is under way, the state estimates there is a need for at least five additional sirens.
• tone alert radios	Yes	Tone alert radios have been distributed.
• reader boards	Yes	CSEPP provided nine highway reader boards.
Automated data processing	Yes	Only the Umatilla depot has both the Emergency Management Information System and the Federal Emergency Management Information System. Both are fully operational. The state and counties use the Federal Emergency Management Information System regularly.

**Appendix IV: Status of CSEPP's Critical Items
in 10 States**

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Communications system	Partial	The state and counties have a tactical radio system in use on a set of VERY HIGH FREQUENCY frequencies. However, it does not meet CSEPP's standards. FEMA is funding the state's requirement for a 450-megahertz system.
Coordinated plans	Yes	Coordinated plans (incident command system) were approved January 2001
Emergency operations center	Yes	The emergency operations centers are fully operational.
• joint information center	Yes	The joint information center is collocated with the Umatilla County Emergency Operations Center. It has been used during exercises.
Exercise program	Yes	The state participates in tabletop, federally managed full-scale and alternate year exercises. It also participates in quarterly Chemical Accident/Incident Response and Assistant exercises.
Medical support	Yes	Three hospitals participate in the program, training has been provided, and the antidote is available.
• decontamination units	Yes	CSEPP purchased four units; they are operational.
CSEPP staffing/personnel vacancies	Yes*	All CSEPP positions are filled. The county requested a full-time equivalent position for a systems administrator, and Morrow County would like CSEPP to provide five bi-county positions whose funding is currently shared with the county.
Personal protective equipment	Yes*	CSEPP purchased 500 suits. The state indicated that there is a need for 300 additional suits and some extra-large sized suits.
Protective actions		
• overpressurization projects	Yes*	CSEPP over-pressurized 12 schools, 2 hospitals, and 1 nursing home. FEMA will fund five additional facilities to be outfitted with an overpressurization system. In addition to having overpressurization capability, local CSEPP officials have requested monitors to determine if chemical agent is present.
• shelter-in-place kits	Yes	The shelter-in-place kits have been distributed.
Public outreach/education		
• community involvement	Yes	A Citizens Advisory Commission and governor-appointed executive review panel are in place and functional.
• public awareness campaign	Yes	Brochures, calendars, and other similar materials are being used in the communities to educate the public about CSEPP.
Training	Yes	Training programs meeting CSEPP's standards are in place and offered regularly.
Reentry planning	No	Oregon does not have a reentry plan at this time.

Utah

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Alert and notification		
• sirens	Yes*	CSEPP provided the off-post community with 37 sirens. A recent study validated the need for 22 additional sirens.
• tone alert radios	Yes	Tone alert radios were distributed to every household in the immediate response zone.
• reader boards	Yes*	FEMA funded a recent request for nine reader boards.

**Appendix IV: Status of CSEPP's Critical Items
in 10 States**

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Automated data processing	Yes	The state and counties have both the Emergency Management Information System and the Federal Emergency Management Information System. Both are fully operational. The state and counties use the Federal Emergency Management Information System regularly.
Communications system	Yes	CSEPP's approved automated telephone dialing system is in place. Utah also has dedicated phone lines, an 800-megahertz communication system, and pagers. The state has access to the radio amateur civil emergency service.
Coordinated plans	Yes	Coordinated plans are in place and operational.
Emergency operations center	Yes	The emergency operations centers are fully operational.
• joint information center	Yes	The joint information center is located at the former Officers' Club at the Tooele Army Depot. It has been used during exercises.
Exercise program	Yes	The state participates in tabletop, federally managed full-scale and alternate year exercises. It also participates in quarterly Chemical Accident/Incident Response and Assistant exercises.
Medical support	Yes	Three hospitals participate in the program, training has been provided, and the antidote is available.
• decontamination units	Yes	CSEPP purchased four units and is in the process of purchasing one more; they are operational.
CSEPP staffing/personnel vacancies	Yes	All CSEPP positions are filled.
Personal protective equipment/suits	Yes*	CSEPP purchased 300 suits; they are operational and have been provided to first responder agencies. Replacement suits are now needed.
Protective actions		
• overpressurization projects	NR	The state, with FEMA's input, decided that overpressurization was not required, given the distance between the stockpile site and the nearest community.
• shelter-in-place kits	Yes	The shelter-in-place kits were distributed with the tone alert radios.
Public outreach/education		
• community involvement	Yes	Utah has a Citizens Advisory Commission in place and operational.
• public awareness campaign	Yes	Brochures, calendars, and other similar materials are being used in the communities to educate the public about CSEPP.
Training	Yes	Training programs meeting CSEPP's standards are in place and offered regularly.
Reentry planning	Partial	The state indicated that it has a two-step initial plan in place but said that FEMA or the Army does not financially support it.

Washington

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Alert and notification		
• sirens	Yes	CSEPP provided 20 off-post sirens.
• tone alert radios	Yes	The tone alert radios were distributed to every household in the immediate response zone.
• reader boards	Yes	The state has 10 highway reader boards.

