May 19, 1999

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman (Signed)
Inspector General

SUBJECT: INFORMATION: Audit Report on "The U.S. Department of Energy's Large-Scale Demonstration and Deployment Projects"

BACKGROUND

The Department of Energy has about 7,000 surplus buildings that will eventually require deactivation and decommissioning (D&D). The estimated cost of D&D for the Department's surplus facilities is over $11 billion with an additional $20 billion to stabilize, deactivate and decommission facilities which are currently active. The Office of Environmental Management is responsible for assuring that adequate technologies are available to address these D&D needs. Through the development and widespread deployment of new technologies, the Department has established a goal of reducing D&D costs by approximately $1 billion by 2006.

Environmental Management uses Large-Scale Demonstration and Deployment Projects to identify and promote deployment of improved technologies throughout the Department. These projects are intended to provide an opportunity to compare the cost and performance of new or improved technologies against established technologies. To date, the projects have demonstrated many technologies which offer cost and performance improvements over established technologies. Environmental Management uses a concept of Integrating Contractor Teams to manage each project. The objective of our audit was to determine if opportunities exist to increase D&D technology deployments within the Department and to reduce the cost of managing technology demonstration projects.

RESULTS OF AUDIT

The Department was not successful in deploying newly demonstrated technologies throughout its facilities. In Fiscal Year 1998, only 10 of 46 deployments were to Departmental sites that did not participate in the original demonstration. While several factors may have affected the rate of deployment of the new technologies, we noted that deployments to other Departmental sites did not occur because technology end-users from these sites were not usually members of the team managing the demonstrations.

We also found that the Department did not control management costs of the demonstrations. The cost of the Integrating Contractor Teams, which manage, administer and provide technical support for the demonstrations, represent a large percentage of the total funds available to demonstrate technologies. In one project, for example, these costs represented 74 percent of the $5.5 million in total costs. Additional administrative costs also were incurred because of repetitive procurements for contractor services. Environmental Management had not identified or collected specific cost information that would allow consistent analysis and control of these costs.

MANAGEMENT REACTION

The Acting Assistant Secretary for Science and Technology, Office of Environmental Management expressed general agreement with the findings and recommendations in a draft of this report. Environmental Management agreed to expand Integrated Contractor Team membership to include Federal and end-user contractor personnel. Management has begun corrective actions to expedite publication of demonstration results and establish project cost collection and reporting requirements. Management has also agreed to pursue centralized procurement for contractor teams.

cc: Deputy Secretary
Under Secretary

DOE/OIG-0444

AUDIT REPORT

THE U.S. DEPARTMENT OF ENERGY'S LARGE-SCALE DEMONSTRATION AND DEPLOYMENT PROJECTS

MAY 1999

U.S. DEPARTMENT OF ENERGY
OFFICE OF INSPECTOR GENERAL
OFFICE OF AUDIT SERVICES

The U.S. Department Of Energy's Large-Scale Demonstration And Deployment Projects

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Overview

INTRODUCTION AND OBJECTIVE

The Department of Energy's Office of Environmental Management (EM) is responsible for deactivating and decommissioning (D&D) about 7,000 surplus buildings. Approximately 13,000 of the Department's currently active buildings may also require D&D activity. The estimated cost to D&D surplus facilities is over $11 billion, and an additional $20 billion will be needed to stabilize and D&D currently active facilities.

EM's Office of Science and Technology, Deactivation and Decommissioning Focus Area, is responsible for assuring that adequate technologies are available to address these D&D needs. For purposes of clarity, we are using the term “Focus Area” throughout this report to refer to this EM component responsible for acquiring and deploying new technologies for D&D work. The goal of the Focus Area is to deploy better technologies to reduce the Department's cost of D&D activities by $5 billion over the life of the environmental cleanup of the current surplus buildings. About $1 billion of these savings are expected to be realized by 2006. The Focus Area uses Large-Scale Demonstration and Deployment Projects (Large-Scale Projects) as the cornerstone for achieving this goal by identifying and promoting deployment of new and improved technologies to reduce the cost of the cleanup. The Large-Scale Projects are intended to provide an opportunity to compare the cost and performance of new and improved technologies against baseline, or established, technologies.

