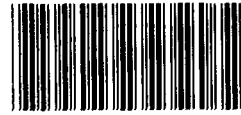


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Testimony



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Efforts to Improve DOE's Management
of the Nuclear Weapons Complex

Statement for the Record 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 submit a statement for the record on the Department of Energy's (DOE) efforts to improve management of environmental, safety, and health matters at the nuclear weapons complex. Specifically, we will discuss (1) DOE's environmental, safety, and operational problems; (2) longstanding management problems of the complex; (3) recent DOE initiatives to improve its management of the complex; and (4) key management issues that could effect DOE's recent initiatives.

Today, the weapons complex is virtually shutdown and faces a wide variety of serious environmental, safety, and operational problems. Major problems include facilities that have deteriorated; others that do not comply with environmental, safety, and health standards; radioactive wastes that have been stored for decades; and contaminated groundwater and soil that need to be cleaned up. The estimated cost to address these problems is staggering--ranging up to \$155 billion.

The problems of the complex have been largely due to DOE's failure to effectively manage the nuclear weapons complex. Important management problems have included an emphasis on production over environmental and safety matters, shortcomings in DOE's oversight function, limited technical staff to carry out departmental programs and oversight functions, and the absence of a specific strategic plan for addressing the modernization and environmental problems of the complex.

Recently, DOE has undertaken a number of initiatives designed to better deal with its problems. These initiatives include a management and oversight restructuring within DOE, issuance of strategic plans for modernization and environmental cleanup of its facilities, and efforts to make its contractors more accountable.

Also, the Defense Nuclear Facilities Safety Board, mandated by the Congress, will provide outside, independent safety oversight.

We believe that DOE's recent initiatives are steps in the right direction for ensuring the safe and environmentally sound operation of DOE's nuclear facilities. However, we have identified several key issues that may impact on DOE's ability to implement these initiatives and effectively manage the complex in the future. In this regard, we believe that successful management of the complex will depend on (1) DOE's commitment to ensuring that all operations are carried out safely and in an environmentally acceptable manner, (2) the close coordination and interaction among various oversight organizations and program offices, and (3) the recruitment of technically qualified staff.

I would now like to discuss each point of my testimony in more detail beginning with the serious problems of the complex.

ENVIRONMENTAL, SAFETY, AND
OPERATIONAL PROBLEMS AT THE COMPLEX

Our work over the past several years has described various unresolved environmental, safety, and operational problems within the nuclear weapons complex. Specifically, we have called attention to

- serious safety questions regarding the operation of DOE reactors and other facilities;
- the deterioration of DOE's facilities resulting from aging and inattention to capital improvements;
- groundwater and soil contamination at many DOE installations around the country, which are at levels hundreds to thousands of times above standards; and

-- the need to dispose of radioactive waste that DOE has been temporarily storing at various sites around the country.

We have also pointed out that our nation's ability to make nuclear material for weapons is virtually nonexistent with the shutdown of the Savannah River reactors, the Rocky Flats Plant, and the Hanford Purex reprocessing plant. The Waste Isolation Pilot Plant, a repository for disposing of certain types of radioactive waste, is still not open, and waste is continuing to back up at DOE facilities. Addressing these and other environmental, safety, and operational problems is a formidable task, which we have estimated could cost up to \$155 billion.

LONGSTANDING MANAGEMENT PROBLEMS
HAVE PREVAILED WITHIN THE COMPLEX

Throughout the last decade our work, as well as other independent studies, has identified continuing management problems at the complex. These management problems have contributed to the seriousness of the environmental, safety, and health problems at the complex. Specifically, these problems have included DOE's emphasis on production over environmental, safety, and health matters; shortcomings in DOE's oversight; lack of technically qualified staff, resulting in an over reliance on contractors; and inadequate strategic plans for addressing the problems of the complex.

As early as 1985, we reported that DOE placed more emphasis on contractor performance in achieving production goals than on environmental, safety, and health matters. And, as recently as 1989, we indicated that under DOE's award fee process substantial monetary awards have been paid to some DOE contractors despite the existence of significant environmental, safety, and health problems at the facilities managed by them. DOE officials have also

acknowledged that in the past, production has taken priority over environmental and safety considerations.

Shortcomings in DOE's oversight program has been another important management problem. We have issued numerous reports identifying persistent problems with internal and external oversight of DOE facilities. Similarly, the Secretary of Energy, on taking office in 1989, determined that the existing oversight system for environmental, safety, and health matters at DOE was a failure. The major cause, according to the Secretary of Energy, was confusion among the roles of DOE's headquarters program management, its field organization, and the Office of Environment, Safety, and Health--the result of an absence of clear lines of authority and responsibility, dilution of accountability, and an absence of adequate specificity in DOE orders.

