United States General Accounting Office

GAO

Resources, Community, and Economic Development Division

June 1994

# Energy and Science Reports and Testimony: 1993



GAO/RCED-94-176W

# Foreword

GAO's Energy and Science Issue Area conducts in-depth studies of the production, regulation, and consumption of all forms of energy, as well as analyses of federal science and technology programs.

Organized by broad subject areas, this annual index includes information on these and other GAO documents that were issued between January and December 1993. This index should be used for general information and research purposes and for understanding the energy and science issues that GAO is addressing.

Questions can be directed to me at the U.S. General Accounting Office, Room 1842, 441 G Street, N.W., Washington, D.C., (202) 512-3841. Readers interested in ordering documents or in requesting bibliographic searches on a specific topic should call the Document Handling and Information Service, (202) 512-6000, or fax a request to (301) 258-4066. Forms are included in the back of the index to facilitate orders.

Victor S. Rezendes
Director, Energy and Science Issues
Resources, Community, and
Economic Development Division

# Contents

## Department of Energy Revitalization

**Energy Management:**
**Types of Allowable and Unallowable Costs Incurred Under Two DOE Contracts**

(Fact Sheet, 01/29/93, GAO/RCED-93-76FS).

ABSTRACT: This fact sheet provides information on costs that the Department of Energy's (DOE) management and operating contractor, Martin Marietta Energy Systems, incurred while running DOE's facilities at Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio. Martin Marietta has two contracts with DOE, one involving Oak Ridge and the other involving the Kentucky and Ohio facilities. GAO identified some limited instances in which costs incurred were determined to be unallowable, including Martin Marietta employee memberships in trade, business, and professional organizations. Compared with the more than $1.8 billion spent on the two contracts in fiscal year 1991, however, the amounts of the unallowable costs were relatively small, and either DOE or Martin Marietta plans to take appropriate corrective action. GAO also found that the most recent allowability-of-costs report, an examination of fiscal year 1991 costs prepared by Martin Marietta's internal audit staff, included a broad discussion of unallowable cost issues and identified some unallowable costs. The two previous reports did not identify any unallowable costs. Further, Martin Marietta gave GAO data showing that it had incurred more than $2.2 million in costs to run DOE facilities in 1992 that had not been charged to the government because Martin Marietta considered them unallowable. These costs included relocation expenses, community relations expenses, incentive compensation for executives, country club dues, and entertainment costs. Also, in fiscal year 1991, Martin Marietta charged more than $320,000 in allowable recreational costs, including $7,300 for golf balls and $20,000 for a Christmas party.

**Energy Management:**
**High Risk Area Requires Fundamental Change**

(Testimony, 02/17/93, GAO/T-RCED-93-7).

ABSTRACT: The Department of Energy's (DOE) contract management philosophy has put billions of dollars in yearly contractors' services at risk. These problems date back to the Manhattan Project of the 1940s, when the government, desirous of enlisting the private sector in developing the atomic bomb, gave contractors wide latitude in running the government's weapons research and production facilities. Today, DOE is

trying to overcome this legacy of inadequate oversight by giving contractors more incentive to act responsibly while simultaneously increasing oversight of contractors' activities. GAO applauds these efforts but recognizes that they will take years to implement. With the new administration, DOE has a chance to build on the momentum from recent changes in contract management. The new administration needs to continue demanding greater contractor accountability. Improved information and financial management systems, along with better-trained technical staff, will also be needed to ensure accountability. Finally, changes of this magnitude will take long-term commitment and sustained leadership to implement.

**Energy Management:**
**Improving Cost-Effectiveness in DOE's Support Services Will Be Difficult**

(Letter Report, 03/05/93, GAO/RCED-93-88).

ABSTRACT: The Department of Energy (DOE) contracts extensively for a wide variety of support services, including management, administrative, and technical activities. GAO reported in August 1991 (GAO/RCED-91-186) that contracting for this work can cost substantially more than using federal employees. GAO also indicated that many of these contracts had been awarded, not on the basis of comparisons between federal and contract costs, but solely because DOE did not have enough staff to do the work. This report discusses (1) what actions have been taken in response to GAO's earlier recommendations, (2) obstacles DOE has encountered in trying to improve the cost-effectiveness of support services, and (3) whether steps have been taken to overcome these barriers.

**TQM Implementation at Energy**

(Correspondence, 03/30/93, GAO/GGD-93-21R).

BACKGROUND: GAO reviewed the Department of Energy's (DOE) implementation of total quality management (TQM). GAO noted that: (1) 58 percent of the 19 Energy facilities surveyed are implementing various phases of TQM; (2) as DOE invested more effort in TQM activities, TQM implementation matured; (3) over two-thirds of the DOE facilities reported positive benefits from TQM, but almost one-third believed it was too soon to judge TQM benefits; (4) reported benefits increased as maturity

increased; and (5) 9 of 21 potential barriers to TQM were moderate to very major problems for 39 percent or more of the total federal respondents.

**Energy Management:**
**DOE Has Improved Oversight of Its Work for Others Program**

(Letter Report, 04/07/93, GAO/RCED-93-111).

ABSTRACT: In a February 1989 report (GAO/RCED-89-21), GAO pointed out significant weaknesses in the Department of Energy's (DOE) controls over the work it carries out for others, primarily other federal agencies. DOE does this work, called Work for Others, either directly or through its contractors. The program cost about $2 billion in fiscal year 1992. This report discusses (1) the problems identified in the 1989 report, (2) DOE's actions in response to these problems, and (3) other problems needing corrective actions. GAO focuses on the activities of DOE's San Francisco Field Office and its two largest facilities—the Lawrence Livermore National Laboratory and the Lawrence Berkeley Laboratory—which are run for DOE by the University of California.

**Personnel Security:**
**Efforts by DOD and DOE to Eliminate Duplicative Background Investigations**

(Letter Report, 05/10/93, GAO/RCED-93-23).

ABSTRACT: The Defense Department (DOD), the Department of Energy (DOE), and other agencies have developed their own requirements for conducting background investigations and granting security clearances. As a result, clearances are not routinely accepted among agencies, and duplicative investigations may occur. The 1991 National Defense Authorization Act requires DOD and DOE to avoid duplicative background investigations on employees seeking security clearances. Both agencies are major users of background investigations, together budgeting nearly $200 million in fiscal year 1991 for background investigations of their employees. This report examines (1) DOD and DOE efforts to eliminate duplication by automating the exchange of investigative data and (2) DOD's and DOE's participation in interagency efforts to eliminate duplication by standardizing the security clearance process.

**Inspectors General:**
**Appointments and Related Issues**

(Fact Sheet, 05/28/93, GAO/AFMD-93-74FS).

ABSTRACT: This fact sheet provides information on federal inspectors general at various government agencies. Specifically, GAO discusses (1) inspector general appointments and related issues, (2) Department of Energy inspector general resources devoted to the audit of Federal Energy Regulatory Commission activities, and (3) agency and inspector general resources and staff in the 34 entities with inspectors general appointed by the head of the agency.

**Energy Management:**
**Systems Contracting Weaknesses Continue**

(Letter Report, 06/23/93, GAO/RCED-93-143).

ABSTRACT: GAO reported in 1989 that the Department of Energy (DOE) was encouraging the use of "systems contracts" without any proof that these contracts were cost-effective. Systems contracts are used to procure commonly used items, such as office, industrial, and laboratory supplies, as needed rather than purchasing the items in bulk and storing them in inventory. GAO revisited this issue and discovered that DOE's San Francisco Operations Office has yet to implement GAO's earlier recommendations to help ensure that the use of systems contracting is in the government's best interest. As a result, since January 1990, contractors at DOE's Stanford Linear Accelerator Center and the Lawrence Berkeley Laboratory have spent more than $2 million on office supplies without any assurance that the contracts are cost-effective. The San Francisco Operations Office also has not determined whether controls over systems contracts are adequate at the Stanford and Berkeley facilities. During a 9-month period in 1992, Stanford and Berkeley spent more than $540,000 on office supplies with no guarantee that the prices paid were competitive with prices from other suppliers.

**Performance Evaluation of the Energy Information Administration**

(Chapter Report, 06/93, GAO/PART-93-1).

ABSTRACT: Congress created the Professional Audit Review Team (PART)—composed of representatives from leading statistical and

analytical agencies, including GAO—to evaluate periodically whether the Energy Information Administration has been doing its work in an independent, objective, and professional manner. This report, which covers the period June 1990 through September 1992, examines the usefulness of energy information reports and the adequacy of contract management, including various aspects of the technical monitor program. The report also looks at action the Energy Information Administration has taken on earlier PART recommendations.

**Nuclear Security:**
**DOE's Progress on Reducing Its Security Clearance Work Load**

(Letter Report, 08/12/93, GAO/RCED-93-183).

ABSTRACT: The Atomic Energy Act of 1954 requires the Department of Energy (DOE), which runs the nation's nuclear weapons program and other sensitive undertakings, to run security checks on persons with access to classified information. DOE has cut its backlog of personnel security clearances from about 135,000 cases in 1988 to about 1,000 cases in June 1993—a 99-percent reduction. Although during the late 1980s DOE was not timely in processing clearances for its contractors' employees, the 20 contractor representatives who GAO interviewed could not recall or document significant problems caused by clearance delays. Most of the delays were characterized as inconveniences that the contractors "worked around." Virtually all the representatives said that they were pleased with DOE's current clearance processing times. DOE has not, however, effectively managed its workload of cases involving questionable information. DOE, although committed to reducing the processing time of these cases, has yet to establish adequate controls over contractors' preemployment checks to screen out unsuitable applicants. According to DOE security officials, some contractors are not verifying information on prospective employees, such as education, personal references, past employers, and credit and criminal records.

**Department of Energy:**
**Management Problems Require a Long-Term Commitment to Change**

(Letter Report, 08/31/93, GAO/RCED-93-72).

ABSTRACT: The Congress and others have criticized the Department of Energy (DOE) for inadequately managing its vast nuclear weapons

production complex and for allowing contractors, which now dominate agency activities, to elude management and financial oversight. DOE admits these weaknesses and, to its credit, has launched a broad range of initiatives to overcome them. Yet the management challenges facing DOE are so significant that fundamental change will come slowly. Strong leadership is needed to sustain the momentum and to build an effective management structure. Two of the most important management changes have been (1) DOE's reorganization to instill accountability and (2) procurement reforms to bolster contractor oversight. But fundamental DOE weaknesses, including poor communication with field offices and inadequate technical and administrative skills among DOE workers, are undermining the success of these initiatives. Aggressive action to overcome these shortcomings is especially important as the incoming DOE leadership begins grappling with problems plaguing DOE organizational structure and contract management.