The projects began in July 1995 when the Federal Energy Technology Center, which leads the Focus Area, requested proposals from field sites for demonstrations. Proposed projects were evaluated by the following criteria: significance of the proposed demonstrations (especially for cost reductions in future projects), readiness of the proposed technology to be demonstrated, commitment of the site to the demonstration, and project management. The sites selected for demonstration had to have facilities that had an ongoing D&D project so that new technologies could be compared side-by-side with a baseline technology for cost and performance. In October 1995, the Focus Area selected three sites to host demonstration projects: Plant 1 at the Fernald Environmental Management Project in Ohio, the CP-5 Reactor at Argonne National Laboratory in Illinois, and the C-Reactor at the Hanford Site in Washington.

The Focus Area uses a concept of Integrating Contractor Teams to

manage the Large-Scale Projects. For the most part, these teams are composed of commercial D&D technology companies which are responsible for screening and selecting technologies and the day-to-day management of the demonstrations. The cost and performance data that results from each demonstration is published in Innovative Technology Summary Reports as a way of encouraging other sites to adopt the new technologies.

As of January 1999, the Focus Area had completed three demonstration projects and was in the process of implementing four new projects. The Focus Area had expended approximately $16.5 million on the three completed Large-Scale Projects and expected to spend another $12 million on four new projects. According to Focus Area management, the three completed Large-Scale Projects had resulted in 46 technology deployments in Fiscal Year 1998.

The objective of our audit was to determine if opportunities existed to increase D&D technology deployments within the Department and to reduce the cost of managing technology demonstration projects.

CONCLUSIONS AND OBSERVATIONS

Although the Department had demonstrated many technologies it believed to be promising, it was not successful in deploying these technologies throughout its facilities. The majority of technology deployments in Fiscal Year 1998 were either to non-Departmental sites or to sites where the technology was originally demonstrated. Only 10 of the 46 technology deployments in Fiscal Year 1998 were to Departmental sites that did not originally demonstrate the technology. Field site personnel and D&D site contractors indicated that new technology deployments depend mostly upon first hand knowledge of the technology. However, the project Integrating Contracting Team members, with one exception, did not include D&D project managers from other Departmental sites. As a consequence, the benefits of new or improved technologies were not readily transferred to these sites.

In addition, the Department did not control management costs of the demonstrations. The cost of the Integrating Contractor Teams, which manage, administer and provide technical support for the demonstrations, represents a large percentage of the total funds available to demonstrate technologies. In one project, these costs represented 74 percent of the $5.5 million in total costs. The Focus Area did not identify or collect specific cost information that would allow consistent analysis and control of these costs. Additional administrative costs were incurred by the Focus Area because of

repetitive procurements for contractor services.

The Focus Area may not achieve its goal of $1 billion in cost savings by 2006 unless it ensures that Department site managers and contractors, who could benefit from demonstrated technologies, are part of the teams managing the Large-Scale Projects. In addition, the administrative and management costs of the Integrating Contractor Team appeared to represent an unreasonably large proportion of project costs. The Focus Area needs to implement better mechanisms to identify and control these costs.

In accordance with its 1997 Strategic Plan, the Department is to develop and deploy innovative environmental cleanup technologies that reduce costs, resolve currently intractable problems, and/or are more protective of workers and the environment. Because the Large-Scale Projects are the cornerstone of the Department's efforts to demonstrate and deploy new D&D technologies that reduce the cost of the cleanup, it is necessary that the Department make changes to enhance the program in order to meet Strategic Plan objectives.

The Office of Inspector General had previously performed reviews of the Department's efforts to manage and integrate technology research and development projects. In a report on *Management of Research and Development Integration* (DOE/IG-0417), we concluded that the Department did not have a system in place to ensure projects were jointly planned, budgeted, and managed. Detailed discussions of this and other related audit reports are included in Appendix 3.

The issues discussed in this report should be considered by management when preparing the yearend assurance memorandum on internal controls.

(Signed)
Office of Inspector General

Opportunities For Technology Deployments

Technology Deployment Strategy

Demonstrated technologies were not widely deployed across the Department. The majority of technology deployments in Fiscal Year 1998 that resulted from the three completed projects were either to non-Departmental sites or to sites where the technology was originally demonstrated. Only 10 of the 46 technology deployments were to Departmental sites that did not originally demonstrate the technology. Nine of the deployments were to non-Departmental sites. The remaining 27 deployments were at the sites that originally demonstrated the technology.

There are a large number of current and planned D&D projects within the Department which are dependent on the technologies being demonstrated in the Large-Scale Projects. For example, facilities at seven separate field sites were identified as potential markets for a certain successfully demonstrated technology. However, none of these sites participated on the project's Integrating Contractor Team and only one had adopted the technology.

