United States General Accounting Office

GAO

Testimony

Before the Subcommittee on Investigations and Oversight, Committee on Public Works and Transportation, House of Representatives

For Release
on Delivery
Expected at
10:00 a.m. EDT
Tuesday
July 28, 1992

FEDERAL FACILITIES

Issues Involved in Cleaning Up Hazardous Waste

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147235

055022 / 147235

GAO/T-RCED-92-82

GAO Form 160 (12/91)
OPR:OIMC/PCC

Mr. Chairman and Members of the Subcommittee:

We are pleased to be here today to offer some observations on the federal government's effort to clean up hazardous waste at its own facilities under the Superfund program. Federal agencies face a formidable task in cleaning up thousands of sites at facilities where hazardous and radioactive wastes are contaminating soil and groundwater. Cleaning up this hazardous waste legacy will take decades and will cost hundreds of billions of dollars. Cleanups are funded and carried out by federal agencies, while the Environmental Protection Agency (EPA) and state regulatory agencies provide oversight. Mr. Chairman, my testimony today will present the preliminary results of a review of the federal cleanup effort that we have begun for this subcommittee. This work builds on a series of reports we have issued over the last several years on EPA's Superfund program and on the hazardous waste cleanups of the Department of Defense (DOD) and the Department of Energy (DOE), many of which are covered by the Superfund program. Appendix I lists our relevant reports and testimonies.

In summary, we are finding that:

-- Although federal agencies should set the example for hazardous waste management, they have made limited progress in Superfund site assessments and cleanups. In fact, even less progress has been made on federal sites than on other Superfund sites. There is a several-year-long backlog of federal sites awaiting assessment for the Superfund program. In addition, no federal sites have been completely cleaned up, and few have even entered the cleanup phase.

-- Although DOD and DOE cleanup cost estimates total close to $200 billion, these estimates may understate ultimate federal cleanup costs because they are incomplete and some other agencies have not estimated their cleanup costs.

-- Even though federal cleanups will be increasingly competing for limited federal funds, EPA has not developed a system for assessing the health and environmental risks posed by federal sites relative to each other and to other environmental problems.

-- EPA has devoted limited resources to assessing federal sites for the Superfund program and to overseeing agency cleanups, and may be unable to deal with coming increases in the number of federal Superfund sites.

Before discussing each of these issues in more detail, I would like to review briefly the scope of the federal government's cleanup responsibilities and discuss how federal facilities move through the Superfund process.

BACKGROUND

The federal government is liable for cleanup expenses at thousands of hazardous waste sites at federally owned research laboratories, maintenance facilities, landfills and dumps, nuclear production reactor sites, and other locations. In addition, the federal government will be responsible for cleanups at some of the more than 7,000 properties that were formerly owned or utilized by the government--such as old warehouses that were contaminated by federal operations. Also, the government will be liable for a portion of cleanup expenses at other sites--such as privately owned landfills--where it contributed to contamination problems. The seriousness of contamination varies greatly among federal sites, ranging from relatively minor problems at remote locations on public lands to extreme toxicity at nuclear weapons plants near more populated areas.

Federal agencies must comply with a number of environmental laws concerning the identification of potentially contaminated sites and the management and cleanup of wastes at these sites. Chief among these laws is the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, commonly referred to as Superfund. Under Superfund, past and present owners of hazardous waste sites are responsible for reporting potentially contaminated sites to EPA and, along with other parties that contributed to the contamination, for sharing the costs of cleaning them up. To pay for cleanup costs that cannot be paid for by the responsible parties, Superfund provides a $15.2 billion cleanup trust fund. Federal agencies, however, cannot use the trust fund, but must fund cleanups from other appropriations. Amendments to Superfund in 1986 further emphasized cleaning up federal facilities by requiring EPA to create a docket listing federal facilities with potential hazardous waste problems and by setting deadlines for initiating and completing various cleanup phases.

