

GAO

Report to the Chairman, Subcommittee
on Investigations and Oversight,
Committee on Science, Space, and
Technology, House of Representatives

June 1993

DEPARTMENT OF
ENERGY

Cleaning Up Inactive
Facilities Will Be
Difficult



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**Resources, Community, and
Economic Development Division**

B-252942

June 25, 1993

The Honorable Jimmy Hayes
Chairman, Subcommittee on Investigations
and Oversight
Committee on Science, Space, and Technology
House of Representatives

Dear Mr. Chairman:

Changing defense requirements and tightening domestic budgets are causing the Department of Energy (DOE) to redefine its missions and to reexamine whether many of its inactive facilities¹ will be needed. Cleaning up these inactive facilities can involve several steps, including (1) deactivating the facilities—removing any nuclear and hazardous materials that are stored inside the facilities after DOE closes them and preparing the facilities for subsequent decontamination and decommissioning; (2) maintaining the facilities until decontamination and decommissioning start; (3) characterizing the facilities—evaluating the type and amount of contamination present in floors, walls, and ceilings; (4) decontaminating floors, walls, and ceilings; and (5) decommissioning the facilities so others can use them or demolishing those facilities that cannot be reused.

Concerned that future changes in its missions could cause DOE to close a large number of facilities, the Subcommittee asked us to determine the potential scope and cost of the Department's program for cleaning up inactive facilities over the next 30 years, identify any major problems facing the program, and discuss the Department's current approach for managing the program.

Results in Brief

DOE does not have an accurate estimate of the likely scope and cost of its inactive facilities program over the next 30 years. In early 1992, DOE estimated that it might close 1,700 facilities during the next 30 years and that cleanup costs would be \$54 billion. However, during March 1992 budget hearings, DOE's former Assistant Secretary for Environmental Restoration and Waste Management projected that the Department might ultimately close as many as 7,000 facilities. The former Assistant

¹For purposes of this report, a facility is one or more buildings associated with the same activity or function. For example, DOE's N reactor complex at Hanford, Washington, includes 142 buildings, each of which is considered a separate facility.

Secretary, who directed DOE's cleanup of inactive facilities, did not estimate the cost of dealing with these facilities.

Inadequate maintenance and DOE's past emphasis on production over environmental cleanup are presenting several problems for DOE's inactive facilities program. Before DOE created the Office of Environmental Restoration and Waste Management (EM) in 1989, the Department's general approach for managing inactive facilities was to do the minimum steps needed to safely close and maintain them. As a result, many of DOE's inactive facilities are in poor and hazardous condition and will need considerable deactivation work and maintenance, such as roof repairs and electrical work, while they wait for the Department to start decontamination and decommissioning. Inadequate maintenance contributed to a fatal accident in April 1992 at the Hanford site, in Washington: A maintenance worker fell to his death through a concrete roof panel that was weakened by years of not protecting the roof from the weather.

In addition, some of DOE's aging facilities have been abandoned with hazardous materials still in them, have not been characterized, or have been only partially decontaminated, raising the potential for increases in the cost of the inactive facilities program. For example, at its Savannah River site, near Aiken, South Carolina, DOE only partially decontaminated equipment in a plutonium fuel facility when the facility was put on standby in 1983, in anticipation that it might be reused. Ten years later, the facility has not been reused, and some equipment has so seriously deteriorated that DOE can no longer use the equipment to help remove the plutonium that remains there. As of January 1992, DOE estimated it would cost \$115 million to decontaminate and decommission the facility.

Despite several years of effort, DOE has been unable to finalize criteria for transferring inactive facilities and funds from other program offices to EM because DOE offices disagree on their respective responsibilities for funding the cleanup of these facilities before they are transferred. These internal differences over criteria for transferring facilities and funds from program offices to EM will complicate DOE's future efforts to effectively manage the program. Also, in July 1992, DOE created a new office within EM to manage the deactivation and maintenance of facilities that close and are transferred to it after that date. A separate office within EM retains the responsibility for the deactivation and maintenance of facilities transferred before July 1992 and for decontamination and decommissioning. However, the decision by EM to split its responsibilities for inactive facilities, with

both offices doing some similar work, may impede the sharing of future lessons learned if the offices do not effectively coordinate with each other.