Lack of technically qualified staff has also limited the effectiveness of DOE's environmental, safety, and health oversight functions. Because of difficulties in recruiting and retaining personnel with the necessary expertise, DOE has had to rely extensively on the use of contractors to assist in providing assurance that DOE facilities are operated safely and in an environmentally sound manner. Studies throughout the 1980s have shown that DOE has not been able to properly perform environmental and safety oversight because DOE's staff lacked the technical capabilities and experience.

Finally, DOE has lacked comprehensive strategic plans for addressing its problems. In March 1987 we pointed out that DOE did not have an adequate plan for addressing the wide-ranging problems it faces. At that time, we called upon DOE to develop a strategic plan for setting forth, among other things, a comprehensive picture of the environmental, safety, and health problems that had to be addressed and a framework for prioritizing the billions of dollars in federal expenditures needed to address them. Such strategic

plans are important for providing DOE and the Congress with a comprehensive strategy for making sound decisions to effectively manage and determine the future direction of the complex.

RECENT DOE MANAGEMENT
AND OVERSIGHT INITIATIVES

Recently, DOE has taken several initiatives designed to better deal with these longstanding management problems. These recent initiatives include (1) a management and oversight restructuring within DOE; (2) issuance of strategic plans on environmental restoration and waste management, and modernization of the complex; (3) assessments of its facilities to determine whether they meet federal, state, and local environmental, safety, and health requirements; and (4) efforts to make contractors more accountable for environmental, safety, and health matters.

DOE's management and oversight restructuring initiatives are designed to instill a "management culture" throughout DOE and its contractors that focuses on correcting environmental, safety, and health problems. This restructuring has been three-fold. First, DOE has established an Office of Environmental Restoration and Waste Management to consolidate environmental cleanup, compliance and waste management activities. The office's primary task is to carry out DOE's long-term strategy for the cleanup up of its facilities. This includes providing centralized management for waste management operations and environmental restoration.

Second, DOE is in the process of restructuring safety functions to ensure the safe operation of its facilities. Specifically, the proposed restructuring plan (1) realigns DOE's existing nuclear safety oversight functions from the Office of Environment, Safety, and Health to various DOE Program Offices, (2) establishes the Office of Nuclear Safety to independently oversee nuclear safety, and (3) transfers development of nuclear safety

policy from the Office of Environment, Safety, and Health to the Office of Nuclear Energy. The Defense Nuclear Facilities Safety Board will provide outside, independent safety oversight.

Third, DOE has undertaken initiatives to restructure the Department's accountability in the area of worker health and safety. These initiatives include (1) establishment of an independent panel to help restructure DOE's epidemiology (radiation health effects) program, including assessing the utility and feasibility of transferring epidemiologic research to another federal agency; (2) creation of a National Academy of Sciences standing committee to oversee epidemiologic research requests; (3) development of a comprehensive epidemiologic data repository containing information on past and present DOE workers; and (4) formulation of milestones to achieve full compliance with occupational safety and health standards.

In addition to its managerial restructuring, DOE has issued two strategic plans. Last year, DOE issued its Environmental Restoration and Waste Management Five-Year Plan report, which outlines a \$20 billion effort over the next 5 years (fiscal years 1991 through 1995) to (1) begin bringing facilities into compliance with environmental laws, (2) begin cleaning up environmental contamination at DOE sites, and (3) manage the wide variety of radioactive and hazardous waste that DOE generates. Furthermore, in December 1988 DOE issued the United States Department of Energy Nuclear Weapons Complex Modernization Report. This modernization plan called for about a \$45 billion restructuring of the complex to build new facilities and reactors, upgrade others, and phase out other facilities. DOE is currently revising this modernization plan and important changes are still being studied.

DOE has also begun assessments of its facilities to ensure that they achieve and maintain full compliance with federal, state,

and local environmental, safety, and health requirements. These "Tiger Team" assessments evaluate DOE's environmental, safety, and health programs and advise the Secretary--independent of line management--of their (1) effectiveness; (2) compliance with federal, state, and local regulations; and (3) internal DOE requirements. Recently, in addition to DOE personnel, Occupational Safety and Health Administration inspectors have participated in these assessments to provide their perspective on DOE's worker health and safety programs.

Finally, DOE has undertaken efforts to make its contractors more accountable for environmental, safety, and health matters. Specifically, DOE has begun to implement changes to improve its award fee process. These changes include having all awards reviewed and concurred in by DOE headquarters and requiring that environmental, safety, and health matters be weighted by at least 51 percent in the evaluation process. Further, changes are being considered by DOE, such as making management and operating contractors liable for certain costs, claims, and liabilities currently reimbursed by DOE.