The National Research Council had similar findings in its review of Focus Area activities prior to Fiscal Year 1998. The Council found that Large-Scale Projects were not achieving the goal of widespread deployment of new technologies and the Focus Area had no systematic plan that would encourage the deployment of these technologies.

Deployment Objective

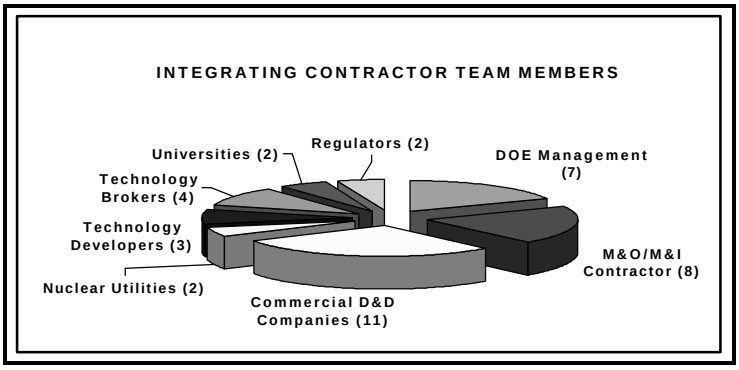
Large-Scale Projects are the tools used by the Department to achieve user acceptance of new D&D technologies. According to its Fiscal Year 1999 Multi-Year Program Plan, widespread deployment across the Department complex of improved and innovative technologies is the ultimate measure of success for the Focus Area.

Additionally, the Focus Area issued its *Large-Scale Demonstration Program Implementation Guide* in October 1997. This guide established a program goal to include multiple commercial D&D companies on the Integrating Contractor Team, defined the roles and responsibilities of the Integrating Contractor Team members, and established a method to communicate demonstration results. Specifically, the Focus Area relied on Integrating Contractor Team members and the Innovative Technology Summary Reports to disseminate information about the results of Large-Scale Projects. Technology deployment was hindered because Departmental guidance did not require Integrating Contractor Teams to include a broad base

Improving Deployment

of Department technology end-users and the timely publication of the Innovative Technology Summary Reports. Generally, Integrating Contractor Teams did not include D&D project managers from Department sites, other than the demonstration site, who could benefit from the demonstrated technologies. Rather, the Integrating Contractor Teams were composed of demonstration site contractors, commercial D&D firms, and others who did not have cleanup responsibilities at other Department locations. This composition occurred because the Focus Area determined that commercial D&D firms would use their first-hand knowledge from the demonstrations to compete for other Departmental site D&D work.

For the seven Large-Scale Projects, the Integrating Contractor Team membership consisted of 39 organizations. As illustrated in the following chart, 7 Department managers and 8 participants from major Department contractors participated on the teams. Except for one of those individuals, however, none of the Integrating Contractor Team members represented a Department site that could benefit from the demonstrated technologies other than the demonstration site.



Department field personnel and D&D contractors indicated that their adoption of new technologies depended mostly on first hand knowledge of the technology. They further indicated that the best means of obtaining that experience was through participation on the Integrating Contractor Team. For example, one project manager recommended that Integrating Contractor Team membership be changed (not necessarily expanded) to include more technology end-users. He advised that end-users should include companies, organizations, and individuals involved directly in the field work with D&D activities. The project manager stated this way technology end-users are more likely to recognize a technology "winner" and be in a position to quickly deploy the technology. In addition, he believed it

was important that information on the results of a technology demonstration be disseminated as soon as possible.

In its 1998 report, the National Research Council reached similar conclusions. The Council found that the Focus Area needed to improve its approach to introducing and gaining acceptance of demonstrated technologies. It concluded that new technologies must be "pulled" by the Department site cleanup project managers with the problem. They cannot be "pushed" by the technology suppliers.

The Focus Area was also not able to ensure timely communication of technology demonstration results to end-users across the Department. The Focus Area's primary communication tool was the Innovative Technology Summary Reports. The Summary Reports contained comprehensive cost and performance data from the side-by-side demonstrations of individual technologies. However, there were delays in publishing these reports. In fact, during Fiscal Year 1998, only 12 of 46 Summary Reports submitted to Headquarters were published by the Office of Science and Technology.

Focus Area management agreed to explore adding Departmental site contractors to the Integrating Contractor Teams. Management believed participation of other site contractors as team members must be balanced with commercial D&D firms to keep team size to a manageable level of four to six organizations.

