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DEPARTMENT OF ENERGY

Research and Agency Missions Need Reevaluating

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Mr. Chairman and Members of the Subcommittee:

We are pleased to provide our views on the role and missions of the Department of Energy (DOE). The information included in this testimony is drawn from our ongoing management review of DOE and past work on a wide variety of DOE programs and functions (Appendix III is a listing of related GAO products).

In summary, we believe that this is an ideal time to reevaluate DOE and its missions. DOE's mission and priorities have changed dramatically over time so that the Department is now very different from what it was in 1977 when it was created in response to the nation's energy crisis. While energy research, conservation and policy-making dominated early DOE priorities, weapons production and now environmental cleanup overshadow its budget. New missions in science and industrial competitiveness have emerged. In addition, DOE suffers from significant management problems, ranging from poor environmental management of the nuclear weapons complex to major internal inefficiencies rooted in poor oversight of contractors, inadequate information systems, and workforce weaknesses. Thus, this agency is ripe for change. We believe that any discussion of major restructuring within DOE should start with basic questions about the need for, and the best place for implementing, each mission.

DOE'S MISSION AND MANAGEMENT PROBLEMS

Created to deal predominantly with the "energy crisis" of the 1970s, DOE's mission and budget priorities have changed dramatically. By the early 1980s, its nuclear weapons productions activities expanded dramatically, stretching DOE to its physical and managerial limits. Following revelations about environmental mismanagement in the mid to late 1980s, DOE's environmental budget began to grow and now overshadows all other activities. With the Cold War's end, DOE's missions have expanded to include major new activities in science and technology transfer. With each new phase in its evolution has come leadership with vastly different agendas for what they believe DOE really should be and how it should be managed.

DOE also has a long history of management problems. To meet changing mission priorities, DOE has reorganized many times in an attempt to build a structure that integrates its activities effectively and to overcome its management problems. DOE has also been widely criticized for its performance in many mission areas. For example, historically DOE emphasized nuclear weapons production while giving little attention to the environmental consequences. As a result, environmental cleanup will now cost at least $300 billion by DOE's estimates. The Department has spent billions developing solutions to the defense and commercial

nuclear waste disposal problem, but final solutions are still not available. Its massive laboratory network needs to be redirected in light of post-Cold War priorities, and DOE has been unable to provide leadership in this area. At the core of many of its management problems is its weak oversight of more than 145,000 contractor employees, who perform nearly all of DOE's work. Contractors work largely without any financial risk, get paid even if they perform poorly, and DOE oversees them under their policy of "least interference," a practice unchanged since the Manhattan Project. Underscoring DOE's basic management weakness is DOE's lack of significant workforce skills in key technical areas, and the management information systems to oversee and direct contractors. This is a fundamental problem reported by us, the DOE Inspector General, and outside oversight groups.

Current DOE leadership has several efforts underway to strengthen its capacity to manage. For example, DOE is reforming its contracting practices to make them more business-like and results oriented; total quality management principles have been introduced to improve internal communications; and the Secretary has "opened" up decision-making processes to the public in an attempt to further break down DOE's long-standing culture of secrecy, which has historically shielded the Department from outside scrutiny. DOE is also developing strategic plans aiming to define its existing missions into key "business lines" of emphasis around which it intends to reorganize. Although we are encouraged by these self-improvement efforts, past DOE initiatives often failed to make significant changes in the way DOE operates.

GAO'S ONGOING MANAGEMENT REVIEW OF DOE

We have conducted management reviews of many different federal agencies as part of our strategy to help agencies strengthen their capacity to manage. For our review of DOE, we analyzed DOE's management and contracting practices, organizational structure and performance in major mission areas such as environmental cleanup and activities of the national laboratories. As part of our management review, we surveyed 40 former DOE executives and experts on energy policy about how the Department's missions relate to current and future national priorities. Our respondents included former President Jimmy Carter (during whose administration DOE was created), four former Energy Secretaries, as well as deputy and assistant secretaries, and individuals with distinguished involvement in issues of national energy policy.

