

GAO

Report to the Honorable  
Ron Wyden, U.S. Senate

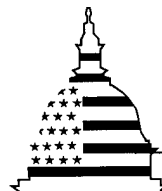
October 1999

CHEMICAL AND  
BIOLOGICAL  
DEFENSE

Chemical Stockpile  
Emergency  
Preparedness Program  
for Oregon and  
Washington



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## Abbreviations

CSEPP	Chemical Stockpile Emergency Preparedness Program
DOD	Department of Defense
FEMA	Federal Emergency Management Agency

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United States General Accounting Office  
Washington, D.C. 20548

National Security and  
International Affairs Division

B-280639

October 26, 1999

The Honorable Ron Wyden  
United States Senate

Dear Senator Wyden:

As you requested, we reviewed the Chemical Stockpile Emergency Preparedness Program (CSEPP) for the Oregon and Washington communities surrounding the Umatilla Chemical Depot. This program was created to protect the public in the event of an accident during destruction of the chemical weapons stockpile. You wanted to know whether the communities around the depot have made progress since our 1997 report in preparing for a chemical stockpile emergency and any key steps they could take to further their progress. Specifically, this report (1) discusses the progress communities have made since our 1997 report on their Chemical Stockpile Emergency Preparedness Program efforts and (2) identifies strategies for enhancing the program's implementation in Oregon.

## Results in Brief

Since we last reported on their preparedness in 1997, the Oregon and Washington communities surrounding the Umatilla Chemical Depot have made progress in preparing for a possible chemical weapons stockpile emergency. Several additional preparedness equipment items and other program elements are now fully or partially in place. For example, Oregon now has a working siren warning system to notify people outdoors if an accident occurs. Oregon community officials have also installed over-pressurization systems in the 11 schools most likely to be affected if chemical agents are released into the atmosphere. Over-pressurization systems use filtered air to increase the pressure inside a building or a room to keep chemical-laden air outside. Washington also has added elements, such as a fully operational integrated communications system that would allow state, county, and local Chemical Stockpile Emergency Preparedness Program participants to communicate during an emergency. As a result of this progress, Oregon and Washington's ability to meet a chemical stockpile emergency has improved. However, some critical equipment items were still not in place in either state, including (1) tone alert radios, which are intended to notify residents while indoors of an accident and to instruct them on the measures they need to take to protect themselves and

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(2) shelter-in-place kits, which residents could use to seal up a room to keep chemical agents out.

Planning is an extremely critical element for effective program management and Oregon's program planning needs improvement. The program in Oregon lacks an overall plan that (1) defines missions, roles, outcomes, and performance measures and (2) includes input from all the key stakeholders, such as local, county, and state emergency response personnel. As a result, Oregon has had problems in developing specific integrated response plans for meeting a chemical emergency and has experienced problems coordinating program efforts. We reviewed the programs in Washington and Utah for any lessons that could be applied to the Oregon program. The Federal Emergency Management Agency considered Washington's plans to be excellent and the Army and the Federal Emergency Management Agency considered Utah's program the most advanced. Although these programs are not directly comparable to Oregon's because these states have far fewer people close to chemical weapons stockpiles and less complex programs, both have detailed, coordinated, and integrated response plans that have helped emergency responders prepare to meet a chemical emergency. Moreover, the Government Performance and Results Act of 1993 (P.L. 103-62, August 3, 1993) offers a results-oriented management framework, including setting performance goals and specifying the strategies and resources to be used in achieving goals, that Oregon could apply in its program planning. Following such a framework could help emergency responders be better prepared in the event of a chemical accident and prevent or minimize the recurrence of coordination problems.

We are recommending that the Director of the Federal Emergency Management Agency work closely with officials at the state and local levels in Oregon to develop effective plans that follow the results-oriented principles embodied in the Results Act. Such a strategy could help establish a framework for program coordination and implementation in which all the entities involved understand their roles and responsibilities, the time frames within which they must be achieved, and the resources available to achieve them.

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## Background

In November 1985, the Congress directed the Department of Defense (DOD) to destroy the U.S. stockpile of lethal chemical agents and munitions, and it directed that a disposal program provide for the maximum protection of the environment, the public, and the personnel involved in disposing of the munitions.<sup>1</sup> The Army and the Federal Emergency Management Agency (FEMA) defined "maximum protection" as mitigating the effects of an accident to the maximum extent practicable. The Army is conducting the disposal program at the eight stateside storage sites and on Johnston Atoll in the Pacific Ocean. The stateside sites are at Anniston Chemical Activity, Alabama; Pine Bluff Arsenal, Arkansas; Pueblo Chemical Activity, Colorado; Newport Chemical Activity, Indiana; Blue Grass Chemical Activity, Kentucky; Edgewood Chemical Activity, Maryland; Umatilla Chemical Depot, Oregon; and Deseret Chemical Depot, Utah.

In 1988, the Army established CSEPP to help communities near the eight stateside sites enhance existing emergency management and response capabilities in the event of a chemical stockpile accident. Because of its expertise in emergency management, FEMA assisted the Army with the program by providing technical assistance and distributing program funds provided by the Army to the involved states. The Army, however, retained responsibility for enhancing emergency preparedness at the installations where the stockpiles are stored. In 1993 and 1994, the Army and FEMA also jointly established operational and functional benchmarks and planning guidance for CSEPP. These identify program elements that are critical for preparing and responding to a chemical stockpile emergency, including equipment (such as siren warning systems and tone alert radios), coordinated plans, training, community involvement programs, and exercise programs to practice emergency response activities.

