



U.S. Department of Energy
Office of Inspector General

Special Report

Management Challenges at the
Department of Energy



Department of Energy

Washington, DC 20585

November 12, 2003

MEMORANDUM FOR THE SECRETARY

FROM:


Gregory H. Friedman
Inspector General

SUBJECT:

INFORMATION: Special Report on "Management Challenges at the Department of Energy"

BACKGROUND

For the past several years, the Office of Inspector General has identified what it considers to be the most significant management and performance challenges facing the Department of Energy. This effort, now codified as part of the Reports Consolidation Act of 2000, is completed on an annual basis, reflecting new work performed by the Office of Inspector General, an assessment of the agency's progress in addressing previously identified challenges, as well as emerging issues facing the Department. This year we have used a different methodology for categorizing the challenges, essentially distinguishing between mission-related areas with inherent management risks and those aspects of the Department's operations in which we have identified specific internal control challenges. Additionally, we have developed a "watch list" that reflects operational or programmatic functions that need, in our judgment, to be closely monitored by Department management.

RESULTS

Based on work performed by the Office of Inspector General in the past year and on other relevant information, the following are the most serious challenges facing the Department of Energy:

Mission-Related Challenges

- Environmental Cleanup
- National Security
- Stockpile Stewardship

Internal Control Challenges

- Contract Administration
- Project Management
- Information Technology

Each of these challenge areas has been a long-standing and widely acknowledged issue for the Department. The mission-related challenges reflect inherent operational risks, which, in many cases, involve actions beyond the Department's direct control. These are likely to continue into the future.

Beginning in March of 2003, senior Department leadership, at your direction, initiated a robust initiative to address – and, if possible, resolve – each of the management challenges identified in our previous report, *Management Challenges at the Department*



of Energy (DOE/IG-0580, December 2002). The Deputy Secretary, as the leader of this initiative, has been personally invested in its operation, working with the Under Secretaries and Assistant Secretaries to achieve progress. Based on our analysis of this effort, if this initiative continues with the personal involvement of the Department's senior leadership, the processes for defining challenge areas, identifying root causes, and establishing effective corrective action plans will be measurably improved. In fact, during our review, we concluded that sufficient progress was made in two areas reported as challenges last year – performance management and worker and community safety – that we have moved them to our watch list. This list can be found in Appendix 1 of this report.

Also, on this year's watch list, we have included disruptions in energy supply as an emerging issue. One of the primary reasons for the creation of the Department was the need for a coordinated national response to the economic and social turbulence caused by the oil embargo that occurred during the 1970s. Given our continued reliance on foreign sources of energy, recent major disruptions to our energy supply, and the resulting questions concerning the status of our energy infrastructure, it is clear that this will be a major component of the Department's agenda into the future.

It should be noted that the Department, in its Fiscal Year 2003 Performance and Accountability Report, identifies a similar set of issues that impact the Department's ability to fulfill its critical missions. In this regard, the Office of Inspector General will work closely with Department officials to evaluate agency performance in an effort to improve programs and operations, particularly as they relate to the management challenge areas identified in this report.

Attachment

cc: Deputy Secretary
Under Secretary for Energy, Science and Environment
Administrator, National Nuclear Security Administration
Director, Office of Management, Budget and Evaluation/Chief Financial Officer
Chief of Staff

MANAGEMENT CHALLENGES AT THE DEPARTMENT OF ENERGY

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ANALYSIS OF MANAGEMENT CHALLENGES

Background

The Department of Energy (Department) is engaged in work vital to our nation's security and economic growth. Its missions address a wide range of areas including science, energy resources, national nuclear security, and environmental quality. To accomplish these missions, the Department receives annual appropriations of about \$21 billion, employing about 15,000 Federal and 100,000 contractor personnel and managing more than \$110 billion of assets.

As required by the Reports Consolidation Act of 2000, this report documents the Office of Inspector General's judgment as to the most serious management challenges facing the Department. We have categorized the six challenges identified as either mission-related or internal control. Our conclusions are drawn primarily from our audits, inspections and investigations of the Department and its operations, but also consider other sources of data.

Mission Related Challenges

Certain management challenges deal with long-standing mission related risks that are inherent to the Department's complex operations. These challenges are likely to persist well into the future, in part, because they involve factors that are outside of the Department's direct control. We concluded that the Department faces three such challenges: Environmental Cleanup, National Security, and Stockpile Stewardship.

Environmental Cleanup

The Department's program for cleaning up the environmental contamination caused by nuclear weapons research, production, and testing is the Department's single largest financial liability – estimated to cost about \$210 billion over the next several decades. Environmental cleanup activities include many complex technical and regulatory challenges. In fact, some of the Department's disposal facilities are unique in the world. Moreover, the Department operates in a regulatory environment governed by complex Federal statutes, approximately 70 compliance agreements with states and other Federal agencies, and over 7,000 enforceable milestones. While the Department has made great strides in addressing the inherent risks in this area, it has not consistently met its goals or integrated its programs for site cleanup and waste disposal.