The 1986 Superfund amendments required EPA to establish and maintain a comprehensive docket as the primary source of information about the number of federal facilities with potential hazardous waste problems. Federal agencies must identify and report to EPA all sites with potential contamination for inclusion on the docket. Each federal agency then begins an assessment process to provide EPA the information needed to determine whether the contamination is serious enough to warrant cleanup under Superfund. To date, 116 federal sites have been included on the Superfund list. If a site is added to the Superfund list, EPA, the federal agency, and the state negotiate an interagency agreement to govern the cleanup. The state is involved in this process because the Superfund law requires that the agencies consult with the state regarding cleanups. The interagency agreement is the vehicle for making cleanup decisions. It addresses, among other things, cleanup timetables and consultation and funding requirements.

To determine the most appropriate cleanup action at each site, the federal agency conducts a remedial investigation and feasibility study assessing the types, quantities, and risks of hazardous waste present and identifying alternative cleanup remedies. EPA reviews these studies and has final decision-making authority for selecting the remedy. The remedy is documented in a record of decision, and the cleanup can then be designed and started.

PACE OF FEDERAL FACILITY CLEANUPS IS SLOW

As you are well aware, Superfund has been criticized for not cleaning up more sites faster. But even less progress has been made on federal Superfund site assessments and cleanups than has been made in the overall Superfund program.

EPA and other federal agencies have made only limited progress in evaluating the growing backlog of federal sites to determine whether they should be included in the Superfund program. EPA reported that as of May 1992, its list contained 1,599 federal facilities with potential hazardous waste problems, and this number will continue to grow. As of May 1992, evaluations had been completed for less than 40 percent of these sites. In comparison, over 60 percent of the nonfederal site evaluations were finished by May 1992.

Several reasons appear to have contributed to the delays in evaluating federal facilities. First, assessment of these facilities is a major effort and some federal agencies did not place a high priority on site assessments. Second, some federal agencies were unprepared for the task. Third, EPA had not fully developed guidance for these assessments. As a result, assessments submitted by some agencies were incomplete and had to be revised. Finally, both resource constraints and EPA's decision to allocate few resources to federal site evaluations have limited EPA's ability to meet the mandates of the law.

For example, the Colorado State Office of the Department of the Interior's Bureau of Land Management said it submitted a total of 15 site assessments to EPA between 1987 and 1990. Between February and April 1991, EPA responded to 9 of these reports and required additional information. A year later, Interior had not provided the information because of funding problems and the lack of qualified staff.

EPA has indicated that federal agencies should be the model for complying with environmental laws. However, federal agencies have made less cleanup progress on their sites than has been made on nonfederal sites. Although 9 years have passed since the first federal facility was placed on this list, none of the 116 federal sites have been completely cleaned up. Cleanup work is underway at only 9 percent of these sites. The remaining 91 percent have

progressed no further than the remedial study or design phase of the process, meaning that these sites are still years away from being cleaned up. In comparison, about 6 percent of all Superfund sites have been cleaned up, and remedial actions are underway at another 28 percent.

To some extent, federal sites may take longer to get cleaned up because of their unique characteristics. First, federal site investigations are often more time-consuming because federal sites are often much larger than nonfederal sites and they have more contaminated areas. Second, the presence of radioactive waste at DOE sites presents complex cleanup challenges. Third, federal facilities are often still operational; hence, conducting studies and cleanup operations is more difficult.

We are still exploring other reasons for the slow pace of federal facility cleanups, but our preliminary work indicates that interagency and other coordination problems are partly responsible. Our preliminary work points to the following: (1) the interagency agreements sometimes take over a year to negotiate, (2) EPA and the agencies disagree on technical and funding requirements, and (3) the review process is burdensome because it is an iterative one in which both EPA and the state generate comments that must be addressed.