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<sup>1</sup>PL. 99-145, section 1412.

In June 1997, even though some joint steps had been taken, we reported that disagreement between the Army and FEMA over their roles and responsibilities had contributed to slowness in CSEPP implementation. We noted that the disagreement put the future effectiveness of the program at risk and recommended that the Army and FEMA reach agreement on a long-term program management structure that clearly defined the roles and responsibilities of each.<sup>2</sup> The Army and FEMA addressed the problem in a subsequent memorandum of understanding in which the Army retained responsibility for managing and directing emergency preparedness activities at the storage depots, while FEMA accepted responsibility for program implementation in communities surrounding the depots.<sup>3</sup>

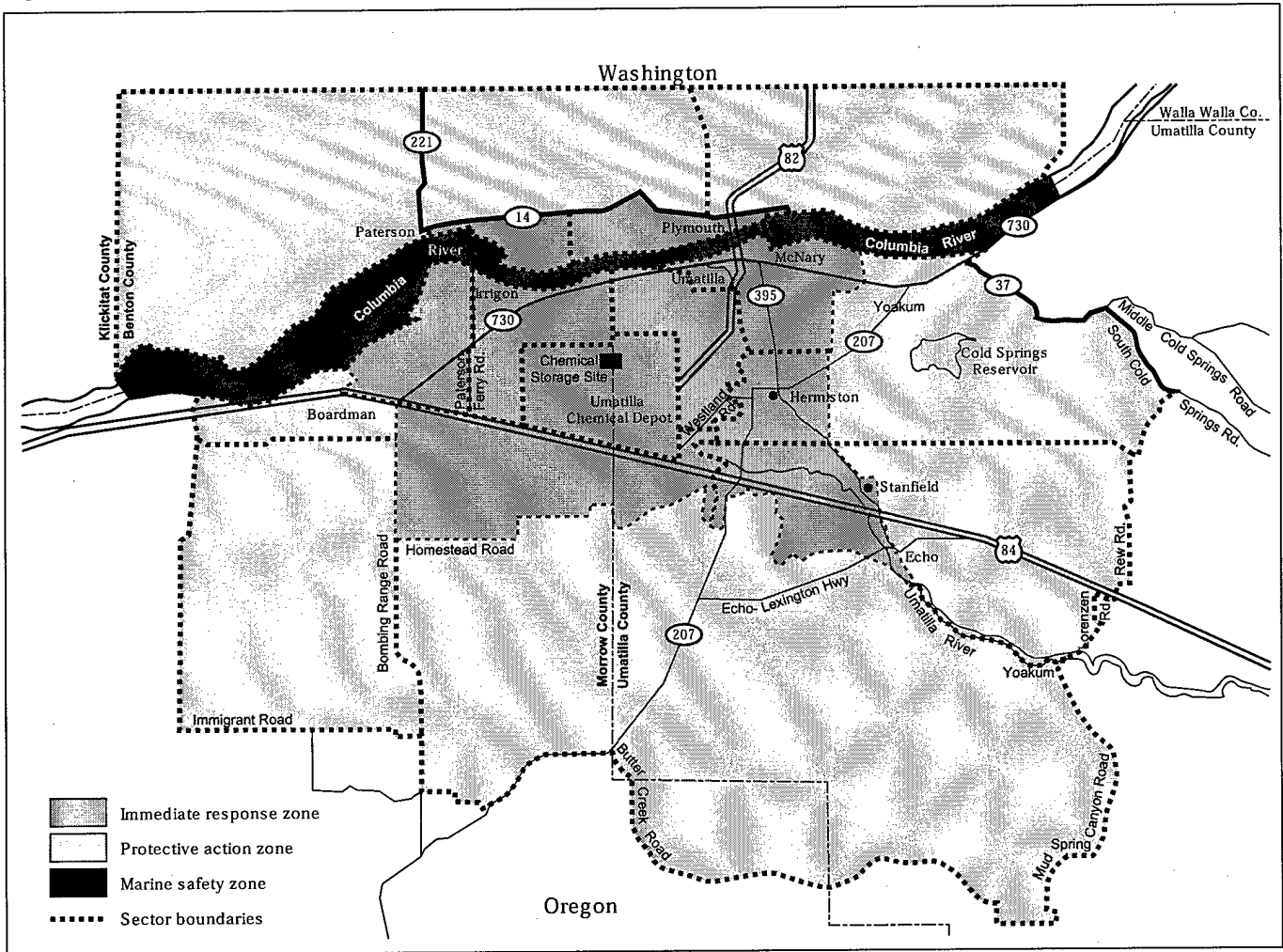
The Umatilla Chemical Depot is surrounded by Oregon's Umatilla and Morrow counties and Washington's Benton County. In both states, counties and local communities are primarily responsible for implementing emergency preparedness; however, because these counties and communities are near the depot, CSEPP works to enhance their emergency management and response capabilities for chemical agent accidents. Parts of all three counties are near the area of the depot that would be the first affected by an accidental release of chemical agents and would likely receive the heaviest agent concentrations. People in this area, which extends up to 9 miles from the stockpile storage site, have less than 1 hour under normal weather conditions to take protective actions such as evacuating or staying indoors in an over-pressurized or sealed room to keep chemical-laden air out. The ability to rapidly implement the most appropriate protective actions within this area is, therefore, crucial. Oregon and Washington have approximately 25,000 and 1,700 people, respectively, who live, work, or attend school within this area.