**Appendix IV: Status of CSEPP's Critical Items
in 10 States**

Critical item	GAO's assessment, Feb. 28, 2001	Summary of comments by state and local CSEPP officials
Automated data processing	Yes	The state and county have both the Emergency Management Information System and the Federal Emergency Management Information System. Both are fully operational. The state and counties use the Federal Emergency Management Information System regularly.
Communications system	Yes	CSEPP's approved automated telephone dialing system is in place and operational. Washington also has a high-band radio frequency system, dedicated phone lines, an 800-megahertz communication system, and pagers. The state has access to the radio amateur civil emergency service.
Coordinated plans	Yes	Plans are in place and have been exercised.
Emergency operations center	Yes	The emergency operations centers are fully operational.
• joint information center	Yes	The joint information center is collocated with the Umatilla County Emergency Operations Center. It has been used during exercises.
Exercise program	Yes	The state participates in tabletop, federally managed full-scale, and alternate-year exercises. They also participate in quarterly Chemical Accident/Incident Response and Assistant exercises.
Medical support	Yes	Five hospitals participate in the program, training has been provided, and the antidote is available.
• decontamination units		CSEPP purchased seven units; they are operational.
CSEPP staffing/personnel vacancies	Yes*	All CSEPP positions are filled. The county is seeking an additional full-time equivalent position for automation support. The state noted that it is difficult to attract and retain highly qualified automation specialists.
Personal protective equipment	Yes	The state has more than 300 suits; they are in place and operational.
Protective actions		
• overpressurization projects	NR	The state, with FEMA's input, decided that over-pressurization was not required, given the distance between the stockpile site and the nearest community.
• shelter-in-place kits	Yes	Shelter-in-place kits were distributed with the tone alert radios.
Public outreach/education		
• community involvement	Yes	Washington does not have its own Citizens Advisory Commission but has representation on the Citizens Advisory Commission in Oregon and has representation on the Oregon's governor-appointed executive review panel.
• public awareness campaign	Yes	Brochures, newsletters, and other similar materials are being used in the communities to educate the public about CSEPP.
Training	Yes	Training programs meeting CSEPP's standards are in place and offered regularly.
Reentry planning	Partial	Washington has a preliminary plan in place but it states that the Army and FEMA do not support it.

Appendix V: Comments From the Department of Defense



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
INSTALLATIONS AND ENVIRONMENT
110 ARMY PENTAGON
WASHINGTON DC 20310-0110

August 3, 2001

Mr. Raymond J. Decker
Director
Defense Capabilities and Management Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Decker:

The Department of Defense (DOD) concurs with comment (at enclosure) to the GAO draft report GAO-01-850, dated June 2001, "Chemical Weapons: FEMA and Army Must Be Proactive in Preparing States for Emergencies" (GAO code 350002). Suggested technical corrections have been provided separately.

If you have any questions or require additional information, please contact Mr. Larry Skelly at (703) 695-1042. His facsimile number is (703) 614-5822 and his e-mail address is lawrence.skelly@hqda.army.mil.

Sincerely,

A handwritten signature in black ink that reads "Raymond J. Fatz".

Raymond J. Fatz
Deputy Assistant Secretary of the Army
(Environment, Safety and Occupational Health)
OASA (I&E)

Attachment

Printed on Recycled Paper

GAO CODE 350002

“CHEMICAL WEAPONS: FEMA AND ARMY MUST BE PROACTIVE IN PREPARING STATES FOR EMERGENCIES”

DEPARTMENT OF DEFENSE COMMENTS TO THE RECOMMENDATION

RECOMMENDATION: The GAO recommended that the Secretary of the Army and the Director of the Federal Emergency Management Agency adopt a more proactive approach to improve working relations with Chemical Stockpile Emergency Preparedness Program states and communities. Specific actions should:

- (1) Provide technical assistance, guidance, and leadership to the three states with long-standing issues to resolve their concerns, especially Alabama and its issues with sheltering in place, evacuation, and collective protection;
- (2) Provide all states and their communities with training and assistance in preparing budget and life-cycle cost estimates and with guidance and plans on reentry; and
- (3) Establish specific measures of compliance with the benchmarks to more evenly assess performance and to correctly identify requirements (page 27/GAO Draft Report).

DOD RESPONSE:

1. Recommendation (1). Concur.

The Chemical Stockpile Emergency Preparedness Program (CSEPP) is a partnership between the U. S. Army, the Federal Emergency Management Agency (FEMA), and State and local governments. FEMA is responsible for the management and execution of the off-post emergency preparedness program. Public Law 105-261 directs FEMA to assist States in developing their capabilities to respond to emergencies resulting from the storage and destruction of the chemical stockpile and to administer funds to state and local governments for this purpose. The Army is responsible for carrying out the on-post emergency preparedness program and for providing funding and technical assistance to FEMA for the off-post emergency preparedness program. This report recommends that the Army exercise greater initiative in assisting the off-post communities in the development of response capabilities. The Army will continue to provide assistance to the States and counties as requested by FEMA until the completion of the chemical stockpile demilitarization program.