In our report on *Waste Reduction Plans for the Advanced Mixed Waste Treatment Project at the Idaho National Engineering and Environmental Laboratory* (DOE/IG-0611, July 2003), we concluded that the project will only reduce waste volume at Idaho by 6 percent,

instead of the planned 65 percent. As a result, the Department may spend \$250 million more than expected to dispose of this waste. As another example of cleanup goals unmet, in our report on *Disposal of the Rocky Flats Environmental Technology Site's Low-Level Mixed Waste* (DOE/IG-0612, July 2003), we noted that, due to regulatory difficulties in permitting a waste disposal site to accept waste, the Department is at risk of missing closure targets and incurring significant cost increases in order to deal with certain types of waste at Rocky Flats.

The Department has also faced difficulties in integrating its cleanup efforts. For example, our report on *The Department of Energy's Spent Nuclear Fuel Canisters and Transportation Casks*, (DOE/IG-0608, June 2003) found redundancies in the development of canisters and transportation casks between Department sites. In another report, *Treatment of Mixed Incinerable Waste* (DOE/IG-0588, March 2003), we noted inefficiencies in the treatment and storage of this waste at several sites. Specifically, although a Department-owned incinerator was used at less than one-third of its capacity, and another treatment system was used at just over half capacity, the Department was funding a treatment facility owned by a commercial vendor that may duplicate the Department's underutilized facilities. Further, our report on *Disposal of Remote-Handled Transuranic Waste at the Waste Isolation Pilot Plant* (DOE/IG-0613, July 2003) disclosed significant inconsistencies between the waste-generating site plans and the Departmental plan for treatment and disposal of remote-handled transuranic waste.

To correct the issues raised in our reports, the Department's Office of Environmental Management has initiated a number of specific actions. Also, in March 2003, at the Deputy Secretary's request, the Assistant Secretary for Environmental Management initiated a number of actions intended to help the Department deal more effectively with cleanup activities and to accelerate reforms recommended in Environmental Management's 2002 "Top to Bottom" review. These actions included:

- Developing and implementing a new budget structure;
- Instituting human capital reforms;
- Modifying the acquisition strategy by using more small, discrete cleanup contracts;
- Organizing a management advisory council to review contracts from a corporate perspective, and to find ways to improve performance of contractors;

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- Enhancing configuration control over critical program elements, including corporate performance metrics, contractor performance measures, and life-cycle costs; and,
 - Pursuing innovative solutions to cleanup through the creation of ten integrated project teams.

The Office of Inspector General will continue to allocate its resources to assist the Department in this critically important area.

National Security

The Department plays a key role in the Nation's national security apparatus, including major programs related to the non-proliferation of nuclear weapons and a number of programs that are relevant to homeland security. Since September 11, 2001, the Department's activities in this area have been operating in an increasingly dynamic and challenging world. Our reviews have highlighted areas that need attention to strengthen the Department's efforts in domestic threat response and protection, nonproliferation, site access controls, and protective forces.

The Department plays a critical role in protection of the domestic infrastructure. Through our reviews, we have identified areas that need enhancement. Our review of *National Nuclear Security Administration's Ability to Meet the Aircraft Requirements of the Joint Technical Operations Team* (DOE/IG-0605, June 2003) found that the National Nuclear Security Administration (NNSA) was not prepared to meet the requirements of the Joint Technical Operations Team, which was established to respond to terrorist attacks involving nuclear weapons. Also, the Department did not have formal agreements with the Department of Defense to detail specific requirements to support this critical mission. In another report, which is not publicly releasable in its entirety because it contains information that is Official Use Only, *Actions Taken in Response to Missing Hazardous Waste Containing Cyanide* (DOE/IG-0592, March 2003), we noted that the Department needs to enhance awareness of materials that could be used as weapons of mass destruction and to strengthen controls over management and disposition of these materials. Further, in our report, *Power Marketing Administration Infrastructure Protection* (OAS-B-03-01, April 2003), we concluded that two power administrations did not adequately assess vulnerabilities or risks for their most critical assets. As a result, these power distribution assets could be more vulnerable to attack, which could lead to economic impacts on the power administrations and their customers.

Related to international nonproliferation issues, the Office of Inspector General issued a report on *International Materials Protection, Control and Accountability Non-Proliferation Initiative* (DOE/IG-0603, June 2003), in which we concluded that a significant portion of funding was expended in the United States, rather than being used directly to reduce proliferation risks in the former Soviet Union. In fact, the Department's national laboratories spent a combined total of \$13.7 million more than Congressional targets for domestic expenditures in Fiscal Year (FY) 2001 and FY 2002. Also, the Department allowed uncommitted funds to increase to \$133 million by the end of FY 2002. Our report also noted that improvements were needed in prioritizing and allocating funds, and measuring performance.