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

<sup>3</sup> In 1998, the Congress enacted legislation requiring FEMA, in coordination with the Army and in accordance with agreements between FEMA and the Army, to carry out a program to provide assistance to state and local governments in developing capabilities to respond to emergencies involving risks to the public health or safety due to the storage or destruction of designated lethal chemical agents and munitions at military facilities (P.L. 105-261, section 141). Funding for these activities are provided in the Army's budget.

Figure 1: Boundaries of the Critical Response Area for Communities Surrounding the Depot



Note: The immediate response zone [IRZ] extends to approximately 9 miles from the chemical stockpile storage site and the protective action zone extends from the end of the IRZ up to 30 miles from the storage site.

Source: Federal Emergency Management Agency.



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## Additional Equipment Items and Other Program Elements Are in Place But More Elements Are Needed

Based on an assessment of key program items identified by FEMA and the Army, Oregon and Washington have made progress since our 1997 report in adding to their emergency preparedness program. However, both states still lack elements considered necessary to respond to a chemical emergency.

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## Key Program Elements

The key program elements we used to assess the progress of the states' programs were identified in the CSEPP benchmarks and program guidance developed by the Army and FEMA. These included program elements considered critical for preparing any community to respond to a chemical agent emergency, such as outdoor warning sirens and tone alert radios. They also included program elements that are considered critical for addressing specific risks at particular stockpile sites, such as pressurization projects for in-place sheltering in schools and hospitals. Together, these program elements are intended to provide communities with the capability to

- prepare the public through information and educational programs to evacuate or shelter in their homes, businesses, or schools should a chemical accident occur;
- alert the public if an accident occurs and notify them of the appropriate protective actions to take (using items such as outdoor sirens, highway reader boards, and tone alert radios);
- coordinate emergency response activities and communicate with emergency management and response personnel to provide them information and apprise them of events; and
- provide emergency response (such as setting up traffic and access control points, screening people for chemical agent contamination, and decontaminating exposed people) and medical treatment and transportation to medical facilities.

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## Oregon Has Additional CSEPP Elements in Place

Subsequent to our 1997 report on the availability of eight critical CSEPP items identified by the Army and FEMA, several additional program elements have been fully or partially put in place. They include elements now fully in place, such as a working outdoor siren system and an automated data processing system that can project the movement of chemical agents through the atmosphere. They also include elements now

partially in place, such as over-pressurization systems that use filtered air to increase the pressure inside a building or certain rooms within a building to keep chemical-laden air outside. Over-pressurization systems have been installed at 11 Oregon schools, but they have not yet been installed at a hospital and a nursing home, where they are also required. Some critical program elements not reported on in 1997—such as highway reader boards, a community involvement program to prepare and educate the public on what to do in case of an accident, and an annual exercise program to train emergency response personnel—are also now in place. Further, other elements also identified by the Army and FEMA but not reported on in 1997, such as training, are partially in place.

Table 1 shows Oregon's status for the eight critical CSEPP items we reported on in 1997. Table 2 shows Oregon's status for seven additional program elements critical for an effective program in Oregon. Additional detail on program elements not fully in place is included in appendix II.

**Table 1: Status of Key CSEPP-Funded Program Elements in Oregon**

Program element	March 1997	April 1999 <sup>a</sup>
Automated data processing	Partial	Yes
Emergency operations center	Partial	Partial
Communication system	Partial	Partial
Personal protective equipment (suits) and chemical agent monitors	Partial	Partial
Personnel decontamination equipment	No	Partial
Pressurization projects	No	Partial
Sirens	No	Yes
Tone alert radios	No	No

**Legend:**

Yes = fully operational and meets standards

Partial = partially operational because additional requirements are anticipated or the current program element requirements are not yet completed

No = not yet in place

<sup>a</sup> In commenting on a draft of this report in September 1999, FEMA stated that the emergency operations centers are now operational and that distribution of tone alert radios would begin in October 1999. This table does not show the updated information because we did not have the opportunity to confirm it.

Source: Based on data provided by FEMA, the Army, and Oregon state and county emergency management agencies.

**Table 2: Status of Other Critical CSEPP Elements**

<b>Program element</b>	<b>April 1999</b>
<b>Coordinated plans</b>	<b>No</b>
<b>Community involvement program</b>	<b>Yes</b>
<b>Exercise program</b>	<b>Yes</b>
<b>Medical planning/equipment</b>	<b>Partial</b>
<b>Shelter-in-place kits</b>	<b>Partial</b>
<b>Highway reader boards</b>	<b>Yes</b>
<b>Training</b>	<b>Partial</b>

**Legend:**

Yes = fully operational and meets standards

Partial = partially operational because additional requirements are anticipated or the current program element requirements are not yet completed

No = not yet in place

Source: Based on data provided by FEMA, the Army, and Oregon state and county emergency management agencies.

As a result of this progress, Oregon's ability to meet a chemical emergency has improved. Nevertheless, two key program elements—tone alert radios and coordinated plans—were not yet put in place, and some remaining elements were only partially in place. Consequently, local officials perceived an overall lack of readiness to deal with a chemical stockpile emergency. For example, CSEPP plans call for tone alert radios to be placed in homes, schools, hospitals, jails, nursing homes, and businesses to alert occupants, even when asleep, if an incident occurs and to provide instructions on what the occupants should do. The purchase of Oregon's tone alert radios has been delayed by a number of factors, including the state canceling its contract to acquire the radios and subsequently turning the acquisition process over to the counties. Although the counties are proceeding with acquisition of the tone alert radios, they do not expect to distribute the radios to all homes and businesses before December 1999.

