United States General Accounting Office 134356

GAO Testimony

For Release
on Delivery
Expected at
10:00 a.m.
Thursday
November 5, 1987

Department of Defense
Hazardous Waste Management

Statement of Frank C. Conahan
Assistant Comptroller General
National Security and
International Affairs

Before the
Subcommittee on Environment,
Energy and Natural Resources,
Committee on Government
Operations
House of Representatives

040504/134356

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss our work on the Department of Defense's (DOD's) efforts to manage its hazardous waste generation, storage, and disposal and to clean up its hazardous waste disposal sites. I have attached to this testimony a list of our major reports on DOD's hazardous waste activities over the past 4 years.

BACKGROUND

Hazardous waste, when improperly managed or disposed of, can pose a serious threat to human health and the environment. DOD is a large generator of hazardous waste and, in 1986, produced hazardous waste at 505 of its 871 installations in the United States. The types of hazardous waste found at DOD installations include, among others, solvents, polychlorinated biphenyls (PCB), contaminated sludges, acids, cyanides, and contaminated fuel and oil.

Over the last decade, the Congress has enacted major legislation concerning the management and cleanup of hazardous waste. The Resource Conservation and Recovery Act (RCRA) of 1976, as amended, provides for regulatory controls over the generation, transportation, treatment, storage, and disposal of hazardous waste. DOD, as any other generator of hazardous waste and operator of treatment, storage, and disposal facilities, must comply with

RCRA requirements. Generally, DOD considers each installation to be a separate entity for regulatory purposes.

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended, commonly known as Superfund, provides for the cleanup of the nation's hazardous waste sites, including those currently and formerly owned by federal agencies. Although federal agencies must comply with the CERCLA's requirements to the same extent that private entities do, they cannot use CERCLA funds to clean up their sites.

DOD COMPLIANCE WITH THE RESOURCE CONSERVATION AND RECOVERY ACT

We have issued several reports on DOD's compliance with RCRA and its implementing regulations, including specific installation reviews such as at Tinker, Anderson, and Kelly Air Force Bases and the Guam Naval Complex. Overall, we found that DOD and many installations have made progress toward coming into compliance with RCRA requirements but have yet to achieve full compliance.

In a May 1986 report on DOD's management of hazardous waste generation, storage, and disposal, we noted that at 14 installations we visited, 12 had been cited for at least one RCRA violation during 1984. These installations were out of compliance for a number of reasons, including the inability of the Defense

Logistics Agency to dispose of hazardous waste and to construct storage facilities in a timely manner. DOD assigned the Defense Logistics Agency the responsibility to act as the agent for the military installations for constructing storage facilities that complied with RCRA requirements and to provide disposal services for certain types of hazardous waste.

In addition to the storage and disposal problems, we found that at the 12 installations, 65 percent of the other violations were of the more serious nature according to the Environmental Protection Agency (EPA). These included problems in record keeping and the tracking of hazardous waste shipments, hazardous waste container management, and groundwater monitoring. We also found that DOD could do more to reduce the volume of waste requiring disposal by changing maintenance and overall processes and procedures, reusing and recycling the waste materials, and better utilizing industrial waste treatment plants.

The problems of delayed hazardous waste disposal, slow construction of storage facilities, and limited hazardous waste reduction still exist at the individual installations we reviewed. In an April 1987 report, we noted that DOD's Guam installations have not complied with the RCRA regulations concerning hazardous waste management because of the Defense Logistics Agency's inability to dispose of their hazardous waste. At Anderson Air Force Base and the Naval Complex in Guam, hazardous waste was not disposed of in a

timely manner because of the difficulty in finding a capable contractor willing to bid on the disposal contract. Because Guam does not have adequate storage facilities, waste materials were being stored improperly.

In a July 1987 report, we provided details on the siting of a Defense Logistics Agency storage facility at Kelly Air Force Base. Members of the surrounding community raised objections to the facility at the hearings on the final operating permit required by RCRA implementing regulations because it is located near a community playground and homes. According to federal and state environmental agency officials, the siting of the storage facility complies with federal, state, and DOD siting standards.

Even though the facility complies with RCRA regulatory requirements, the issuance of the final permit was delayed pending a determination of whether the storage of hazardous waste may affect public health or the environment. Since our report was issued, the Texas Water Commission's hearings examiner, based on data obtained during the public hearings on Kelly's final permit application, recommended to the Commission that Kelly be given only a 2 year non-renewable permit. Depending on the Commission's final decision, the Defense Logistics Agency may have to construct another facility for hazardous waste storage.