**Financial Management:**
**Energy's Material Financial Management Weaknesses Require Corrective Action**

(Chapter Report, 09/30/93, GAO/AIMD-93-29).

ABSTRACT: In fiscal year 1992, the Department of Energy (DOE) paid $16 billion to universities and private companies to run government-owned facilities involved in research and development and other activities. Serious problems with contractor operations at these facilities have led to gross mismanagement of government property and funds, prompting the Office of Management and Budget and GAO to flag this area as one at highest risk for waste, fraud, and abuse. As part of a series of GAO management reviews of major federal department and agencies, this report examines DOE's efforts to (1) oversee its contractors' financial operations and (2) correct the financial management material weaknesses cited in DOE's Federal Managers' Financial Integrity Act report.

**Nuclear Waste:**
**Overhead Costs at the Department of Energy's Savannah River Site**

(Fact Sheet, 10/25/93, GAO/RCED-94-13FS).

ABSTRACT: The Department of Energy's (DOE) contract management, including contractors' overhead costs, continues to be a topic of concern to both the agency and the Congress. GAO has been examining overhead

costs billed by Westinghouse, the contractor in charge of DOE's facilities at the Savannah River Site in South Carolina. This fact sheet provides information on overhead costs (1) budgeted under Westinghouse's contract for fiscal year 1993 and the allocation of these costs to Westinghouse's various organizational units at Savannah River and (2) budgeted and incurred by Savannah River's Environmental Restoration Program, including overhead costs distributed to certain environmental restoration projects.

**DOE Management:**
**Funds for Maintaining Contractors' Operations Could Be Reduced and Better Controlled**

(Letter Report, 10/25/93, GAO/RCED-94-27).

ABSTRACT: Prefinancing refers to the budget authority that contractors maintain to continue operations at Department of Energy (DOE) facilities in the event of a funding lapse at the start of a fiscal year. At the end of fiscal year 1992, prefinancing funds among DOE contractors totaled $219 million. GAO concludes that the amount of prefinancing funds can be cut and, for some contractors, eliminated. DOE allows its contractors to keep enough money on hand to finance operations for 20 days. GAO questions the need for this funding because (1) other money is available that can be used to continue operations if funding lapses; (2) any lapses in funding are likely to be shorter than 20 days; and (3) some essential activities, such as running the nuclear weapons facilities, can legally be continued for a limited time without appropriated funds. DOE's prefinancing funds are not adequately controlled. For example, prefinancing funds are not specifically requested and justified in DOE's annual budget. Furthermore, DOE does not require the contractors to maintain separate balances for prefinancing funds, allowing them instead to mingle prefinancing funds with operating or construction funds. In addition, DOE has used prefinancing money to offset budget cuts rather than to bridge funding lapses.

**Energy Management:**
**Additional Uncosted Balances Could Be Used to Meet Future Budget Needs**

(Letter Report, 10/26/93, GAO/RCED-94-26).

ABSTRACT: In congressional testimony last year (GAO/T-RCED-92-41), GAO recommended that the Department of Energy (DOE) develop a system to ensure that uncosted obligations—commitments that DOE has made to contractors for goods and services that have yet to be delivered—are analyzed as part of its budget formation process. Since then, DOE has made significant strides towards effective evaluation of its uncosted balances as part of its budget preparation process. The absence of supporting accounting systems and unfamiliarity with the new definitions, however, have produced inaccuracies in the data included in DOE's first uncosted balances report. These inaccuracies limit the information's usefulness in making budget decisions. Developing the systems to accumulate the information in the format needed for this report would improve the reliability of the information reported. In addition, revising the definition of what should be reported as approved work scope could help spot delayed projects that have accumulated more funding than can be used effectively during the following fiscal year. DOE proposed using about $1 billion of the uncosted balances to meet fiscal years 1993 and 1994 budget needs. GAO believes, however, that the additional amounts of the uncosted balances could be used to reduce the budget amount needed for fiscal year 1994. In addition, procedures requiring the prompt release of encumbered amounts not needed to settle completed and terminated purchase orders and contracts would help ensure that such amounts are not reported as encumbrances in the future.

**Energy Management:**
**Controls Over the Livermore Laboratory's Indirect Costs Are Inadequate**

(Chapter Report, 11/16/93, GAO/RCED-94-34).

BACKGROUND: Pursuant to a congressional request, GAO provided information on indirect contractor costs at the Department of Energy's (DOE) Lawrence Livermore National Laboratory, focusing on: (1) the adequacy of the laboratory's financial management controls over its indirect costs and (2) DOE oversight of the laboratory's indirect costs.

FINDINGS: GAO found that: (1) the laboratory's financial management controls are insufficient to ensure that costs are properly charged to the appropriate account; (2) in 1991, the laboratory improperly charged more than $10 million in defense program and construction costs to the overhead cost pool and subsequently reduced the total funding available to defense and nondefense programs; (3) until 1993, the laboratory did not

comply with cost accounting standards because it lacked written policies for classifying direct or indirect costs; (4) the laboratory lacks the internal controls necessary to provide reliable accounting information and reduce the potential for waste and abuse; (5) the laboratory's decentralized management structure does not include a fully documented financial system or sufficient separation of duties; (6) although DOE has taken steps to improve its oversight of contractor indirect costs, it cannot ensure that direct program costs are accurate, accounting firms comply with established cost accounting standards, and reports do not contain errors and omissions that could result in misleading and inaccurate information; and (7) the effectiveness of current DOE oversight efforts could not be determined because of the short time the programs have been in place.

## Health, Safety, Cleanup and Restructuring of DOE Facilities

**Nuclear Waste:**
**Hanford's Well-Drilling Costs Can Be Reduced**

(Letter Report, 03/04/93, GAO/RCED-93-71).

ABSTRACT: To clean up radioactive and hazardous wastes at its Hanford Site in Washington State, the Department of Energy (DOE) will sink nearly 900 monitoring wells over the next several years at a cost of more than $270 million. The wells are designed to provide information on the nature and the extent of soil and groundwater contamination. Recent studies have suggested that DOE could substantially reduce its costs for sinking the wells by using more efficient drilling methods. Although the Hanford Site contractors have implemented many of the recommended cost-saving measures, other actions could further reduce well-drilling costs. These actions include (1) adopting faster and less expensive well-drilling technologies, (2) using the well-drilling program's work force more efficiently, and (3) centralizing the management of the well-drilling program to improve its effectiveness. DOE and the Hanford contractors, however, have made little effort to take advantage of these opportunities.

**Nuclear Waste:**
**Hanford Tank Waste Program Needs Cost, Schedule, and Management Changes**

(Chapter Report, 03/08/93, GAO/RCED-93-99).

ABSTRACT: The Department of Energy (DOE) has been trying to clean up the radioactive waste at its Hanford Site in Washington State by encasing it

in glass—a process known as vitrification—and shipping it to a geologic repository for permanent disposal. Major technical problems have beset all key steps of the program. Specifically, DOE has not determined how many samples it will ultimately need to determine the contents of the waste and lacks adequate facilities for analyzing the material. DOE has not fully tested its approach for retrieving different wastes to be treated and is basing its pretreatment plans on unproven technology. Even if DOE surmounts these obstacles, the vitrification plant may not be large enough to treat all of the high-level waste in a reasonable time frame, and the technical feasibility of DOE's approach to disposing of low-level waste has yet to be demonstrated. In addition to these technical uncertainties, questions have also been raised about the program's cost, schedule, and management. For example, estimates for completing the project have soared from $14 billion to nearly $50 billion.

**Nuclear Health and Safety:**
**Corrective Actions on Tiger Teams' Findings Progressing Slower Than Planned**

(Letter Report, 03/25/93, GAO/RCED-93-66).

ABSTRACT: Since 1989, the Department of Energy (DOE) has used Tiger Teams—groups composed of DOE and contractor experts—to assess DOE facilities' compliance with environment, safety, and health (ES&H) regulations. Although the Tiger Teams have helped establish a baseline of compliance at major facilities and have raised awareness throughout DOE about the need to improve performance in this vital area, considerable efforts will be needed to fully comply with ES&H requirements and to establish vigorous and formal ES&H programs at DOE. It could take as long as 7 years to complete all corrective actions on Tiger Team findings. As a result, DOE needs to continue to work with its field offices on verifying the adequacy of corrective actions. DOE needs to ensure that specific measures of contractor responsiveness to Tiger Team findings are included in all performance evaluation plans.

**Nuclear Regulation:**
**Better Criteria and Data Would Help Ensure Safety of Nuclear Materials**

(Chapter Report, 04/26/93, GAO/RCED-93-90).

ABSTRACT: Nuclear materials—some intensely radioactive—are widely used in instruments that identify flaws in construction materials for bridges and other structures, as well as in medicine to treat diseases like cancer. The Nuclear Regulatory Commission (NRC) regulates the safe use and control of these materials. NRC enforces its regulations either on its own or by entering into agreements with states. These states assume regulatory responsibility and must have programs that are compatible with NRC's and are adequate to protect public health and safety. In response to congressional concerns about whether NRC is adequately protecting the public from these nuclear materials, this report reviews (1) the comparability of NRC's programs for agreement-states and NRC-regulated states, including assessments of the effectiveness of both programs, and (2) NRC's actions on GAO's past recommendations.

**Safety and Health:**
**Key Independent Oversight Program at DOE Needs Strengthening**

(Chapter Report, 05/17/93, GAO/RCED-93-85).

ABSTRACT: Since its inception in 1988, the Environment, Safety, and Health Office's Site Representative Program has not provided the vigorous independent oversight originally envisioned. Staffing constraints have limited the program's coverage of Department of Energy (DOE) sites, and the office has lacked a systemic approach for using the site residents' observations to evaluate safety and health performance. In addition, DOE has not required line management to respond to the site residents' findings. As a result, line management has failed to adequately address some major safety and health issues cited by site residents, posing unnecessary risks to workers. In restructuring the program in 1992, the Environment, Safety, and Health Office made a number of improvements, but basic problems persist, such as staffing constraints. In addition, new problems further limit this oversight capability—the program's coverage of occupational health has ceased; the program has not set minimum training requirements for site representatives; and the site representatives are not spending enough time touring work areas to identify safety problems. Finally, the office's ability to resolve problems once they are identified is limited because of the absence of requirements spelling out how line managers should respond to findings.