As in previous years, the Office of Inspector General issued several reports regarding access controls over Departmental operations. For example, our report on *The Department's Unclassified Foreign Visits and Assignments Program* (DOE/IG-0579, December 2002) disclosed that the Department had not adequately controlled unclassified visits and assignments by foreign nationals. Also, in our report on *Personnel Security Clearances and Badge Access Controls at Selected Field Locations* (DOE/IG-0582, January 2003), we identified significant discrepancies at Oak Ridge where the Department had either not terminated former Federal and contractor employees' clearances or had not recovered their badges. Less significant but related problems were identified at other sites during this review.

The Department of Energy and its contractors are also responsible for producing, storing, and handling significant quantities of nuclear materials, weapons, and other national security related information. Through its contractors, the Department employs protective force personnel as key elements in the protection of its facilities. During the review of *Management of the Department's Protective Forces* (DOE/IG-0602, June 2003), the Office of Inspector General concluded that several significant weaknesses existed, including: long delays in granting clearance to protective force personnel; increases in unscheduled overtime cost; morale and retention problems because of mandatory overtime; and, operational vulnerabilities with work stoppages. Another review concerning the readiness of the Department's protective forces, *Inspection of Implementation of Corrective Actions Resulting From Force-on-Force Performance Tests* (DOE/IG-0585, February 2003), determined that the process of documenting activities associated with corrective action plan milestones at Los Alamos could be improved. Also, we noted areas where internal policies and procedures at Pantex could be strengthened in order to improve readiness of the Department's protective forces.

Recently, the Department has taken several steps to improve security controls and mitigate associated risks. For instance, in March 2003, the Department issued its strategic plan for security, outlining its priorities, goals, initiatives, and challenges for the next decade. Additionally, as part of the Deputy Secretary's effort to address management challenges, the Department conducted an assessment of its security posture and concluded that three major areas of risk exist: the evolution of new and emerging threats; problems with prioritizing and assigning scarce resources; and, unclear assignment of accountability, roles and responsibilities. Senior Departmental management, including the Under Secretary for Energy, Science and Environment, the Administrator for NNSA, and the Office of Security have initiated actions intended to improve performance in these areas. Additionally, the Department has a Security Policy Streamlining Initiative and has formulated an Executive Quality Panel to improve the Department's policies and procedures over security.

Stockpile Stewardship

The Department's program for stockpile stewardship is one of the most technically complex scientific programs ever undertaken. Specifically, the Department is charged with maintaining the safety, reliability, and performance of the nation's nuclear weapons stockpile in the absence of underground nuclear testing. The Secretary of Energy must annually certify to the President that the weapons are safe and reliable and that underground testing does not need to be resumed. To accomplish its mission, the NNSA is developing a remarkable set of scientific facilities and tools to (1) better understand changes that occur in nuclear weapons as they age, (2) enhance stockpile surveillance capabilities, and (3) extend the life of weapons in the stockpile. In meeting these challenges the Department has had difficulty with the efficiency of its operations, administrative processes, and the ability to conduct timely studies of weapons systems.

A review of *Beryllium Oxide Operations at the Y-12 National Security Complex* (DOE/IG-0595, April 2003) disclosed that there were inefficiencies in Y-12's beryllium oxide operations. For example, operations were spread out across the Y-12 site, and equipment and facilities were outdated. Additionally, the Department did not adequately consider using other materials that would perform the same function as beryllium but without the harmful health effects. Another report, *Management of Beryllium Metal Supply* (DOE/IG-0583, January 2003), noted that only 50 tons of beryllium in the National Defense Stockpile is reserved for the Department, yet there is a need for 90 tons of beryllium over the next three decades. We made recommendations

intended to help the Department close this potential gap. In a different case, our report on *Reconfiguration of the Kansas City Plant* (DOE/IG-0616, August 2003) found that the Stockpile Management Restructuring Initiative will not achieve the goals established in the initiative, and, consequently, will not save as much money as anticipated.

Some of NNSA's administrative processes need strengthening as well. In our report on the *National Nuclear Security Administration's Planning, Programming, Budgeting and Evaluation Process* (DOE/IG-0614, August 2003), we found that while NNSA had made significant progress toward the implementation of its PPBE process, several areas needed to be addressed before the process is fully operational. Specifically, NNSA managers were not always clear on their roles and responsibilities; contractor estimates that form the basis for budget estimates were not validated; and, an independent analysis group to support the resource allocation decision process had not been established.