Background

Several DOE offices are responsible for cleaning up inactive facilities. Program offices that operate research and weapons facilities, such as the Office of Energy Research and the Office of Defense Programs, decide when inactive facilities are no longer needed, close the unneeded facilities, and maintain the facilities until they can be transferred to EM. Once the facilities have been transferred, EM is responsible for cleaning them up, including deactivating them if they contain material left by program offices and maintaining, characterizing, decontaminating, and decommissioning or demolishing them.

EM has divided its responsibilities for cleaning up inactive facilities between two offices. In addition to being responsible for remediating soil and groundwater contamination at DOE sites, the Office of Environmental Restoration decontaminates and decommissions inactive facilities transferred to EM after 1989. It also deactivates inactive facilities transferred to EM between 1989 and July 1992, and maintains these facilities until it can start final decontamination and decommissioning. Expecting the number of inactive facilities to increase and wanting to protect the Office of Environmental Restoration's resources from the burden of managing the increased number of facilities, in July 1992 EM created a separate Office of Facility Transition and Management to receive facilities subsequently transferred from program offices to EM. This office (1) negotiates with program offices to define when facilities will be transferred to it and what resources will accompany the facilities, (2) deactivates facilities transferred after July 1992, (3) establishes surveillance and maintenance programs for these facilities so that EM needs to spend minimum funds to keep them safe until decontamination and decommissioning start, and (4) transfers deactivated facilities to the Office of Environmental Restoration for decontamination and decommissioning.

Soon after its creation in 1989, EM accepted 409 facilities for cleanup, including inactive reactors, fuel processing plants, and research laboratories. EM also established a 30-year goal for cleaning up these 409 inactive facilities, as well as for remediating soil and groundwater contamination throughout the DOE complex.

Between October 1989 and January 1992, EM decontaminated and decommissioned about 60 facilities. However, according to DOE's inventory records, the Department's decisions between 1989 and 1992 to transfer buildings at the Fernald, Ohio, site, the Hanford site, and other installations to EM added about 230 inactive facilities to EM's inventory, increasing the office's total inventory of inactive facilities to 580, as of January 1992. In 1993, if DOE transfers inactive facilities at Rocky Flats, Colorado, at Savannah River, and at other sites as planned, several hundred more inactive facilities will be added to EM's inventory.

Scope and Cost of the Program Are Not Known, but Could Be Substantial

DOE does not know exactly how many facilities it will close and transfer to EM during the next 30 years or the total cost of cleaning them up. Office of Facility Transition and Management officials believe that the Department will close between 1,700 and 7,000 facilities during the next 30 years. According to the office's Deputy Director, without better information on the number of facilities that may transfer to EM and on the potential dangers that these facilities may pose to workers' health and safety, the Department cannot set reasonable goals and priorities for protecting workers who will be in and around inactive facilities.

EM has asked the Department's program offices to develop a more precise estimate of the number of facilities that may be transferred to it and expects that in June 1993, it will have a revised estimate of the inactive facilities program's potential size. To assess the dangers that these inactive facilities may present and the funds that could be needed to minimize these dangers, EM plans to visit facilities that may close in the future and evaluate their condition and contamination. EM officials expect to complete their visits and have an updated cost estimate for the program by December 1994.

DOE's recent projections have consistently increased the estimated number of inactive facilities that will need to be decontaminated and decommissioned. In 1988, on the basis of plans to reconfigure the nuclear weapons complex and the number of facilities that were reaching the end of their useful life, DOE estimated that it would close about 400 facilities by 1995 and projected that cleaning up these facilities would cost about \$5 billion. In early 1992, DOE field offices estimated that they might close 1,700 facilities during the next 30 years and projected the cost for decontaminating and decommissioning these facilities at \$54 billion. Because EM's former Assistant Secretary believed that this estimate did not reflect DOE's December 1991 announcement of potential closings, during

March 1992 budget hearings he projected that the Department might ultimately close 7,000 facilities.

DOE officials agree that such an increase in the number of inactive facilities will mean that unless the Department gives a considerably higher priority to cleaning up inactive facilities, EM's inactive facilities program will continue many years beyond the 30 years that the Department has set as a cleanup goal. The goal applies only to the 409 facilities that EM originally accepted into the program.