Overwhelmingly, our respondents emphasized that DOE should focus on its original core missions. These missions include energy policy, energy information, energy supply research and development, and operation of the Strategic Petroleum Reserve as an instrument of energy policy. While our respondents were

administrations (i.e., Alaska, Bonneville, etc.) within the Department or to move them elsewhere, the majority favored moving the remaining missions from DOE or sharing them with other departments and agencies, although there was no consensus on the nature of the realignment. Many respondents suggesting moving

-- basic research to the National Science Foundation, the Commerce or Interior departments, other federal agencies, or a new public-private entity;

-- some multiprogram national laboratories to other federal agencies, or sharing their missions with other agencies;

-- management and disposal of civilian nuclear waste to a new public/private organization, a new government agency, or the Environmental Protection Agency;

-- nuclear weapons production and waste cleanup to the Defense Department, the Environmental Protection Agency (waste cleanup only), or a new government agency;

-- environment, safety, and health activities to the Environmental Protection Agency or other federal entities;

-- arms control and verification to the Defense Department, the State Department, the Arms Control and Disarmament Agency, or a new government nuclear agency;

-- industrial competitiveness to the Commerce Department or a public/private organization; and

-- science education to the National Science Foundation or another federal agency.

We have looked more closely at two areas where alternatives to the current DOE structure warrant serious attention: DOE's environmental cleanup program and the national laboratories.

In the environmental area, DOE faces the daunting task of cleaning up the contamination resulting from half a century of nuclear weapons production. The costs of restoring the nuclear weapons complex to a safe and stable condition are estimated by DOE to be at least $300 billion. Developing new technology will help cut costs, as will improved management efficiencies. These measures alone, however, will not allow DOE to meet its current cleanup commitments under conditions of budget restraint. DOE now acknowledges that it will need to change its current process and work toward developing a national risk-based strategy that results in a more cost-effective approach to environmental

cleanup. Unfortunately, DOE's past history of contamination, along with its contracting problems, make it unclear how successful DOE's new process will be.

We are also examining the roles and missions of DOE's national laboratories and the Department's management of them. We found that DOE needs to better define the roles of these important research facilities, which now face a "lack of focus and coherence," as a recent DOE advisory group observed, in the face of new post-Cold War realities. These laboratories were created to develop nuclear weapons and conduct basic energy research, but have since diversified into non-DOE mission areas and are now expected to help industry become more competitive. DOE does not manage them in a way that promotes progress toward its goals or helps them become more efficient. Rather than developing strategies to help the laboratories translate missions into responsibilities, DOE addresses missions through individual programs, making it difficult for the laboratories to work effectively on broad, cross-cutting issues, which the laboratories are particularly well suited to undertake. DOE has also made it difficult for laboratories to balance their research and administrative responsibilities, define what they are accountable for accomplishing, and deal with the Department's proliferating oversight reviews. These problems limit the laboratories' ability to function effectively and compete with other research facilities.

Mission changes and management problems are not new, and the need for clear goals and better relationships among the laboratories and DOE headquarters has been raised for several years. Alternative ways of managing and structuring the laboratories may need to be considered for the future. For example, proposals suggested or debated during our review range from consolidating or converting some laboratories, particularly those working closely with the private sector, into independent entities to transferring the responsibility for one or more laboratories to another agency, whose responsibilities and mission are closely aligned with those of a local DOE laboratory.

CONSIDERATIONS IN CHANGING DOE MISSIONS

As a starting point, the following series of questions could be addressed:

- Which missions should be eliminated because they are no longer a valid government function?
- For those missions that are inherently governmental, what organizational arrangement would be best suited to achieving these missions?

- Could the private sector perform some of these missions better?

Deciding on the best place to manage DOE missions involves assessing the advantages and disadvantages of various structures, on the basis of their potential for achieving the missions and gaining efficiency. Potential efficiency gains from moving parts of DOE to other agencies need to be balanced against the policy reasons that led to the original structure. Moving DOE missions to other federal entities--such as assigning the weapons complex to the Defense Department--will clearly affect the missions of the "gaining" agency. In addition, some DOE missions--in science education, technology competitiveness, and environmental waste for example--might best be combined with missions from other agencies.