In addition, delays that could put stockpile stewardship program goals at risk were identified in our report on the *National Nuclear Security Administration's Nuclear Explosive Safety Study Program* (DOE/IG-0581, January 2003), which found that Nuclear Explosive Safety studies were delayed for six of the nine nuclear weapon types. These delays would cause an actual time difference between the comprehensive studies of 11 to 16 years, exceeding the standard of every ten years.

To its credit, as part of the Deputy Secretary's effort to mitigate risks associated with management challenges, NNSA management has initiated corrective actions intended to address these concerns. Initiatives are underway to improve management processes over planning and budgeting, information management, acquisitions, and human resources.

Internal Control Challenges

Internal control challenges represent issues that, if not addressed, may impede the Department's ability to carry out its program responsibilities and to ensure the integrity of its operations. These challenges relate to the Department's management processes for achieving its mission rather than directly to the mission outcomes themselves. We concluded that the department faces three challenges related to internal control systems: Contract Administration, Project Management, and Information Technology.

Contract Administration

Most of the Department's operations are carried out through contracts that consume about seventy five percent of the Department's \$21.3 billion budget. Contracts and grants are awarded to industrial companies, academic institutions, and nonprofit organizations that operate a broad range of scientific, industrial, and production facilities. The Department has traditionally faced challenges with contract administration, and the Office of Inspector General continues to consider it a management challenge. The National Aeronautics and Space Administration (NASA) has recently been criticized for its "hands-off" approach to contracting in conjunction with space shuttle operations. For example, in January 2003, the General Accounting Office issued a report that cited NASA's lack of effective contract oversight activities. Like NASA, contracting out is a key element of the Department of Energy's management culture. As a consequence, Federal managers need to avoid becoming too insulated from program performance. Clearly, the issues discussed in this management challenge transcend the functional role of procurement. Other administrative areas such as program and financial management influence the effectiveness of the Department's contract administration. Our reviews identified the need for improvement in the oversight of the following areas: contract cost, laboratory and community development activities, and grants to local governments.

Inadequate oversight of costs of contracts has been a long-standing management issue for the Department. In our report on *The Advanced Mixed Waste Treatment Facility Contract at the Idaho National Engineering and Environmental Laboratory* (DOE/IG-0622, September 2003), we concluded that the Department is paying for equipment and services that are no longer being contemplated in the project. The report identified an opportunity for the Department to reduce the contract by more than \$90 million. Additionally, Office of Inspector General reviews have disclosed instances where costs were incurred and paid by the Department that we consider to be questionable. For example, in our report on the *University of California's Costs Claimed and Related Internal Controls for Operation of Los Alamos National Laboratory* (DOE/IG-0596, April 2003), we identified potentially unallowable costs of about \$14.6 million that were charged to the contract for "working" meals, travel costs in excess of contract limits, and for an internal audit function that did not meet Departmental requirements. Further, in our special inquiry report on *Operations at Los Alamos National Laboratory* (DOE/IG-0584, January 2003), we described actions taken by Laboratory officials that weakened or

override property and procurement management controls. In addition, this report identified practices by management that may have discouraged employees from raising concerns to appropriate authorities. Contractor employees should feel free to disclose concerns about contract operations to appropriate parties without fear of retaliation.

The Department allows contractors to engage in certain business development activities to facilitate the prospect of acquiring new sources of revenue for laboratories. Work conducted by the Office of Inspector General indicates that the Department needs to improve its administration of these activities. In the report on *Idaho National Engineering and Environmental Laboratory's Strategic Initiative Fund*, (DOE/IG-0601, May 2003), we noted that the Department's oversight of a mission development fund at Idaho was insufficient. Specifically, we identified instances where the fund may have been used to supplement other restricted funds and to pay for activities that could have been funded directly.

Additionally, we performed a review dealing with the Department's involvement with local economic development groups. Our report on *Utility System Leases at the East Tennessee Technology Park* (DOE/IG-0609, June 2003) disclosed that the Department did not obtain competitive bids for management of the utility systems and infrastructure. Also, we questioned \$6.9 million in costs. Similarly, in *Transfer of Excess Personal Property from the Nevada Test Site to the Community Reuse Organization* (DOE/IG-0589, March 2003), our report disclosed that Nevada's property transfer practices to community reuse organizations did not strike an appropriate balance between the effort to assist community development and the need to ensure that taxpayers received reasonable consideration for property transferred. For example, a drill rig potentially worth \$3.9 million was sold to the community re-use organization for \$50,000.

In addition, under terms of the Nuclear Waste Policy Act, the Department provides funds to the State of Nevada and several local governments to oversee the Department's Yucca Mountain Project. Our report, *Oversight Funds Provided to Local Governments in the State of Nevada* (DOE/IG-0600, May 2003), disclosed that three counties used oversight funds for activities that were prohibited by the Nuclear Waste Policy Act, such as hiring a lobbyist and sponsoring rallies to protest the Yucca project. In a similar review, *Inspection of Savannah River Operations Office Management of Emergency Response and Law Enforcement-Related Grants* (DOE/IG-0604, June 2003), we concluded that the Department was not adequately managing grants to Georgia and South Carolina and did not have documentation to support whether or not the grant recipients were on schedule and meeting milestones.