2. Recommendation (2). Concur.

Federal, State and local jurisdictions jointly developed the initial CSEPP Life Cycle Cost Estimate (LCCE) in 1997 after the Army provided training on the Department of Defense

(DOD) Planning, Programming and Budgeting System. The LCCE was updated in 1999 to add new requirements and account for changes in the chemical stockpile demilitarization schedule. During 2000 Army and FEMA conducted a complete review of the CSEPP LCCE to support the Defense Acquisition Board Review of the Chemical Demilitarization Program and to provide input to the DOD FY 03-07 Program Objective Memorandum. The Army-FEMA team visited each CSEPP State and county jurisdiction and conducted an item-by-item examination of requirements. At the beginning of each review session, Army representatives provided instruction to State and local officials on the Army budgeting process. The instruction emphasized the critical need for State and local jurisdictions to identify requirements as early as possible. The instruction included a reminder that the DOD budget process has a two-year lead-time and that the earliest new requirements could be identified in the DOD budget for funding would be in the FY03 budget.

The 2000 review identified numerous new requirements. State and county agencies were asked to provide an explanation for new requirements to assist the Army and FEMA in defending the budget increases within DOD and to the Congress. Since the completion of the 2000 LCCE review, several States have submitted new requests for additional funding.

The primary purpose of CSEPP is to prepare communities to respond to an accident involving the chemical stockpile in order to protect the public and the environment. Appendix M, CSEPP Planning Guidelines for Recovery Phase Activities, provides a comprehensive framework for developing site specific plans to address the reentry and restoration variables of any given event scenario. Additionally, a national-level working group of CSEPP stakeholders was formed in December 2000 to address reentry and restoration issues.

The Army will continue to provide assistance to the States and counties until the completion of the chemical stockpile demilitarization program.

3. Recommendation (3). Concur.

FEMA is responsible for assessing benchmark compliance in the off-post communities. The Army follows a similar process for assessing the readiness of the Army installations. The annual CSEPP exercise evaluates the capabilities of the installation and the off-post communities. The Army evaluates installation activities and FEMA evaluates off-post activities. The evaluation process also assesses response integration and interoperability between on-post and off-post agencies and assists in determining their overall capability to adequately protect the public. The Army will continue to provide assistance to the States and counties until the completion of the chemical stockpile demilitarization program.

Appendix VI: Comments From FEMA



Federal Emergency Management Agency

Washington, D.C. 20472

AUG 6 2001

Mr. Raymond Decker
Director, Defense Capabilities and Management Division
United States General Accounting Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Decker:

Thank you for requesting the Federal Emergency Management Agency's (FEMA) comments on the General Accounting Office draft report entitled "Chemical Weapons: FEMA and Army Must Be Proactive in Preparing States for Emergencies." On behalf of Director Joe M. Allbaugh, I am pleased to forward FEMA's comments on the draft report.

By its very nature, the Chemical Stockpile Emergency Preparedness Program (CSEPP) is a community-based effort. Many of the concerns raised by GAO specific to FEMA's need to capture and share lessons learned and best practices among various Chemical Stockpile Emergency Preparedness Program communities have been addressed through recent FEMA initiatives. They include:

- A series of Planning Workgroups that address critical CSEPP planning issues identified by CSEPP communities;
- A national Public Affairs Integrated Product Team with the charter to share public education best practices among CSEPP communities; and
- A CSEPP Planners Website that allows communities to share best practices and lessons learned as well as exchange plans and other documents, and host interactive meetings and chat sessions on pertinent issues.

FEMA has aggressively taken steps to uniformly measure program performance. Beginning in fiscal year 2000, FEMA focused on the outcome of the preparedness of different States through a series of National Quantitative Performance Indicators. These indicators, in the true spirit of the Government Performance and Results Act (GPRA), are focused on *outcomes* rather than *outputs*. These outcomes address the true essentials of public safety, including:

- The effectiveness of public warning systems;
- The readiness of coordination systems;
- The reliability of critical communications systems; and

- The degree of public awareness of protective actions.

FEMA has integrated these National Quantitative Performance Indicators into the CSEPP, including making them an integral piece of its Cooperative Agreement grant process beginning in fiscal year 2001. Performance reporting is required quarterly and is integrated with financial reporting requirements. These form the basis for a performance-based management system for CSEPP in the true spirit of GPRA

FEMA also is concerned that the language in the body of the report does not accurately reflect the GAO findings displayed in Appendix III and IV. We have provided detailed comments in Attachment 1.

We appreciate the opportunity to review and comment before the report is issued in final form. We will continue to keep you apprised of our progress in CSEPP. If you have any questions, or need additional information, please do not hesitate to contact Dan Cavis, Chief, Chemical Stockpile Emergency Preparedness Program, Technological Hazards Division at 202-646-4275.

Sincerely,



Lacy E. Suiter
Assistant Director
Readiness, Response, and Recovery Directorate

Attachment

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