The ability of communities to respond to a chemical stockpile emergency was also limited because training on personal protective equipment (protective suits) and chemical agent monitors was incomplete and the equipment had not been distributed. Without personal protective equipment, emergency response personnel cannot safely decontaminate, treat, or direct people who have been exposed to chemical agents. Further, as of April 1999, many of Oregon's emergency responders still had not been trained on key activities, such as chemical awareness and

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decontamination. Training had not progressed further for several reasons, including the lack of some equipment and scheduling problems. For example, training was initially scheduled during regular business hours when emergency responders, most of whom are volunteers, are at their regular jobs.

Additionally, detailed, coordinated, and integrated program implementation and emergency response plans were not yet in place. Federal, state, and local officials agreed that existing plans are not adequate and, in some cases, not current. Without effective plans, emergency responders do not know what roles, responsibilities, and protocols should be followed in the event of an emergency. Officials at the local level are concerned that they do not at present know where they should go in a chemical stockpile emergency or what other communities will be doing, and that they may not be able to communicate with other responders during an incident.

Figure 2: Individual Wearing a Personal Protective Suit During a CSEPP Exercise



Source: GAO.

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## Washington Has Also Made Progress

Since our 1997 report, Washington's ability to meet a chemical emergency has improved. Most program elements were operational in Washington at the time of our review. For example, Washington had operational sirens, reader boards, automated data processing, communications systems, and decontamination equipment. Other key elements already in place include an emergency operations center, an emergency response exercise program, and a community involvement program. Washington also has detailed, coordinated, and integrated emergency response plans that FEMA considers "excellent." These program elements, according to local officials, provide additional assurance that local citizens could be notified and would know what to do in the event of an accident.

However, two key elements—tone alert radios and personal protective equipment—were not yet in place in Washington and three elements—shelter-in-place kits, medical equipment, and training—were only partially complete.<sup>4</sup> At the time of our review, tone alert radio delivery and installation in residences and other structures was expected to be completed in August 1999. Shelter-in-place kits had been purchased but not yet delivered to residents. Officials stated that they plan to distribute the kits along with the distribution of tone alert radios from June through August 1999. Some necessary medical equipment and supplies such as atropine (a chemical agent antidote) were not available. Training was nearly complete for most emergency response personnel; however, personnel protective equipment had not been purchased and training had not been provided for this equipment.

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## A Results-Oriented Management Framework Could Enhance Oregon's Implementation Efforts

Progress in implementing CSEPP in Oregon has been hindered by planning and coordination problems. We believe the application of results-oriented principles to CSEPP could expedite emergency preparedness in Oregon's communities by improving program coordination and planning.

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<sup>4</sup> Shelter-in-place kits are not a CSEPP requirement in Washington; however, Benton County decided that it would provide the kits to community members as an additional protective action.

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## Planning and Coordination Issues Have Hindered CSEPP Progress in Oregon

Oregon did not develop an overall strategic implementation plan for CSEPP. Oregon does have some individual plans, such as a CSEPP annex to the state emergency operations plan, a state management project plan, and some local response plans. These plans, however, were not developed with input and consensus from all the responsible organizations, and they lack specific, agreed upon roles, responsibilities, milestones, objectives, and performance measures. In addition, some of the plans have not been updated to reflect demographic changes that have occurred in the region.

The lack of an overall strategic implementation plan has contributed to coordination problems among the various CSEPP organizations responsible for implementing elements of the program. Some key CSEPP local officials noted that participants were sometimes confused about who was responsible for the implementation of various program elements. For example, Oregon's state law makes counties responsible for emergency response planning. However, officials at the county level said they lack the expertise to develop the plans and that the communities should develop them. Community-level officials said they lack the expertise and resources to put such plans together and thus look to the counties and state for guidance and assistance. As of April 28, 1999, Morrow and Umatilla counties still did not have effective emergency response plans.<sup>5</sup> In view of this current situation and FEMA's responsibility for taking the lead in supporting state and local government development of emergency response plans, FEMA could take a more active role with Oregon officials to ensure that the plans are developed and coordinated.

Officials cited slow progress in acquiring tone alert radios as another example where coordination was affected by disagreements that have hindered efforts to increase preparedness. Because state and local officials disagreed, adversely affecting coordination and reaching consensus on (1) technical specifications, (2) obtaining bids for a radio that met specifications, and (3) selecting a contractor that best met the requirements, they have taken longer than originally anticipated to get this critical CSEPP capability in place and operational.

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<sup>5</sup>Response plans include emergency operations, communication, and medical responsibilities and procedures.

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## Results Act Principles Could Enhance CSEPP Implementation in Oregon

In Oregon, results-oriented management principles could help CSEPP officials develop more complete implementation plans. These principles include (1) setting overall program goals and objectives, (2) setting specific performance goals, (3) identifying the roles and responsibilities of program participants for goal achievement, and (4) specifying the strategies and resources to be used in achieving the goals. The application of these principles would in turn

- enhance coordination activities for all organizations participating in Oregon's program,
- provide those who must first respond to a chemical emergency incident a better understanding of their roles and responsibilities, and
- provide a roadmap to more smoothly and quickly put the unavailable or partially available program elements in place.

Oregon already has had positive experience with results-oriented management principles.<sup>6</sup> We studied Oregon and other states' experiences in implementing successful management reforms. We examined management reforms that are similar to those required by the Results Act, such as strategic planning and performance measurement, to assist federal agencies as they implemented the Results Act. In 1994, we reported that Oregon State officials found the strategic planning process to be instrumental in helping stakeholders—legislators, agencies, affected community groups, and others—to reach consensus on statewide goals. These officials said that, by using strategic planning to develop shared goals, state agencies and some local governments were able to work cooperatively across organizational boundaries to implement programs aimed at achieving those shared goals.