Realization Of Project Goals

Unless the Focus Area ensures deployment of new and improved technologies, the Large-Scale Projects are unlikely to be effective tools in reducing D&D costs. The Focus Area is responsible for assuring that adequate technologies are available to address the Department's need for improved methods to reduce the cost of the cold war legacy of environmental contamination. Its specific goal is to deploy these better technologies to reduce projected D&D costs by $1 billion by 2006. This goal can only be realized if technology end-users adopt new and improved technologies demonstrated through the Large-Scale Projects.

We recommended that the Acting Assistant Secretary for Environmental Management improve program implementation guidance for the Large-Scale Demonstration and Deployment Projects

RECOMMENDATIONS

by:

1. Stipulating that Department D&D managers and contractors from sites that have been identified as potential candidates for using demonstrated technologies be included in the Integrating Contractor Team functions related to selecting, screening, evaluating, and demonstrating technologies, and

2. Requiring the timely publication of the Innovative Technology Summary Reports.

MANAGEMENT REACTION

Environmental Management's Office for Science and Technology reviewed our report and generally agreed with this finding and recommendations. In its response, management stated that the Department concurs with the first recommendation and agrees to expand the membership of the Integrated Contractor Team to include Federal and end user contractor employees to assist technology transfers to other sites with similar D&D problems. Management's response also stated that we reported only 10 of 46 deployments in Fiscal Year 1998 were to sites beyond the demonstration site. They pointed out that 50 percent of the deployments occurred at the demonstration site and 50 percent occurred at non-demonstration sites.

Management agreed with the second recommendation and stated that they have "already taken corrective action to ensure that future ITSRs (Summary Reports) will be available for review within three months following completion of the technology demonstration and available for publication within four months following demonstration." This action is documented in the *Fiscal Year 1999 Program Execution Guidance* from the Focus Area to each Integrated Contractor Team.

AUDITOR COMMENTS

Management's comments regarding the percentage of deployments during Fiscal Year 1998, however, did not fully address the performance of the program. Management included non-Departmental sites such as public utilities in its assessment of non-demonstration site deployments. While the adoption of Department-generated new technologies by the private sector is a positive and encouraging step, the primary measure of success of the program is the level of deployment of improved and innovative technologies at Departmental sites. Thus, we concluded that the inclusion of data on

non-Departmental deployments tends to skew a realistic view of the performance of the program.

Management's comments are otherwise responsive. The proposed actions, if properly implemented, will improve the deployment of new and improved D&D technologies to other Departmental sites with similar problems and provide for timely publication of the Summary Reports.

Opportunities For Project Management Cost Reductions

Project Cost Controls

The Focus Area did not control the costs of the Integrating Contractor Teams that manage, administer, and provide technical support to the demonstrations. Specifically, the drivers of management, administration, and technical support costs of the Integrating Contractor Teams had not been identified even though such costs represented a large percentage of the total cost of demonstrations. On one $5.5 million project, for example, only about 10 percent ($520,000) of total costs represented payments to the technology subcontractor responsible for the demonstration. Seventy-four percent ($4 million) was spent for individual team member costs but the factors that drive overhead costs such as management, administration and support costs of the Integrating Contractor Team could not be separately identified by project management. The remaining $1 million was spent by project management on infrastructure items such as building upgrades.

Costs of the demonstrations were also increased because project management allowed repetitive procurements for similar contractor services on the Integrating Contractor Teams. Each operations and field office that participated in the Large-Scale Projects acquired services from commercial D&D companies. Often, these companies participated in one or more of the seven demonstration projects. Separate procurements were used each time a company participated in a demonstration project even though the services provided by the company were essentially the same. For the seven projects that have been completed or are ongoing, six contractors participated as team members more than once. In total, 17 separate procurements were used to acquire services from the six contractors.

Performance Measures

The Large-Scale Project Implementation Guide established performance measures for conducting each project. General areas covered by the measures included the percentage of project funding provided to technology vendors and funding percentages for project management activities. These measures were intended to influence the Integrating Contractor Team to focus resources on technology demonstrations and not project management. The guide also states that a substantial portion of the project funding be used for actual technology demonstrations and costs for project overhead functions such as planning, monitoring, and data collection and analysis need to be kept to a minimum to maximize the number and scope of technology demonstrations.

Project Cost Controls Needed

While the guidance stipulated that project managers minimize project overhead costs, it did not establish specific targets. Further, the guide did not contain any requirements regarding the identification and collection of cost elements for project management, administration, and support costs of the Integrating Contractor Teams. Also, the guidance did not address the issue of repetitive contractor procurements.