The program's ultimate cost will be influenced by DOE's progress towards achieving a national consensus on cleanup issues. For example, national policies on (1) the cleanup standards DOE must meet at its facilities, (2) its flexibility to restrict the public's use of severely contaminated facilities, and (3) the volume of contaminated wastes that it must treat and store could significantly affect the cost of decontaminating and decommissioning inactive facilities. DOE has started studies such as its assessment of the EM program's environmental impacts and is participating in interagency working groups that address several of these issues. Until DOE completes these initiatives and reaches a consensus on these issues, projecting exactly how much DOE's program will cost will be difficult.

An Expanding Program Faces Problems Concerning Maintenance, Safety, and Costs

Many of the Department's inactive facilities are in poor physical condition and present serious risks to individuals who work in and around them. DOE faces the difficult problems of protecting the health and safety of workers at all its inactive facilities, including those that program offices have not yet transferred to EM, and of controlling the total cost of dealing with these facilities.

DOE's Inactive Facilities Are in Poor Condition

The condition of specific inactive facilities depends on such factors as weather conditions, the facilities' age and operating history, and the Department's construction techniques and maintenance practices. Variations in these factors at DOE sites mean that some facilities will be in better physical shape than others. Overall, however, studies DOE completed during 1992 indicate that inactive facilities at Hanford and other installations are physically deteriorating. The poor condition of the facilities and the wastes that they contain can jeopardize workers' health and safety.

At Hanford, for example, years of inadequate maintenance and deteriorating conditions contributed to an April 1992 fatality at an inactive reactor building. Specifically, a Hanford worker fell to his death when a concrete roof panel of the 48-year-old reactor building he was inspecting collapsed. The building's roof panels were weakened because DOE had stopped protecting them against the weather. The worker was unfamiliar with the condition of the roof and climbed onto it without a safety line, which could have caught his fall.

DOE's accident investigation report noted that during the 27 years the building had been inactive, the Department had removed equipment from the building and demolished nearby structures. However, repair projects had generally been deferred because of higher-priority work elsewhere at the site. Also, although the accident occurred on the roof, other hazards existed at the building. For example, DOE's investigators found an exposed high-voltage electrical line that had been left unmarked for about a year after it had been reported. According to the report, a worker unfamiliar with the hazard could easily have been electrocuted.

Other inactive facilities at Hanford have outlived their design life and are deteriorating rapidly while awaiting decontamination and decommissioning. According to DOE's September 1992 audit report on Hanford's inactive facilities, those that have not been transferred to EM are not receiving maintenance required by DOE and the Department of Labor's Occupational Safety and Health Administration (OSHA). DOE orders require that all contaminated inactive facilities have a formal surveillance, inspection, and maintenance program to keep them safe. OSHA requires that agencies protect workers from electrical shocks and accidents as long as electrical equipment in and around facilities remains active. However, inside some of Hanford's inactive facilities in addition to the building where the April 1992 fatality occurred, DOE's auditors found active electrical equipment that could jeopardize the safety of workers entering the buildings. A leak in the roof of one building allowed water to drip onto an apparently active electrical box, while in another area of the building, water from a leaking roof had run down a wall near a severed electrical cable.

Roofs of some inactive facilities were also crumbling, with concrete and steel reinforcing rods from the roofs scattered over the floor or the ground outside. In some cases, facilities had been administratively abandoned; that is, although a program office retained responsibility for them, it was no longer maintaining them.

Problems are not limited to the Hanford site. For example, in September 1992, DOE estimated that it has over 100 inactive research facilities at the Oak Ridge National Laboratory, in Oak Ridge, Tennessee, that have not been accepted into EM's program. In almost all cases, DOE has historically provided the minimum funding for cleaning up and converting these facilities to other uses or for demolishing them. The Department estimates that it will spend \$10 million annually at the Laboratory to catch up on a backlog of maintenance requirements and that it needs \$45 million to repair deteriorating roofs and structures at Oak Ridge.

DOE's response to the fatality at Hanford is indicative of the difficulty the Department is having in trying to improve safety at all inactive facilities. To reduce safety risks at the building where the accident occurred and at the site's other inactive facilities, in October 1992 DOE's Richland, Washington, contractors began a study of the physical condition of Hanford's inactive facilities and the cost of maintenance projects needed to restore safety. But DOE has limited the study's scope to evaluating the condition of and the maintenance needed at only those facilities at Hanford that have been transferred to EM. The study is not assessing the condition or needs of the site's inactive facilities that have not been transferred to EM because program offices have not officially declared the facilities inactive. However, DOE's September 1992 audit report indicates that some of these facilities are in worse condition than those owned by EM.