Washington's program has developed coordinated, integrated emergency response plans that generally follow results-oriented management principles, as have communities surrounding the Deseret Chemical Depot in Utah, considered the site with the most advanced program by the Army and FEMA. The Washington and Utah programs have far fewer people close to chemical weapons stockpiles and less complex programs than Oregon; however, in both locations, organizations involved in the program coordinated in developing the plans and officials at various levels had a clear understanding of their roles and responsibilities. In fact, the Governor

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<sup>6</sup> *Managing for Results: State Experiences Provide Insights for Federal Management Reforms* (GAO/GGD-95-22, Dec. 21, 1994).



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of Utah took a personal interest in ensuring that organizations involved in Utah's CSEPP worked together to protect the state's citizens. Utah's officials stated that this top leadership commitment contributed to Utah's obtaining the necessary program elements.

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## Conclusions

Progress in implementing the chemical emergency response program in Washington as well as in communities surrounding a storage site in Utah was, in part, due to effective and coordinated planning. We are not making any recommendations concerning Washington's program. Oregon's implementation progress, however, could be enhanced if it improved planning to clearly communicate program goals, objectives, strategies, resources, milestones, and roles and responsibilities to each organization and individual involved in the Chemical Stockpile Emergency Preparedness Program. If FEMA worked more actively with Oregon officials in developing detailed, coordinated, and integrated plans that follow results-oriented management principles, Oregon could enhance its emergency preparedness efforts. Such a strategy could establish a framework for program coordination and implementation in which everyone, including local emergency response personnel, understands their role and responsibilities, the time frames within which they must be achieved, and the resources available to achieve them.

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## Recommendation

We recommend the Director of FEMA work closely with Oregon State Chemical Stockpile Emergency Preparedness Program officials, Umatilla and Morrow County officials, and local community officials to apply results-oriented management principles in the development of an overall implementation plan. Specifically, this plan should (1) identify and clarify the roles and responsibilities of all the state and local government organizations having a stake in implementing the Chemical Stockpile Emergency Preparedness Program and (2) identify program requirements and actions that must be taken to fully prepare for a chemical stockpile emergency, the organization(s) responsible for taking each action (including any technical or other assistance required and who will provide it), and the specific amounts and sources of funding or other resources that are needed and that are available for implementing each action.

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## Agency Comments and Our Evaluation

In its written comments on a draft of this report, FEMA indicated that the report presents accurate information with respect to the Chemical Stockpile Emergency Preparedness Program in Oregon and Washington, as it stood earlier this year. FEMA also said it agrees that the program could benefit from a results-oriented management structure and cited several initiatives it has under way to achieve this. FEMA also agreed that planning needs greater emphasis and indicated it has obtained contractual support to help Oregon in upgrading and synthesizing program implementation plans. It did not, however, agree with our assessment that there were no coordinated plans. FEMA stated that it would be more accurate to show the existing plans as "partially" complete. FEMA did agree, however, that existing plans are outdated, as noted in our report.

While we agree that plans and elements of plans were available for some jurisdictions and/or functions, the available plans were neither current nor coordinated with the other jurisdictions. Coordination is crucial in a program such as the Chemical Stockpile Emergency Preparedness Program, where the actions and activities of one jurisdiction could potentially affect other jurisdictions. Evacuation routes, for example, must be coordinated so that traffic on the major routes will flow smoothly if an emergency occurs, thus alleviating congestion, confusion, and panic. Also, a key aspect of results-oriented management absent in Oregon's planning is the delineation of clear roles and responsibilities. Such delineation, for example, would alleviate the confusion we noted regarding the roles and responsibilities of the emergency responders. For these reasons, FEMA should continue to be more active in applying results-oriented principles to the program in Oregon, particularly in planning and coordinating program activities.

FEMA also provided comments on the status of the implementation of four other program elements discussed in the draft report. Although we did not have an opportunity to confirm the information on these elements, we included FEMA's input on two program elements—emergency operations centers and tone alert radios—in a footnote to table 1. In this footnote we stated that FEMA reported that the emergency operations centers were operational and that distribution of the tone alert radios would begin in October 1999. On training, FEMA commented that it is available at all levels and is a continuous process that is never completed. Although we agree, our point is that all emergency response personnel had not been given the necessary training. For example, the personnel protective equipment had not been issued to emergency response personnel because many had not

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been trained in its use. We also agree with FEMA's comment that decontamination equipment was available in February 1999. Our point, however, is that the vehicles necessary to tow the decontamination equipment where needed to cleanse residents who have been contaminated with chemical agents had not yet been delivered. Appendix II shows the status of these and other program elements at the time of our review. FEMA's comments are included in their entirety as appendix III of this report.

DOD orally concurred with our findings, but did not offer any other comments.

As agreed with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after its issue date. At that time, we will send copies of this report to the Honorable William Cohen, Secretary of Defense; the Honorable James Witt, Director, Federal Emergency Management Agency; and the Honorable Jacob Lew, Director, Office of Management and Budget. Copies will also be made available to others upon request.

If you or your staff have any questions about this report, please call me at (202) 512-8412. Major contributors to this report are listed in appendix IV.

