

DOE/IG-0468

AUDIT
REPORT

FACILITIES INFORMATION
MANAGEMENT SYSTEM



APRIL 2000

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

April 26, 2000

MEMORANDUM FOR THE SECRETARY

FROM: Gregory H. Friedman (Signed)
Inspector General

SUBJECT: INFORMATION: Report on "Facilities Information Management System"

BACKGROUND

In July 1995, the Department of Energy implemented a \$2 million corporate database which was to contain up-to-date, reliable and comprehensive real property information. The specific intent was to provide the Department's decisionmakers at Headquarters and in the field with the data needed to make informed judgments regarding the management of the Department's real property inventory. At the time of our audit, the database, the Facilities Information Management System (FIMS), included over 100 million gross square feet of building space, 2 million acres of land, \$7 billion worth of other structures and facilities, and \$900 million of deferred maintenance items.

With its multi-billion dollar inventory of real property at sites throughout the nation, maintaining complete and accurate information on these holdings is critical. Accordingly, the objective of this audit was to determine if FIMS was a reliable source of information.

RESULTS OF AUDIT

FIMS did not contain accurate and complete information. Therefore, it did not provide the Department with reliable information on its real property inventory:

- significant amounts of real property at some sites had not been recorded in the FIMS database;
- property recorded in the database could not be located at certain sites;
- some supplemental data needed to manage and report on real property had not been entered in the system;
- many field sites maintained their own site-specific real property systems, choosing not to use FIMS; and,

- the Headquarters organization with oversight responsibility for FIMS did not have the authority to require field sites to maintain or use the database.

As a result, the Department's ability to rely on FIMS for decisions concerning real property was questionable.

We recommended that the Field Management Council take a series of actions to strengthen the collection and management of real property information. In suggesting these actions, we concluded that the Department must make a concerted effort to include the users of real property information in the process. Further, changes to FIMS should be coordinated to ensure consistency with the Department's Information Technology Architecture.

MANAGEMENT REACTION

Management agreed with the audit conclusions and recommendations.

Attachment

cc: Deputy Secretary
Under Secretary

Facilities Information Management System

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Overview

INTRODUCTION AND OBJECTIVE

In July 1995, the Department of Energy (Department) implemented the Facilities Information Management System (FIMS) as its corporate real property database. This system was the Department's official record of all owned and leased lands, buildings, trailers, and other facilities and structures, such as fences and power lines. The purpose of FIMS was to provide Departmental management with access to up-to-date, reliable real property information and to assist in real property decision making.

FIMS consists of 340 data elements. Management considered 210 of these elements in the FIMS system necessary for effective management of real property. Examples of these data elements included initial acquisition cost of the property, gross square footage, deferred maintenance cost, and hazard categorization. Currently, over 100 million gross square feet of building space, 2 million acres of land, \$7 billion worth of other structures and facilities, and \$900 million worth of deferred maintenance costs are accounted for in the system.

The Department's management and operating contractors at field sites were responsible for maintaining the database. Federal administrators in the field were appointed to ensure the input of relevant data into the system. At Headquarters, through Fiscal Year 1999, the Office of Field Integration had oversight responsibility for the system. This responsibility was transferred to the Office of Management and Administration at the beginning of Fiscal Year 2000.

The objective of this audit was to determine if FIMS provided the Department with accurate and complete information to manage its real property assets.

CONCLUSIONS AND OBSERVATIONS

FIMS was inaccurate and incomplete. Real property existed at some sites that had not been entered in FIMS, while in other instances, recorded property could not be located. In addition, some supplemental data needed to help manage and report on the Department's real property had not been entered in the system. This occurred because many field sites maintained their own site-specific real property systems and did not use FIMS to manage property. Further, the Headquarters organization with oversight responsibility for FIMS did not have the authority to require field sites to maintain and use the database.

As a result, the ability of Departmental management, the Congress, and other Federal agencies to use FIMS data to make informed decisions pertaining to real property holdings was questionable. Departmental

managers had to use other time consuming measures to obtain the real property information needed for decision making. Further, the General Services Administration may not have been able to effectively plan space needs and promote utilization of properties because of inaccurate and incomplete FIMS data. Finally, FIMS data resulted in an understatement of the Department's environmental liability in its financial statements.

In accordance with the Department's Strategic Plan, an integrated Departmentwide framework was to be used for planning, budgeting, evaluating, and implementing information management requirements to reduce costs and improve operations. Moreover, the Government Performance and Results Act of 1993 required the Department to prepare performance plans effective Fiscal Year 1999. This planning process was designed to ensure that efforts to improve information systems were consistent with the Department's overall strategic goals and objectives. In accordance with the initiatives, we recommended that the Chair of the Field Management Council develop and implement a strategy for providing and managing real property information. In developing this strategy the Chair should ensure that users of real property information are included in the process and steps taken in the plan are consistent with the Department's Information Technology Architecture. Management's implementation plan of action should also include an analysis of the costs and benefits of the system, user needs, other requirements, and generally accepted management practices.