At the headquarters level, EM is responsible for improving maintenance at only the 580 inactive facilities that program offices have transferred to the inactive facilities program. Program offices continue to be responsible for determining when a facility is no longer needed, when to notify EM that the facility should be transferred, and how to maintain that facility in the interim.

Decontaminating Facilities Presents Additional Concerns About Safety

In addition to posing safety problems because of their poor physical condition, inactive facilities can contain known and unknown contaminants that increase the dangers for workers in and around these facilities. For example, the facilities may contain hazardous asbestos and PCBs (polychlorinated biphenyls), common to industrial facilities built decades ago. Moreover, many facilities also contain radioactive waste and chemicals left behind after various activities. Equipment at Oak Ridge's inactive gaseous diffusion plant, for instance, contains uranium, and some of Rocky Flats' facilities that are being closed contain plutonium.

An August 1992 accident at Hanford illustrates how unexpected nuclear and chemical reactions can occur at contaminated inactive facilities, causing explosions and, possibly, radioactive releases and injuries. During decontamination and decommissioning, nuclear research equipment exploded, spreading caustic lithium acetate throughout the building. DOE's contractors contributed to the explosion by eliminating, part way through the project, an interim work step that was intended to remove any remaining lithium. They eliminated this work step without determining how much lithium remained in the equipment or considering the likelihood of dangerous chemical reactions during subsequent cleanup work. According to DOE's accident report, because the work had been postponed repeatedly, the contractors were eager to complete it before the fiscal year ended.

DOE will not know the full extent of the dangers to workers in and around inactive facilities until it characterizes these facilities to determine the contaminants present. Some of DOE's installations have started characterizing facilities that could present immediate risks of collapsing or releasing radiation, such as storage silos at Fernald. However, DOE is not actively characterizing all of its inactive facilities. For example, at Hanford, many of the facilities have never been tested for the presence of hazardous chemicals. Compared to other environmental restoration projects, characterizing, decontaminating, and decommissioning inactive facilities are given a low priority by DOE because this work at these facilities is generally not required by environmental regulations or agreements with regulatory agencies.

Costs May Increase

EM estimates it will spend about \$160 million during fiscal year 1993 for inactive facilities in its inventory. Its efforts to improve the condition of these facilities and the condition of those that may become inactive in the future may increase its costs. For example, DOE's Richland officials responsible for managing the Hanford site's inactive facilities that have been transferred to EM have requested \$6.8 million to continue maintenance at 100 transferred facilities. Because they anticipated discovering additional maintenance requirements after the fiscal year 1994 budget is approved, Richland officials included in their request a 10-percent increase in the year's contingency funds to pay for unanticipated maintenance expenses. These officials estimate that for fiscal year 1995, they may need about 25 percent more than this amount to adequately maintain the 100 facilities.

As DOE moves from maintaining and characterizing facilities to the more active phases of deactivating, decontaminating and decommissioning them, it can also expect that these latter activities will be more complicated and expensive. Because the Department's general approach for managing inactive facilities before EM's creation in 1989 was to do the minimum steps needed to safely close and maintain them, some inactive facilities at Oak Ridge, Savannah River, and other installations contain contaminants that must now be removed, at costs that are likely greater than they would have been if the facilities had been properly decontaminated when they were closed. At Oak Ridge, for example, DOE closed an experimental reactor during the 1960s by temporarily storing radioactive fuel in storage tanks designed to minimize nuclear reactions. In part because the fuel is a unique mixture of radioactive uranium and fluorides, DOE expects that removing and disposing of the fuel will be a major and potentially costly challenge. As mentioned earlier, at Savannah River DOE partially decontaminated equipment in its plutonium fuel facility when it put the facility on standby in 1983, anticipating that it might reuse the facility. Ten years later, the building has not been reused, and internal equipment has so seriously deteriorated that DOE can no longer use it to help remove plutonium that remains in the facility. As of January 1992, DOE estimated it would cost \$115 million to decontaminate and decommission the facility.