The Department's Chief Financial Officer, at the request of the Deputy Secretary, has developed a corrective action plan to address five major areas of contract administration in which improvement is desired: selection of contract type; increasing competition; use of effective performance objectives and measures in contracts; effective management of Departmental initiatives; and, inadequate human resources to perform contract oversight. The Chief Financial Officer has identified specific actions for each of these major areas that are intended to improve the Department's performance in contract administration. Notably, the Department is taking steps to compete the Los Alamos National Laboratory contract for the first time in 60 years.

Project Management

In carrying out its various missions, the Department is engaged in numerous multi-million dollar – and a few multi-billion dollar – projects. Because of the scientific and technologically complex nature of much of the Department's work, many of the projects are unique in the world. For many years, however, the Department has been criticized for weaknesses in its project management. In an effort to delineate and address those weaknesses, the Department has, since 1998, engaged the National Research Council (an organization of the National Academies of Science) to make recommendations to improve project management. The Council published a series of reports, which concluded that the Department lacks sufficient control over its projects, ultimately resulting in projects with cost and schedule over-runs. In its most recent report, *Progress in Improving Project Management at DOE – 2002 Assessment*, the Council expressed concern over the Department's consistency and continuity of applying project management principles, risk management, and contingency. The Council cited improvements in the Department's organizational structure with a central project management office, improved policies and procedures over project management, improved project management tools, and improvement over human resource issues pertaining to project management. Through these efforts, the Department has improved management of traditional construction projects. In our judgment, these same concepts should also be applied to the Department's operating projects.

In our work related to environmental cleanup projects, the Office of Inspector General reported on instances in which the Department had not appropriately applied project management principles, including thoroughly analyzing the cost-effectiveness of proposed new facilities. For example, our report on *Planned Characterization Capability at the*

Waste Isolation Pilot Plant (DOE/IG-0577, December 2002), disclosed that a proposed central characterization facility for transuranic waste at the Waste Isolation Pilot Plant would not benefit generator sites and may not be needed. Also, our report on the *Idaho National Engineering and Environmental Laboratory's Remote Treatment Facility* (DOE/IG-0573, November 2002) found that the conceptual plan for the planned facility did not provide the capability to treat all remote-handled solid waste at the Idaho site. Further, in a report on the *Idaho Settlement Agreement Activities* (DOE/IG-0571, October 2002), we noted that two recently completed cleanup projects overran costs by a combined \$168 million. In this report, we made recommendations to improve project controls over operating projects.

In the stockpile stewardship area, our review of the *Dual Axis Radiographic Hydrodynamic Test Facility* (DOE/IG-0599, May 2003) disclosed that this facility would not be operational until June 2004, 15 months behind schedule, even after scope changes that reduced or eliminated work elements. Additionally, in our report on *Refurbishment of the W80—Weapon Type* (DOE/IG-0590, March 2003), we found it to be unlikely that NNSA's W80 refurbishment projects will meet scope, schedule, and cost milestones. Lawrence Livermore and Sandia National Laboratories cancelled or delayed testing without notifying NNSA or updating the project plan. We made recommendations to improve the accountability and oversight over this project.

Also, in our review of *Plutonium-238 Production* (DOE/IG-0607, June 2003), we concluded that there were risks that the Department would not achieve its plutonium 238 production objectives. We recommended the Department implement project management controls over the project, better define long-term needs, and designate the project as a high priority.

To address project management issues identified by the National Research Council, the Office of Inspector General, and other reviewers, the Department's leadership has initiated a number of corrective actions, particularly for capital asset construction projects. Examples include using External Independent Reviews to ensure quality planning during early stages of the projects; regular status reports with senior Department management; conducting executive level management reviews; and, implementing a new career development program for project managers. Additionally, some Departmental organizations, such as the Office of Environmental Management, are reforming the way its projects are organized and administered in order to improve accountability and effectiveness.

Information Technology

The Department spends more than \$2 billion annually on information technology resources. In the past year, a number of Office of Inspector General reports have highlighted internal control weaknesses that impact cyber security and the improvement of information technology systems.

Our report on *Remote Access to Unclassified Information Systems* (DOE/IG-0568, September 2002) disclosed that the majority of offices reviewed had not adequately protected information systems from unauthorized remote access. This placed them at risk for tampering, fraud, and other criminal acts. In our report *Security Over Wireless Networking Technologies* (DOE/IG-0617, August 2003), we reported that four of the six organizations we reviewed had deployed wireless networks without assessing the risks associated with their use. This placed the Department's information systems at risk of attack from internal and external sources and could ultimately result in the compromise of critical systems and information.