**Department of Energy:**
**Cleaning Up Inactive Facilities Will Be Difficult**

(Letter Report, 06/25/93, GAO/RCED-93-149).

ABSTRACT: Changing defense requirements and tightening domestic budgets are forcing the Department of Energy (DOE) to redefine its missions and to reexamine the need for many of its inactive facilities. Cleaning up these inactive facilities can be a lengthy process, involving everything from preliminary assessments of the type and the amount of contamination in floors, walls, and ceilings to the actual removal of nuclear and hazardous materials. GAO found that DOE is in only the preliminary stages of cleaning up inactive facilities. DOE does not know the number of its facilities that are inactive but not yet transferred to its Office of Environmental Restoration and Waste Management, the full extent of the dangers they pose, or the cost of improving their safety until they can be decontaminated and decommissioned. DOE also lacks an accurate idea of the number of facilities it will close during the next 30 years because of changes in its missions, nor does it know how cleaning up these additional facilities could affect the program's total cost. GAO believes that given that DOE might close up to 7,000 facilities, as well as the program's potential cost, having a single office manage all work at inactive facilities may be a more effective approach to coordinating cleanups.

**Nuclear Regulation:**
**Cleanup Delays Continue at Two Radioactive Waste Sites in Ohio**

(Letter Report, 06/28/93, GAO/RCED-93-156).

ABSTRACT: Two sites in Newburgh Heights, Ohio, are contaminated with low-level radioactive material used during the Chemetron Corporation's chemical manufacturing. Although the company ceased operations more than 20 years ago, it has yet to clean up the sites and still holds a license to possess nuclear materials. The Nuclear Regulatory Commission will not cancel Chemetron's license until the company properly disposes of radioactive material and has spearheaded recent efforts to clean up the sites. This report reviews Chemetron's efforts to clean up the two sites, discusses factors that led to the failure of past cleanups, and addresses problems that Chemetron faces with its current cleanup proposal.

**DOE Management:**
**Consistent Cleanup Indemnification Policy Is Needed**

(Letter Report, 07/12/93, GAO/RCED-93-167).

ABSTRACT: In indemnifying its cleanup contractors, the Department of Energy (DOE) has adopted an inconsistent approach in which the government often accepts liabilities and contractors assume little financial responsibility. Individual contractors are indemnified not on the basis of a well-analyzed policy but as the result of negotiations, during which DOE does not first test to see whether indemnification is needed or set limits to its potential cost. As a result, some contractors have received more-favorable indemnification provisions than have others. More importantly, this approach has exposed the government to unknown but potentially significant financial risk since more than $5 billion in environmental damage lawsuits and claims have been filed under existing contracts. A consistent policy for indemnification that takes into account use of section 119 of the Superfund Amendments and Reauthorization Act, as well as other specific statutes, such as the Price-Anderson Act, can ensure that cleanup contractors are indemnified in a way that protects both the contractors' and the government's interests.

**Nuclear Regulation:**
**NRC's Nuclear Materials Program Needs Improvement to Protect Public Health and Safety**

(Testimony, 07/30/93, GAO/T-RCED-93-51).

ABSTRACT: The Nuclear Regulatory Commission (NRC) licenses millions of individuals and organizations throughout the United States to use radioactive material for research and development; medical diagnosis and treatment; and industrial, academic, and consumer activities. This testimony, which draws on an April 1993 GAO report (GAO/RCED-93-90), questions whether the public is being adequately protected from nuclear materials outside power plants, noting that NRC lacks information on whether all states receive the same minimum level of protection. NRC does not collect comparable data for its licensing and inspection programs, and the agency lacks a common set of performance indicators to effectively evaluate both the agreement-states program and the NRC-regulated states program. Moreover, NRC does not have specific criteria or procedures for suspending or revoking an agreement-state's program. As a result, NRC has

failed to suspend or revoke state programs even though the states are not complying with NRC requirements.

**Nuclear Materials:**
**Nuclear Arsenal Reductions Allow Consideration of Tritium Production Options**

(Letter Report, 08/17/93, GAO/RCED-93-189).

ABSTRACT: Plans underway to cut the nation's nuclear weapons stockpile by about 75 percent from 1988 levels will strongly affect future demand for tritium, a gaseous radioactive isotope of hydrogen used to boost the power of nuclear warheads. Because tritium decays yearly, it must be periodically replenished to maintain the potency of the warheads. This report provides information on (1) the impact of nuclear stockpile reductions on the Department of Energy's (DOE) tritium supply and (2) DOE's alternatives for meeting tritium requirements and for providing a contingency in the event that requirements increase.

**Nuclear Weapons:**
**Safety, Technical, and Manpower Issues Slow DOE's Disassembly Efforts**

(Chapter Report, 10/20/93, GAO/RCED-94-9).

ABSTRACT: The Department of Energy's (DOE) very ambitious schedule for dismantling retired nuclear weapons at its Pantex facility in Texas, coupled with unresolved safety and uranium storage concerns, could lead to conflict between safety and production goals. About 63 percent of the weapons scheduled were disassembled during fiscal year 1992. Disassembly was curtailed, however, by a transportation problem that prevented the delivery of retired weapons to Pantex for about 2 months. As a result, Pantex substantially slowed its disassembly to avoid depleting its inventory of weapons to be disassembled. Concerns about possible exposure of Pantex technicians to radioactive material also curtailed disassembly efforts. In GAO's view, the prospects for meeting DOE's disassembly schedule in the next several years are poor. DOE needs to address several issues that could affect its ability to disassemble nuclear weapons, including a shortage of disassembly technicians and the adequacy of facilities for and the environmental impact of storing large amounts of plutonium at Pantex. More than half of the required safety analysis reports, which enable decisions to be made about whether a

facility can operate safely, have not been completed at Pantex. Many of the uncompleted safety analysis reports are for disassembly activities or facilities.

**Safety and Health:**
**Worker Safety and Health Oversight Issues Facing DOE**

(Testimony, 10/21/93, GAO/T-RCED-94-54).

ABSTRACT: The Department of Energy (DOE) is involved in various activities that could expose workers to radiation and toxic chemicals. In 1992 alone, 15 DOE workers died during on-the-job mishaps. During the past decade, GAO has repeatedly called for improvements in DOE's safety and health oversight. Although recent DOE initiatives aimed at improving safety and health programs are an important step, the agency needs to develop a clear safety policy—one that clearly spells out what is expected of contractors and their workers—if its efforts are to succeed. Such a policy, along with specific goals and performance measures, could help DOE improve its safety culture and performance. In addition, GAO continues to believe that DOE's Office of Environment, Safety, and Health needs adequate authority, independence, and resources to perform vigorous independent internal oversight. Finally, a detailed plan could help to ensure a smooth, successful transition to oversight by the Occupational Safety and Health Administration.

**ERMC Follow-up**

(Correspondence, 10/27/93, GAO/RCED-94-49R).

BACKGROUND: Pursuant to a congressional request, GAO reviewed the Department of Energy's (DOE) progress in implementing pilot tests for new environmental restoration management contractors (ERMC) at its Fernald and Hanford sites. GAO found that: (1) DOE has selected a contractor for the ERMC pilot test at the Fernald site; (2) DOE has not fully implemented the recommendations for improving ERMC pilot tests and is in the process of designing a plan for evaluating the ERMC approach; (3) DOE evaluation, scheduled to be completed by May 1994, will determine ERMC program effectiveness and whether pilot tests can be used at other DOE cleanup sites; and (4) although DOE has identified staffing needs at the Fernald and Hanford sites, it has not developed a plan for acquiring staff for either site.

**Nuclear Health and Safety:**
**Examples of Post World War II Radiation Releases at U.S. Nuclear Sites**

(Fact Sheet, 11/24/93, GAO/RCED-94-51FS).

BACKGROUND: Pursuant to a congressional request, GAO provided information on planned post-World War II radioactive releases at U.S. nuclear sites, focusing on: (1) the Green Run test conducted at the Hanford, Washington, site in December 1949 and (2) several other tests at U.S. nuclear sites in the late 1940s and early 1950s that involved radioactive releases.

FINDINGS: GAO found that: (1) the Green Run test was an atmospheric radioactivity monitoring experiment designed to detect evidence of far away nuclear materials; (2) the Green Run test released a total of almost 28,000 curies of radioactive material; (3) some of the nuclear plant's safety procedures were intentionally relaxed, resulting in a larger than normal radioactive release; (4) the Green Run test was not unsafe at the time but, according to the Atomic Energy Commission (AEC), the Hanford release exceeded existing local limits for deposition in vegetation and animal tissue and would not have been permissible under today's more stringent safety standards for U.S. nuclear sites; (5) a study of historical Hanford radiation doses is currently under way; (6) 12 other planned radioactive releases occurred at three U.S. nuclear sites from 1948 to 1952; (7) AEC conducted radiation warfare tests at its sites in Oak Ridge, Tennessee, and Dugway, Utah, to develop air-dropped radioactive munitions; (8) AEC conducted atmospheric radiation-tracking tests at its site in Los Alamos, New Mexico, to analyze the diffusion of radioactive gases and fallout effects; and (9) two of the Los Alamos tests resulted in the detection of atmospheric radiation over populated areas, but there was no documentation of potential health effects from these tests.

**DOE Management:**
**Implementing the Environmental Restoration Management Contractor Concept**

(Testimony, 12/01/93, GAO/T-RCED-94-86).

BACKGROUND: GAO discussed the Department of Energy's (DOE): (1) implementation of its environmental restoration management contractor (ERMC) program for cleaning up its nuclear weapons facilities

and (2) responses to recommendations for improving the program's pilot tests. GAO noted that: (1) DOE has selected ERMC for one of its two test sites; (2) DOE selection of ERMC for its Hanford, Washington, site has been delayed due to a bid protest; (3) DOE has not fully complied with recommendations and is still developing its plan for evaluating the pilot tests; (4) DOE has identified its staffing needs for ERMC oversight, but it has not obtained all the staff needed to oversee the pilot tests because of personnel ceilings; (5) DOE has not identified its overall training needs or developed a training plan for its staff; (6) low staffing levels and other priorities have delayed DOE development of its training plan and limited DOE staff training opportunities; and (7) DOE is developing a plan for complying with a safety board's recommendations for improving its oversight.

**Health and Safety:**
**DOE's Implementation of a Comprehensive Health Surveillance Program Is Slow**

(Letter Report, 12/16/93, GAO/RCED-94-47).