DOE's Management Approach Can Be Improved

Since July 1992, when DOE created the Office of Facility Transition and Management, the Department's approach for managing inactive facilities has been to (1) encourage program offices to identify these facilities and to transfer them to the Office of Facility Transition and Management and (2) let EM maintain, characterize, decontaminate, and decommission the facilities. This approach is based on the premise that once DOE's program offices transfer inactive facilities to EM's Office of Facility Transition and Management, EM will assign a higher priority to maintaining and cleaning up the facilities than the program offices historically have assigned.

However, despite several years of effort that started before the creation of EM's Office of Facility Transition and Management, DOE has not been able to agree on generic criteria for transferring facilities and has resorted to case-by-case negotiations for individual facilities. In addition, by dividing responsibilities within EM between the existing Office of Environmental Restoration and the new Office of Facility Transition and Management, EM has created a new need for interoffice coordination. As the Office of Facility Transition and Management becomes responsible for additional

facilities, the divided organizational structure could impede the program's overall effectiveness.

DOE Offices Continue to Disagree on Criteria for Transferring Facilities to EM

EM officials have worked since 1990 to develop a generic statement of responsibilities, which they call facility acceptance criteria, to better define the process for transferring facilities from program offices to EM. EM's objective is to develop criteria that allow program offices to determine the physical repairs that must be made to an inactive facility, the nuclear and hazardous materials that have to be removed, and the funds that should be transferred to EM before it will accept ownership of the facility. The criteria would specify, for example, that EM accept only inactive facilities that are structurally sound and that have operating security systems. According to DOE's Deputy Director for the Office of Facility Transition and Management, by establishing a goal for how program offices should maintain facilities that are still operating, the criteria would also help reduce the number of poorly maintained facilities that EM will have to deactivate in the future.

Differences concerning the criteria surfaced in 1991, when DOE's Office of Defense Programs rejected EM's proposal that program offices be responsible for removing all nuclear waste from inactive facilities before transferring them to EM. At the time, program officials objected to the proposal because they believed that if their office accepted the responsibility for removing the waste, the effort would drain limited funds away from their defense missions. Since then, EM and the Office of Defense Programs have negotiated transfers of facilities and associated cleanup funds at Hanford, Rocky Flats, and the Idaho Chemical Processing Plant, near Idaho Falls, Idaho, on a case-by-case basis.

EM officials recognize that as the number of inactive facilities increases, continuing case-by-case negotiations could be a time-consuming process. For example, EM and Defense Programs officials spent 8 months, from February 1991 to September 1991, negotiating the transfer of managerial responsibility and funds for the N reactor and other facilities at Hanford and 5 months, from July 1992 to November 1992, agreeing on general principles for transfers of facilities and funds at Rocky Flats, Idaho Falls, and other installations. Even after reaching these agreements, the offices are still estimating maintenance and cleanup costs and negotiating transfers of specific facilities at these installations and of the accompanying resources. EM's Office of Facility Transition and Management is evaluating the lessons learned from these negotiations and

revising its proposed criteria. It expects to have other EM offices approve a revised draft by December 1993, at which point EM will submit the proposal to program offices for their review. However, EM officials do not know when program offices will respond to their proposal and how long interoffice negotiations could take to develop the final criteria.

According to feedback EM has received on preliminary drafts of its current proposal, DOE offices still disagree on specific funding issues. A key feature of EM's proposal is to allow program offices to transfer facilities that contain nuclear waste to EM, which will subsequently remove the waste and decontaminate and decommission the facilities. Although this addresses an earlier obstacle to agreement, program offices remain concerned that they will be expected to spend operating funds to provide detailed information about facilities before turning them over to EM and, possibly, to prepare plans for closing installations. In addition, EM offices have expressed concern that the apparent softening of the proposed criteria will encourage program offices to continue their past practices of doing the minimum amount of maintenance needed for inactive facilities, which could increase EM's costs to clean up the facilities.