Our July 1985 report on the hazardous waste management at Tinker Air Force Base noted that Tinker (1) sold, transferred, or disposed of waste oils, fuels, and solvents rather than the preferred method of recycling them, (2) lacked adequate management controls to ensure proper disposal of wastes by its contractors, (3) lacked accounting controls over payments to disposal contractors, and (4) underused and poorly managed its industrial waste treatment plant.

In an October 1987 report, which was a follow-up on Tinker's actions in response to recommendations in our 1985 report, we noted that Tinker initiated or plans to initiate actions to reduce its hazardous waste generation and has instituted several management controls to prevent improper disposal of wastes. In addition, it has installed accounting controls to prevent improper payments to the disposal contractors.

In a classified report concerning hazardous waste management at overseas installations, we also identified similar problems to those found at bases in the United States.

DOD RESPONSE TO THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT

DOD created the Installation Restoration Program (IRP) to respond to CERCLA requirements. The IRP was initiated to identify hazardous waste disposal sites, assess their potential for

contaminating the environment, and take appropriate corrective action. The program consists of four phases. Phase I is an assessment of an installation to determine its potential for having contaminated sites. Phase II is to confirm that contaminants are affecting the environment. Phase III is used for developing technology needed to solve the more complex problems associated with cleaning up contaminated areas. In Phase IV, the required corrective actions are taken.

In a review completed in April 1985, we evaluated the implementation of the IRP by DOD and the services' technical agencies as a whole. This review also included the base level implementation of the IRP at 18 Army, Navy, and Air Force installations. In addition, we have extensively reviewed the IRP implementation at some of DOD's individual installations, including McClellan, Tinker, and Anderson Air Force Bases and the Guam Naval Complex. Overall, we found that DOD and the installations have initiated actions to identify and evaluate suspected problems, but much still needs to be done.

We also found that, although DOD policy calls for coordination with federal and state regulatory authorities, the level of involvement with the regulatory authorities could be increased to help facilitate the efficient implementation of the IRP. Six of the 18 installations encountered problems which could have been minimized with earlier regulatory involvement.

In our detailed reviews of individual installations, we found that most regulatory agencies still have had limited involvement in the installation IRP process, and as a result, agency officials are questioning some of the actions taken by the installations because they do not fully respond to state regulatory requirements. In contrast, in our July 1987 report on Tinker Air Force Base, we noted that federal and state regulatory officials agreed that Tinker, after reorganizing its hazardous waste management organizations, is making progress in identifying and cleaning up its hazardous waste sites.

In a May 1987 report on efforts of Anderson Air Force Base and the Guam Naval Complex to identify its hazardous waste sites, we noted that federal and Guam officials believed that both installations need to include more site assessment work in Phase II because of deficiencies in the Phase I work. We noted in our November 1983 report on McClellan's actions to deal with its contamination problems that regulatory officials had limited participation in McClellan's IRP study and criticized its adequacy. Subsequently, McClellan established a management committee, which includes regulatory agencies, to review and coordinate its cleanup activities.

Under CERCLA, liability for the cleanup of hazardous waste sites does not terminate when the property is sold to another party, and

therefore, we reviewed DOD's efforts to identify contamination on its excess properties and cleanup efforts at two formerly owned properties. In a December 1986 report on DOD's efforts to preclude the disposal of contaminated prooperty, we discussed the results of the visits we made to 19 installations. We found that DOD had not adequately assessed the condition of its excess land and had declared seven potentially contaminated properties excess. Further, at six installations, hazardous waste sites were in the nearby vicinity of excess property. At four of these installations, we were told by state environmental officials that migration of contaminants from these sites may affect the excess property.

We also reviewed the cleanup efforts underway at the former Hamilton Air Force Base and the former West Virginia Ordnance Works. Generally, we found that DOD initiated its identification and cleanup efforts after some delays caused by the different services that had used the facility but did not want to take responsibility.

We also reviewed 30 of the Air Force's Phase I reports and found that they were prepared in accordance with applicable guidance. However, in 14 of the reports, we noted that the Phase I contractors recommended several sites on the installations for Phase II actions while similar sites with higher ranking scores were not recommended. Air Force officials told us that a thorough

analysis of each installation's study would have to be made before they could tell us why this happened. Air Force officials told us that some of the sites with higher scores should have been recommended for Phase II, because it is possible that harmful contamination from these sites could reach the groundwater.