ABSTRACT: Workers in the Energy Department's (DOE) industrial complex are at risk of exposure to ionizing radiation, potentially toxic chemicals, and other health hazards. A 1989 DOE panel recommended that the agency implement a health surveillance program to systematically collect and analyze data on workers' health and workplace conditions to detect illnesses or health trends linked to workplace exposure. In the 4 years since, DOE has not fully implemented such a program. DOE attributes the delays to technical difficulties and staffing shortages, although GAO believes that a lack of program planning has also been a contributing factor. DOE now projects full program implementation by 1998. Until a comprehensive program is developed, DOE will continue a program that began at the University of Washington in 1983—one that is limited to analyzing patterns of illnesses and injuries on the basis of information provided by DOE sites. A lack of complete reporting of illnesses and injuries, however, limits the current program's ability to flag the occupational diseases, injuries, and premature deaths that threaten workers. Expanding the program to additional sites without correcting these problems will simply make a program with limited effectiveness larger and will do little to improve the health of DOE workers.

# Energy Research and Development

**Federal Research:**
**Super Collider Is Over Budget and Behind Schedule**

(Chapter Report, 02/12/93, GAO/RCED-93-87).

ABSTRACT: The Superconducting Super Collider—a potential source of basic knowledge about matter and energy—will, when completed, be the world's largest particle accelerator. The prime contractor for the multibillion dollar project, which is being built about 30 miles south of Dallas, Texas, still has not come up with a fully functioning cost and schedule control system. Such a system—with trend analysis showing the estimated cost and schedule for completing the project—is not expected to be up and running until July 1993 or later. Analysis of the major subcontractors' work in progress showed that the project is over budget and behind schedule. For example, trend analyses show that costs at completion for architect and engineering services and conventional construction will be $630 million over the baseline cost estimate of $1.25 billion. Furthermore, it is unclear how much these increases will ultimately change the project's total cost and schedule. To counter cost increases, the Department of Energy (DOE) plans to follow a build-to-cost strategy. This effort is intended to hold construction costs to baseline cost estimates by eliminating, reducing, or deferring some components. Such actions would reduce the Super Collider's experimental capabilities, could harm the experimental research, and could increase overall costs to the government. DOE recently advised the Congress that it may only be able to obtain about $400 million of the $1.7 billion that it is seeking from foreign contributors—leaving a shortfall of $1.3 billion. As a result, the Congress faces the prospect of having to substantially boost federal funding to complete the project.

**Fossil Fuels:**
**Ways to Strengthen Controls Over Clean Coal Technology Project Costs**

(Letter Report, 03/31/93, GAO/RCED-93-104).

ABSTRACT: The Department of Energy's (DOE) program for clean coal technology, under way since 1986, has earmarked $2.75 billion to produce innovative technologies that use coal in a highly efficient, environmentally sound, and economically competitive way. DOE has adequate procedures and has made a good effort to review the reasonableness of industry sponsors' projected costs before projects began. In all but one case,

project files contained information on how questionable cost estimates had been resolved. After projects were under way, however, incurred-cost audits were not done promptly to ensure that sponsors submitted only allowable costs for reimbursement. Options exist that could yield more timely audits. DOE could also better protect the government's interest by withholding part of federal project funds until necessary cost records are provided and incurred-cost audits are finished. DOE allows sponsors to include third-party contributions in the sponsors' share of project financing, rather than sharing such contributions with DOE, a practice that increases DOE's investment and financial risk in projects while decreasing the sponsors' investment and risk.

**Federal Research:**
**Super Collider—National Security Benefits, Similar Projects, and Cost**

(Letter Report, 05/14/93, GAO/RCED-93-158).

ABSTRACT: The Superconducting Super Collider (SSC) will be the world's largest particle accelerator, a basic research tool for seeking fundamental knowledge about matter and energy. The Department of Energy's (DOE) cost estimate to build the SSC grew from $5.3 billion in 1987 to $8.25 billion in 1991. The SSC is not expected to produce any direct national security benefits, although national security may indirectly benefit from the potential but unpredictable practical applications of research discoveries or from technological spin-offs. Although the United States and other countries have smaller accelerators operating, no existing or planned accelerator will be exactly the same as the SSC. Known cost increases suggest that the total cost for the SSC will exceed $11 billion. To preclude the cost and schedule from continuing to increase beyond $11 billion, annual funding levels would need to increase dramatically over that projected in the President's budget. In fact, DOE is assuming in its projection that there will be no funding constraints after fiscal year 1998—an assumption that could prove unrealistic unless the budget deficit improves markedly. GAO summarized this report in testimony before the Congress; see "Federal Research: Superconducting Super Collider Cost and Schedule," (GAO/T-RCED-93-47, May 26, 1993, 16 pp.), by Victor S. Rezendes, Director of Energy and Science Issues, before the House Committee on Science, Space, and Technology.

**Federal Research:**
**Superconducting Super Collider Cost and Schedule**

(Testimony, 05/26/93, GAO/T-RCED-93-47).

ABSTRACT: The Superconducting Super Collider (SSC) will be the world's largest particle accelerator, a basic research tool for seeking fundamental knowledge about matter and energy. The Department of Energy's (DOE) cost estimate to build the SSC grew from $5.3 billion in 1987 to $8.25 billion in 1991. The SSC is not expected to produce any direct national security benefits, although national security may indirectly benefit from the potential but unpredictable practical applications of research discoveries or from technological spin-offs. Although the United States and other countries have smaller accelerators operating, no existing or planned accelerator will be exactly the same as the SSC. Known cost increases suggest that the total cost for the SSC will exceed $11 billion. To preclude the cost and schedule from continuing to increase beyond $11 billion, annual funding levels would need to increase dramatically over that projected in the President's budget. In fact, DOE is assuming in its projection that there will be no funding constraints after fiscal year 1998—an assumption that could prove unrealistic unless the budget deficit improves markedly.

**Federal Research:**
**Superconducting Super Collider's Total Estimated Cost Will Exceed $11 Billion**

(Testimony, 06/30/93, GAO/T-RCED-93-57).

ABSTRACT: Management problems continue to hinder accurate and timely reporting of the Superconducting Super Collider's cost and status. Although the project's total cost cannot be reliability estimated, GAO believes that costs have more than doubled since the Super Collider was first proposed to the Congress in 1987—from $5.3 billion to more than $11 billion. Because the project's prime contractor and the Department of Energy (DOE) have been slow to disclose project costs and anticipated cost increases, the Congress has not been receiving timely and complete information. The project is now at a crossroads, and key funding decisions must be made. The federal share of the project's cost, now capped at $5.6 billion, will have to increase. DOE now expects to receive only $1.4 billion from nonfederal sources—$400 million from foreign sources and $1 billion

from Texas. As a result, the Congress will have to boost federal funding substantially if the project is to be completed.

**Nuclear Science:**
**More Planning Needed to Support Future Needs for Electric Power in Space**

(Letter Report, 10/07/93, GAO/RCED-94-6).

ABSTRACT: The Energy Department (DOE) builds radioisotope thermoelectric generators to produce electricity for use in deep space and remote terrestrial areas. The power systems have been critical to both the National Aeronautics and Space Administration and Defense Department missions for more than 30 years. DOE is considering moving its generator operations from its Mound Plant in Ohio to a new facility being built at the Hanford Reservation in Washington. This report answers the following questions: Where does DOE plan to assemble generators in the future? How much would it cost to overhaul the Mound Plant facility to make it suitable for long-term generator assembly? How will DOE address previously cited public safety concerns about Mound doing nuclear work in a residential area? How much money has DOE spent to modify Hanford's Fuels and Materials Examination facility in preparation for the assembly of generators, and how much will it cost to complete this changeover?

**Nuclear Science:**
**Developing Technology to Reduce Radioactive Waste May Take Decades and Be Costly**

(Chapter Report, 12/10/93, GAO/RCED-94-16).

ABSTRACT: U.S. efforts to develop a technology, known as waste transmutation, that might be able to reduce the volume and the radioactivity of nuclear waste have lagged because the Energy Department (DOE) believes that the technology is too costly and unnecessary. Such radioactive waste, the legacy of commercial nuclear power and nuclear weapons production, will have to be buried in a deep geological repository. In essence, any practical application of transmutation is at least decades away, and several roadblocks would likely slow or prevent application should it be pursued. These include current funding constraints; the high cost and the long time needed to develop and implement transmutation; and the technical, institutional, and public challenges that would need to be overcome. Moreover, DOE's waste

managers, industry representatives, and others now believe that transmutation is neither necessary nor cost-beneficial.

## Nuclear Safety and Controls

### Nuclear Safety: Progress Toward International Agreement to Improve Reactor Safety

(Letter Report, 05/14/93, GAO/RCED-93-153).

ABSTRACT: Representatives of nearly one-half of the 114 member states of the International Atomic Energy Agency, including the United States, have participated in the development of an international nuclear safety convention—a proposed multilateral treaty to improve civil nuclear power reactor safety. A preliminary draft of the convention has been developed, but discussions are continuing, and when the final convention text will be completed and presented to member states for signature is uncertain. This report provides information on the development of the nuclear safety convention. GAO discusses (1) the draft convention's scope and objectives, (2) how the convention will be implemented and monitored, (3) the views of selected country representatives on what provisions should be included in the draft convention, and (4) the convention's potential benefits and limitations.

### Nuclear Nonproliferation: Japan's Shipment of Plutonium Raises Concerns About Reprocessing

(Letter Report, 06/14/93, GAO/RCED-93-154).

ABSTRACT: In January 1993, the Japanese ship Akatsuki Maru, along with an armed escort vessel, completed a 2-month voyage during which it transported 1.7 tons of plutonium oxide from France to Japan. Although the plutonium had been reprocessed at a French facility, it was originally obtained from the United States in the form of spent nuclear fuel. The Japanese sought the plutonium to generate commercial nuclear power. Under a 1988 agreement between Japan and the United States, Japan is required to ensure the physical security and safety of such shipments. This report discusses the physical security and safety of the Akatsuki Maru shipment, as well as any costs to the United States arising from it. In addition, the report discusses broader issues raised by the shipment, including concerns about reprocessing and the resulting growth in world

plutonium stocks. Finally, the report discusses the implications of the 1988 agreement for future U.S. nuclear agreements.

**Nuclear Nonproliferation and Safety: Challenges Facing the International Atomic Energy Agency**

(Chapter Report, 09/22/93, GAO/NSIAD/RCED-93-284).

