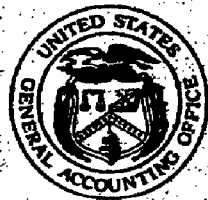


GAO

May 1991

**CHEMICAL  
WEAPONS**

**Physical Security for  
the U.S. Chemical  
Stockpile**





National Security and  
International Affairs Division

B-239321

May 15, 1991

The Honorable John Glenn  
Chairman, Committee on Governmental  
Affairs  
United States Senate

The Honorable John Conyers, Jr.  
Chairman, Legislation and National  
Security Subcommittee  
Committee on Government Operations  
House of Representatives

In response to your requests, we reviewed the adequacy of the Department of the Army's physical security measures to guard against attacks on chemical weapons storage and production facilities and against the diversion or theft of these weapons. Our review focused on the Army's compliance with and the adequacy of the policies and procedures for chemical weapons' physical security established by the Department of Defense (DOD). We also gathered information on the number of sabotage or diversion attempts that have been made. On March 14, 1991, we issued a classified report on our findings. This is an unclassified version of that report.

## Background

The United States maintains a large stockpile of toxic chemical weapons to deter other countries from using chemical weapons and to retaliate if necessary. The Army, as the single manager for chemical weapons, has established minimum physical security standards. Local commanders are required to comply with the standards, to perform local site vulnerability assessments to determine whether security should be upgraded, and to use the results of the assessments in developing the sites' physical security plans. The Army's Chemical Personnel Reliability Program provides a means of assessing the reliability and acceptability of individuals being considered for and assigned to chemical duty positions, such as security guards.

## Results in Brief

The nine chemical storage sites we visited generally complied with the Army's physical security standards. We observed only a few exceptions. For example, inadequate assurances exist that civilian security guards at storage sites can perform effectively in emergencies because (1) their physical fitness has not been tested against specific agility standards;

(2) they are working excessive overtime hours; and (3) at some sites, the guards' fleets of motor vehicles had maintenance and operational problems that raise questions about fleet readiness. Also, prescreening for the Chemical Personnel Reliability Program was not always adequately performed for personnel transferring to one of the chemical storage sites.

Although the standards are generally complied with, the sites are potentially vulnerable to aerial and ground attack. However, no chemical incident related to physical security, such as sabotage or diversion attempts, has occurred at the storage sites in the past 5 years, and DOD considers the threat of such incidents to be low. Nevertheless, the Army cannot be assured that physical security is adequate because only a limited number of site vulnerability assessments have been performed, definitive guidance for performing the assessments is lacking, and no provision exists for considering the impact of the assessment results on the minimum standards.

## Sites Are Generally Complying With Standards

We found that local commanders generally complied with the physical security standards. Security measures in place included perimeter and structural security, access controls, and guard forces. We noted only a few shortcomings. For example, Army guidance requires local commanders to ensure that the security guard force is physically fit. However, the Army had not issued the physical agility standards needed to test the guards' fitness. The Army recognized the need for standards and, after our review, approved agility standards for the guards.

Security officials also expressed concerns about civilian guards' working excessive overtime hours. They acknowledged that excessive overtime can affect the proficiency and morale of the guards.

The Army requires that reliable security fleet vehicles be available at chemical storage sites to ensure effective force deployment. However, our review of maintenance records and related information at five storage sites showed that the security guard fleets' vehicles had high mileage and were frequently out of service for unscheduled maintenance.

We also found that, because Army organizations that transferred personnel to the chemical mission at one storage site had not always adequately prescreened personnel for the Chemical Personnel Reliability

Program, guards had been transferred who did not meet the program's qualifications.

## Chemical Sites Are Potentially Vulnerable to Terrorist Attacks

All nine of the sites we visited were potentially vulnerable to aerial attack. Also, key security officials at four sites believe that their sites are vulnerable to ground attack.

The potential for a successful terrorist action appears to be greater if the intent is to damage or destroy the chemicals rather than to steal or divert them. According to 1985 memorandums prepared by the Assistant Secretary of Defense for Atomic Energy, the potential consequences of a chemical incident may or may not be devastating. He stated that causing a few 1-ton containers to split open and leak could cause only a few casualties; maybe none. He also stated that the potential consequences of destroying a chemical storage igloo were less severe than they would be in the case of nuclear weapons, but the local effects of a downwind hazard could be devastating.