Also, in our evaluation report on *The Department's Unclassified Cyber Security Program 2003* (DOE/IG-0620, September 2003), we noted a number of improvements in the Department's unclassified cyber security program since our last review; however, we observed that problems continue to exist in several critical areas. In an interim report on *Inspection of Internal Controls Over Personal Computers at Los Alamos National Laboratory* (DOE/IG-0597, April 2003), we found that the controls over classified and unclassified laptop computers were inadequate. Los Alamos could not account for its single-user classified laptops. Further, computers that could not be located were simply written off without sufficient review of the circumstances, and thefts were not always reported to the Laboratory's Office of Security Inquiries.

To its credit, the Department's Office of Chief Information Officer is developing corrective actions to mitigate cyber-security risks and to improve relevant controls. For instance, the Department is finalizing detailed cyber security policy and guidance, and in June 2003 provided guidance for cyber-security performance measurements. Additionally, the Department recently issued DOE Order 205.1, Department of Energy Cyber Management Program, which requires that continuity of operations, configuration management, and incident reporting procedures be developed and maintained in Program Cyber Security Plans and Cyber Security Program Plans. Additionally, the Office of

the Chief Information Officer has addressed inadequate reporting in its draft Incident Prevention, Warning, and Response manual. Specifically, the draft includes guidance on reporting to law enforcement and the Office of Counterintelligence. Moreover, the draft manual addresses the lack of reporting by requiring monthly verification when no reportable incidents occur.

For some time, the Department has experienced problems in fully implementing the requirements of the Clinger-Cohen Act of 1996. These requirements established the Department's Chief Information Officer, who was to have broad authority to use information technology to improve performance and reduce costs. The Department has identified significant barriers to achieving Clinger-Cohen's objectives, including: the decentralized approach to information technology management in the Department; the Chief Information Officer's limited role in the budgeting process for Departmental programs; and, the lack of a baseline of information technology to guide the acquisition and management of information technology resources in the Department.

In our report on *Information System Development Practices at the Bonneville and Western Area Power Administrations* (DOE/IG-0586, February 2003), the Office of Inspector General found that system development was not always consistent with Federal requirements and guidance. The absence of key system development activities led to schedule slippage and a \$9 million write-off. Also, Bonneville faced development delays of more than two years and modifications costing more than \$600,000. Further, three different regional offices had separate billing systems for the same core purpose. In another report, *Business Management Information System* (DOE/IG-0572, November 2002), we concluded that the system under development was unlikely to satisfy some key Federal requirements and was not aligned with the Department's corporate information technology architecture. Specifically, program elements were developing separate systems that were not capable of full integration with other business systems; did not link performance and financial data; and, did not replace inefficient program and site-level financial management systems.

To better delineate its policies and procedures on information technology issues, the Department is preparing a DOE Order on information technology management. Also, the Chief Information Officer is developing an acquisition framework and an information technology investment portfolio system to improve decision making for new information technology acquisitions, and to improve information technology capital planning. Further, the Department plans to complete an information technology enterprise architecture-based information technology inventory.

Appendix 1

WATCH LIST

The Office of Inspector General's "watch list" consists of management issues that do not, in our judgment, meet the threshold of major management challenges yet warrant continued attention by senior Department managers. Watch list issues may include management challenges identified in previous years for which the Department has implemented corrective actions or has achieved positive outcomes. The watch list may also include emerging issues that may require Department action. This year's watch list addresses three areas: Energy Supply; Worker and Community Safety; and, Performance Management.

Energy Supply

One of the Department's strategic goals is to promote the development and deployment of energy systems that will provide the Nation with clean, efficient, economical and reliable energy. This strategic goal recognizes the critical role energy contributes to the Nation's economy and to our standard of living. In fact, one of the primary reasons the Department of Energy was created in 1978 was the need for a coordinated national response to the economic and social turbulence caused by energy supply disruptions that occurred in the 1970s, such as the Oil Producing and Exporting Countries oil embargo of 1973 and 1974. Disruptions in energy supply can cause dramatic price fluctuations that reverberate throughout the Nation's economy.

Nevertheless, for the past several decades, the United States has been increasingly dependent on energy supplied by foreign sources, especially petroleum imports from the Persian Gulf region. From 1981 to 2001, the percent of United States petroleum needs met from foreign sources increased from 34 percent to 54 percent and is likely to continue to increase further in the future. Acknowledging the trend toward increasing dependence on foreign energy sources, the President's FY 2004 budget proposal for the Department of Energy identifies "reduce dependence on energy imports" as one of the Department's six primary priorities.