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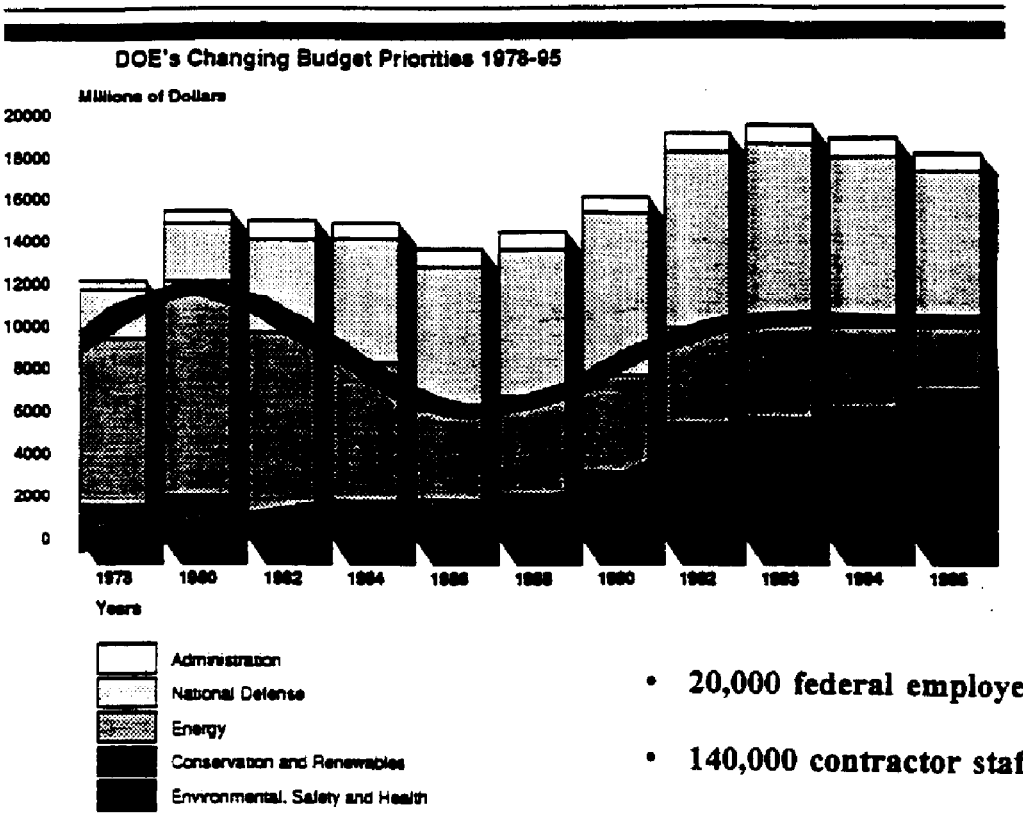
This concludes my prepared statement, Mr. Chairman. I would be pleased to respond to any questions you or other Members of the Subcommittee may have.