ABSTRACT: The discovery of Iraq's nuclear weapons program, North Korea's refusal to allow the International Atomic Energy Agency (IAEA) to conduct nuclear inspections, and the Chernobyl nuclear power plant accident have focused attention on nuclear proliferation and the safety of nuclear power plants. These issues are of particular concern to IAEA, whose main duties are verifying the peaceful use of nuclear material and promoting nuclear energy. This report examines the (1) effectiveness of IAEA's safeguards program and the adequacy of program funding, (2) management of U.S. technical assistance to IAEA's safeguards program, (3) effectiveness of IAEA's program for advising member states about the safety of nuclear power plants, and (4) adequacy of program funding.

## Balancing Energy Supply and Demand

**Energy Security and Policy: Analysis of the Pricing of Crude Oil and Petroleum Products**

(Chapter Report, 03/19/93, GAO/RCED-93-17).

ABSTRACT: During the first week following the Iraqi invasion of Kuwait in August 1990, crude oil prices in the United States shot up by more than one-third—from about $22 a barrel to about $30 a barrel. The prices of gasoline, home heating oil, and jet fuel also increased substantially. Yet world inventories of crude oil were at their highest level since the late 1970s. This situation raised questions about how prices for crude oil and petroleum products are set, particularly during market shocks. This report (1) explains the pricing of crude oil and three products refined from it—gasoline, home heating oil, and jet fuel—under normal market conditions and during market shocks and (2) describes the federal government's authority to respond to disruptions in the oil supply and the government's use of this authority during the Persian Gulf War.

**Energy Conservation:**
**Appliance Standards and Labeling Programs Can Be Improved**

(Chapter Report, 03/24/93, GAO/RCED-93-102).

ABSTRACT: The Department of Energy (DOE) is behind schedule in upgrading energy efficiency standards for household appliances, such as refrigerators, air conditioners, and heat pumps. This has happened because (1) the appliance program's budget has been cut and staffing has remained flat despite an increasing work load and (2) DOE officials generally review proposed standards sequentially, rather than using a faster concurrent review process. The upshot is that U.S. consumers, by continuing to buy less efficient appliances, will spend an estimated $1.7 billion more on energy costs through 2030 than they would have if DOE had upgraded the standards on time. The Federal Trade Commission's (FTC) labeling program is intended to inform consumers about appliance energy use and costs. Despite concerns voiced by consumers and manufacturers about the accuracy of existing appliance labels, which do not take into account changing energy prices, FTC has not reviewed the format and information content of labels, calling into question the program's effectiveness. To promote compliance with federal efficiency standards and accuracy in labels, DOE and FTC rely largely on voluntary tests done by industry associations. GAO did not determine the extent to which appliances met efficiency standards, but it did discover instances in which pool heaters and refrigerator-freezers fell short of the energy efficiency claims on their labels or were less efficient than the standards required. DOE and FTC do not systematically monitor and investigate compliance with the standards.

**GAO Products on Bonneville Power Administration**

(Correspondence, 03/31/93, GAO/RCED-93-133R).

BACKGROUND: Pursuant to a congressional request, GAO provided a summary of its work on the Bonneville Power Administration (BPA) and other related agencies involved in BPA system operations since the enactment of the Pacific Northwest Electric Power Planning and Conservation Act. GAO noted that its work: (1) included recommendations for agency actions and how the agency responded to the recommendations and (2) concerned issues of financial management, endangered species, resource acquisition, irrigation, electricity

transmission, administration, nuclear power plant construction, and utility rates.

**Trans-Alaska Pipeline:**
**Projections of Long-Term Viability Are Uncertain**

(Letter Report, 04/08/93, GAO/RCED-93-69).

ABSTRACT: The Department of Energy (DOE) asserts that the Congress will have to authorize the leasing of the coastal plain of Alaska's Arctic National Wildlife Refuge—an area of high oil and gas potential—by 1997 to keep the Trans-Alaska Pipeline operating. DOE concludes that because of the projected rate of decline in oil production from Alaska's North Slope, the pipeline will likely be forced to shut down by the year 2009. The possible shutdown of the pipeline could be a consideration in reaching a policy decision on whether to open the refuge to oil and gas development or whether to designate the coastal plain as wilderness, thereby precluding future development. In assessing DOE's conclusion that 2009 is the most likely year that the pipeline will be forced to shut down, GAO evaluated the reasonableness of (1) the minimum operating level that DOE assumed for the pipeline and (2) the model and the key economic, geologic, engineering, and cost assumptions that DOE used to estimate oil production at the North Slope. GAO also looked at the reasonableness of DOE's belief that it will take 10 to 12 years to develop new oil fields in the refuge.

**Energy Policy:**
**Changes Needed to Make National Energy Planning More Useful**

(Chapter Report, 04/27/93, GAO/RCED-93-29).

ABSTRACT: The oil and price shocks of the early 1970s spurred the Congress to create a permanent mechanism for developing and implementing a national energy policy. Under the law, the President must submit a comprehensive national energy plan to the Congress every 2 years. GAO found that the six national energy plans submitted by three administrations since 1979 have varied significantly in responding to the law's provisions. Although most plans set objectives and outlined strategies to achieve them, no plan fully addressed the act's main provisions. For example, no plan established the specified 5- and 10-year objectives. Most plans included only general goals, and only three plans provided analysis supporting these goals. The administrations' differing views on the federal role in energy as well as new energy developments

influenced the content of the plans and the degree to which they addressed the law's provisions. GAO believes that although the law provides a useful framework for developing an energy policy, the frequency and timing of requirements have not contributed to effective planning. As a result, plans are unlikely to involve the comprehensive planning exercise the Congress envisioned.

**Natural Gas:**
**FERC's Compliance and Enforcement Programs Could Be Further Enhanced**

(Chapter Report, 05/27/93, GAO/RCED-93-122).

ABSTRACT: The natural gas industry, despite increasing competition, retains many characteristics of a monopoly. To protect the public interest, the Federal Energy Regulatory Commission (FERC) regulates the sale and the transportation of natural gas and the construction of pipeline facilities. FERC has tried to stop pipeline companies from engaging in potentially discriminatory practices that favor their own unregulated subsidiaries, but FERC's efforts could be even more effective. For example, FERC needs to aggressively enforce pipeline bulletin board and other reporting requirements used to detect and deter discriminatory practices. FERC also needs to target audits of pipeline companies on the basis of information suggesting that discriminatory practices may exist. FERC recently tried to beef up its enforcement of environmental regulations by hiring more inspection staff and by better informing its inspection staff and the industry of FERC's environmental requirements. GAO suggests that FERC (1) require companies to give FERC advance notice of construction scheduled for environmentally sensitive areas, (2) require companies to submit periodic environmental compliance reports for all major construction projects requiring environmental mitigation measures, and (3) formally seek civil penalty authority from the Congress to enforce FERC's requirements for projects approved under the Natural Gas Act.

**Energy Policy:**
**Other Nations' Policies to Reduce Oil and Coal Use in Transport and Industry**

(Chapter Report, 05/28/93, GAO/RCED-93-139).

ABSTRACT: By 2010, U.S. oil and coal consumption are projected to rise by almost one-fifth over 1990 levels. The nation's continued heavy reliance

on fossil fuels, particularly oil and coal, raises questions about its ability to meet energy security, environmental, and economic objectives. This report examines how other industrialized nations have dealt with the dilemma. GAO discusses the (1) factors that influence the type and the amount of energy that other nations use and, specifically, the trends in energy supply and use in Canada, France, Germany, Japan, and South Korea and (2) key policies and programs that these nations have adopted to promote conservation and the efficient use of oil and coal in their transportation and industrial sectors.

**Rural Electrification:**
**REA Borrowers' Investments in Cable and Satellite Television Services**

(Chapter Report, 07/29/93, GAO/RCED-93-164).

ABSTRACT: Concerns have been raised about the possibility that borrowers have been using loans from the Rural Electrification Administration (REA) to subsidize their cable or satellite television services. One-fourth of the REA borrowers responding to a GAO survey provide such services; respondents reported investments in these businesses totaling $357 million. REA borrowers may have a competitive advantage in their cable or satellite businesses. They have access, for example, to credit sources created to finance electric and telephone cooperatives. Many share space, equipment, and staff used for their utility services with their cable or satellite business. REA does restrict the amounts that borrowers may invest in nonutility activities. REA also has accounting and auditing controls, including annual audits of borrowers, designed to ensure that borrowers comply with their loan agreements. Regulation of REA borrowers by other federal agencies is limited. State regulation of borrowers and their affiliates varies, depending on whether the borrower is a cooperative or is investor-owned. GAO did not determine whether federal and state oversight prevents borrowers from cross-subsidizing their cable and satellite businesses.

**Electricity Regulation:**
**Factors Affecting the Processing of Electric Power Applications**

(Letter Report, 07/23/93, GAO/RCED-93-168).

ABSTRACT: Although the Federal Energy Regulatory Commission (FERC) has tried to cut the time required to process electric power applications,

further improvements are possible. FERC is responsible for regulating the rates, the terms, and the conditions of proposed wholesale electricity transactions—a growing portion of the nation's electricity business—as well as mergers and other deals among utilities. These improvements are especially important considering the potential increased workload arising from the Energy Policy Act. FERC's management information system could be upgraded to give agency managers more specific information with which to spot problems and assess performance. By examining the information exchanged by applicants and FERC staff at the initial filing stage, FERC could determine if changing policy statements or filing requirements would reduce the number of incomplete applications. Alternative resolution techniques could reduce the need for time-consuming trial-like hearings. Similar techniques could help applicants settle disputes before submitting applications to FERC. GAO summarized this report in testimony before the Congress; see "Electricity Regulation: Factors Affecting the Processing of Electric Power Applications," (GAO/T-RCED-93-65, Aug. 6, 1993, 16 pp.), by Victor S. Rezendes, Director of Energy and Science Issues, before the Subcommittee on Environment, Energy, and Natural Resources, House Committee on Government Operations.

**Electricity Regulation:**
**Factors Affecting the Processing of Electric Power Applications**

(Testimony, 08/06/93, GAO/T-RCED-93-65).