In our opinion, the matters discussed in this report should be considered by management when preparing its yearend assurance memorandum on internal controls.

Signed
Office of Inspector General

Facilities Information Management System

FIMS Data Was Not Accurate And Complete

FIMS did not contain an accurate and complete record of the Department's real property assets. Some sites had not recorded all real property and related information in FIMS. In other instances, real property that had been recorded in the system could not be located.

Inaccurate Data

The FIMS database at two of the three sites visited was inaccurate. At Savannah River at least 176 facilities had not been entered in FIMS. Conversely, 416 facilities entered into FIMS could not be located. Furthermore, the gross square footage associated with 351 facilities located at both Savannah River and Oak Ridge had been incorrectly entered in the database.

To test the accuracy of FIMS data, a judgmental sample of 31 facilities at Savannah River that had been recorded in the database was selected for physical observation. Three of the 31 facilities, with an initial acquisition of about \$119,734, could not be located. One of these facilities was a trailer and the other two were small modular facilities. Officials advised that these three facilities might have been excessed or moved to other locations. As a further check, 31 facilities that existed at the site were selected and traced back to the FIMS database. Nine of these facilities had not been entered in the database.

Savannah River officials acknowledged that FIMS was inaccurate and had not been updated for several years. Prior to our site visit, officials performed reconciliations between FIMS and several onsite property systems and conducted physical walkdowns to determine the number and related square footage of the facilities. Officials found that 176 facilities with approximately 313,313 square feet had not been entered into FIMS. In addition, 416 facilities were entered in FIMS but could not be located, and the square footage associated with another 343 was inaccurately entered and needed modification. Officials further advised that additional discrepancies might arise since 578 facilities had not been reviewed at the time of our site visit.

FIMS data at both the Oak Ridge National Lab (ORNL) and Y-12 were also inaccurate. The square footage of buildings recorded in FIMS was compared to blueprint measurements for 17 ORNL and Y-12 buildings. Discrepancies existed in the data recorded for 8 facilities, with an initial acquisition of about \$43,087,080. For all 8 facilities, FIMS square footage was misstated by 56,120. As an example, FIMS data showed that one facility contained 12,170 square feet, while the facility blueprint indicated 27,946 square feet.

Additional inaccuracies in FIMS data at Oak Ridge may exist. Comparison between FIMS and other site databases showed that 135 buildings and trailers at ORNL and 209 buildings and trailers at Y-12 had not been entered in FIMS. However, it was unclear whether FIMS data or the data contained in the other systems was inaccurate. We were advised by Oak Ridge that efforts are currently underway to resolve these discrepancies.

Incomplete Database

Some data needed to track and report real property activities had not been entered into FIMS. At the time of our audit, FIMS officials considered 210 of the 340 data elements necessary for effective management of real property. We sampled 26 of these data elements. Four were 100 percent complete (commonly referred to as populated). However, 14 of the data elements sampled were less than 50 percent populated. Appendix 1 provides a listing of the population percentage for all 26 data fields sampled.

The table below shows examples of data fields that were not fully populated.

Table 1 - Population Percentages for Selected Data Elements

<u>Data Element</u>	<u>Percentage Populated</u>
Hazard Category	49
Chemicals: Explosives	14
Nuclides (Tritium)	2
Nuclear Material/Waste (High-Level)	14

The first three elements in the table provide important information in potential emergency situations relating to the offsite, onsite, and localized consequences during an accident. The last element indicates the presence of high-level waste stored at a facility, which is important for planning usage or other management purposes.

Because many fields in FIMS of this type were not fully populated, managers could not readily determine whether this information was either not applicable to particular Departmental facilities or inappropriately omitted from the database. Management and Administration officials advised that over the last 2 years attempts have been made to direct the population of FIMS fields. Further,

Environmental Management has been asked to review the need and definitions of the 42 hazardous material fields.

Departmental Systems Should Be Complete And Reliable

Federal regulations require the establishment of effective Government information systems. Office of Management and Budget Circular A-127 requires that Federal systems provide complete, reliable, consistent, timely, and useful management information on Federal Government operations to enable agencies to have efficient and effective programs and program performance. Department of Energy Order 430.1, "Life Cycle Asset Management," establishes FIMS as the Department's corporate database for physical assets. The Order further requires that FIMS be maintained as a complete, current inventory of the Department's physical assets to enable decision makers to carry out their responsibilities.

