

GAO

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Environmental, Safety, and Health
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Statement of
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Before the
Subcommittee on Natural Resources,
Agriculture Research, and Environment

Committee on Science, Space, and
Technology
House of Representatives



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Mr. Chairman and Members of the Subcommittee:

We are pleased to be here today to discuss the General Accounting Office's (GAO) views on the need for better oversight of certain activities conducted by the Department of Energy (DOE). Over the last several years, GAO has issued over 20 reports (see attachment I) that address various environmental, safety, and health (ES&H) aspects of DOE's nuclear defense complex. These reports have identified problems and issues at individual facilities as well as throughout the entire DOE system.

Collectively, our work presents three basic messages. First, DOE needs to upgrade and strengthen its own internal ES&H oversight programs. In the past year and a half, DOE has implemented initiatives aimed at improving and strengthening its own internal oversight programs. These initiatives are a positive step. We believe, however, that it is too early to judge their effectiveness because many have not yet been completed.

Second, we identified a need for outside, independent assessments in two areas--reviewing safety analysis reports and inspecting waste disposal practices. Such assessments would provide more assurance to the Congress and the public that DOE facilities are operated in a safe and environmentally acceptable manner.

Finally, DOE needs to provide the Congress and the public with a comprehensive picture of the environmental situation at its facilities. Our reports have shown extensive environmental problems, such as groundwater and soil contamination, at many DOE facilities around the country. Also, many DOE facilities are not in full compliance with environmental laws.

Our country faces huge expenditures to clean up waste sites at many facilities as well as to construct new facilities for waste treatment and disposal. Furthermore, some of DOE's sites may be irreversibly contaminated and may require long-term institutional care. With these problems in mind, we have made two major recommendations. First, DOE needs to develop a groundwater and soil protection strategy. Second, we believe DOE needs to provide the Congress with a comprehensive report on its plans, milestones, and cost estimates to bring its facilities into full compliance with environmental laws. This analysis would be a key component in an overall strategic plan for DOE's nuclear defense complex, which Mr. J. Dexter Peach, Assistant Comptroller General, called for on March 12, 1987, in testimony before the Senate Governmental Affairs Committee.

I would now like to discuss our three basic messages in more detail.

NEED TO UPGRADE AND STRENGTHEN
DOE INTERNAL OVERSIGHT PROGRAM

Since the early 1980's, GAO has issued a number of reports that have identified important environmental, safety, and health problems needing corrective action. These reports have also identified several weaknesses in DOE's oversight program. In a 1981 report¹ and again in a 1983 report,² we pointed out that DOE's oversight program's structure within DOE was one underlying cause of the program's shortcomings. In those two reports, we argued for a separate office within DOE specifically set up to oversee ES&H matters and recommended that this office should report to the Under Secretary.

In September 1985, DOE, in effect, adopted our early 1980 recommendations and established an Office of Assistant Secretary for Environment, Safety, and Health, who reports to the Under Secretary. At that time DOE also announced a number of other initiatives aimed at strengthening its own internal ES&H programs. Some of the more important initiatives announced were (1) revising DOE orders that govern the conduct of DOE's ES&H activities and (2) conducting safety appraisals and environmental surveys at DOE

¹Better Oversight Needed for Safety and Health Activities at DOE's Nuclear Facilities (EMD-81-108; August 1981).

²DOE's Safety and Health Oversight Program at Nuclear Facilities Could Be Strengthened (GAO/RCED-84-50; November 1983).

facilities and sites. We believe the initiatives are a positive step. Our monitoring of DOE's implementation of these initiatives shows DOE is making progress--virtually all the initiatives are underway. We will continue to monitor DOE's efforts in this area.

OUTSIDE INDEPENDENT ASSESSMENTS

Although the September 1985 initiatives are a step in the right direction, we believe there is no substitute for outside, independent oversight in certain areas. In two of our recent reports, we identified areas that we believe warrant such outside oversight.

In June 1986,³ we reported on DOE safety analysis reports for eight of DOE's operating facilities. These reports are important documents that DOE uses to show that its facilities are safely designed, constructed, and operated. We found that DOE has not approved some safety reviews, some provided little or no comparison to design criteria, and some used different approaches to analyze serious accidents. We also noted DOE's safety analysis process is an internal DOE function carried out primarily by DOE field offices. Because an effective and well-accepted safety review process is the key to demonstrating that a nuclear facility can be operated safely, we made a number of recommendations to ensure DOE

³Safety Analysis Reviews for DOE's Defense Facilities Can Be Improved (GAO/RCED-86-175; June 1986).

has a credible safety review process. One recommendation was that DOE make arrangements with an outside, independent organization to review the safety analysis reports for DOE's most hazardous facilities. We continue to believe that such outside independent reviews would better assure the Congress and the public that DOE's facilities are safe.