Focus Area management agreed that more detailed cost collection would enable them to be more aware of expenditures on specific Large-Scale Project activities and make any necessary adjustments. In December 1998, a request was issued to managers of ongoing projects for additional Integrating Contractor Team cost information and the Focus Area intends to request more detailed cost information to be reported beginning in February 1999. They also agreed that using repetitive contractors on the Integrating Contractor Team provides needed continuity between projects and will pursue centralizing team procurements.

Project Costs Reductions

The importance of cost information is recognized by government standards that require Federal managers to accumulate, analyze, and report project cost information. Without implementation of cost determination practices that assist project managers to evaluate where cost controls improvements are needed, demonstrations of potentially successful technologies may be severely limited. Focus Area management cannot be assured that projects are being managed in a cost-effective manner unless actions are taken to identify and control management, administrative, and support costs of the Integrating Contractor Teams.

RECOMMENDATIONS

We recommend that the Acting Assistant Secretary for Environmental Management improve program implementation guidance for the Large-Scale Demonstration and Deployment Projects by:

1. Requiring that managerial cost information is consistently collected and analyzed for current and future projects to ensure that management, administrative, and support costs do not represent an undue proportion of available funds; and

2. Directing the D&D Focus Area Manager to centralize procurement for contractor services on the Large-Scale Demonstration and Deployment Project Integrating Contractor.

MANAGEMENT REACTION

Management agreed with the first recommendation and has taken corrective action. In February 1999, the Focus Area issued guidance to the four current project Integrated Contractor Teams specifying that cost information must be collected and reported quarterly. Costs will be reported for project management, technology search and screening, technology demonstration, technology vendors, communications, and miscellaneous costs. The *Large-Scale Project Implementation Guide* will be revised to reflect this cost reporting change.

For the second recommendation, management agreed to pursue the possibility of centralized contracting for Integrated Contractor Teams through the Department's Federal Energy Technology Center. The Focus Area will consider executing a solicitation to assemble a team of qualified companies to serve on future Large-Scale Project teams. Management stated that the cost and efficiency of a centralized procurement approach will be compared with that of individual procurements. Since the Large-Scale Projects are carefully integrated into an ongoing site D&D project, care will be taken in considering a central approach to ensure that the site D&D project is not adversely affected.

AUDITOR COMMENTS

Management's comments are generally responsive to the recommendations. The new cost identification, collection, and reporting requirements should assist project managers to evaluate and implement cost control improvements and minimize project overhead costs. Management's consideration of centralized contracting for team members should give significant weight to potential administrative cost savings from such contracting. Although we agree that a site D&D project should not be adversely affected by this contracting method, repetitive procurements for the same contractors for similar services is not cost effective. To the extent that specialized services are required by individual projects, Operations Office contractor selections for Integrated Contractor Team members could be used to meet these particular needs. Specific action is needed by the Focus Area to initiate efforts for revising project contracting methods and reducing the overall management and administrative costs of future Large-Scale Projects.

The audit was performed at

Appendix 1

SCOPE

Department Headquarters in Washington, DC; Germantown, MD; Richland Operations Office, WA, Fernald and Mound Field Offices, OH; Los Alamos National Laboratory, NM, and the Federal Energy Technology Center at Morgantown, WV, from August 1998 to January 1999.

METHODOLOGY

To accomplish the audit objective, we:

- Reviewed the Office of Science and Technology's Deactivation and Decommissioning Focus Area program goals and objectives;
- Reviewed the October 1997 and September 1998 Large-Scale Demonstration and Deployment Project Implementation Guides;
- Held discussions with personnel from the Headquarters Office of Science and Technology, Deactivation and Decommissioning Focus Area Program Office, Departmental Large-Scale Project field site offices, Integrating Contractor Teams and technology demonstration technicians;
- Examined program office documentation including the 1998 and 1999 Multi-Year Program Plans, 1999 Annual Performance Plan, 1997 and 1998 Focus Area Annual Reports, and Lessons Learned Reports prepared to described the past and proposed efforts of the program;
- Evaluated the efforts of the Office of Technology Systems and the Deactivation and Decommissioning Program Office to develop, improve, and facilitate implementation of the Large-Scale Demonstration and Deployment Projects and ensure deployment of successful technologies within the Department's complex; and,
- Evaluated management and procurement methods used to establish Integrating Contractor Teams for both completed and new start Large-Scale Demonstration and Deployment Projects.