The Government Performance and Results Act of 1993 reinforced the importance of accurate and complete information systems and the achievement of mission, goals, and objectives. In keeping with the requirements of this Act, the Department's Strategic Plan (Plan) emphasizes the need for useful information to manage operations. The Plan also recommends improving decision making by corporately administering the Department's mission, functions, and activities. In this regard, accurate and timely data in FIMS was necessary to ensure the Department and other agencies make informed decisions regarding Federal property.

Responsibility And Lines Of Authority Need To Be Clarified

Some field sites did not always maintain accurate and complete information in FIMS because they relied upon alternative local systems. In response to a questionnaire, many sites advised they maintained in-house real property systems and did not understand the need for or usefulness of the Departmentwide FIMS database. This problem was compounded by the fact that the Headquarters organization responsible for oversight of FIMS did not have the authority to require field sites to maintain or use the database.

At the time the Department implemented FIMS in 1995, many sites maintained their own systems. FIMS was introduced to serve as the centralized database for real property information. However, more than 4 years after implementation as many as 20 sites, including Savannah River and Oak Ridge, continued to operate and use existing in-house systems. FIMS did not serve as the primary real property information system at those sites.

Failure of sites to use FIMS and assure its full integration with other systems was previously reported on by the Office of Inspector General (OIG). A 1997 audit of the Department's leased administrative facilities found that many sites were not using FIMS as the primary real property information system. In a 1998 review of the Department's information management systems, the OIG found that numerous, independent systems for meeting program office needs in the same functional area were being operated. It was determined that an Information Architecture Plan needed to be developed to assure full integration of those systems.

Field site officials advised that they continued to use existing systems because of the amount of detail and reliability of the information contained in these systems. Further, field officials asserted that many of the data fields in FIMS did not assist them in their local management of property but rather satisfied Headquarter's need for real property information. Field officials also advised that resources were insufficient to implement, validate, and maintain the information in FIMS.

At sites that did use the FIMS database, tests conducted indicated that the information was accurate. For example, Argonne and Fermilab National Laboratories both relied on FIMS to manage real property. A test of the data accuracy of the initial acquisition costs, square footage, deferred maintenance and deficiency code recorded in FIMS for 47 facilities located at those sites revealed only minor discrepancies. Further, all physical observation tests at both sites revealed no discrepancies. Laboratory officials advised actions had been taken to ensure FIMS accuracy, including a monthly reconciliation between FIMS and the Financial Information Systems. An annual reconciliation was also conducted between FIMS and the plant ledger.

A lack of authority at the Headquarters level also contributed to field indifference over the accuracy and completeness of FIMS data. In 1995 the Office of Field Integration was assigned oversight responsibility for FIMS. However, the organization did not have authority to require field sites to maintain the database. With the dismantlement of Field Integration in Fiscal Year 1999, responsibility for FIMS was transferred to the Office of Contract Resource Management. This office also did not have the authority to require FIMS maintenance or usage.

Inaccurate And Incomplete Data Hinders Effective Management

Although FIMS was the Department's primary source of information on real property, inaccurate and incomplete data in this system prevented some managers from relying on FIMS and could have impacted other's decisions. Specific examples of how this data has affected internal and external users as well as the Department's financial statements follow.

Internal Users

An analysis of 4 of 22 FIMS data requests received during a 6-month period in 1999 showed that two managers were unable to make informed decisions because of inaccurate and incomplete data. One request was for an inventory of all Department buildings to determine compliance with Year 2000 Conservation requirements. The other was for hazard category information needed for Department safety analysis decisions. Because the data was inaccurate and incomplete, these managers used other time consuming measures to obtain the needed information.

External Users

FIMS data was used to satisfy reporting requirements of the General Services Administration (GSA). The GSA used this data, in conjunction with other available data, to (1) plan space needs; (2) promote fuller utilization of available properties; (3) conduct property management and property accounting surveys; (4) evaluate budgetary requests for acquisition of real property; and (5) facilitate onsite inspection activities. Similarly, FIMS was used to respond in part to a 1999 congressional request for information on the Department's funding for its facility maintenance program. In both cases, the ability to fully use FIMS information was questionable in view of the inaccuracy and incompleteness of the data.

Financial Statements

FIMS square footage data for contaminated facilities was utilized to compute a portion of the Department's estimated environmental liability. Tests of the data indicated that at Y-12 and ORNL, incorrect square footage for three facilities resulted in an \$8.1 million understatement of the environmental liability. Although this misstatement was not material to the Department's overall financial statements, it was another indication that data inaccuracies and omissions in FIMS hindered effective management of real property resources.