## No Chemical Incidents in the Past 5 Years

Although the sites are potentially vulnerable to terrorist attack, no chemical sabotage or diversion attempts have been made at the storage sites in the past 5 years. Further, DOD postulates that the threat of potential adversaries' attacking a DOD chemical weapons facility or asset is low. DOD indicated that it had no documented evidence that there was a threat that terrorists would attack or attempt to steal chemical material at any specific location. However, the fact that an installation has not been attacked by terrorists is not, in itself, valid proof that the minimum standards are adequate. Therefore, DOD has directed that local commanders perform site-specific assessments to determine whether an upgrade in local physical security is needed.

## Formal Site Vulnerability Assessments Have Not Been Conducted Promptly

Since October 15, 1986, DOD has required that formal site vulnerability assessments be done. An initial assessment was to be made at each site and updated yearly or as new vulnerabilities became apparent. However, no initial assessment had been done before 1989, because the Army did not issue its implementing regulation until February 25, 1989. An Army representative told us that the delay in issuing the implementing regulation was due to the extensive coordination required among several Army organizations. At the time of our review, only three of the nine locations we visited had completed their initial assessments.

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## The Army Needs to Improve Its Guidance for Ensuring Adequate Physical Security

Although the Army established some criteria for judging the adequacy of chemical weapons' physical security, those criteria were not specific, and therefore, the Army could not ensure that all appropriate factors were considered or that the criteria were consistently applied.

We found that the Army's guidance for formal site vulnerability assessments required local commanders to assess "inherent risks" and "associated threats" and ensure that physical security was appropriately balanced with the risks and threats. However, the Army does not define "risks" or "threats" in its guidance or specify the type of risk or threat factors to be considered. On the basis of limited documentation on the types of risk and threat factors that DOD considered in establishing minimum standards, we found that local commanders had not considered some of the same factors, such as potential damage and the consequences of that damage, in their vulnerability assessments. Because the Army does not require local commanders to document the process they use to conduct the vulnerability assessments, a full evaluation of local commanders' assessments of risk and threat factors is not possible.

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## No Provision for Considering the Impact of the Assessment Results on the Minimum Standards

Because Army headquarters' program officials are not required to routinely evaluate the formal site vulnerability assessments, the Army (1) does not have reasonable assurance that the security arrangements at each site are meeting expectations, (2) cannot determine the adequacy of the minimum standards, and (3) forgoes the use of a potentially valuable management tool to identify both common and unique problems and concerns.

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## Recommendations

We recommend that the Secretary of Defense direct the Secretary of the Army to take the following actions:

- Monitor and evaluate overtime hours for security guards and associated costs.
- Conduct a continuing objective analysis of the condition and readiness of the security guard fleets' motor vehicles at sites where there are concerns about vehicle reliability and take appropriate action to ensure vehicle readiness.
- Take actions necessary to ensure that personnel who do not meet the Chemical Personnel Reliability Program qualifications are not assigned to chemical storage sites.

- Prescribe uniform and definitive procedures for local commanders of chemical storage sites to follow in performing formal site vulnerability assessments and require the commanders to document the processes they use to ensure that protection afforded chemical weapons is appropriate to risks and threats.
- Review formal site vulnerability assessments and use the assessment results to determine whether changes to the minimum standards for safeguarding the chemical stockpile are needed.

## Scope and Methodology

We reviewed documents and interviewed officials of the Office of the Secretary of Defense, the Army, and the Army Materiel Command, Washington, D.C.; of the U.S. Army Western Command at Johnston Atoll, which is located on an island in the Pacific Ocean; and at 9 of the 10 DOD chemical storage sites, which included Pine Bluff Arsenal, Arkansas; Aberdeen Proving Ground, Maryland; Anniston Army Depot, Alabama; Lexington-Blue Grass Army Depot, Kentucky; Newport Army Ammunition Plant, Indiana; Johnston Atoll; Tooele Army Depot, Utah; Pueblo Army Depot Activity, Colorado; and the Umatilla Army Depot Activity, Oregon. Because the removal of chemical weapons from the remaining storage site, located in Europe, was pending, we did not include it in our review. We performed our review from June 1989 to November 1990 in accordance with generally accepted government auditing standards.

As requested, we did not obtain official agency comments on this report. However, we discussed information obtained during the review with agency officials and included their views where appropriate. The specific details of our findings have been classified by DOD and therefore have been excluded from this report.

We are sending copies of this report to the Chairmen, Senate and House Committees on Appropriations and on Armed Services; the Director, Office of Management and Budget; and the Secretaries of Defense and the Army. We will also make copies available to other interested parties upon request.

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Please contact me at (202) 275-4141 if you or your staff have any questions concerning this report. GAO staff members who made major contributions to this report are listed in appendix I.

A handwritten signature in cursive script that reads "Richard Davis".

Richard Davis  
Director, Army Issues





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