ABSTRACT: Although the Federal Energy Regulatory Commission (FERC) has tried to cut the time required to process electric power applications, further improvements are possible. FERC is responsible for regulating the rates, the terms, and the conditions of proposed wholesale electricity transactions—a growing portion of the nation's electricity business—as well as mergers and other deals among utilities. These improvements are especially important considering the potential increased workload arising from the Energy Policy Act. FERC's management information system could be upgraded to give agency managers more specific information with which to spot problems and assess performance. By examining the information exchanged by applicants and FERC staff at the initial filing stage, FERC could determine if changing policy statements or filing requirements would reduce the number of incomplete applications. Alternative resolution techniques could reduce the need for time-consuming trial-like hearings. Similar techniques could help applicants settle disputes before submitting applications to FERC.

## GAO Products on International Energy Agency

(Correspondence, 09/17/93, GAO/RCED-93-217R).

BACKGROUND: Pursuant to a congressional request, GAO summarized its reviews of U.S. participation in the International Energy Agency (IEA). GAO found that: (1) in general, the United States has benefitted from participation in IEA and should continue to participate; (2) although IEA has tested its emergency oil-sharing system and resolved some problems, it is uncertain whether the system will function successfully in an oil shortage; (3) the United States will initially have to provide oil to participants in an emergency, since oil imports represent a small percentage of its oil supplies; (4) the United States has not developed a fair-sharing system to ensure that domestic and international oil producers share the burden of supplying oil in emergencies, since officials do not believe it is needed; (5) antitrust concerns and foreign barriers to information exchange could hamper the emergency system's function; (6) the United States relies primarily on market forces to restrain demand during oil shortages and drawdowns of the Strategic Petroleum Reserve; (7) several IEA members have not met the 90-day reserve requirement; (8) companies are reluctant to provide complete data to IEA information systems which impairs the emergency system's function; and (9) although IEA has established long-term conservation and research and development programs to reduce dependence on imported oil, the United States and several other IEA members have not met IEA goals.

## Natural Gas: Costs, Benefits, and Concerns Related to FERC's Order 636

(Letter Report, 11/08/93, GAO/RCED-94-11).

ABSTRACT: The Federal Energy Regulatory Commission's (FERC) Order 636 is intended to spur development of a more open and accessible pipeline system for buyers and sellers of natural gas. The order requires many interstate pipeline companies to offer their customers transportation, storage, and other services separately or as part of a "bundled" package by the 1993 winter heating season. The pipeline companies will be able to recover from their customers the costs that can be directly attributed to the new regulation as long as FERC determines that these costs were prudently incurred. Order 636 changes how FERC sets the pipeline transportation rates. Under the new rate design, customers requiring uninterrupted service—mainly local distribution companies

serving residential or commercial users—will pay more of the pipeline companies' fixed costs. Customers that can tolerate "interruptible" service, such as manufacturers of fertilizer or glass, could end up paying less. In response to congressional concerns about the effect of Order 636 on consumers' gas bills, this report (1) estimates the potential shift in fixed costs among pipeline consumers resulting from the changes in the way that transportation rates are designed, (2) reports the pipeline companies' estimates of the transition costs of implementing the new rule, and (3) summarizes available information on the benefits of the new order and the costs and benefits arising from changes in the law and FERC regulations since 1978.

## Energy and Environmental Trade-Offs

**Operation Desert Storm:**
**Army Not Adequately Prepared to Deal With Depleted Uranium Contamination**

(Letter Report, 01/29/93, GAO/NSIAD-93-90).

ABSTRACT: During the Persian Gulf War, a number of U.S. combat vehicles were contaminated by depleted uranium after being struck by munitions or when ammunition stored on board was ignited by accidental fires. Although the Army does not know the full extent to which personnel were exposed to depleted uranium—a radioactive, chemically toxic metal—GAO discovered that at least several dozen U.S. soldiers, some unknowingly, either breathed it in, ingested it, or were hit by contaminated shrapnel. Army and Nuclear Regulatory Commission (NRC) officials believe, however, that the exposure levels did not exceed allowable limits set by NRC. Although the Army's policy is to minimize individuals' exposure to radiation, it has not effectively educated its personnel about the hazards of depleted uranium contamination or about proper safety measures. What little information is available is not widely disseminated. The military has begun to test crew members who were injured in Abrams tanks and Bradley Fighting vehicles contaminated by munitions hits, along with an Army National Guard unit that claimed exposure while working with contaminated vehicles in the Persian Gulf, but the Army has no plans to medically evaluate other personnel who might have been exposed. The Army still lacks a formal plan to ensure that contaminated vehicles are decontaminated, disposed of, and repaired in an efficient way. These issues may also be relevant to the other services.

### Title 7—Prepayments

(Correspondence, 04/02/93, GAO/AFMD-93-57R).

BACKGROUND: Pursuant to an agency request, GAO clarified a Title 7 requirement that agencies record intragovernmental billings as deferred items if payment is made prior to the receipt of goods and services. GAO noted that: (1) intragovernmental payments often occur before an agency receives goods or services when the agency processes a bill through the Treasury On-Line Payment and Collection system; (2) recording a deferred item helps ensure that immediate recognition of the payment occurs, there are necessary controls to facilitate adequate monitoring and adjustment of all transactions where payment is made prior to receipt of items ordered, and year-end reported expenses and deferred items are accurate; and (3) although recognition of a deferred item is not necessary to comply with the Title 7 requirement, the Nuclear Regulatory Commission should provide a periodic listing to management on the status of open items, and implement year-end cutoff procedures to reduce its expense account.

### Nuclear Waste: Connecticut's First Site Selection Process for a Disposal Facility

(Chapter Report, 04/05/93, GAO/RCED-93-81).

ABSTRACT: Connecticut, like all other states, is required to dispose of commercial low-level radioactive waste generated within its borders. Because Connecticut is highly developed and densely populated, however, the search for an appropriate disposal site has been lengthy. The process has been further delayed by opposition from citizens groups, as well as a directive from the state legislature requiring the state siting authority to restart the site screening process. This report reviews Connecticut's first effort to develop a low-level radioactive waste disposal facility, including opportunities for public involvement, and compares the incentives that Connecticut will offer to potential host communities with the incentives offered by other states.

### Electricity Supply: Efforts Under Way to Develop Solar and Wind Energy

(Chapter Report, 04/16/93, GAO/RCED-93-118).

ABSTRACT: Wind and sunlight have the potential to help meet the United States' electrical needs without the adverse environmental effects associated with other energy sources, yet they now supply less than 1 percent of the nation's electricity. This report identifies (1) economic and institutional barriers that discourage electric utilities from using wind or solar power; (2) efforts by government, utilities, and industry to foster the use of wind and solar power; and (3) ways in which the Department of Energy's programs could further assist the development of wind and solar technologies.

**Alternative-Fueled Vehicles:**
**Potential Impact of Exemptions From Transportation Control Measures**

(Letter Report, 04/19/93, GAO/RCED-93-125).

ABSTRACT: To reduce air pollution and U.S. oil dependence, the Congress has passed legislation promoting the use of alternative-fueled vehicles. Several barriers, however, including higher fuel costs and uncertainty about the availability of alternative fuels, may deter businesses and consumers from buying these vehicles. As a result, legislation has been introduced that would offer potential buyers exemptions from some transportation control measures, including high-occupancy vehicle lanes. This report examines (1) how exemptions might affect achieving the transportation control measures' purposes, (2) how effective exemptions might be in increasing purchases of alternative fueled vehicles and the use of alternative fuels, (3) whether government and industry officials believe that an exemption program should be controlled by the federal government or the states, (4) how the public might react to exemptions, (5) how exemptions are likely to affect the enforcement of transportation control measures, and (6) what specific kinds of alternative-fueled vehicles might receive exemptions.

**Nuclear Waste:**
**Yucca Mountain Project Behind Schedule and Facing Major Scientific Uncertainties**

(Chapter Report, 05/21/93, GAO/RCED-93-124).

ABSTRACT: In response to the buildup of highly radioactive waste at more than 70 nuclear facility sites across the country, the Department of Energy (DOE) has been developing an underground repository that was expected

to be up and running in 1988. By 1991, DOE was estimating that its scientific investigation of a site at Yucca Mountain, Nevada, could be completed in 2001 at a cost of $6.3 billion and that, if the site proved suitable, a repository could be in operation in 2010. GAO found that at its present pace, DOE's investigation of Yucca Mountain will take at least 5 to 13 years longer than planned and could cost up to $600 million more than the agency has projected. GAO recommends that DOE review the program's goals and objectives in light of the program's funding priorities. Such a review should address whether the program's emphasis on the scientific investigation of Yucca Mountain is sufficient and how that investigation can be done more efficiently without sacrificing technical quality.

**Radioactive Waste:**
**EPA Standards Delayed by Low Priority and Coordination Problems**

(Letter Report, 06/03/93, GAO/RCED-93-126).

ABSTRACT: The management and the disposal of radioactive waste have long been of national concern, but without congressional or judicial mandates, the Environmental Protection Agency (EPA) is unlikely to issue radiation protection standards in a timely fashion, which could harm the cleanup of contaminated facilities and radioactive waste disposal. Efforts to promulgate radiation protection standards have been delayed, in part, because EPA perceives radiation protection as less important than other agency activities and has, therefore, allocated limited resources to this effort. EPA has also experienced delays in developing proposed standards because of disputes with the Department of Energy (DOE), the Nuclear Regulatory Commission (NRC), and the Office of Management and Budget (OMB). Although EPA has tried to strengthen coordination with DOE and NRC, OMB has raised additional concerns about standards submitted for its review. OMB's concerns are largely responsible for delaying the issuance of groundwater protection standards for inactive uranium-processing sites. For more than 3 years, EPA has been unable to resolve these concerns, and the two parties still fundamentally disagree about whether contaminated groundwater not now being used should be cleaned up.

**Nuclear Waste:**
**Yucca Mountain Project Management and Funding Issues**

(Testimony, 07/01/93, GAO/T-RCED-93-58).

ABSTRACT: The Department of Energy (DOE) has given low priority to scientifically assessing Yucca Mountain, Nevada, as a possible disposal site for highly radioactive waste, requesting only about one-half of the funds needed to complete its investigation on schedule. If DOE continues to request and allot limited funds for the investigation, this effort could take at least 5 to 13 years longer than planned and could boost the disposal program's total cost. To streamline the project, DOE has compressed the time permitted for various scientific studies and is considering similar measures to reduce costs. These actions increase the risk that the site investigations will be inadequate. Moreover, they come at a time when unanticipated technical issues have emerged that could lengthen the investigation. DOE wants to establish a revolving fund to ensure that adequate funds are made available to the disposal program—a move that has implications for the federal deficit, congressional oversight, and the program's long-term financial health.