Because of criticism about the slow cleanup progress in the Superfund program overall, EPA is currently implementing a number of actions to expedite the general Superfund cleanup process. They include (1) setting cleanup completion targets, (2) standardizing cleanup remedies and investigation procedures, and (3) combining cleanup phases. While EPA officials said they may be able to apply some of these principles to federal facility cleanups, EPA has not yet focused as much attention specifically on the problems of delayed federal facility cleanups as it has on the general program.

FEDERAL CLEANUP COSTS ARE ENORMOUS AND ARE EXPECTED TO INCREASE

Current estimates of the cost of cleaning up the federal government's hazardous waste legacy are staggering. Cleanup cost estimates for the two agencies with the most serious environmental problems--DOD and DOE--are close to $200 billion, which is several times greater than EPA's estimate of its costs to finish cleaning up the approximately 1,100 nonfederal Superfund sites.[1] Although available estimates encompass a large portion of the total cost of federal cleanups, the full picture is not yet known.

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[1] The DOD and DOE estimates cover sites on the Superfund list as well as other currently owned sites that are not Superfund sites but have been identified as needing cleanup.

DOD and DOE account for the majority of the federal government's known cleanup responsibilities; both agencies have thousands of contaminated sites. Our reports on DOD and DOE cleanups found that their estimates may be understated because (1) all of the sites that may ultimately have to be cleaned up have not been identified, (2) studies to assess contamination have not been completed, (3) some facilities may require more extensive cleanup than originally anticipated, and (4) costs may rise if the start of some cleanups is delayed without corresponding development of cost-saving technologies.[2] In addition, the DOD estimate is further limited because it excludes overseas installations and many of the installations scheduled to be closed or realigned.

Rapidly increasing federal estimates of hazardous waste cleanup costs in recent years also raise doubts about the reliability of current projections. The total estimated cost of DOE's cleanup, for example, has risen from initial estimates in the billions to about $100 billion just 4 years ago, to estimates of as much as $160 billion. Without technological breakthroughs to reduce the expense of cleanup operations, DOE officials believe that cleanup costs could continue to increase significantly. Our October 1991 report on DOD's cleanup program described a similar trend. In 1985, DOD calculated that its total cleanup costs would range from $5 billion to $10 billion. In 1988, a DOD contractor estimated that the cleanup would cost between $8.5 billion and $12.8 billion. DOD's current estimate, released in September 1991, is $24.5 billion.

For fiscal year 1993, the DOD and DOE requests for environmental cleanup--nearly $4 billion in total--far exceeded the combined cleanup budget requests of other agencies, such as the Departments of Agriculture, Commerce, Interior, Justice, and Transportation, and NASA. Collectively, these agencies have hundreds of facilities either on the docket awaiting evaluation for the Superfund program or in various early stages of cleanup. Accordingly, it is conceivable that they too may incur significant cleanup costs in the future.

RELATIVE RISKS OF FEDERAL SITES HAVE NOT BEEN ADEQUATELY DEFINED

As more federal sites reach the cleanup phase and costs grow, the need to prioritize funding will become more urgent. Such decisions will require better information than is now available to

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[2]Nuclear Health and Safety: Long-Term Plans to Address Problems of the Weapons Complex Are Evolving (GAO/RCED-90-219, Sept. 28, 1990), and Hazardous Waste: DOD Estimates for Cleaning Up Contaminated Sites Improved but Still Constrained (GAO/NSIAD-92-37, Oct. 29, 1991).

assess the risks posed by federal sites relative to each other and to other environmental problems.

At present, there is considerable disagreement about the health and environmental dangers posed by hazardous waste sites relative to other contamination problems. In September 1990, EPA's Science Advisory Board recommended that EPA's program priorities be better aligned with health and environmental risks.[3] In effect, the board advocated spending money where it would do the most good--that is, where it would reduce health and environmental dangers the most.