Separation of Responsibilities Raises Questions About Coordination Within EM

In 1992, EM officials agreed to create the separate Office of Facility Transition and Management to highlight the cost of cleaning up DOE's legacy of poorly maintained facilities and to protect the Office of Environmental Restoration's resources from the burden of managing the expected large influx of inactive facilities. According to the Deputy Director of the Office of Facility Transition and Management, EM's former Assistant Secretary expected that to clean up the facilities properly, EM would have to significantly increase the resources and time it devoted to inactive facilities. The former Assistant Secretary split EM's inactive facilities program between two offices partly so that EM could separate the future budget requests for preparing plans to close installations, deactivating improperly closed facilities, and maintaining these facilities from the budget requests of the Office of Environmental Restoration. In addition, because he believed that deactivation work at improperly closed facilities could delay EM's progress towards decontaminating and decommissioning facilities, the former Assistant Secretary also wanted to ensure that the Office of Environmental Restoration was accountable only for deactivating facilities already transferred to it and that a separate office was accountable for deactivating facilities that would transfer to EM in the future.

The Deputy Director for the Office of Facility Transition and Management acknowledged that if program offices improve their maintenance of inactive facilities to the point that EM has to undertake a very minimal effort to deactivate facilities before it starts decontamination and decommissioning, EM could ultimately merge the Office of Facility Transition and Management with the Office of Environmental Restoration. However, he believes that, given the poor condition of DOE's inactive facilities and the potential number that may be transferred to EM, this merger is several years away from happening. For example, DOE's Office of Defense Programs has several thousand barrels of uranium oxide stored at the site of Savannah River's R reactor. The Deputy Director stated that if EM has to dispose of this material as a part of the reactor's deactivation, it will be a major challenge.

While deactivation work may be a major facet of EM's inactive facilities program for several years, consolidating EM's program within one office offers two advantages. Under the current organization, both EM's Office of Environmental Restoration and Office of Facility Transition and Management will be deactivating, maintaining, and characterizing inactive facilities and learning from these activities lessons that may reduce the program's future costs. By having one office responsible for these activities, DOE could remove any potential organizational barriers or institutional reluctance to sharing the lessons learned.

A single office may also be better able to determine a cost-effective maintenance strategy for individual facilities and judge the safety implications of delaying decontamination and decommissioning. Maintenance decisions tend to be more cost-effective if they consider how long the repairs must last and whether a facility will be demolished. Under the current organization, although EM's Office of Facility Transition and Management maintains facilities while it deactivates them, EM's Office of Environmental Restoration schedules each facility's decontamination and decommissioning activities and determines if the facility will be demolished. Therefore, the Office of Facility Transition and Management must coordinate its maintenance decisions for individual facilities with the Office of Environmental Restoration's schedules and anticipated uses for the facilities. Less coordination would be needed if one EM office was responsible for deactivating, maintaining, characterizing, decontaminating, and decommissioning all inactive facilities transferred to EM.

Conclusions

DOE has made important strides in changing its approach for answering the challenges presented by the growing number of inactive facilities. For example, the Department is beginning to realize that (1) inactive facilities can present real dangers to workers in and around them and (2) the way it closes and maintains inactive facilities will influence the cost and dangers of cleaning them up. However, DOE is only in the preliminary stages of planning and conducting cleanup work for all of its inactive facilities. The Department does not know the number of its facilities that are inactive but not yet transferred to EM, the full extent of the dangers they pose, or the cost of improving their safety until they can be decontaminated and decommissioned. DOE also does not have an accurate estimate of the number of facilities it will close during the next 30 years because of changes in its missions, nor does it know the impact that deactivating, maintaining, characterizing, decontaminating, and decommissioning these additional facilities could have on the program's total cost. Without such information, DOE management cannot know if it is adequately prepared for the challenges of dealing with these facilities.

DOE faces several problems in creating an effective program for dealing with inactive facilities. Internal differences over criteria for transferring facilities and funds from program offices to EM will complicate DOE's future efforts to effectively manage the program. Also, the decision by EM to split its responsibilities for inactive facilities between two offices, with both doing some similar work, may impede the sharing of future lessons learned if the offices do not effectively coordinate with each other. Given that DOE might close between 1,700 and 7,000 facilities during the next 30 years, as well as the program's potential cost, having a single office responsible for managing all work at inactive facilities may be a more effective organizational approach for coordinating cleanup activities at these facilities.

Recommendations

To increase DOE management's knowledge of the dangers presented by the Department's inactive facilities and to enable the Department to prepare for cleaning up an increasing number of facilities, we recommend that the Secretary of Energy

- direct the Department's Assistant Secretaries to (1) identify inactive facilities that have not been transferred to EM or that may have been administratively abandoned, (2) determine the physical condition of these facilities and of those transferred to EM and the potential dangers that they pose for workers, and (3) prepare cost estimates and schedules for

implementing adequate maintenance programs at these facilities until they can be decontaminated and decommissioned.

