

GAO

Testimony

For Release
on Delivery
Expected at
9:30 a.m. EST
Thursday
March 31, 1988

Environmental, Safety, and Health
Oversight of the Department of
Energy's Operations

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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 provide our perspective on the adequacy of DOE's efforts to strengthen its environmental, safety, and health (ES&H) oversight of its nuclear defense complex. Over the last several years, we have issued more than 25 reports and testimonies that address various ES&H aspects of DOE's nuclear defense complex (see attachment I). These reports have identified problems and issues at individual facilities as well as throughout the entire DOE system. Last year, in hearings before your Subcommittee I summarized the results of our work and discussed three basic messages:

- the need to upgrade and strengthen DOE's internal ES&H oversight programs,
- the need for outside, independent oversight of various aspects of DOE's nuclear defense complex, and
- the need for a comprehensive plan that identifies environmental and safety problems and how DOE plans to solve these problems in rebuilding the nuclear defense complex.

The DOE nuclear defense complex faces huge expenditures in cleaning up waste sites, addressing safety issues, constructing new facilities, and disposing of radioactive waste. Furthermore, some of DOE's sites may be irreversibly contaminated and may require long-term institutional care. With this in mind, I believe our three basic messages are as important today as they were when we first brought them to the attention of the Congress.

Over the past few years DOE has taken steps to improve its internal ES&H programs, including the establishment of an Office of Assistant Secretary for Environment, Safety, and Health, and is

developing plans to address environmental and safety problems. More recently, DOE has also established an Advisory Committee on Nuclear Facility Safety. Further, DOE has increased funding the last few years to address environmental and safety problems and strengthen its internal ES&H program.

Our work during the past year has shown where further improvements in ES&H oversight can be made. We identified problems in how DOE budgets and accounts for environmental cleanup funds. Further, we do not believe that the new Advisory Committee established by DOE has sufficient authority to require DOE to take corrective action on safety problems it identifies or is as independent as we would like to see. Finally, plans showing the environmental and safety problems DOE faces and how they will be resolved in rebuilding the nuclear defense complex have not yet been published.

I would now like to discuss our more recent work in the context of our overall messages.

NEED TO UPGRADE AND STRENGTHEN
DOE'S INTERNAL OVERSIGHT PROGRAM

Since the early 1980s, we have 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 of its facilities. For example, in a 1981 report and again in a 1983 report, we pointed out that DOE's oversight structure was one underlying cause of the program's shortcomings.¹ In those two reports, we argued for a separate office within DOE specifically set up to oversee

¹Better Oversight Needed for Safety and Health Activities at DOE's Nuclear Facilities (EMD-81-108, Aug. 1981); DOE's Safety and Health Oversight Program at Nuclear Facilities Could Be Strengthened (GAO/RCED-84-50, Nov. 1983).

ES&H matters and recommended that this office report to the Under Secretary.

In September 1985, DOE acted by establishing 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 included were (1) revising DOE orders that govern the conduct of its ES&H activities and (2) conducting safety appraisals and environmental surveys at DOE facilities and sites. These safety appraisals and environmental surveys are particularly important because they are intended to provide the necessary information for setting priorities for corrective action. Our monitoring of DOE's implementation of these initiatives shows that all the initiatives are underway.

It is still too soon, however, to evaluate how successful these initiatives will be. For example, DOE had completed environmental surveys at 26 of 37 of its sites and issued 13 preliminary reports, as of February 1, 1988. However, DOE still needs to incorporate sampling data from these sites into its surveys, issue final reports on each site, and prepare a summary report encompassing all its sites. This summary report is scheduled to be completed in August or September 1989.

Further, during this past year we identified a new area within DOE where improvements are needed. In December 1987, we reported that DOE cannot readily identify funds budgeted or expended for bringing its facilities into compliance with two environmental laws--the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response,

Compensation, and Liability Act of 1980 (CERCLA).² Funds expended on RCRA or CERCLA activities are commingled with funds expended under existing programs (e.g., nuclear material production). Because DOE cannot readily identify its RCRA and CERCLA funds, it cannot demonstrate compliance with Executive Order 12088 (requiring federal agencies to ensure that sufficient funds are requested in their budget for environmental requirements) or good internal controls. Further, it is difficult for DOE to promptly respond to the Congress on the amount of funds being expended for environmental restorations. We recommended in this report that DOE budget and account for all RCRA and CERCLA dollars. It is our understanding that DOE has agreed with our recommendation.