In a September 1986 report,⁴ we discussed environmental issues at nine DOE defense facilities. We found many problems that could be traced back to the way DOE disposes of hazardous and radioactive waste. These included extensive groundwater and soil contamination (which was very high in some areas). Although DOE is subject to regulation by the states and/or the Environmental Protection Agency (EPA) for disposing of its hazardous waste, we are concerned that some portion of DOE's mixed waste (waste containing both hazardous and radioactive material) may be exempt from regulation by the state and/or EPA, and, therefore, its disposal would not be subject to outside inspection. In our view, independent inspections of waste disposal practices are needed to ensure that such wastes will be disposed of in an environmentally acceptable manner. Our report recommended that DOE allow for outside, independent inspection of the disposal practices used for any mixed waste it self-regulates.

⁴Environmental Issues At DOE's Nuclear Defense Facilities
(GAO/RCED-86-192; September 1986).

In the case of outside review for safety analysis, DOE believes that its own Office of Assistant Secretary for Environment, Safety, and Health provides sufficient independent review. In its August 21, 1986 response to our recommendation, DOE stated

". . .an additional level of oversight, over and above that already existing under the guidance of the Assistant Secretary for Environment, Safety, and Health, would not provide any additional assurances of the safe operations of DOE facilities. . . ."

With regard to outside independent inspection of waste sites, DOE has not yet given us a position. DOE is currently negotiating with EPA to characterize those mixed wastes that will be subject to regulation. DOE officials told us they would respond to our recommendation when these negotiations are completed.

DOE's reluctance to adopt our recommendation for outside, independent oversight, is quite frankly, difficult to understand. DOE, on occasion, does use such outside reviews--some of which have caused DOE to modify its activities at its production reactors. For example, when faced with safety concerns about the N-reactor (Washington State) because of its design similarity to the Chernobyl reactor, DOE sought outside help from six consultants--the Roddis panel. After receiving the panel results, DOE

temporarily shut down the N-reactor ahead of schedule to upgrade safety systems. DOE has also requested the National Academy of Sciences to review the three DOE production reactors at Savannah River. On March 9, 1987, the Academy raised concerns about the adequacy of the reactors' emergency cooling system in handling a serious loss-of-coolant accident while operating at the current power limits. The power limits for these reactors had already been reduced in November and December 1986 for safety reasons. On the basis of the Academy's concerns, DOE on March 20, 1987, reduced the operating power limits further to about 50 percent of capacity. DOE is now studying this problem.

DOE's general reluctance to allow for outside independent reviews also has important implications. First, there is no outside, independent scrutiny on a continuing basis. The Congress and the public must therefore, rely heavily on DOE's information and views for ensuring safety, which may not be the same as an outside group's. Second, there is the potential for conflict between production goals and safety functions. Finally, self-regulation provides only a minimum level of public assurance that these facilities can safely operate. This minimum level, I believe, is becoming more unacceptable to the Congress and the public as more problems and issues surface in the DOE nuclear defense complex.

THE NEED FOR A COMPREHENSIVE
PICTURE OF THE ENVIRONMENTAL
SITUATION AT DOE FACILITIES

The last overall message that GAO has tried to convey over the past few years is a need for a comprehensive picture of and solution to existing environmental problems. We have identified significant issues that warrant solutions because of health and safety concerns--such solutions will cost the billions of dollars. If not corrected, these problems can have a long-lasting effect on the environment and pose a health threat to the general public.

In our September 1986 report,⁵ we reported that DOE operations have contaminated groundwater at eight of the nine facilities reviewed. In many cases, the contamination included both hazardous and radioactive material and was at levels hundreds to thousands of times greater than drinking water standards. We also noted that at a few sites some contamination had migrated off-site, into rivers and into drinking water aquifers. We are concerned that the contamination can pose a health threat when it migrates into drinking water sources. Further, we found that soil contamination existed at six of the nine facilities. Thus, we recommended that DOE develop a groundwater and soil protection strategy.

⁵Environmental Issues at DOE's Nuclear Defense Facilities
(GAO/RCED-86-192; September 1986).

In this same report, we found that four of the nine facilities were not in full compliance with the Clean Water Act, and none had final permits for disposing of waste under the Resource Conservation and Recovery Act. As a result, at some facilities, DOE is discharging waste, above state limits, into rivers and streams and is continuing to dispose of waste in a manner that adds to the groundwater contamination.

In a review of the waste disposal practices at DOE's Hanford facility in Washington State, we found that Hanford⁶ had been slow to identify all units that should be regulated under the Resource Conservation and Recovery Act, and it has not identified all potential Comprehensive Environmental Response, Compensation, and Liability Act ("Superfund") waste sites that may require corrective actions.

Furthermore, in a March 1986 report,⁷ we addressed DOE's plans to dispose of transuranic waste--discarded tools, rags, and paper containing man-made radioactive elements--which remains dangerous for thousands of years and presents a health hazard if inhaled, ingested, or absorbed into the body through an open wound. Basically, DOE set forth a plan to put this waste into a geological

⁶Unresolved Issues Concerning Hanford Waste Management Practices (GAO/RCED-87-30; November 1986).

⁷DOE's Transuranic Waste Disposal Plan Needs Revision (GAO/RCED-86-90; March 1986).

repository. We found, however, that DOE planned to send only about 19 percent of its transuranic waste inventory to the repository. DOE was noncommittal regarding the permanent disposition of the remaining 81 percent. Since this waste is buried only a few feet underground, it can pose environmental and/or health problems if it is disturbed or migrates.