It is important to note that risks of disruptions in energy supply are not restricted to foreign oil imports. Other recent events indicate that challenges exist in many areas of energy supply. For example, in August 2003, more than 20 million people in the northeast were without electricity during the largest blackout in U.S. history. Further, in the summer of 2001, large areas of the State of California were subjected to rolling blackouts. Also, acute shortages of natural gas resulted in dramatic price increases in 2003, and spikes in the price of gasoline have occurred for a myriad of reasons including domestic pipeline issues. Aging nuclear facilities also continue to play a significant role in domestic power generation. Accordingly, it appears that the risks of energy supply disruptions will be on the Department's agenda for the foreseeable future. Given our reliance on energy, this will be one of the most important policy decisions facing the nation. As the Federal agency responsible for energy policy at the national level, the Department will have a critical role in addressing this challenge.

Appendix 1 (continued)

Worker and Community Safety

The Department manages large amounts of dangerous materials and operates large-scale industrial facilities that represent safety risks to workers and local communities. Safety incidents that affect workers and the community have the potential to destabilize, delay, and disrupt the Department's critical activities, and have intangible costs such as a negative public perception of the Department. Accordingly, it is imperative that the Department continue to place a high priority on worker and community safety. In prior years, we reported worker and community safety as a major management challenge.

This year, due to progress made and actions currently underway, we moved this area to our watch list. Specifically, the Department has implemented an improvement action plan that details 26 commitments. For example, the Department has improved definition and assignment of organizational roles, responsibilities, and authority. Also, the Department has implemented processes to improve safety analyses and design codes.

The Office of Inspector General continues to evaluate the Department's safety programs and activities and to make recommendations to assist management in improving its operations. For example, our report on *Inspection of Explosives Safety at Selected Department of Energy Sites* (DOE/IG-0578, December 2002) noted that improvements could be made in the areas of explosives safety, fire, and lightning safety.

Performance Management

In previous years, we have reported that performance management was among the most serious challenges the Department faced. Specifically, we noted that:

- Performance measures were frequently not clear or quantifiable;
- Some major Departmental activities lacked performance measures; and,
- Reported performance results were not always accurate and valid.

We have concluded, however, that in the past year, the Department has made considerable progress in addressing these concerns. The Department's Office of Chief Financial Officer led the Department's efforts to improve performance management. These efforts, coupled with the Deputy Secretary's initiatives to establish program office "ownership" of Department challenge areas and to develop corrective action plans for each are positive steps. In our judgment, senior Department leadership has acted forcefully to establish meaningful performance management improvements. Actions implemented to date include: issuing new policy on performance measures to better define terminology and criteria; rolling out a new performance measurement software system that forces performance data to be quantifiable; conducting new training on performance measurement; and, implementing an Earned Value Management System on projects with funds of \$5 million or more. Nevertheless, many of the improvements in this area are new and require the continued diligent attention of senior Department management to assure accurate and valid results are reported and documented against clear and meaningful measures.

Appendix 2

**TABLE COMPARING MANAGEMENT CHALLENGES
REPORTED BY VARIOUS GROUPS**

IG	GAO¹	DOE²
Contract Administration	Contract Management	Program Oversight of Contractors
Environmental Cleanup	Cleanup of Radioactive & Hazardous Waste	Environmental Cleanup
		Nuclear Waste Disposal
Information Technology Management		Information Technology Management
National Security	Security Threats and Problems	Security
		Performance Management
Stockpile Stewardship	Nuclear Weapons Stockpile	Stockpile Stewardship and Testing
		Safety and Health
		Human Capital Management
	Revitalize Infrastructure	Facilities and Infrastructure Management
Project Management		Project Management
	Leadership in Meeting Nation's Energy Needs	

¹According to *Major Management Challenges and Program Risks, Department of Energy* (GAO-03-100, January 2003)

²DOE's self-identified "Significant Issues" according to *U.S. Department of Energy Performance and Accountability Report, Fiscal Year 2002* (January 2003)

Appendix 3

RELATED REPORTS ISSUED IN FISCAL YEAR 2003

Environmental Cleanup

- Audit Report on *Treatment of Mixed Incinerable Waste* (DOE/IG-0588, March 3, 2003)
- Audit Report on *Disposal of Remote-Handled Transuranic Waste at the Waste Isolation Pilot Plant* (DOE/IG-0613, July 18, 2003)
- Audit Report on *Disposal of the Rocky Flats Environmental Technology Site's Low-Level Mixed Waste* (DOE/IG-0612, July 8, 2003)
- Audit Report on *Waste Reduction Plans for the Advanced Mixed Waste Treatment Project at the Idaho National Engineering and Environmental Laboratory* (DOE/IG-0611, July 7, 2003)
- Audit Report on *The Department of Energy's Spent Nuclear Fuel Canisters and Transportation Casks* (DOE/IG-0608, June 20, 2003)