Sincerely yours,



David R. Warren, Director  
Defense Management Issues

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# Scope and Methodology

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We obtained information from the Army and the Federal Emergency Management Agency (FEMA) on Chemical Stockpile Emergency Preparedness Program (CSEPP) policies, guidance, procedures, and CSEPP-funded items. We also examined a variety of planning and funding documents, obtained and analyzed data on the status of CSEPP-funded items, observed the program items in place and operational in Oregon and Washington, and observed an annual CSEPP exercise. Although we met with officials at the Umatilla and Deseret Chemical Depots where chemical weapons are stored, we did not assess the status of the depots' emergency response practices. Also, since the FEMA Inspector General had recently completed a financial audit of CSEPP in Oregon, we did not include financial audit steps in our review.<sup>1</sup>

To assess CSEPP's progress in enhancing emergency preparedness in Oregon and Washington, we interviewed officials and obtained, analyzed, and reconciled data given to us by officials from the Army Program Manager for Chemical Demilitarization, Washington, D.C.; the Federal Support Center in Olney, Maryland; the Soldiers Biological and Chemical Command in Aberdeen, Maryland; Umatilla Chemical Depot; FEMA headquarters and Region 10; Oregon and Washington Emergency Management Agencies; the Departments of Health and Environmental Quality in Oregon; the counties of Umatilla and Morrow in Oregon and Benton County in Washington; the communities of Boardman, Echo, Heppner, Hermiston, Irrigon, Pendleton, Stanfield, Umatilla City, and the Confederated Tribes of Umatilla in Oregon, and Kennewick, Paterson, Prosser, and Plymouth in Washington.

To determine whether there were lessons that could be learned from the program in Utah—considered the best CSEPP site by the Army and FEMA—we met with officials and obtained, analyzed, and reconciled data from the State of Utah's Comprehensive Emergency Management Agency and other agencies involved in emergency management, Tooele County Emergency Management, Salt Lake and Utah counties, Deseret Chemical Depot, and FEMA Region 8. We also observed the program items in place and operational in Tooele County.

We conducted our review from August 1998 through September 1999 in accordance with generally accepted government auditing principles.

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<sup>1</sup> *Financial Compliance Audit of Oregon's Chemical Stockpile Emergency Preparedness Program* (H-20-98, Sept. 30, 1998).

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# Status of Program Elements Not Available or Not Fully Operational in Oregon

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At the time of our review, some critical CSEPP equipment items and other program elements were either not yet available or only partially complete. Oregon had made progress since we last reported on its preparedness in 1997. The degree to which progress has been made toward getting critical program elements fully in place and operational has been limited by obstacles such as technical issues and disagreements over the need for certain items. The following is a discussion on the critical program elements that are either not yet available or only partially complete and their status as of April 1999.

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## No Tone Alert Radios

In 1997, we reported that tone alert radios were not available in Oregon. This item's status remains unchanged. These radios are considered a central component of an effective preparedness program, as they are a critical item of the indoor alert and notification system that would wake sleeping people indoors and inform them of what to do if a chemical agent emergency occurred. Acquisition of tone alert radios was initiated by state officials in 1994 and encountered several delays. The original contract for the radios was canceled in April 1997. Umatilla and Morrow counties took over the acquisition in March 1998, but before a contract was signed, a protest by an unsuccessful bidder resulted in litigation. The protest was subsequently withdrawn, and a new contract was signed in March 1999. County officials indicated that the first major shipment of radios is expected in October 1999. However, the radios are not expected to be available and operational in all the residences, businesses, and special facilities needing them until December 1999.

In the absence of the tone alert radios, a functioning emergency alert system could serve as an interim means of notification that an accident has occurred, although it would not serve to wake sleeping residents. However, at the time of our review neither Umatilla nor Morrow counties had a functional emergency alert system because the equipment is not operational and the necessary activation authority had not been given. The indoor alert and notification system relies on television and radio to provide basic warnings and to notify the public of protective actions. Several officials consider the lack of a functioning system to be a serious program shortcoming.

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## Lack of Coordinated Plans

At the time of our review, there were no overall coordinated and integrated plans for emergency preparedness and response. Emergency response plans detailing operations and evacuation strategies had not been updated.

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**Appendix II  
Status of Program Elements Not Available or  
Not Fully Operational in Oregon**

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More recently, a draft communications plan was completed in January 1999 and a draft medical response plan was completed in April 1999. Although these plans existed, local emergency responders generally felt that they do not provide details about where personnel are supposed to go and what they are supposed to do. Under Oregon law,<sup>1</sup> counties are responsible for emergency response planning at the local level. County officials, however, indicated that they lack the expertise to produce such plans and have requested assistance from the state and FEMA. Oregon's fiscal year 1999 CSEPP budget included \$80,000 for planning and management assistance.

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**Emergency Operations  
Centers Nearly Complete**

While neither emergency operations center was complete when we last reported in 1997, Umatilla County's emergency operations center became fully operational in March 1999 and Morrow County expected its renovated center to be completed in June 1999. Although the space was not yet complete, the emergency management staff had access to the necessary computer and communications equipment and could obtain incident information and data.

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**Tactical Communication  
System Is Partially  
Operational**

The CSEPP tactical communications system capability in Oregon was only partially operational at the time of our review. The technical problems experienced in 1997 continue to impede its completion. Oregon officials indicated that radio coverage was incomplete because not all the necessary repeaters were installed. Additionally, the counties have not obtained the necessary radio frequencies and have not yet finalized an integrated coordinated communications plan, including the communication protocols to be used during an emergency. In the absence of the necessary repeaters or frequencies, emergency response personnel were unable to communicate with each other or the emergency operations centers. The system consists of a dedicated telephone system connecting the depot and both the state and county emergency operations centers and a radio system that operates independently of other public safety systems.