The audit was conducted in accordance with generally accepted

Government auditing standards for performance audits and included tests of internal controls and compliance with laws and regulations to the extent necessary to satisfy the audit objective. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. We did not conduct a reliability assessment of computer-based data because no such data was used during the audit.

Management waived an exit conference on this audit effort.

Appendix 2

OTHER MATTERS

The management practices used by EM's Focus Area in one of the completed Large-Scale Projects potentially could have limited the dissemination of technology information. Specifically, a Strategic Alliance composed of technology and utility companies to function as the Integrating Contractor Team for the project was formed for the demonstrations at the Argonne National Laboratory. This approach led to uncertainty regarding the proprietary rights to certain information generated by the Department funded project. The Alliance considered information it generated in screening and evaluating technologies to be proprietary information, making it unavailable to other Departmental sites. Resolution of this issue was especially important to the Focus Area because widespread dissemination of technology information is critical to the project's deployment and cost containment goals. According to the Focus Area management, proprietary information issue has been resolved at the specific project and they are evaluating alternative management structures for new projects which will prevent a recurrence of the problem.

Additionally, the Focus Area allowed the Strategic Alliance to acquire and pay for insurance with Federal financial assistance funds. Such costs are not normally paid for by financial assistance agreements, and increased the administrative cost of the project by $209,000.

Appendix 3

PAST AUDITS RELATING TO RESEARCH AND DEVELOPMENT PROGRAMS AND TECHNOLOGY DEPLOYMENTS

- *The U.S. Department of Energy's Management of Research and Development Integration,* IG Report DOE/IG-0417, dated March 1998. Concerns about the fragmentation of the Department's Research and Development (R&D) programs have been a long standing issue. Past studies and reviews have found that the Department needs greater integration of its R&D programs to more effectively achieve the vital mission in energy R&D. This audit determined that R&D program offices were managed independently and there was little effort to coordinate the planning and budgeting of research across program lines in order to integrate research activities. This problem occurred because the Department had not clearly established organizational responsibility or authority for integrating research across programs. The lack of a system for integration prevents the establishment of a baseline for performance measures. The Department agreed with the audit finding and stated that individual programs at the Department need to do a better job of integrating their research programs.

- *The U.S. Department of Energy's Participation in the Partnership for a New Generation of Vehicles Program,* IG Report DOE/IG-0422, dated July 1998. The Partnership for a New Generation of Vehicles (PNGV) was a partnership of seven Government agencies and three major car manufacturers. The Government funding was to be applied primarily to developing technologies that involve high risk with the Department providing most of the federal funding to the program. The audit determined it was unlikely that some research projects pursued by the Department would be developed in time to meet the PNGV timeframe of 2004. To bring the Department's promising but long-term research into alignment with PNGV goals, it was recommended that the Department modify its Strategic Plan to explicitly address the PNGV program. The Annual Performance Report should also address the barriers to meeting the 2004 timeframe.

- *Energy Management: Technology Development Program Taking Action to Address Problems,* GAO Report RCED-96-184, dated July 9, 1996. Since 1989, the Office of Environmental Management has spent $34 billion on cleanups, but schedules have slipped and progress has been slow. According to Office estimates, innovative cleanup technologies could reduce total cleanup costs by as much as $80 billion. The Office began a major reorganization in 1995 to improve the coordination and management of the technology development program by creating five "Focus Areas." Yet concerns persisted that management weaknesses were undermining progress in environmental cleanup. This report discusses whether the Office was managing its technology development program to prevent (1) unnecessary duplication and overlap and (2) an unwarranted concentration of projects at some field offices.

- *Nuclear Waste: Further Actions Needed to Increase the Use of Innovative Cleanup*

Technologies, GAO Report RCED-98-249, dated September 25, 1998. The Department is developing technologies that could reduce cleanup costs, speed cleanups, provide methods for cleanups for which no cost-effective technologies now exist, and reduce risks for cleanup workers and the public. However, earlier reports by GAO and others have cited obstacles to selecting and using innovative technologies at Department sites. Because of concerns about the benefits returned from the $2.5 billion invested in Department's Office of Science and Technology since 1989, this report reviews the Department's efforts to deploy innovative technologies for each of the five Focus Areas, including the D&D Focus Area. GAO discusses (1) the extent to which innovative technologies developed by the Office of Science and Technology have been used at Department sites and how this rate of deployment compares with the rates of other government organizations that develop innovative technologies; (2) the Department's progress in overcoming obstacles o deploying innovative technologies at its cleanup sites; and (3) Departmental efforts to increase the deployment of innovative technologies.

IG Report No. DOE/OIG-0444

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