The potentially massive expense of the federal cleanup effort brings this issue into sharp focus. Spending decisions need to be based on good information about health and environmental threats. But more needs to be learned about the effects of human exposure to hazardous wastes. For example, we reported in August 1991 that the Agency for Toxic Substances and Disease Registry, a U.S. Public Health Service unit, had not fulfilled its responsibility to adequately assess the health risks of many Superfund sites.[4]

Also, the government does not have an effective way of measuring relative risks across agency lines. Current policy, as outlined in OMB circular A-106, requires federal agencies to submit their annual plans for environmental pollution control to EPA for review. EPA officials said that this process is unsuitable for prioritizing federal cleanups, since expenditures required by interagency agreements for federal cleanups are assigned equal priority by EPA. Thus, the current system does not facilitate priority-setting across site or agency lines.

At present, EPA expects federal agencies to fund all cleanup requirements specified in the interagency agreements. EPA does not have a method for assigning relative priorities among federal cleanups. DOD and DOE have developed systems to prioritize cleanup sites for funding purposes, but the future use of these systems remains uncertain. DOE spent more than 2 years developing its Environmental Restoration Priority System and is still improving it. DOD has developed the Defense Priority Model for prioritizing cleanup projects in the event of a funding shortfall. DOD officials said that the model has not influenced the agency's cleanup efforts to date because DOD has been able to fund all the

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[3]Reducing Risk: Setting Priorities and Strategies for Environmental Protection, Relative Risk Reduction Strategies Committee, EPA Science Advisory Board (Sept. 1990).

[4]Superfund: Public Health Assessments Incomplete and of Questionable Value (GAO/RCED-91-178, Aug. 1, 1991).

sites that it has scored using the model. EPA opposes using the DOE and DOD priority models out of concern that they would disrupt its interagency agreements. The future use of these models may therefore depend on whether they can be coordinated with the interagency agreements. EPA acknowledges, however, that a comprehensive approach to setting cleanup priorities will be needed as the cost of federal cleanups exceeds available funding.

EPA OVERSIGHT CAPABILITY REMAINS UNCERTAIN

Whatever decisions are ultimately made about the risks and priorities of federal cleanups, EPA still has much to do to develop its oversight program for these activities. Our initial work indicates that EPA has not fully met the oversight responsibilities for federal agency cleanups assigned to it by the Superfund law. Also, EPA has not developed a clear strategy for dealing with the 200 to 400 sites it expects to add to its federal facilities' workload. These factors combined have put EPA in a reactive mode as it tries to provide enforcement and support for a rapidly growing number of these cleanups.

Limited EPA resources have been a major factor in EPA's slow progress in getting federal sites evaluated for the Superfund program. Under the 1986 Superfund amendments, EPA was required to evaluate the 825 facilities on the original federal docket by April 1989. To date, this deadline remains unmet. Prompted by a lawsuit over this matter, EPA has placed a greater priority on completing evaluations of these facilities, in part by shifting resources away from other site evaluations. As of July 1992, 43 percent of these facilities were still unevaluated.

In December 1991, EPA cited federal facilities enforcement as a material weakness in its Federal Managers' Financial Integrity Act Report. Specifically, EPA acknowledged that its "Federal Facilities Enforcement program has not had a sufficient resource base to perform an adequate level of oversight of other agencies' environmental compliance and restoration plans and activities." In its report, EPA also noted that its 1992 federal facilities budget request, which resulted in an appropriation that more than doubled its oversight staff, could easily be consumed by workload increases associated with both cleanup oversight at closing military bases and the agency's efforts to complete evaluations of federal sites addressed in the recent lawsuit.

A lack of resources also has impeded federal cleanup progress at several sites, according to EPA and federal agency officials. EPA regions have expressed substantial concern that adequate resources are not being budgeted to support the oversight responsibilities called for in the federal facility interagency agreements. For example, EPA officials in Region 3 said that the lack of staff slowed down their review of key cleanup documents relating to the Aberdeen Proving Ground site. In addition, DOD

officials at several bases we visited said that EPA was not able to review documents in a timely manner or to visit the bases often enough to keep up with progress. As a result, decisions at these sites had to be postponed.