**Fossil Fuels:**
**The Department of Energy's Magnetohydrodynamics Development Program**

(Letter Report, 07/29/93, GAO/RCED-93-174).

ABSTRACT: The Department of Energy (DOE), along with industry, has been working for years to develop magnetohydrodynamics (MHD) technology for generating electricity. MHD is a potentially high-efficiency technology that generates electrical power from coal by passing extremely hot coal combustion gases through a channel surrounded by a magnetic field. In recent years, DOE's MHD program has focused on demonstrating the proof-of-concept, or feasibility, of coal-fired MHD electric power plants. This report discusses (1) the financial history of developing MHD technology, (2) progress in meeting the proof-of-concept program's schedule, (3) potential problems and concerns, (4) DOE's management of the program, and (5) DOE's plans for MHD.

**Nuclear Waste:**
**Funds Spent to Identify a Monitored Retrievable Storage Facility Site**

(Letter Report, 09/07/93, GAO/RCED-93-199).

ABSTRACT: The expenditures of the Nuclear Waste Negotiator's office were consistent with the administrative provisions of the legislation that

created the office. The Negotiator was empowered to find a state or an Indian tribe willing to host a repository or a monitored retrievable storage facility for storing hazardous waste. The Nuclear Waste Policy Amendments Act of 1987 gives the Negotiator considerable discretion in managing office procedures, such as hiring and paying staff and entering into leases and contracts. The Department of Energy's (DOE) awards of grants to counties and Indian tribes were consistent with the objectives of the monitored retrievable storage program. DOE has adequately reviewed grant applications and has monitored grantees' expenditures.

## Science and Technology

### Science and Technology: Federal Efforts to Collect and Analyze Information on Foreign Science and Technology

(Testimony, 02/23/93, GAO/T-RCED-93-8).

ABSTRACT: A whole host of federal offices and laboratories collect information on foreign science and technology. Scattered throughout the government, these organizations are concerned primarily with defense, intelligence, commerce, and science. Generally, the groups obtain their information from open (public) sources. In some cases—particularly in the intelligence community—they analyze it and restrict access to their analyses. No central federal agency is responsible for coordinating either the collection or the monitoring of information on foreign science and technology. Agencies with common interests, however, are trying to coordinate the collection and monitoring of relevant information. It is unclear at this point how valuable this data might be to U.S. businesses and whether firms would have much interest in obtaining the information from the government.

### Federally Funded Research: Controlling Inappropriate Access to Research Results

(Testimony, 03/11/93, GAO/T-RCED-93-19).

ABSTRACT: GAO believes that generally the public interest is better served if appropriate controls and safeguards are in place governing who gets access to and ultimately benefits from the results of federally funded research. GAO's May 1992 report (GAO/RCED-92-104) recommended that the National Institutes of Health and the National Science Foundation require their grantees to have procedures in place to effectively manage potential

conflicts of interest, such as by requiring investigators and other key personnel to disclose any outside interests as part of the grant award process. GAO also believes that the government should at least be consulted about any major, multimillion-dollar agreement that a university, hospital, or other nonprofit research group seeks to negotiate with a private company if that institution receives substantial federal funding and rights to resulting commercial technologies.

**Federal Research:**
**Minor Changes Would Further Improve New NSF Indirect Cost Guidance**

(Letter Report, 06/03/93, GAO/RCED-93-140).

ABSTRACT: The National Science Foundation (NSF), an independent federal agency with a budget of about $2.7 billion, promotes science in the United States through grants to research institutions. The grants pay for both direct costs, such as the salaries of the investigators and the equipment needed for a project, and indirect costs or overhead, which include utility and accounting expenses. In April 1992, GAO reported that several large universities receiving federal grant money were charging inappropriate indirect costs to the government, including entertainment expenses, depreciation of a 72-foot yacht, and the operating costs of a shopping center. This report provides information on, and identifies improvements needed in, (1) the indirect cost guidance that NSF provides to small organizations and small businesses, (2) NSF's procedures for establishing indirect cost rates, and (3) the extent to which NSF's audit guidelines and audits cover indirect cost charges.

**Technology Transfer:**
**Implementation of CRADAs at NIST, Army, and DOE**

(Testimony, 06/10/93, GAO/T-RCED-93-53).

ABSTRACT: Cooperative research and development agreements (CRADAs) are one of several mechanisms that federal laboratories use to transfer technology to the private sector. Under a CRADA, federal laboratories and collaborators agree to share resources as they conduct research and development. The CRADA defines the terms and conditions for the collaboration, including who will own, use, and commercialize a technology. This testimony compares the Department of Energy's

implementation of CRADAs with the approaches used by the Army and the National Institutes of Standards and Technology.

**Federal Research:**
**Advanced Technology Program's Indirect Cost Rates and Program Evaluation Status**

(Letter Report, 09/10/93, GAO/RCED-93-221).

ABSTRACT: The Advanced Technology Program, run by the National Institute of Standards and Technology (NIST), is meant to help U.S. businesses rapidly commercialize major new scientific discoveries and technologies and refine manufacturing technologies. The program's goals are to improve the competitive position of U.S. businesses, give preference to discoveries and technologies that have great economic potential, and avoid providing undue advantages to specific companies. Since 1991, NIST has funded 60 projects proposed by individual or joint ventures. The administration has proposed boosting program funding to $200 million in fiscal year 1997—a 194-percent increase over the year before. This report provides information on (1) program awardees' indirect cost rates, (2) completed projects, and (3) NIST's plans to evaluate the program's effectiveness.

**Federal Research:**
**Aging Federal Laboratories Need Repairs and Upgrades**

(Letter Report, 09/20/93, GAO/RCED-93-203).

ABSTRACT: Most federal research laboratories are experiencing common problems associated with aging facilities—leaking roofs and gutters, drafty window frames, power outages, and poor ventilating systems that do not meet industry standards for air circulation. Most of the laboratories GAO visited are more than 30 years old. Although facility managers generally believe that funding for laboratory maintenance is adequate, the eight agencies GAO reviewed reported backlogs of more than $3.8 billion in needed laboratory repairs. Moreover, funding to renovate existing laboratories or build new ones is often minimal. Four of the eight agencies recently started up task forces to reexamine their research and development missions and improve the effectiveness and efficiency of their laboratories. Their findings should help in deciding whether to realign, consolidate, or close laboratories and whether to boost funding for laboratories doing essential work. GAO summarized this report in

testimony before the Congress; see "Federal Research: Aging Federal Laboratories Need Repairs and Upgrades," (GAO/T-RCED-93-71, Sept. 23, 1993, 8 pp.), by Jim Wells, Associate Director for Energy and Science Issues, before the Joint Economic Committee.

**Federal Research:**
**Aging Federal Laboratories Need Repairs and Upgrades**

(Testimony, 09/23/93, GAO/T-RCED-93-71).

ABSTRACT: Most federal research laboratories are experiencing common problems associated with aging facilities—leaking roofs and gutters, drafty window frames, power outages, and poor ventilating systems that do not meet industry standards for air circulation. Most of the laboratories GAO visited are more than 30 years old. Although facility managers generally believe that funding for laboratory maintenance is adequate, the eight agencies GAO reviewed reported backlogs of more than $3.8 billion in needed laboratory repairs. Moreover, funding to renovate existing laboratories or build new ones is often minimal. Four of the eight agencies recently started up task forces to reexamine their research and development missions and improve the effectiveness and efficiency of their laboratories. Their findings should help in deciding whether to realign, consolidate, or close laboratories and whether to boost funding for laboratories doing essential work.

**Federal Research:**
**Assessment of the Financial Audit for SEMATECH's Activities in 1992**

(Letter Report, 10/13/93, GAO/RCED-94-17).

ABSTRACT: In reviewing the audit of SEMATECH's 1992 financial statements, GAO found no indication the Price Waterhouse's report on the internal control structure or its report on compliance with laws and regulations cannot be relied on. SEMATECH is a U.S. semiconductor manufacturer-Defense Department (DOD) consortium that seeks to advance semiconductor manufacturing technology. In January 1993, DOD began providing advance payments to SEMATECH on a monthly instead of a quarterly basis. This procedure, adopted in response to an earlier GAO recommendation, appears to provide enough working capital funds while minimizing the amount of unexpended government funds that SEMATECH holds.

**Technology Transfer:
Improving Incentives For Technology Transfer at Federal Laboratories**

(Testimony, 10/26/93, GAO/T-RCED-94-42).

ABSTRACT: GAO supports the provisions of the Technology Commercialization Act of 1993, which would increase the up-front royalty payments to inventors and limit the amount of remaining income that can be used for nonscientific purposes. GAO believes that these measure should stimulate federal scientists' interest in reporting inventions and spur federal laboratory directors to encourage technology transfer. Although GAO is uncertain what the impact would be of assigning title to intellectual property to Cooperative Research and Development Agreement collaborators, industry representatives told GAO that ownership and control over technology is important to developing new products. In addition, procedural impediments, such as the lack of ready access to advice on patenting inventions or the slow and arbitrary nature of selecting inventions to patent, continue to diminish incentives for technology transfer at federal laboratories.

## Special Publications

**Energy Reports and Testimony: 1990**

(Letter Report, 01/91, GAO/RCED-91-84).

BACKGROUND: GAO presented an index of energy-related reports and testimony it issued between January and December 1990.

FINDINGS: GAO presented a brief synopsis of: (1) 14 reports and 4 testimonies relating to energy supply and demand; (2) 2 reports and 2 testimonies on managing the Department of Energy; (3) 10 reports and 1 testimony pertaining to energy and the environment; (4) 15 reports and 6 testimonies on safe production of nuclear weapons; (5) 5 reports on energy research and development; and (6) a special publication of energy-related documents it issued between January 1986 and December 1989.

**Meeting the Energy Challenges of the 1990s:
Experts Define the Key Policy Issues**

(Letter Report, 03/91, GAO/RCED-91-66).

BACKGROUND: GAO reported on a conference it sponsored to examine emerging energy policy issues, focusing on: (1) energy supply and demand; (2) energy and the environment; (3) management challenges at the Department of Energy (DOE); (4) the DOE nuclear weapons complex; and (5) energy research and development.

