U.S. DEPARTMENT OF ENERGY
OFFICE OF INSPECTOR GENERAL

AUDIT OF THE DEACTIVATION, DECONTAMINATION, AND DISPOSAL OF SURPLUS FACILITIES AT THE SAVANNAH RIVER SITE

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Audit Report Number: ER-B-98-01

SUMMARY

Westinghouse Savannah River Company (Westinghouse) is responsible for managing the Department of Energy's (Department) surplus facilities at the Savannah River Site (Site). In Fiscal Year (FY) 1996, the Site had 162 surplus facilities and anticipated that 118 more would become surplus within the next 5 years. The objective of this audit was to determine whether the Savannah River Operations Office (Operations Office) and Westinghouse had economically and promptly deactivated, decontaminated, and disposed of surplus facilities at the Site.

Departmental regulations require that surplus facilities be deactivated, decontaminated, and disposed of economically and promptly. However, Westinghouse only disposed of one facility and did not completely deactivate or decontaminate any of the 162 facilities identified as surplus at the Site in FY 1996. This occurred because the Operations Office did not compile a Site-wide list, establish priorities, or provide sufficient funding for the deactivation, decontamination, and disposal of surplus facilities. As a result, the Department incurred unnecessary costs for the surveillance and maintenance of surplus facilities. For example, the Department could have avoided annual costs of about $1.3 million in surveillance and maintenance costs by spending $1.2 million to perform a deactivation project on the P-Reactor process-water storage tanks. The Operations Office could have funded the project out of its unobligated FY 1996 operating funds. However, it returned the unobligated funds to the Department's Headquarters at the end of the fiscal year.

The Operations Office concurred with the finding and recommendations and initiated corrective action.

/s/
Office of Inspector General

PART I

APPROACH AND OVERVIEW

INTRODUCTION

For over 35 years, the Savannah River Site (Site) used nuclear reactors to fulfill its primary mission of producing tritium and other radioisotopes for use in defense related activities. Beginning in 1988, however, the Department of Energy (Department) shut down the last of the Site's operating reactors and changed the Site's mission from producing nuclear materials to managing the waste products generated. As its mission changed, many of the Site's facilities became surplus to the Department's needs. In Fiscal Year (FY) 1996, the Site had 162 surplus facilities and expected that 118 more would become surplus in the next 5 years. The objective of this audit was to determine whether the Savannah River Operations Office (Operations Office) and Westinghouse Savannah River Company (Westinghouse) had economically and promptly deactivated, decontaminated, and disposed of surplus facilities at the Site.

SCOPE AND METHODOLOGY

The audit was performed at the Site from June 12, 1996, through March 14, 1997. To accomplish the audit objective, we:

- Reviewed applicable Federal and Departmental regulations regarding management of surplus facilities;

- Interviewed finance, budget, and project managers from the Operations Office and Westinghouse who were responsible for managing surplus facilities at the Site; and

- Reviewed and evaluated documentation pertaining to the current and historical costs of maintaining surplus facilities at the Site.

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 objective of the audit. 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 relied on computer-generated data during this audit. Specifically, we used the Department's financial system containing the actual costs for surplus facilities. We did not perform steps during this audit to independently verify the reliability of this system because the reliability was tested in both the *Audit of the U.S. Department of Energy's Consolidated Financial Statements for Fiscal Year 1996* and the *Audit of the Statement of Costs Incurred and Claimed for Fiscal Year 1995*. Thus we relied on the work performed in both of these earlier audits.

In our opinion, the matters discussed in this report identified material internal control weaknesses within the Department that should be considered when preparing the yearend assurance memorandum on internal controls. Internal control weaknesses identified in the report are discussed in Part II.

We held an exit conference with the Assistant Manager, Environmental Quality, Savannah River Operations Office, on October 15, 1997.

BACKGROUND

Departmental Order 4330.5 provides a structured and cost-effective approach for transferring surplus facilities to the Office of Environmental Management (EM). A more detailed description of the facility transition process was presented in the *Decommissioning Resource Manual*, (DOE/EM-0246, August 1995), which was issued by EM in draft form as a resource guide. After the completion of our audit work, EM issued in draft form a *Decommissioning Resource Guide* (DOE G 4Y-X. 1-4, Version 1.0, April 1997), which, if finalized, will be a successor to the *Decommissioning Resource Manual*. In accordance with Departmental Orders and the *Decommissioning Resource Manual*, Program Secretarial Officers are responsible for identifying facilities which are surplus to their needs and reporting these facilities to the Office of Field Management (FM). FM determines whether surplus facilities can be used elsewhere in the Department. If so, responsibility for the facilities is transferred to the new owners. If the surplus facilities cannot be used elsewhere in the Department, FM determines if the facilities qualify for disposition through the General Services Administration (GSA). If so, GSA handles the disposition of such facilities; if not, the facilities may be transferred to EM to be prepared for transfer to GSA.