EPA officials' estimates of the number of federal facilities that will be added to Superfund in the future range from 200 to 400--a significant increase over the 116 facilities EPA currently oversees. As more federal facilities are added to the Superfund list, resource needs will continue to expand. Because federal sites contain an average of twice as many contaminated areas as nonfederal sites, EPA's oversight workload for federal cleanups could easily equal or exceed that for nonfederal Superfund cleanups. EPA has not developed a plan to deal with the expected increase in federal Superfund sites and, because of overall Superfund budget constraints, did not request additional staff in its fiscal year 1993 budget for the oversight of federal facilities.

OBSERVATIONS

In summary, Mr. Chairman, the growing number of federal hazardous waste cleanups represents a daunting challenge for EPA and other federal agencies--a challenge potentially exceeding the scope of the nonfederal Superfund program. Our preliminary work identified several issues involving federal facilities that may need to be addressed as Superfund reauthorization approaches. We will continue to develop these issues in our ongoing work for the Subcommittee.

First, how can federal facility assessments and cleanups be speeded up? EPA is experimenting with ways to shorten the overall Superfund process, but it needs to make a similar examination of the federal facility process to see where time can be saved.

Second, cleaning up federal waste sites will have a major impact on federal spending. The full force of this impact is still unknown, however, because of uncertain cost estimates. The sooner these uncertainties are resolved, the sooner the government can begin to plan how best to accomplish these cleanups.

Third, what risks do federal sites pose to human health and the environment, and how can these risks be compared? Given growing cleanup cost estimates, decisions may have to be made regarding the number and order of cleanups to fund. As the Congress faces these difficult decisions, we believe that data from a risk-based national prioritization system will be crucial.

Finally, will EPA be able to fulfill the responsibilities for oversight of federal facility cleanups assigned to it by the Superfund law? Increasing numbers of federal Superfund facilities, some far larger and more complex than nonfederal sites, will

dramatically expand EPA's oversight workload. EPA has already had difficulty in meeting its oversight requirements; its future ability to meet these requirements also appears questionable.

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Mr. Chairman, this concludes my prepared statement. I will be glad to respond to any questions that you or members of the Subcommittee may have.

RELATED GAO PRODUCTS

Superfund: Current Progress and Issues Needing Further Attention (GAO/T-RCED-92-56, Jun. 11, 1992).

Nuclear Health and Safety: More Can Be Done to Better Control Environmental Restoration Costs (GAO/RCED-92-71, Apr. 20, 1992).

Nuclear Weapons Complex: Improving DOE's Management of the Environmental Cleanup (GAO/T-RCED-92-43, Mar. 30, 1992).

Hazardous Waste: DOD Estimates for Cleaning Up Contaminated Sites Improved but Still Constrained (GAO/NSIAD-92-37, Oct. 29, 1991).

Superfund: Public Health Assessments Incomplete and of Questionable Value (GAO/RCED-91-178, Aug. 1, 1991).

Managing the Environmental Cleanup of DOE's Nuclear Weapons Complex (GAO/T-RCED-91-27, Apr. 11, 1991).

Nuclear Health and Safety: Long-Term Plans to Address Problems of the Weapons Complex Are Evolving (GAO/RCED-90-219, Sept. 28, 1990).

Department of Defense Management of Hazardous Materials (GAO/T-NSIAD-90-51, Jun. 28, 1990).

Correcting Environmental Problems Facing the Nuclear Weapons Complex (GAO/T-RCED-90-85, May 17, 1990).

DOE's Management and Oversight of the Nuclear Weapons Complex (GAO/T-RCED-90-52, Mar. 22, 1990).

Hazardous Waste: EPA Cleanup Requirements--DOD Versus Private Entities (GAO/NSIAD-89-144, Jul. 28, 1989).

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