DOE'S CHANGING BUDGET PRIORITIES



National Defense

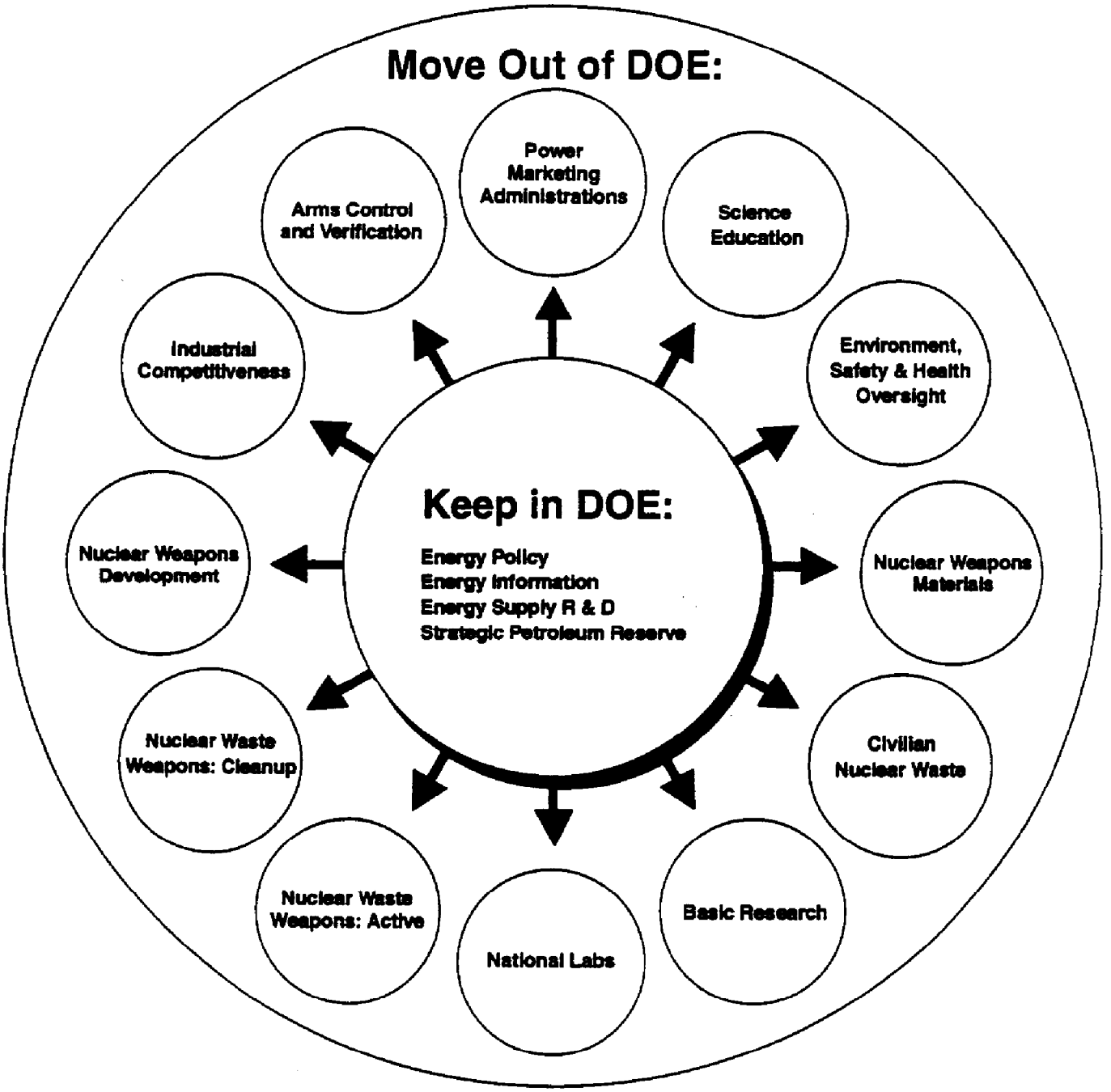
Energy

Environment, Safety and Health

- **20,000 federal employees**
- **140,000 contractor staff**

APPENDIX II

EXPERT'S OPINIONS ON LOCATIONS FOR DOE MISSIONS



RELATED GAO PRODUCTS

Department of Energy: National Laboratories Need Clearer Missions and Better Management (GAO/RCED-95-10, Jan. 27, 1995).

The Department of Energy Is Making Efforts to Control Litigation Costs (GAO/RCED-95-36, Nov. 22, 1994).

Nuclear Health and Safety: Hanford Tank Farm Maintenance Program --Progress and Problems (GAO/RCED-95-29, Nov. 8, 1994).

Energy Management: Department of Energy's Efforts to Manage Overtime Costs Have Been Limited (GAO/RCED-94-282, Sept. 27, 1994).

Nuclear Waste: Comprehensive Review of the Disposal Program Is Needed (GAO/RCED-94-299, Sept. 27, 1994).

Energy Policy: Ranking Options to Improve the Readiness of and Expand the Strategic Petroleum Reserve (GAO/RCED-94-259, Aug. 18, 1994).

Department of Energy: Management Changes Needed to Expand Use of Innovative Cleanup Technologies: (GAO/RCED-94-205, Aug. 10, 1994).

Tighter Controls Needed Over the Department of Energy's Outside Litigation Costs (GAO/T-RCED-94-264, July 13, 1994).