The cost of dealing with environmental problems at DOE facilities will be substantial. Because so many uncertainties exist--DOE has not fully identified its problems and/or the solutions to correct them--the total cost estimates to address the environmental concerns are not known. However, it will take billions of dollars just for DOE to comply with environmental laws. In addition, DOE plans to spend billions of dollars to dispose of high-level and transuranic waste in geologic repositories. Accordingly, we have recommended that DOE provide the Congress with a comprehensive report on its plans, milestones, and cost estimates to bring its facilities into full compliance with environmental laws. DOE agreed with this recommendation and believes that completion of its environmental surveys and other on-going environmental actions will enable it to prepare an overall long-range plan.

SUMMARY

The establishment of an Office of Assistant Secretary for Environment, Safety, and Health was a positive step. However, we still see the need for outside, independent oversight. In this regard, we have identified two areas where such oversight is needed--reviewing safety analysis reports and inspecting waste disposal sites that may be exempt from outside regulation. We believe outside oversight in these areas would enhance the internal oversight provided by the Assistant Secretary.

In the environmental protection area, we have recommended that DOE develop (1) a groundwater and soil protection strategy and (2) a comprehensive plan for bringing DOE facilities into full compliance with environmental laws. We believe the Office of Assistant Secretary for Environment, Safety, and Health can play an important role in developing both the strategy and plan. DOE has accepted these recommendations but has not yet fully implemented them.

I hope this Subcommittee has the opportunity to explore with DOE officials their views on the need for outside, independent oversight as well as when our recommendations on environmental issues will be fully implemented and how they plan to expedite their completion. This should help provide the Congress and the

public with a clearer understanding of the environmental risks associated with operating DOE's nuclear defense activities.

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This concludes my testimony. We would be pleased to respond to any questions you or Members of the Subcommittee may have.

GAO REPORTS RELATED TO
ENVIRONMENTAL, SAFETY, & HEALTH
ASPECTS OF DOE OPERATIONS

NUCLEAR WASTE: Unresolved Issues Concerning Hanford's Waste Management Practices (GAO/RCED-87-30; Nov. 1986)

NUCLEAR ENERGY: Environmental Issues at DOE's Nuclear Defense Facilities (GAO/RCED-86-192; Sept. 1986)

NUCLEAR SAFETY: Comparison of DOE's Hanford N-Reactor With the Chernobyl Reactor (GAO/RCED-86-213BR; Aug. 1986)

NUCLEAR WASTE: Impact of Savannah River Plant's Radioactive Waste Management Practices (GAO/RCED-86-143; July 1986)

NUCLEAR ENERGY: A Compendium of Relevant GAO Products on Regulation, Health, and Safety (GAO/RCED-86-132; June 1986)

NUCLEAR SAFETY: Safety Analysis Reviews for DOE's Defense Facilities Can Be Improved (GAO/RCED-86-175; June 1986)

ENVIRONMENT, SAFETY, & HEALTH: Status of Department of Energy's Implementation of 1985 Initiatives (GAO/RCED-86-68FS; Mar. 1986)

NUCLEAR WASTE: Department of Energy's Transuranic Waste Disposal Plan Needs Revision (GAO/RCED-86-90; Mar. 1986)

ENVIRONMENT, SAFETY, & HEALTH: Environment and Workers Could Be Better Protected at Ohio Defense Plants (GAO/RCED-86-61; Dec. 1985)

ENVIRONMENT, SAFETY & HEALTH: Information on Three Ohio Defense Facilities (GAO/RCED-86-51FS; Nov. 1985)

DOE's Plutonium Facility (GAO/RCED-85-3; Sept. 1985)

Department of Energy Acting To Control Hazardous Waste At Its Savannah River Nuclear Facilities (GAO/RCED-85-23; Nov. 1984)

DOE's Safety and Health Oversight Program At Nuclear Facilities
Could Be Strengthened (GAO/RCED-84-50; Nov. 1983)

Decommissioning Retired Nuclear Reactors At Hanford Reservation
(GAO/RCED-83-104; Apr. 1983)

Cleaning Up Nuclear Facilities--An Aggressive and Unified Federal
Program Is Needed (GAO/EMD-82-40; May 1982)

GAO's Response to DOE on EMD-81-108, "Better Oversight Needed for
Safety and Health Activities at DOE's Nuclear Facilities" (EMD-82-
36; Jan. 1982)

Congress Should Increase Financial Protection to the Public From
Accidents at DOE Nuclear Operations (EMD-81-111; Sept. 1981)

Better Oversight Needed For Safety and Health Activities At DOE's
Nuclear Facilities (EMD-81-108; Aug. 1981)

GAO's Analysis of Alleged Health and Safety Violations At The
Navy's Power Training Unit At Windsor, Connecticut (EMD-81-19;
Nov. 1980)

Department of Energy's Safety and Health Program For Enrichment
Plant Workers Is Not Adequately Implemented (EMD-80-78; July 1980)

Decommissioning Hanford Reactor (EMD-79-20; Jan. 1979)