OUTSIDE INDEPENDENT OVERSIGHT

On the matter of outside, independent oversight, we have long supported the need for such oversight of various aspects of DOE's nuclear facilities. Our position has been restated and further delineated during the past year.

In a 1981 report and again in a 1986 report, we highlighted the need for outside, independent reviews of safety analysis reports--important documents which are designed to show that DOE facilities are safely designed, constructed, and operated.³ We pointed out deficiencies in these documents as well as the fact that the approval of these documents was an internal DOE function carried out primarily by DOE field offices. In response to our 1986 report, DOE said that its own Office of Assistant Secretary

²DOE Needs to Better Identify Funds for Hazardous Waste Compliance (GAO/RCED-88-62, Dec. 1987).

³Better Oversight Needed for Safety and Health Activities at DOE's Nuclear Facilities (EMD-81-108, Aug. 1981); Safety Analysis Reviews for DOE's Defense Facilities Can Be Improved (GAO/RCED-86-175, June 1986).

for Environment, Safety, and Health provides sufficient independent oversight.

Our work on safety matters at DOE facilities over the past year has reinforced our position on the need for this oversight. Serious questions have been raised about the safety of individual DOE facilities. For example, during hearings before the Senate Committee on Governmental Affairs in March 1987, we disclosed that DOE's Savannah River Plant reactors were potentially unable to cool the core in the event of a serious accident.⁴ Because of this safety concern, DOE's contractor at Savannah River reduced the operating power of the reactors in the fall of 1986. After the hearings, DOE further reduced the operating power because the National Academy of Sciences, which at DOE's request reviewed these reactors, felt the initial reduction was not sufficient to assure safety. A further power reduction at one of the Savannah River reactors took place in February of this year. Finally, the N-Reactor was recently shut down after more than a year of debate on safety issues associated with its operation.

We reiterated our position on the need for outside, independent oversight last year in testimony before this Subcommittee.⁵ Further, in testimony before the Senate Committee on Governmental Affairs and the Subcommittee on Strategic Forces and Nuclear Deterrence, Senate Committee on Armed Services, we outlined five key elements necessary for any oversight organization to be effective.⁶ These are (1) independence, (2) technical

⁴Management and Safety Issues Concerning DOE's Production Reactors at Savannah River, S. C. (GAO/T-RCED-5, Mar. 1987).

⁵Environmental, Safety, and Health Oversight of DOE's Operations (GAO/T-RCED-87-12, Mar. 1987).

⁶Key Elements of Effective Independent Oversight of DOE's Nuclear Facilities (GAO/T-RCED-87-32, June 16, 1987); Key Elements of Effective Independent Oversight of DOE's Nuclear Facilities (GAO/T-RCED-88-6, Oct. 22, 1987).

expertise, (3) ability to perform reviews of DOE facilities as needed, (4) clear authority to require DOE to address the organization's findings and recommendations, and (5) a system to provide public access to the organization's findings and recommendations. In our view, if these elements are present, the organization can provide effective oversight and thus can help ensure that DOE operations are safe. Also at those hearings we assessed the provisions of S.1085 (which would create a Nuclear Safety Board) within the context of these elements and concluded that all five elements were clearly met.

DOE has been considering options for independent oversight during the past year and announced the creation of an Advisory Committee on Nuclear Facility Safety to provide technical advice to the Secretary of Energy. We recently assessed whether this Committee meets our key elements for an effective oversight organization. In a March 18, 1988, letter to the Chairman, Senate Committee on Governmental Affairs, we reported that DOE's new Advisory Committee does not meet at least two of our criteria: independence and clear authority to require DOE to address the organization's findings and recommendations. In our view, the new Advisory Committee is more of an extension of DOE's own safety oversight program than a separate and distinct entity. In addition, the Committee does not appear to have any authority to require DOE to adopt any of its recommendations. Finally, it is unclear whether another criteria--public disclosure--is met. As a result, we continue to believe that outside, independent oversight is needed to help ensure the public and the Congress that DOE facilities are safe.

COMPREHENSIVE PLANS TO RESOLVE
SAFETY AND ENVIRONMENTAL PROBLEMS

The last overall message that we have reported on is the need for comprehensive plans to resolve safety and environmental

problems facing DOE. In our past reports we have identified significant environmental and safety problems at DOE's facilities-- these problems will cost tens of billions of dollars to resolve. If not resolved, these problems can have long-lasting effects on the environment and pose a health and safety threat to the general public. Some of the more significant problem areas are

- the general deteriorating condition of DOE facilities, some of which are already operating beyond their expected life;
- operational safety concerns with some DOE facilities including cracks in a reactor vessel and the adequacy of the emergency cooling system at the Savannah River nuclear reactors;
- high levels of radioactive and hazardous material contamination in the groundwater at numerous facilities around the nation, some of which has migrated into drinking water sources; and
- bringing DOE into compliance with environmental laws such as RCRA, CERCLA, and the Clean Water Act.