FINDINGS: GAO noted that: (1) a panel on the balancing energy supply and demand discussed securing sufficient and reliable future energy supplies to meet the increased energy demand projected for the future; (2) the energy and the environment panel discussed critical choices that energy policymakers needed to make regarding the environmental effects of their energy use decisions; (3) the managing the Department of Energy panel provided an overview of the management challenges facing the Congress and DOE regarding its diverse missions; (4) a panel on producing nuclear weapons safely identified several weapons complex issues requiring resolution, such as establishing cleanup priorities and standards, the potential of wasting funds on ineffective cleanup approaches, overlapping oversight and assessment groups, and the acute and long-term health effects of radiation exposure; and (5) the opportunities for energy research and development panel noted that an expanded federal role was needed to assist in the transfer of energy technologies in the workplace.

**Energy Reports and Testimony: 1991**

(Letter Report, 03/92, GAO/RCED-92-120).

ABSTRACT: From the Persian Gulf War to the collapse of communism, world events significantly shaped GAO's work on energy topics in 1991. This annual index references GAO documents published last year in this issue area. Summaries of GAO reports and testimony are grouped under several subject headings. To assist the reader in obtaining documents, an order form is included.

**Department of Energy Contract Management**

(Letter Report, 12/92, GAO/HR-93-9).

ABSTRACT: Many GAO audit reports have spotlighted the effect of management failures in the federal government—waste, inefficiency, and even scandal. Political leaders have been forced to spend too much time reacting to surprises like the Department of Housing and Urban Development debacle rather than doing the work the agencies were

created to do. GAO began its high-risk program to identify those high-dollar government programs most vulnerable to fraud, waste, abuse, and mismanagement. This report is part of the program's high-risk series of reports, which examine the federal government's efforts to identify and correct problems in 17 especially vulnerable areas, which fall into three main categories: lending and insuring, contracting, and accountability. Many of the root causes of the problems afflicting these government programs are traceable to the absence of fundamental processes and systems. GAO urges that future congressional oversight focus on the agency reports and audited financial statements required by the Chief Financial Officers Act, agency management's progress in correcting material weaknesses in program internal control and accounting systems, and federal agency efforts to develop and implement performance standards. The Comptroller General summarized the high-risk series in testimony before the Congress; see "Government Management—Report on 17 High-Risk Areas," (GAO/T-OCG-93-2, Jan. 8, 1993, 22 pp.), by Charles A. Bowsher, Comptroller General of the United States, before the Senate Committee on Governmental Affairs.

**Energy Issues**

(Letter Report, 12/92, GAO/OCG-93-13TR)

ABSTRACT: This report is part of the transition series, a set of 28 reports summarizing GAO's findings on major problems confronting federal agencies, as well as economic and management issues facing the Congress and the incoming administration. One cluster of transition reports, including those on the budget deficit and investment, addresses broad policy issues affecting government as a whole and its relationship to the economy. Another group of reports addresses issues affecting specific federal agencies, such as the Defense Department and the Internal Revenue Service. A third group of reports looks at cross-cutting management issues—everything from financial management to information management. GAO highlighted many of these problems in a similar set of reports issued in 1988. In some instances, progress has been made; all too often, however, the problems have continued to fester and grow worse. In general, the state of management in the federal government is poor. Too many management ideas—and resulting agency structures and processes—that worked well in the past now hinder the government from responding quickly and effectively to a world in tremendous flux. Most agencies have no strategic vision of the future, lack sound systems to collect and apply financial and program information to

gauge operational success and accountability, and too often do without people with the skills necessary to accomplish their missions. The Comptroller General summarized the series in testimony before the Congress; see "Major Issues Facing a New Congress and a New Administration," (GAO/T-OCG-93-1, Jan. 8, 1993, 30 pp.), by Charles A. Bowsher, Comptroller General of the United States, before the Senate Committee on Governmental Affairs.

**Major Issues Facing a New Congress and a New Administration**

(Testimony, 01/08/93, GAO/T-OCG-93-1).

ABSTRACT: This testimony discusses the transition series, a set of 28 reports summarizing GAO's findings on major problems confronting federal agencies, as well as economic and management issues facing the Congress and the incoming administration. One cluster of transition reports, including those on the budget deficit and investment, addresses broad policy issues affecting government as a whole and its relationship to the economy. Another group of reports addresses issues affecting specific federal agencies, such as the Defense Department and the Internal Revenue Service. A third group of reports looks at cross-cutting management issues—everything from financial management to information management. GAO highlighted many of these problems in a similar set of reports issued in 1988. In some instances, progress has been made; all too often, however, the problems have continued to fester and grow worse. In general, the state of management in the federal government is poor. Too many management ideas—and resulting agency structures and processes—that worked well in the past now hinder the government from responding quickly and effectively to a world in tremendous flux. Most agencies have no strategic vision of the future, lack sound systems to collect and apply financial and program information to gauge operational success and accountability, and too often do without people with the skills necessary to accomplish their missions.

**Government Management—Report on 17 High-Risk Areas**

(Testimony, 01/08/93, GAO/T-OCG-93-2).

ABSTRACT: Many GAO audit reports have spotlighted the effect of management failures in the federal government—waste, inefficiency, and even scandal. Political leaders have been forced to spend too much time reacting to surprises like the Department of Housing and Urban

Development debacle rather than doing the work the agencies were created to do. GAO began its high-risk program to identify those high-dollar government programs most vulnerable to fraud, waste, abuse, and mismanagement. This testimony summarizes the high-risk series of reports, which examine the federal government's efforts to identify and correct problems in 17 especially vulnerable areas, fall into three main categories: lending and insuring, contracting, and accountability. Many of the root causes of the problems afflicting these government programs are traceable to the absence of fundamental processes and systems. GAO urges that future congressional oversight focus on the agency reports and audited financial statements required by the Chief Financial Officers Act, agency management's progress in correcting material weaknesses in program internal control and accounting systems, and federal agency efforts to develop and implement performance standards.

**Energy and Science Reports and Testimony: 1992**

(Other Written Products, 04/93, GAO/RCED-93-131).

ABSTRACT: Included among the leading energy and science issues today are the continuing U.S. dependence on imported oil, the staggering costs to clean up the nuclear weapons complex, and the expectations for science and technology to improve U.S. competitiveness abroad. This document contains summaries of GAO reports and testimony issued during 1992 on energy and science topics. Order forms are included to obtain documents of interest.

**Abstracts and Indexes of Reports and Testimony: Fiscal Year 1993**

(Other Written Products, 01/94, GAO/OIMC-94-3A/B).

ABSTRACT: Abstracts of Reports and Testimony: Fiscal Year 1993 and Indexes for Reports and Testimony: Fiscal Year 1993 is a Two-volume publication. The first volume contains full abstracts of reports and testimony listed alphabetically first by division and them by staff office, and the second volume contains several indexes to assist you in locating a particular report or testimony by subject matter, issue category, title, or GAO witness.

**Monthly List of Reports and Testimony**

(Other Written Products).

ABSTRACT: GAO's monthly list briefly describes issued reports and congressional testimony and provides an order form for these publications. Testimony by GAO officials is normally distributed only in response to requests submitted with the order form in the monthly list.

37817

United States General Accounting Office

# GAO Document Order Form

**For ordering single copies only**

**(No Cover Page Required)**

**U.S. General Accounting Office**
**PO Box 6015**
**Gaithersburg, MD 20884-6015**
**Fax Number (301) 258-4066**
**Telephone Number (202) 512-6000**

Fill in appropriate boxes, (**completely** fill in circles), tear out entire form, and mail or fax order.

Customer I. D. Number | Last Name | First Name | M.I.

**Please order by the report number which appears with the title in the text.**

- ○ AFMD-93-57R
- ○ AFMD-93-74FS
- ○ AIMD-93-29
- ○ GGD-93-21R
- ○ HR-93-9
- ○ NSIAD-93-90
- ○ NSIAD/RCED-93-284
- ○ OCG-93-13TR
- ○ OIMC-94-3A/B
- ○ PART-93-1
- ○ RCED-91-66
- ○ RCED-91-84
- ○ RCED-92-120
- ○ RCED-93-17
- ○ RCED-93-23
- ○ RCED-93-29
- ○ RCED-93-66
- ○ RCED-93-69
- ○ RCED-93-71
- ○ RCED-93-72
- ○ RCED-93-76FS
- ○ RCED-93-81
- ○ RCED-93-85
- ○ RCED-93-87
- ○ RCED-93-88
- ○ RCED-93-90
- ○ RCED-93-99
- ○ RCED-93-102
- ○ RCED-93-104
- ○ RCED-93-111
- ○ RCED-93-118
- ○ RCED-93-122
- ○ RCED-93-124
- ○ RCED-93-125
- ○ RCED-93-126
- ○ RCED-93-131
- ○ RCED-93-133R
- ○ RCED-93-139
- ○ RCED-93-140
- ○ RCED-93-143
- ○ RCED-93-149
- ○ RCED-93-153
- ○ RCED-93-154
- ○ RCED-93-156
- ○ RCED-93-158
- ○ RCED-93-164
- ○ RCED-93-167
- ○ RCED-93-168
- ○ RCED-93-174
- ○ RCED-93-183
- ○ RCED-93-189
- ○ RCED-93-199
- ○ RCED-93-203
- ○ RCED-93-217R
- ○ RCED-93-221
- ○ RCED-94-6
- ○ RCED-94-9
- ○ RCED-94-11
- ○ RCED-94-13FS
- ○ RCED-94-16
- ○ RCED-94-17
- ○ RCED-94-26
- ○ RCED-94-27
- ○ RCED-94-34
- ○ RCED-94-47
- ○ RCED-94-49R
- ○ RCED-94-51FS
- ○ T-OCG-93-1
- ○ T-OCG-93-2
- ○ T-RCED-93-7
- ○ T-RCED-93-8
- ○ T-RCED-93-19
- ○ T-RCED-93-47
- ○ T-RCED-93-51
- ○ T-RCED-93-53
- ○ T-RCED-93-57
- ○ T-RCED-93-58
- ○ T-RCED-93-65
- ○ T-RCED-93-71
- ○ T-RCED-94-42
- ○ T-RCED-94-54
- ○ T-RCED-94-86

☐ Check here if you would like to be added to a mailing list to receive a monthly catalog of GAO reports issued during the previous month and fill in your name and address below.

**If you do not have a customer I.D. number, or if you need to make an address change, please print or type the information below.**

Name and Organization

Street or P.O. Box

City, State and ZIP Code

United States
General Accounting Office
Washington, D.C. 20548-0001

Bulk Mail
Postage & Fees Paid
GAO
Permit No. G100

Official Business
Penalty for Private Use $300

Address Correction Requested