To improve the overall effectiveness of EM's program for cleaning up inactive facilities, we recommend that the Secretary

- resolve disagreements within DOE concerning the development of criteria for transferring facilities from program offices to EM and
- consolidate into one office the responsibilities for deactivating, maintaining, characterizing, decontaminating, and decommissioning transferred facilities.

Agency Comments

We discussed this report with DOE's Deputy Director for the Office of Facility Transition and Management and with DOE's coordinators of decontamination and decommissioning for the Northwestern and Eastern Area Programs within the Office of Environmental Restoration. These officials agreed that the report accurately portrays the poor condition of many of the Department's currently inactive facilities, the potential risks that these facilities present for workers' health and safety, and the history and status of DOE's facility acceptance criteria. Although they agreed with the report's point that there may be advantages to consolidating EM's responsibilities for inactive facilities into one office, they believe that their rationale for dividing responsibilities for the facilities is reasonable. They acknowledged that DOE could ultimately merge the Office of Facility Transition and Management with the Office of Environmental Restoration. However, they believe that, given the poor condition of DOE's inactive facilities and the potential number that may be transferred to EM, this merger is several years away from happening.

We continue to believe that as EM accepts more inactive facilities, the potential advantages of having one office responsible for deactivation, maintenance, and other aspects of the inactive facilities program may outweigh the benefits that EM expects to receive from separating the activities. By consolidating into one office the responsibilities for these activities, EM could remove any potential organizational barriers or institutional reluctance to sharing the lessons learned from dealing with inactive facilities.

As agreed with your office, we did not obtain written comments from DOE on the report.

Scope and Methodology

We performed our work between April 1992 and April 1993 in accordance with generally accepted government auditing standards. To determine the potential scope and cost of DOE's inactive facilities program, we reviewed DOE's 1988 and 1992 estimates of the number of inactive facilities that might be transferred to the program between 1988 and 2021 and the cost of dealing with these facilities. We discussed the short- and long-term issues that could affect the program's ultimate scope and cost with EM headquarters and field officials and with cleanup standards officials within DOE's Office of Environment, Safety, and Health.

To identify major problems facing the program, we reviewed DOE's investigation reports on the 1992 fatality at Hanford and on other accidents and DOE's fiscal year 1992 self-assessment of several field offices' management control systems. We also discussed the physical condition of inactive facilities with DOE's Office of Nuclear Safety officials; visited inactive facilities at Oak Ridge, Tennessee, and three Ohio installations to observe the condition of these facilities; and discussed the condition of Hanford's inactive facilities with officials at DOE's Richland Field Office.

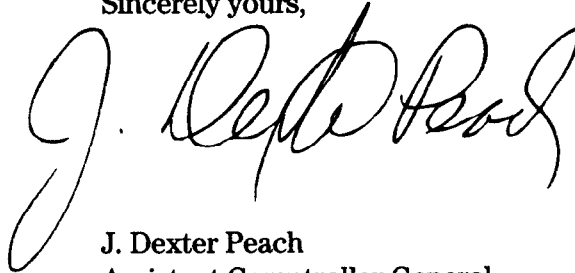
To evaluate DOE's approach for managing the program, we reviewed EM's 1992 statement of responsibilities for the Office of Environmental Restoration and Office of Facility Transition and Management, the proposed criteria for transferring facilities from program offices to EM, and 1992 internal comments on transfers of facilities to EM. We also discussed with EM officials the lessons learned from transfers of inactive facilities at Fernald, Oak Ridge, Hanford, and Rocky Flats, and EM's efforts to finalize the criteria for transferring facilities.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after the date of this letter. At that time, we will send copies to the appropriate congressional committees; the Secretary of Energy; and the Director, Office of Management and Budget. We will also make copies available to other interested parties upon request.

This work was performed under the direction of Victor S. Rezendes, Director, Energy and Science Issues, who may be reached at

(202) 512-3841 if you or you staff have any questions. Other major contributors to this report are listed in appendix I.

Sincerely yours,

A handwritten signature in black ink, appearing to read "J. Dexter Peach". The signature is written in a cursive style with a large initial "J".

J. Dexter Peach
Assistant Comptroller General

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