In response to your September 22, 1987, request, we reviewed the Navy's actions concerning the May 26, 1987, PCB spill at Piti Power Plant, Navy Public Works Center, Guam, and the Air Force's efforts to clean up groundwater contamination at Air Force Plant 44, Tucson, Arizona.

PCB TRANSFORMER SPILL IN GUAM

On May 26, 1987, about 20 gallons of PCB oil spilled out of a large transformer located inside Piti Power Plant at the Navy Public Works Center, Guam. Several employees inside the plant were directly exposed to PCB oil while others were inside the plant at the time of the incident. The Navy has kept the plant operating and has conducted a partial cleanup, which was halted on July 14, 1987, because of the discovery of dioxin and furan (toxic chemicals that can be generated when heat or fire is applied to PCB oils).

During the cleanup the Navy did not outfit the PCB cleanup crews in the recommended personnel protective equipment. Both the Navy Environmental Support Office's Program Management Guide and the

National Institute for Occupational Safety and Health recommend the use of saranax-coated tyvek coveralls (a synthetic, chemically resistant coverall) when exposure to PCB liquids is anticipated. Navy Public Works Center cleanup crews at Piti Power Plant wore non-saranax coated tyvek coveralls.

The Navy did not determine the initial medical history or provide medical monitoring to many PCB exposed employees. The Navy's Hazardous Substance Spill Contingency Planning Manual states that the on-scene operations cleanup team that works with or near hazardous substances shall be provided continuous medical monitoring, including a preplacement physical examination. In addition, the Site Specific Health and Safety Plan for Piti Power Plant states that all personnel who operate the plant or work in the PCB cleanup shall participate in a medical monitoring program. This program is to be initiated when an employee starts work and is continued on a regular basis.

The Navy also did not provide employees with required training. Occupational Safety and Health Administration regulations state that those who may be exposed to hazardous substances shall receive a minimum of 40 hours of initial instruction off the site in safe work practices, use of personnel protective equipment, medical requirements, and hazardous substance handling and response. Also required are 3 days of actual field experience in hazardous

substance cleanup and response under the direct supervision of a trained, experienced supervisor.

Finally, the Defense Reutilization and Marketing Office is not storing PCB waste from the spill in compliance with applicable regulations. Regulations require PCB storage facilities to have a continuous six-inch high curb to prevent runoff from spills, and state that PCB waste over 50 parts per million must not be stored outside such a facility for longer than 30 days. The Defense Reutilization and Marketing Office in Guam does not have a storage facility with a continuous six-inch curb, and has stored much of the PCB waste over 50 parts per million outside for longer than 30 days.

AIR FORCE PLANT 44, TUCSON, ARIZONA

In 1981, during a groundwater monitoring inspection of the Tucson area, EPA identified groundwater contamination in the vicinity of Air Force Plant 44 and the adjacent Tucson International Airport. The contaminated area is about 4.5 miles long and about one mile wide. Subsequent to the EPA inspection, officials from the local and state regulatory agencies determined that the groundwater contamination was emanating from several locations including Plant 44, several disposal sites, an old landfill, and a fire training area. The Air Force or its contractors have used several of these sites for hazardous waste disposal.

After the EPA inspection, the Air Force and Hughes Aircraft Company, which operates Plant 44, undertook studies which concluded that there was groundwater contamination under Plant 44 and it emanated from disposal sites used prior to 1977. They also concluded that contamination from Plant 44 extended only to the vicinity of a road, about a mile and a half from Plant 44.

To clean up the groundwater contamination, Hughes and the Air Force began constructing a treatment plant in May 1986 and it became operational April 1987. By the end of November 1987, Hughes officials expect the plant to be working near capacity treating 4,500 gallons per minute 24 hours a day. Air Force funding, allocated from the Installation Restoration Program (IRP) account, for the plant as of September 1987 is $30.7 million, $24.4 million for the design and construction of the plant, the control building, and the extraction and recharge wells and $6.3 million will be used for 2 years operation and to drill additional extraction and recharge wells.

Hughes would prefer to continue operating the plant for the next 10 to 15 years using IRP funds. However, the Air Force is considering various alternatives to fund the cost of future treatment plant operations, including making it part of the overhead portion of Hughes' plant operating contract and apply the cost of treatment across the board to all items produced at the plant.