RECOMMENDATIONS

We recommend that the Chair of the Field Management Council, working with the Office of Management and Administration and Lead Program Secretarial Offices take the following actions to ensure the reliability of real property information:

1. Reassess all FIMS data fields and eliminate those that are not essential for managing real property.
2. Require field sites to:
 - a. populate all data fields in FIMS determined to be essential for managing real property,
 - b. validate the accuracy of FIMS data, and
 - c. reconcile and, when cost effective, or upon completion and implementation of the Department's Information Technology Architecture, integrate FIMS with other related Headquarters and field site real property information systems and databases.
3. Establish an action plan with goals and milestones for populating and validating FIMS. In establishing this plan, ensure that users of real property information are included in the process and steps taken in the plan are consistent with the Department's Information Technology Architecture.
4. Establish performance standards and measures for FIMS or contractor equivalent in accordance with the Government Performance and Results Act.
5. Ensure that future additions of data fields to the system are based on valid long-term needs.

MANAGEMENT REACTION

Management agreed with the audit conclusions and recommendations. Management stated that FIMS data elements will be reassessed by the appropriate program offices to determine those that are not essential to real property management. In addition, an action plan with goals and milestones for populating and validating FIMS will be established.

AUDITOR COMMENTS

We consider management's comments to be responsive to the recommendations. However, a formal action plan will be required to ensure full implementation of the audit recommendations.

Appendix 1

FIMS FIELD POPULATION PERCENTAGES

FOR SELECTED DATA ELEMENTS

1. Deferred Maintenance	100
2. Gross Square Footage	100
3. Area Office	100
4. Year Acquired (Trailers)	100
5. Number of Floors	98
6. Year Built (Buildings & Trailers)	91
7. Summary Condition (Buildings & Trailers)	88
8. Net Occupiable Square Feet	87
9. Land Ownership (Buildings & Trailers)	85
10. Building/Trailer Status	81
11. Responsible HQ Program Office (Buildings & Trailers)	80
12. Model Building Type	67
13. Hazard Category	49
14. Responsibility Date (Buildings & Trailers)	42
15. Building/Trailer Deficiency Systems	40
16. No. of Floors Below Grade	20
17. Chemicals: Explosives	14
18. Nuclear Material/Waste (High-Level)	14
19. Nuclear Material/Waste (Spent Nuclear Fuel)	14
20. Chemicals: Mercury	14
21. Nuclear Material/Waste: Transuranic Waste (TRW)	14
22. Confinement Integrity and Associated Active Confinement Fields (Buildings & Trailers)	8
23. History/Use (Buildings & Trailers)	7
24. Nuclides: Highly-Enriched Uranium	2
25. Radiation Designation: Radiation Area	2
26. Nuclides (Tritium)	2

Appendix 2

SCOPE

The audit was performed between June 1999 and March 2000. Site visits were made to Savannah River Site in Aiken, South Carolina; Argonne National Laboratory in Chicago, Illinois; Fermilab National Accelerator Laboratory in Batavia, Illinois; and, the Oak Ridge National Laboratory and Y-12 facilities in Oak Ridge, Tennessee. Information regarding real property information systems was also provided by 32 Department sites in response to an Office of Inspector General questionnaire.

METHODOLOGY

To accomplish the objective we obtained and reviewed applicable regulations and Departmental orders pertaining to real property and financial systems. In addition, discussions were held with Departmental and contractor officials who provided information on FIMS. Further, we reviewed related reports by the Office of Inspector General.

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. We tested the accuracy and reliability of computer-generated data and concluded, as discussed in the report, that this data was not accurate or reliable.

We held an exit conference with Headquarters officials on March 30, 2000.

Appendix 3

RELATED OFFICE OF INSPECTOR GENERAL REPORTS

Audit of the Management of the Department of Energy's Leased Administrative Facilities, (DOE/IG-0402, April 1, 1997) - The Department did not maintain an accurate Departmentwide real property database. Although the Department's Headquarters and field sites had spent an estimated \$1.8 million on the development and implementation of the Facility Information Management System (FIMS), none of the sites visited were using FIMS as their current real property information system.

Review of the U.S. Department Of Energy's Information Management System, (DOE/IG-0423, August 10, 1998) - The Department had not developed and implemented an Information Technology Architecture although its Strategic Plan called for the implementation of a Departmentwide information architecture with supporting standards by January 1998. An information technology architecture is necessary to properly manage and control future systems development efforts. This included the Facilities Information Management System.

Audit of the Department of Energy's Consolidated Financial Statements for Fiscal Years 1999 and 1998, (DOE/IG-FS-00-01, February 17, 2000) - A reportable condition, included in the internal control report on the Fiscal Years 1999 and 1998 financial statements addresses a weakness in estimating the environmental liability for contaminated active and surplus facilities. The estimate was based on data derived from FIMS. However, errors were noted in the input data for 14 of 85 facilities selected for review.

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