Energy Management: Use of Uncosted Balances to Meet Budget Needs (GAO/RCED-94-232FS, June 6, 1994).

Fossil Fuels: Lessons Learned in DOE's Clean Coal Technology Program (GAO/RCED-94-174, May 26, 1994).

Naval Petroleum Reserve: Limited Opportunities Exist to Increase Revenues From Oil Sales in California (GAO/RCED-94-126, May 5, 1994).

Department of Energy: Status of DOE's Property Management System (GAO/RCED-94-154FS, Apr. 7, 1994).

Department of Energy: Challenges to Implementing Contract Reform (GAO/RCED-94-150, Mar. 24, 1994).

Department of Energy: The Property Management System at the Rocky Flats Plant Is Inadequate (GAO/RCED-94-77, Mar. 1, 1994).

DOE's National Laboratories: Adopting New Missions and Managing Effectively Pose Significant Challenges (GAO/T-RCED-94-113, Feb. 3, 1994).

DOE Management: Funds for Maintaining Contractors' Operations Could Be Reduced and Better Controlled (GAO/RCED-94-27, Oct. 25, 1993).

Financial Management: Energy's Material Financial Management Weaknesses Require Corrective Action (GAO/AIMD-93-29, Sept. 30, 1993).

Department of Energy: Management Changes Require a Long-Term Commitment to Change (GAO/RCED-93-72, Aug. 31, 1993).

Energy Policy: Changes Needed to Make National Energy Planning More Useful (GAO/RCED-93-29, Apr. 27, 1993).

Nuclear Waste: Hanford's Well-Drilling Costs Can Be Reduced (GAO/RCED-93-71, Mar. 4, 1993).

Energy Management: High-Risk Area Requires Fundamental Change (GAO/T-RCED-93-7, Feb. 17, 1993).

High Risk Series: Department of Energy Contract Management (GAO/HR-93-9, Dec. 1992).

Department of Energy: Better Information Resources Management Needed to Accomplish Missions (GAO/IMTEC-92-53, Sept. 29, 1992).

Nuclear Weapons Complex: Issues Surrounding Consolidating Los Alamos and Livermore National Laboratories (GAO/RCED-92-98, Sept. 24, 1992).

UEC Cash Flow Projection (GAO/RCED-92-292R, Sept. 17, 1992).

Status of Actions to Improve DOE User-Fee Assessments (GAO/RCED-92-165, Jun. 10, 1992).

Nuclear Waste: Development of Casks for Transporting Spent Fuel Needs Modification (GAO/RCED-92-56, Mar. 13, 1992).

Fossil Fuels: Improvements Needed in DOE's Clean Coal Technology Program (GAO/RCED-92-17, Oct. 30, 1991).

Comments on Proposed Legislation to Restructure DOE's Uranium Enrichment Program (GAO/T-RCED-92-14, Oct. 29, 1991).

Nuclear Waste: Operation of Monitored Retrievable Storage Facility Is Unlikely by 1998 (GAO/RCED-91-194, Sept. 24, 1991).

Changes Needed in DOE User-Fee Assessments (GAO/T-RCED-91-52, May 8, 1991).

Nuclear Security: Property Control Problems at DOE's Livermore Laboratory Continue (GAO/RCED-91-141, May 1991).

Comments on H.R. 2480, The Uranium Enrichment Reorganization Act (GAO/T-RCED-91-3, Oct. 11, 1990).

Comments on Smith Barney's Uranium Enrichment Analysis (GAO/T-RCED-90-101, July 31, 1990).

Changes Needed in DOE User-Fee Assessments to Avoid Funding Shortfall (GAO/RCED-90-65, Jun. 7, 1990).

Nuclear Security: DOE Oversight of Livermore's Property Management System Is Inadequate (GAO/RCED-90-122, Apr. 1990).

Naval Petroleum Reserve No. 1: Efforts to Sell the Reserve (GAO/RCED-88-198, July 1988).

Uranium Enrichment: Congressional Action Needed to Revitalize the Program (GAO/RCED/88-18, Oct. 17, 1987).

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