The regulatory agencies' officials believe that the plant the Air Force built is a good one and is doing a good job. However, regulatory officials disagree with Air Force and Hughes officials over the extent of contaminant migration from Plant 44. Based on information developed by their investigative contractor, they believe that the contamination from Plant 44 has spread beyond the road, probably to the entire 4.5 mile length of the contaminated area. The EPA and Arizona investigative contractors, hired to determine the sources and extent of the contamination, concluded in their reports that the contamination emanating from Plant 44 could have migrated to the northern extremities of the contaminated area identified so far. However, Hughes officials state that neither contractor has complete and conclusive data that contamination from Plant 44 has migrated that far because there are insufficient monitoring wells and related data.

Officials from EPA, state, county, and city agencies told us that they did not begin their investigative efforts to determine the extent and sources of contamination until late 1985, about 4 years behind the Air Force program. These agencies and EPA have work underway now to identify the sources of contamination and to determine the effect each source has had on the contaminated area.

When the contamination was first identified, all of the involved parties participated in a technical review committee set up to make

plans for determining the extent of contamination and what would be their share of the cleanup costs. However, this early cooperation fell apart when the first lawsuits were filed by the people living in the vicinity who had used the contaminated groundwater as drinking water. They alleged that the groundwater contamination had caused adverse health effects.

EPA has designated the area, including Plant 44, a National Priorities List site and is using Superfund money to test the groundwater and to determine the extent and sources of contamination. In September 1987, EPA sent a notice to all involved, including Air Force and Hughes officials, to attend a planning conference in late 1987 to determine the specific share of the total cleanup costs for each entity that contributed to the contamination of the groundwater.

Officials from the regulatory agencies state that their failure to initiate timely investigative actions probably has caused the cleanup of the total site to be delayed by several years. It also may result in a piecemeal solution to the problem with a longer cleanup period and extra costs.

- - - - -

This concludes my prepared testimony. At this time, I would be happy to answer any questions you may have.

ATTACHMENT ATTACHMENT

GAO REPORTS ON DOD'S MANAGEMENT AND CLEANUP OF HAZARDOUS WASTE

Hazardous Waste: Tinker Air Force Base's Improvement Efforts (GAO/NSIAD-88-4, October 29, 1987)

Hazardous Waste: Siting of Storage Facility at Kelly Air Force Base, Texas (GAO/NSIAD-87-200BR, July 31, 1987)

Hazardous Waste: Tinker Air Force Base Is Making Progress in Cleaning Up Abandoned Sites (GAO/NSIAD-87-164BR, July 10, 1987)

Water Quality: Pollution of San Francisco Bay and the Sacramento-San Joaquin Delta (GAO/RCED-87-156FS, June 18, 1987)

Hazardous Waste: Abandoned Disposal Sites May Be Affecting Guam's Water Supply (GAO/NSIAD-87-88BR, May 21, 1987)

Hazardous Waste: DOD Installations in Guam Having Difficulty Complying With Regulations (GAO/NSIAD-87-87, April 22, 1987)

Hazardous Waste: DOD Efforts to Preclude Disposal of Contaminated Property Need Improvement (GAO/NSIAD-87-45, December 15, 1986)

Hazardous Waste: Management Problems at DOD's Overseas Installations (GAO/C-NSIAD-86-24, September 9, 1986)

Hazardous Waste: Selected Aspects of Cleanup Plan for Rocky Mountain Arsenal (GAO/NSIAD-86-205BR, August 29, 1986)

Hazardous Waste: DOD's Efforts to Improve Management of Generation, Storage, and Disposal (GAO/NSIAD-86-60, May 19, 1986)

Hazardous Waste: Review of Selected Air Force Hazardous Waste Reports (GAO/NSIAD-86-68BR, March 31, 1986)

Hazardous Waste: Federal Agency Hazardous Waste Disposal at Kettleman Hills California (GAO/RCED-86-50, December 26, 1985)

Hazardous Waste: Status of Air Force's Installation Restoration Program (GAO/NSIAD-86-28BR, December 17, 1985)

Hazardous Waste: Status of Cleanup at the Former West Virginia Ordnance Works (GAO/NSIAD-86-22BR, December 6, 1985)

Hazardous Waste: Status of Cleanup at the Former Hamilton Air Force Base, California (GAO/NSIAD-86-23BR, December 6, 1985)

ATTACHMENT ATTACHMENT

Hazardous Waste Management At Tinker Air Force Base -- Problems Noted, Improvements Needed (GAO/NSIAD-85-91, July 19, 1985)

Efforts To Clean Up DOD-Owned Inactive Hazardous Waste Disposal Sites (GAO/NSIAD-85-41, April 1985)

Status of Air Force Efforts To Deal With Groundwater Contamination Problems At McClellan Air Force Base (GAO/NSIAD-84-37, November 29, 1983)