EM is responsible for surplus facilities until they are made ready for disposal. The Office of Nuclear Material and Facility Stabilization (EM-60) is responsible for accepting surplus contaminated facilities for EM and presiding over the transition of these facilities from an operational status through deactivation. However, EM has not accepted excess facilities since 1996 in an effort to stabilize the scope of its program and allow it to focus resources on current facilities. Deactivation is defined as the process of placing a facility in a safe and stable condition to minimize the long-term cost of surveillance and maintenance. EM-60 is also responsible for the stabilization of nuclear materials no longer needed. The Office of Environmental Restoration (EM-40) is responsible for the decommissioning of surplus facilities, including surveillance and maintenance, and the remediation of contaminated properties. Decommissioning is the action taken at the end of the life of a facility to retire it from service with the ultimate goal of unrestricted release or restricted use of the facility.

While facilities are in the transition process, they require surveillance and maintenance to keep safety and health risks within acceptable parameters. The costs associated with surveillance and maintenance include environmental sampling, preventive maintenance, utilities, and safeguards and security. During FY 1996, the Operations Office spent $319.7 million for surveillance and maintenance activities at the Site.

PART II

FINDING AND RECOMMENDATIONS

Deactivation, Decontamination, and Disposal of Surplus Facilities

Departmental regulations require that surplus facilities be deactivated, decontaminated, and disposed of economically and promptly. However, Westinghouse only disposed of one facility and did not completely deactivate or decontaminate any of the 162 facilities identified as surplus at the Site in FY 1996. This occurred because the Operations Office did not compile a Site-wide list, establish priorities, or provide sufficient funding for the deactivation, decontamination, and disposal of surplus facilities. As a result, the Department incurred unnecessary costs for the surveillance and maintenance of surplus facilities. For example, the Department could have avoided annual costs of about $1.3 million in surveillance and maintenance costs by spending $1.2 million to perform a deactivation project on the P-Reactor process-water storage tanks.

RECOMMENDATIONS

We recommend that the Manager, Savannah River Operations Office:

1. Compile and maintain a list of all deactivation and decontamination activities which are necessary prior to the disposal of surplus facilities at the Site;

2. Establish Site-wide priorities for the deactivation, decontamination, and disposal of surplus facilities at the Site in accordance with Departmental Order 5820.2A; and

3. Annually request from the Department sufficient funding to implement an effective deactivation, decontamination, and disposal plan.

MANAGEMENT REACTION

Management concurred with the finding and recommendations and initiated corrective action. Details of management's comments are contained in Part III.

DETAILS OF FINDING

DEPARTMENTAL REQUIREMENTS

Departmental regulations require that surplus contaminated facilities be deactivated, decontaminated, and disposed of efficiently, economically, and promptly. Departmental Order 4300.1C, *Real Property Management*, requires that all real property holdings be managed efficiently, economically, and safely, and that all unneeded property be disposed of promptly. Departmental Order 5820.2A, *Radioactive Waste Management*, requires that radioactively contaminated facilities be managed in a safe, cost-effective manner, and that surplus contaminated facilities be identified and scheduled for decommissioning.

ACTIVITIES AT THE SAVANNAH RIVER SITE

The Department did not economically or promptly deactivate, decontaminate, or dispose of surplus facilities at the Site. In FY 1996, the Operations Office identified 162 facilities as surplus and an additional 118 facilities that were expected to become surplus within the next 5 years. Only one of the 162 surplus facilities was disposed of during FY 1996. Westinghouse performed partial deactivation and decontamination activities on some of the surplus facilities; however, it did not completely deactivate or decontaminate any facilities during the year. During FY 1997, Westinghouse disposed of one more facility. It also performed partial deactivation and/or decontamination activities on six facilities at the Heavy Water Components Test Reactor (HWCTR) which have not been completed.

Further, the Operations Office planned to continue this low level of activity. It did not plan to start any substantial deactivation, decontamination, or decommissioning projects at the Site before FY 2006. The Operations Office stated in its 10-year environmental management plan, *Accelerating Cleanup: Focus on 2006, Discussion Draft*, that if the low-funding case is approved and funded, no deactivation projects will be started before FY 2006. If the high-funding case is approved and funded, only the R-Reactor disassembly basin will be deactivated. Regardless of which case is approved and funded, no decontamination and decommissioning activities are planned before FY 2006 except for some at the HWCTR. The only disposal activity currently planned is limited to the award of a firm fixed-price contract, during FY 1998, for disposal of three facilities at the HWCTR.

IDENTIFICATION, PRIORITIZATION, AND FUNDING

Contrary to Departmental requirements, the Operations Office did not compile a Site-wide list to identify the activities which were necessary prior to the disposal of surplus facilities. These activities typically include stabilization, deactivation, and decontamination, which must be completed prior to actual disposal. Compiling a list of

these activities for each surplus facility is a necessary first step toward organizing and completing the disposal process.

Also, the Operations Office did not prioritize the order in which Westinghouse should deactivate and decontaminate the surplus facilities. The lack of Site-wide priorities made it difficult for Westinghouse to determine the appropriate order in which to complete necessary activities while meeting the Department's economic, safety, and health goals.

