DOE F 1325.8 (08-93)**United States Government**



Memorandum

OFFICE OF INSPECTOR GENERAL

DATE:

November 9, 2005

REPLY TO

ATTN OF:

IG-34 (A05TG036)

Audit Report No.: OAS-L-06-01

SUBJECT:

Report on Audit of "The Department of Energy's Radio Communications Systems"

TO:

Chief Information Officer, IM-1

INTRODUCTION AND OBJECTIVE

The Department of Energy's (Department) complex-wide radio systems infrastructure supports and facilitates activities such as site emergency response, maintenance, physical security and protection. In response to the requirements established by the Telecommunications Authorization Act of 1992 and implementing guidance published by the Secretary of Commerce, the Department was required to adopt spectrum efficient radio technologies. In particular, sites were required to convert certain existing radio systems to narrowband frequencies by January 1, 2005, with the remainder to be converted by 2008.

Our audit of the Management of Oak Ridge Radio Transition Projects (DOE/IG-0653. June 2004) identified issues with the conversion and acquisition of radio systems at the Oak Ridge Reservation. Since all Department sites were required to convert their systems, we initiated the audit to determine whether other recently completed radio transition projects were cost-effective and maximized spectrum efficiency.

CONCLUSION AND OBSERVATIONS

We determined that several Department sites did not complete adequate cost/benefit analyses and/or project planning and could not document that their frequency conversion approaches were cost-effective and maximized spectrum efficiency. We also observed that the Department had not provided sufficient guidance or oversight to the sites.

System Planning and Implementation

Several of the Department sites reviewed (Savannah River Site, Lawrence Livermore and Los Alamos National Laboratories) had not performed the required cost analyses during radio system planning and implementation. National Telecommunications and Information Administration (NTIA) regulations require agencies to utilize commercial vendors for acquiring radio communications services unless they are unavailable, inadequate, or significantly more costly. To prove cost savings from Governmentowned radio systems, agencies are required to perform an in-depth analysis which

must incorporate all elements of Office of Management and Budget Circular A-76, "Performance of Commercial Activities." While all three of the locations noted above had implemented Government-owned radio systems, none had determined whether the use of a commercial system was a more cost or spectrum efficient approach. Officials from several of the sites reviewed indicated that cost was not a factor, and cost analyses were not performed because the radio transition was mandated.

Conversely, planning and procurement documentation related to the radio system implementation at Hanford disclosed that a quantitative alternatives analysis had been performed prior to arriving at the decision to transition all non-essential radios to commercial service. This approach provided a radio system for use by the site for a monthly, per radio fee (similar to a cellular phone service) and all safety and emergency services were retained on the site's Government-owned system. This alternative utilizes commercial services to the maximum extent possible and was performed according to NTIA requirements.

Guidance and Oversight

The Department had not provided adequate guidance to the sites on radio system planning, procurement, and implementation to ensure that sites were aware of project planning requirements and that the Federal spectrum was utilized in the most efficient manner. The Office of the Chief Information Officer had Department-wide responsibility for spectrum management and was charged with providing advice, assistance, and guidance to the Department Lead Program Secretarial Officers, Headquarters Program Offices, and field sites on the use of Federal radio spectrum systems and services. However, we found that the Office of the Chief Information Officer efforts in this area were concentrated on administrative functions such as radio system certification and obtaining frequency licenses for site radio systems. Furthermore, officials from that office told us that they did not review and approve site or program level plans for sufficiency due to staffing limitations.

SUGGESTED ACTION

While each of the sites we visited or obtained data from had completed equipment procurement or system installation, additional action is necessary to satisfy the Department's responsibilities with regard to spectrum use. The Presidential Memorandum on Improving Spectrum Management for the 21st Century requires the Department to submit a spectrum strategic plan. To facilitate completion of this plan and other reports required by the Department of Commerce, we suggest that:

 The Office of the Chief Information Officer, in coordination with the National Nuclear Security Administration and other Lead Program Offices, provide direction to sites regarding Federal requirements to help ensure that required plans are completed and that any future system implementations that may be necessary are spectrum efficient and cost-effective. Since no formal recommendations are being made in this letter report, a formal response is not required. We appreciate the cooperation of your staff during this audit.

Rickey R. Hass
Assistant Inspector General
for Financial, Technology, and Corporate Audits
Office of Audit Services

Office of Inspector General

Attachment

cc: Team Leader, Audit Liaison, CF-1.2

Director, Policy and Internal Controls Management, NA-66

Audit Liaison, EM-33 Audit Liaison, FE-3 Audit Liaison, IM-10 Audit Liaison, NE-10 Audit Liaison, SC-32.1

Attachment

SCOPE AND METHODOLOGY

Fieldwork on the audit of the Department of Energy's (Department) Radio Communications Systems was performed between November 2004 and November 2005 and involved Department Headquarters and selected field locations. To accomplish the audit objective, we:

- Held discussions with officials within the Office of Chief Information
 Officer (OCIO) in Washington, DC and Germantown, MD to determine the
 role of the OCIO in licensing the Department's radio communications
 systems and the level of guidance provided to field sites implementing new
 radio systems;
- Held discussions with officials from the Richland Operations Office, Office
 of River Protection, Fluor Hanford, Inc., CH2M Hill Hanford Group, Inc.,
 Bechtel National, Inc., Pacific Northwest Site Office, and the Pacific
 Northwest National Laboratory to gain an understanding of how radio system
 projects were managed and capabilities tested at the sites. Additional
 information was gathered from officials at the Argonne National Laboratory,
 Sandia National Laboratory, Lawrence Livermore National Laboratory, Los
 Alamos National Laboratory, Savannah River Site, Bonneville Power
 Administration, and Bechtel Nevada regarding radio system project planning
 and cost; and,
- Obtained and reviewed project planning and system testing documentation regarding radio systems installed on the Hanford Site and Pacific Northwest National Laboratory.

The audit was performed 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. Accordingly, we evaluated the Department's implementation of the Government Performance and Results Act and determined that performance measures had not been established for the area of radio communications systems. As a result, we could not assess how they might have been used to measure performance. 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 rely on computer-processed data to accomplish our audit objective. We discussed the results of our audit with representatives from the Office of Chief Information Officer in November 2005.