MANAGEMENT ISSUES FACING
THE NUCLEAR WEAPONS COMPLEX

DOE's recent management initiatives are a positive step in addressing the longstanding management issues of the complex. However, we have identified several key issues that may affect DOE's ability to implement these initiatives. Specifically, we believe that successful management of the complex will depend on (1) DOE's commitment to ensuring that all operations are carried out safely and in an environmentally acceptable manner, (2) close coordination and interaction among various oversight organizations and program offices, and (3) the recruitment of technically qualified staff. I would like to discuss our views on each of these issues at this time.

DOE's Commitment to Environmental,
Safety, and Health Issues

Once established, we believe DOE needs to maintain a "culture" committed to resolving environmental, safety, and health problems that confront the weapons complex. As pointed out by the National Academy of Sciences in 1987, assurance of safety at DOE's reactors cannot be generated by organizational restructuring alone; a change in attitude towards safety will be needed as well. DOE facilities are manned by staff who are familiar with operations from long experience, but they are also accustomed to the historic attitude that production takes precedence over environmental, safety, and health goals.

The Secretary of Energy, as part of his new management focus, is attempting to increase DOE's sensitivity to environmental, safety, and health matters. However, such changes must filter down through all levels of DOE, including its contractors. Taking this into account, instilling the right attitude towards environmental, safety, and health matters will likely be a slow and difficult process. In this regard, DOE has taken several restructuring actions in the past, such as establishing the Assistant Secretary for Environment, Safety, and Health and the Advisory Committee on Nuclear Facility Safety, to improve the management of its facilities. However, despite these initiatives, environmental, safety, and health problems still persisted. Thus, the ultimate test of DOE's recent initiatives will be determined by the extent DOE can develop and maintain, at all levels in the department, a "culture" committed to resolving environmental, safety, and health problems.

Coordination Among Various Organizations and Program Offices

Effective coordination among DOE's offices and the various oversight organizations is extremely important. Past problems, such as the absence of clear lines of authority and responsibility, necessitated the recent restructuring within DOE. Effective communication will be necessary, once the responsibilities of DOE's new organizational structure is established, to ensure that all organizations within DOE clearly understand their responsibilities. Once this is accomplished, DOE will be in a better position to effectively carry out recent initiatives to improve its management.

Since DOE's managerial restructuring is still undergoing change and will entail several functional and staff moves over a period of time, it is important that the various internal and external oversight organizations coordinate and interact closely. Close coordination and interaction should help to minimize inefficiencies and maximize oversight effectiveness, especially during the transition period of the realignment. For example, the transition period provides DOE with the opportunity to establish an early positive working relationship with the congressionally mandated Defense Nuclear Facilities Safety Board.

Recruitment of Technically Qualified Staff

Sufficient technical resources will be needed to effectively carry out DOE's recent initiatives. However, as pointed out earlier, historically there has been and continues to be a shortage of such staff. Furthermore, competing demands for them may hinder DOE's efforts in attracting them. The competition is not just limited to private industry working in these areas; the competition extends to other organizations within the federal government as well as within DOE. For example, DOE will have to compete with the

Defense Nuclear Facilities Safety Board for the same technically qualified personnel that will be needed for the Board to carry out its safety oversight function. As well, DOE will have to compete for environmentally qualified staff with the federal, state, and private industry groups responsible for cleaning up waste sites.

If DOE is unable to recruit the required technically qualified staff, it may have to rely heavily, as it has in the past, on its contractors to ensure that DOE operations are carried out in a safe and environmentally acceptable manner. Consequently, the positive concept of the restructuring may not, in itself, ensure the effective management and oversight that DOE's renewed emphasis on environmental, safety, and health issues will require.

SUMMARY

In summary, the environmental, safety, and health problems facing the nuclear weapons complex are still critical. To DOE's credit, it has undertaken several initiatives that will enable it to more effectively deal with its problems. Although these initiatives, in themselves, do not remedy the problems facing the complex, they are an important aspect of creating an organization and management system which has the capability to effectively plan, implement, and oversee corrective actions. Rebuilding and cleaning up the complex is a long-term, costly undertaking, and the pace, timing, and resources devoted to this undertaking are fraught with uncertainties given the huge budget deficit and other competing demands. With this in mind, I believe it is wise that DOE takes the time now to properly organize itself to manage the initiatives needed to address the problems it faces.

DOE's managerial restructuring will likely continue this year. As it does, DOE needs to address the issues raised in this testimony--a commitment to environmental, safety, and health matters at all levels; effective coordination among various

oversight organizations and program offices; and recruitment of the necessary technical expertise. How effectively DOE addresses these issues will impact the effectiveness of DOE's recent initiatives to better organize itself. For our part, because of the importance of ensuring that the nuclear weapons complex is safe and operated in an environmentally sound manner, we will continue to monitor DOE's progress in implementing these recent initiatives and assess any future initiatives.

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