Additionally, the Operations Office did not provide sufficient funding for several worthwhile deactivation projects. Westinghouse estimated that the Department could avoid $59.6 million in surveillance and maintenance costs between FY 1996 and FY 2006 by performing deactivation projects at 6 excess facilities, at a cost of $12.3 million. Westinghouse performed work on several of these deactivation projects in FY 1996, which were projected to save an estimated $50.5 million in surveillance and maintenance costs through FY 2006. However, because some of the projects were not funded, they were not performed, and the Department missed an opportunity to avoid an additional $9.1 million through FY 2006.

One of the unperformed deactivation projects could have been executed using funds available in FY 1996 if the Operations Office had not returned $1.4 million to the Department's Headquarters. The P-Reactor process-water storage tanks contained tritiated heavy water which required Westinghouse to perform surveillance and maintenance to ensure containment. Westinghouse determined that by transferring the tritiated heavy water from the P-Reactor to the K-Reactor or L-Reactor, at a cost of about $1.2 million, it could have reduced overall surveillance and maintenance costs by $8 million through FY 2006. The Operations Office had sufficient unobligated operating funds in FY 1996 to complete this deactivation activity. However, at the end of the year, the Operations Office returned $1.4 million of unobligated operating funds to the Department's Headquarters instead of funding the P-Reactor project.

POTENTIAL COST SAVINGS

As demonstrated by the examples discussed above, the Department could have avoided millions of dollars annually in surveillance and maintenance costs by deactivating, decontaminating, and disposing of surplus facilities. However, for three reasons, we could not determine the full extent of potential savings available to the Department. First, the Operations Office did not separately account for all the costs associated with leaving facilities in a surplus status. Second, the Operations Office had not determined how much it would cost to prepare surplus facilities for disposal. And third, the Operations Office had not estimated the cost avoidance that could be realized by performing each necessary deactivation, decontamination, and disposal activity. Without these values, it is not possible to quantify the total cost avoidance that could have been realized. However, the P-Reactor project alone provided the Department with an opportunity to save $1.3 million annually after a one-time expense of only $1.2 million.

PART III

MANAGEMENT AND AUDITOR COMMENTS

The Operations Office concurred with the finding and recommendations and initiated corrective action. A summary of management's comments and our replies follows.

Recommendation No. 1

Recommendation. We recommended that the Manager, Savannah River Operations Office, compile and maintain a list of all deactivation and decontamination activities which are necessary prior to the disposal of surplus facilities at the Site.

Management Comments. Concur. The Operations Office has already directed that Westinghouse develop a comprehensive approach and plan for the execution of an integrated deactivation, decontamination, and decommissioning program. Westinghouse has drafted a Management Policy for planning and executing a disposition program for excess Site facilities as well as a Site Excess Facilities Disposition Plan that describes the site-wide discipline and uniform facility disposition process. Approval and implementation of these practices should occur by December 30, 1997.

Auditor Comments. Management's intended actions are responsive to the recommendation.

Recommendation No. 2

Recommendation. We recommended that the Manager, Savannah River Operations Office, establish Site-wide priorities for the deactivation, decontamination, and disposal of surplus facilities at the Site in accordance with Departmental Order 5820.2A.

Management Comments. Concur. The Operations Office directed that Westinghouse develop and maintain a priority listing for ongoing and potential disposition projects. This listing will update the facility-oriented risk assessment previously issued in the *SRS Surplus Facility Inventory and Assessment Database FY 1996 Updated (U) (EFR-RDD-960016)*. The priority listing will comply with requirements contained in DOE 5820.2A and DRAFT DOE 4xx.1 and DRAFT Facility Disposition Manual 4XX.1.1 (which will cancel Chapter V of DOE 5820.2A). The Operations Office expects to use the priority listing during formulation of the FY 1999 budget submittal, although outyear funding projections provided by Departmental Headquarters and reflecting the views of the Office of Management and Budget (OMB) would appear to indicate a sustained deferral of discretionary non-time-critical disposition activities.

Auditor Comments. Management's intended actions are responsive to the recommendation.

Recommendation No. 3

Recommendation. We recommended that the Manager, Savannah River Operations Office, annually request from the Department sufficient funding to implement an effective deactivation, decontamination, and disposal plan.

Management Comments. Concur. The Operations Office estimates resource requirements for deactivation, decontamination, and disposal activities as part of its annual budget submission to Headquarters. Resource requirements are reflected in an integrated Site-wide priority list that considers, among other things, worker safety, public health, pollution control, and environmental protection as well as Departmental performance expectations and stakeholder views. The scope of work associated with an integrated excess facility disposal program is reflected in the Site-wide priority list; however, as a practical matter, discretionary work is being deferred, a decision that reflects the relatively lower risk posed by excess facilities under surveillance and institutional controls.

Auditor Comments. Management's comments indicate a desire to obtain sufficient funds to implement an effective deactivation, decontamination, and disposal plan. Completion of recommendations 1 and 2 will help to support the Operations Office's efforts to obtain those funds. We believe future budget requests will be more persuasive if they contain the details to support the costs and benefits to be derived from each required project.

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