Because so many uncertainties exist and DOE has not fully identified its problems and/or solutions to correct them, the total cost of addressing the problems is not known. Our work has shown the cost to be in the tens of billions of dollars, but we have heard estimates as high as \$100 billion. Accordingly, we have recommended in a report and testimony that DOE (1) provide the Congress with a comprehensive report on its plans, milestones, and cost estimates to bring its facilities into full compliance with environmental laws and (2) develop an overall strategic plan that sets forth the projected facility requirements for continued

nuclear weapons production; a comprehensive picture of the ES&H issues facing DOE; and solutions to resolve them.⁷

DOE has efforts now underway to develop the plans and strategy we have recommended. DOE is conducting environmental surveys at its major sites to identify environmental problems and areas of environmental risks and also to establish priorities for planning corrective action. In conjunction with this effort, DOE plans to issue a preliminary ranking of environmental problem areas at its defense sites in April 1988. In July 1988, DOE plans to issue a report on environmental, safety, and health problems at DOE defense sites. It is our understanding this later report will include cost estimates.

With regard to a strategic plan for the complex as a whole, DOE is developing a modernization plan in response to a requirement of the National Defense Authorization Act of FY 1988 and FY 1989. This plan will include actions necessary to ensure that the operation of facilities in the nuclear weapons complex is safe and environmentally acceptable. It will also include the estimated cost to modernize the complex. The plan is scheduled to be issued in December of this year.

While we believe these plans can meet the intent of our recommendation, we would like to point out that DOE's plans have not always been as thorough or as timely as we would like. For example, in developing a congressionally mandated plan on transuranic waste DOE did not address a major portion of the waste (81 percent) that is already buried at various locations around the

⁷Nuclear Energy: Environmental Issues at DOE's Defense Facilities (GAO/RCED-86-192, Sept. 1986); Environmental, Safety, and Health Aspects of DOE's Nuclear Defense Complex (GAO/T-RCED-87-4, Mar. 1987).

country.⁸ Further, DOE is only now gathering sufficient information to put together an environmental plan that we had called for more than a year and a half ago. Consequently, we believe it is important that the Congress closely monitor DOE's efforts and analyze these plans when they are available.

SUMMARY

In summary, over the past few years DOE has taken a number of steps to improve ES&H oversight of its operations. Based on our work this past year, we believe DOE can benefit from further improvements.

In the area of internal ES&H oversight, DOE needs to restructure its budget and accounting for RCRA and CERCLA funds so that such funds are readily identifiable. We also believe such action will help DOE demonstrate compliance with Executive Order 12088 and provide sound internal controls. Concerning independent oversight, we believe DOE's new Advisory Committee does not meet at least two of the five elements we set forth to ensure effective independent oversight. Accordingly, we believe the Congress should still consider the merits of legislating an outside, independent organization that meets all of our five criteria.

Finally, to develop more comprehensive plans to resolve environmental and safety problems, we noted that DOE has a number of efforts currently underway. We hope that these plans provide the Congress with a clear picture of the problems DOE faces and the cost to resolve them.

⁸Department of Energy's Transuranic Waste Disposal Plan Needs Revision (GAO/RCED-86-90, Mar. 1986).

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

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

GAO Views on DOE's Advisory Committee on Nuclear Safety, letter dated March 18, 1988, to the Chairman, Senate Committee on Governmental Affairs

Environmental Funding: DOE Needs to Better Identify Funds for Hazardous Waste Compliance (GAO/RCED-88-62; Dec. 1987)

Key Elements of Effective Independent Oversight of DOE's Nuclear Facilities (GAO/T-RCED-88-6, Oct. 1987)

Key Elements of Effective Independent Oversight of DOE's Nuclear Facilities (GAO/T-RCED-87-32, June 1987)

Environmental, Safety, and Health Oversight of DOE's Operations (GAO/T-RCED-87-12, Mar. 1987)

Management and Safety Issues Concerning DOE's Production Reactors at Savannah River, S. C. (GAO/T-RCED-5, Mar. 1987)

Environmental, Safety, and Health Aspects of DOE's Nuclear Defense Complex (GAO/T-RCED-87-4, Mar. 1987)

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, AND 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 DCE 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)