National Security

- Audit Report on *Personnel Security Clearances and Badge Access Controls at Selected Field Locations* (DOE/IG-0582, January 24, 2003)
- Inspection Report on *Implementation of Corrective Actions Resulting From Force-on-Force Performance Tests* (DOE/IG-0585, February 12, 2003)
- Inspection Report on *The Security Afforded Selected Tritium Reservoir Shipments (U)* (DOE/IG-0619, September 16, 2003) Classified
- Inspection Report on *National Nuclear Security Administration's Ability to Meet the Aircraft Requirements of the Joint Technical Operations Team* (DOE/IG-0605, June 5, 2003)
- Audit Report on *International Materials Protection, Control and Accountability Nonproliferation Initiative* (DOE/IG-0603, June 4, 2003)
- Audit Report on *Management of the Department's Protective Forces* (DOE/IG-0602, June 3, 2003)
- Audit Report on *Power Marketing Administration Infrastructure Protection* (OAS-B-03-01, April 28, 2003)
- Inspection Report on *Actions Taken in Response to Missing Hazardous Waste Containing Cyanide* (DOE/IG-0592 March 21, 2003) Official Use Only

Appendix 3 (continued)

- Audit Report on *The Department's Unclassified Foreign Visits and Assignments Program* (DOE/IG-0579, December 23, 2002)

Stockpile Stewardship

- Audit Report on *National Nuclear Security Administration's Nuclear Explosive Safety Study Program* (DOE/IG-0581, January 2, 2003)
- Audit Report on *Management of Beryllium Metal Supply* (DOE/IG-0583, January 27, 2003)
- Audit Report on *Beryllium Oxide Operations at the Y-12 National Security Complex* (DOE/IG-0595, April 16, 2003)
- Audit Report on *Savannah River Site's Waste Solidification Building* (DOE/IG-0618, September 4, 2003)
- Audit Report on *Reconfiguration of the Kansas City Plant* (DOE/IG-0616, August 13, 2003)
- Audit Report on *National Nuclear Security Administration's Planning, Programming Budget, and Evaluation Process* (DOE/IG-0614, August 5, 2003)

Contract Administration

- Special Inquiry on *Operations at Los Alamos National Laboratory* (DOE/IG-0584, January 28, 2003)
- Audit Report on *University of California's Costs Claimed and Related Internal Controls for Operation of Los Alamos National Laboratory* (DOE/IG-0596, April 16, 2003)
- Audit Report on *Transfer of Excess Personal Property from the Nevada Test Site to the Community Reuse Organization* (DOE/IG-0589, March 11, 2003)
- Audit Report on the *Oversight Funds Provided to Local Governments in the State of Nevada* (DOE/IG-0600, May 23, 2003)
- Audit Report on *Idaho National Engineering and Environmental Laboratory's Strategic Initiative Fund* (DOE/IG-0601, May 27, 2003)
- Inspection Report on *Inspection of Savannah River Operations Office Management of Emergency Response and Law Enforcement-Related Grants* (DOE/IG-0604, June 2, 2003)
- Audit Report on *Utility System Leases at the East Tennessee Technology Park* (DOE/IG-0609, June 25, 2003)

Appendix 3 (continued)

Project Management

- Audit Report on *Idaho Settlement Agreement Activities* (DOE/IG-0571, October 9, 2002)
- Audit Report on *Remote Treatment Facility* (DOE/IG-0573, November 5, 2002)
- Audit Report on *Planned Characterization Capability At The Waste Isolation Pilot Plant* (DOE/IG-0577, December 18, 2002)
- Audit Report on *Refurbishment of the W80 -- Weapon Type* (DOE/IG-0590, March 13, 2003)
- Audit Report on the *Status of the National Ignition Facility Project* (DOE/IG-0598, April 28, 2003)
- Audit Report on the *Dual Axis Radiographic Hydrodynamic Test Facility* (DOE/IG-0599, May 22, 2003)
- Audit Report on *Plutonium-238 Production* (DOE/IG-0607, June 19, 2003)

Information Technology

- Audit Report on *Business Management Information System* (DOE/IG-0572, November 4, 2002)
- Audit Report on *Information System Development Practices at the Bonneville and Western Area Power Administrations* (DOE/IG-0586, February 21, 2003)
- Interim Inspection Report on *Inspection of Internal Controls Over Personal Computers at Los Alamos National Laboratory* (DOE/IG-0597, April 24, 2003)
- Audit Report on *Security Over Wireless Networking Technologies* (DOE/IG-0617, August 25, 2003)
- Evaluation Report on *The Department's Unclassified Cyber Security Program 2003* (DOE/IG-0620, September 16, 2003)

Worker and Community Safety

- Inspection Report on *Inspection of Explosives Safety at Selected Department of Energy Sites* (DOE/IG-0578, December 19, 2002)
- Inspection Report on *Oversight of Shock Sensitive Chemicals at the Department's Ames Laboratory* (DOE/IG-0615, August 11, 2003)

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