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<sup>1</sup> Oregon State Statute 401 states that the counties must provide emergency planning at the local level.

**Personal Protective  
Equipment Available but  
Not Distributed**

Some progress has been made since 1997, when neither personal protective equipment nor chemical agent monitors were available. Personal protective equipment is considered a critical response item and, according to CSEPP guidance, should be used whenever emergency personnel could encounter a chemical agent during their work. Oregon also requires use of chemical agent monitors because the level of protection provided by the CSEPP-approved suits is insufficient to protect emergency response personnel from high concentrations of chemical agents. As of April 1999, Oregon had 280 personal protective suits, but had not yet distributed them to emergency response personnel because the necessary health assessments and training were incomplete. About 68 percent of the emergency responders had completed their medical evaluations and 48 percent of eligible responders had completed their respiratory training at the time of our review. According to the personal protective equipment coordinator, once the training is completed, the equipment can be distributed. The coordinator anticipates completing the training and distributing the equipment by December 1999.

In January 1999, the Army agreed to provide improved chemical agent monitors to Oregon. Under the current agreement, the Army is to provide 10 monitors to Umatilla County and 10 to Morrow County. The Army also agreed to instruct personnel on the use of monitors and to maintain and, if necessary, replace malfunctioning monitors. The monitors are at the Umatilla depot and will be distributed once the required training is completed.

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**Trucks Needed to Pull  
Decontamination Trailers**

Although personnel decontamination equipment is currently available in Oregon, Morrow County did not have the necessary tow vehicles. The counties have had the four decontamination trailers since December 1998. However, completed delivery of Umatilla County's tow vehicles had not occurred as of April 1999, and Morrow County's tow vehicles were not expected until June 1999. Deliveries of Oregon's tow vehicles have been delayed because of the manufacturer's production schedule. Making personnel decontamination equipment available to cleanse residents who have been contaminated with chemical agent is considered to be an urgent priority as it minimizes adverse health effects and prevents the spread of agents to others.



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**Some Shelter-in-Place Kits  
Are Now Available**

Shelter-in-place kits were not available in 1997. Shelter-in-place kits are necessary because residents may not have time to evacuate due to the depot's proximity. Although Morrow County distributed 1,200 kits in March 1999, it needs an additional 2,800 kits to protect all the households in the affected area. Morrow County is seeking funding from FEMA to purchase the additional kits. At the time of our review, Umatilla County had not purchased the approximately 13,000 kits it needs. The kits will be distributed via mail. Originally, Umatilla County planned to distribute the kits in conjunction with tone alert radios. Delays in obtaining the radios, however, require that a new distribution plan be developed. Shelter-in-place enhancements can be as simple as using shelter-in-place kits for taping doors and windows or as elaborate as installing pressurized air filtration systems.

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**Pressurization Projects Are  
Partially Complete**

Oregon has completed pressurizing 11 schools—9 in Umatilla County and 2 in Morrow County. However, over-pressurization systems have not yet been installed at a hospital and a nursing home, where they are also required. In addition to the already pressurized schools, a new school being built in Umatilla County is also to be pressurized. Pressurization is part of the approved design and funding for the project. Pressurization systems draw outside air into the shelter through a filter that removes chemical agents. The pressure from the filtered air increases to the point that the contaminated air from the outside cannot leak into the facility. Pressurization is considered necessary for facilities near the depot that have insufficient time to evacuate.

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**Medical Capabilities in  
Oregon Are Partially  
Complete**

Medical capabilities—including those related to training, supplies, and equipment—are partially complete. Oregon hired a medical preparedness officer in August 1998 to develop a medical plan and train emergency response personnel and hospital staff on the signs, symptoms, and treatments associated with chemical agents. A draft medical plan was completed in April 1999 and is currently being reviewed by the Army and the Centers for Disease Control. Medical training has been completed for approximately 80 percent (217) of emergency responders, medical technicians, doctors, and nurses. However, Oregon does not have all the necessary medical supplies. According to the medical officer, approximately half of the supplies are on hand and the other half have yet to be purchased. Among the most critical medical items not yet available is

the chemical agent antidote atropine. The hospitals also need equipment such as tents and personal protective equipment.

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### Training of Emergency Response Personnel Is Incomplete

Oregon has made some progress on this program element since 1997. Training addresses activities associated with emergency preparedness, such as chemical awareness, use of personal protective equipment, and decontamination. Oregon has conducted medical training for most first responders, doctors, nurses, and emergency medical technicians. It has not completed training for personal protective equipment because the necessary health evaluations are not complete. Another factor limiting progress was scheduling of the available training to correspond with the availability of emergency response personnel who are, for the most part, volunteers. Initially, training classes were not offered at times, such as evenings and weekends, when the volunteers could attend. At the time of our review, state and county officials were developing a training schedule to accommodate the volunteers' schedules.

### Additional Equipment and Supply Items Are Needed in Oregon

Officials in both Umatilla and Morrow Counties said they have insufficient buses to evacuate all the school children in their counties. Accordingly, both counties requested funding for additional buses in the fiscal year 1999 budget, which was denied by FEMA headquarters. Umatilla County requested two additional buses for schools in the town of Echo. In justifying the request to FEMA, Umatilla County stated that the current bus fleet was not adequate to evacuate all the students and employees in the Echo School District. Although FEMA headquarters declined to fund the buses, both the state and FEMA Region 10 agreed that the buses are needed. FEMA Region 10 indicated that it would find some way to obtain the buses, such as from another part of the Oregon program. Two buses are currently being purchased by the Echo School District and will be paid for with CSEPP funds. Morrow County requested six additional buses in the fiscal year 1999 budget. According to the Morrow County CSEPP manager, not all the students could be evacuated in one trip from Boardman because half the buses were currently located in Irrigon and the other half were in Boardman. Moreover, the county believed that additional buses were needed to evacuate students from a new special education facility in Irrigon.

Another area of concern was supplies for pressurized schools. These supplies include ready-to-eat meals and blankets that would be used by students and faculty if sheltering-in-place were required. Morrow County

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**Appendix II  
Status of Program Elements Not Available or  
Not Fully Operational in Oregon**

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had purchased and distributed some emergency supplies and had sufficient amounts for its pressurized facilities if sheltering-in-place were required today. However, Umatilla County had not yet purchased its school supplies. The county and FEMA have agreed to maintain enough supplies for a 12-hour period. Funding for the supplies was included in the fiscal year 1999 budget, and the county anticipates having the supplies in schools by September 1999, when the new school year begins.

# Comments From the Federal Emergency Management Agency



## Federal Emergency Management Agency

Washington, D.C. 20472

SEP 17 1999

PT-CR

Mr. David R. Warren  
Director  
Defense Management Issues  
General Accounting Office  
Washington, DC 20548

Dear Mr. Warren:

We have reviewed the draft report *Chemical and Biological Defense: Status of Oregon's Chemical Stockpile Emergency Preparedness Program* (GAO/NSIAD-99-218). The report appears to present accurate information with respect to the CSEP Program in Oregon and Washington (as it stood) earlier this year. We compliment the review team for the effort they made to provide a comprehensive report and appreciate their comments regarding the significant progress that has been made since the last GAO study. This progress attests to our continuing commitment to public safety in and around the Umatilla Chemical Depot.

We also appreciate the opportunity to comment on the draft report. Our first comment concerns your reference to planning in the State of Oregon. We agree that planning needs greater emphasis. We recognized this need early this year and worked with the state to obtain assistance in upgrading and synthesizing their plans. The effort is still underway and is being monitored on a regular basis by our Regional and Headquarters staff. While our assistance is primarily contractual at the present time, we are also emphasizing that the State and county planning staff avail themselves of our numerous CSEPP training courses on planning, as well as our automation planning tools. We will continue to work with the State and we will maintain a priority focus on the need for improved and synchronized plans.

Secondly, we would like to comment on five specific areas that you have included in the draft report. These include the status of Emergency Operations Centers, decontamination equipment, plans, training and tone alert radios. Each is discussed below.

- ◆ **Emergency Operations Centers:** All of the EOCs are operational and were so at the time of the GAO study. Morrow County is nearing completion on a sizable expansion project. However, the county's EOC has been operational throughout the expansion period.
- ◆ **Decontamination Equipment:** This equipment has been in place since February 1999. Training is ongoing to ensure that local emergency workers can operate the decontamination units.

Appendix III  
Comments From the Federal Emergency  
Management Agency

- ◆ Plans: The draft report indicates that plans are not in place. We would prefer that you recognize in the report that plans *are* in place. The problem, as captured in your report, is the current *status* of plans, rather than the issue of whether or not they *actually exist*. The fact that they have become outdated and need to be synchronized is a separate issue and is certainly a critical item that will be addressed. However, we believe that the report would be more accurate if plans were shown as "partial".
- ◆ Training: Training programs are in place at all levels. The State of Oregon has access to more than 20 CSEPP-specific programs, as well as a number of non-CSEPP courses designed to enhance the response capabilities of emergency workers, planners and medical staff. The need for training will continue over the life of the program because of new hires and staff turnover.

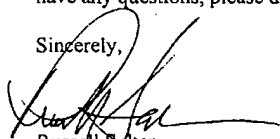
Training is an ongoing, continuous process; it is never completed per se. Thus, as we do remedial training and replacement training, the status of training will continue to be partial. Scheduling considerations also affect training because, at the present time, the trainees are volunteer first responders.

- ◆ Tone Alert Radios (TARs): While this was not known at the time of the study, we want to make you aware that, with respect to Washington, distribution of TARs is to commence September 20, 1999 and is to be completed by mid-October. With respect to Oregon, distribution is to commence next month. We are particularly sensitive to the critical nature of this aspect of the program.

Lastly, we would like to comment on your reference to our need for a "results oriented management framework". We could not agree more that CSEPP would benefit from a results oriented management structure by which we can ensure the program's timely capability development. To that end, in February 1998, we instituted a new management structure. Using Microsoft Project 98 software, we can now project completion dates, results and costs associated with each of the program benchmarks. This, coupled with quarterly In Process Reviews with our FEMA Regions, has significantly improved our management, streamlined our planning for CSEPP, and it will enhance our ability to meet the program deadline. More recently, we have incorporated a GPRA approach into our Cooperative Agreement Guidance, beginning in FY 2000, so that outcomes are planned appropriately and "connected" with actual funding.

Thank you for the opportunity to comment in writing on the draft GAO report. If you have any questions, please do not hesitate to call me at (202) 646-3030.

Sincerely,



Russell Salter  
Director  
Chemical and Radiological Preparedness Division

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# GAO Contacts and Staff Acknowledgments

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## Acknowledgments

In addition to those named above, Yolanda Cuellar-el-Serwy, F. Earl Morrison, Randolph D. Jones, and Julie M. Hirshen made key contributions to this report.