March 23, 2007

MEMORANDUM TO: Chairman Klein

FROM: Hubert T. Bell **/RA/**
Inspector General

SUBJECT: AUDIT OF NRC'S NUCLEAR MATERIAL EVENTS DATABASE (OIG-07-A-11)

Attached is the Office of the Inspector General's (OIG) memorandum report titled, *Audit of NRC's Nuclear Material Events Database.*

The audit disclosed that:

In the context of the review, OIG found that in general the NMED system works as intended and is a benefit to the agency. However, during the review, auditors found some concerns with the Fuel Cycle Nuclear Material Events Database (FCNMED). Without formalized guidance and appropriate oversight, FCNMED lacks the internal control needed to achieve the system's objectives. FCNMED should be consistently reviewed for data pertaining to trending analyses, operational metrics, and regulatory analyses. In addition, many NRC staff members are not aware that FCNMED exists and are not accessing its data. Although the effect of having an informal FCNMED system may not be critical today, it could become an issue should the nuclear industry, including the fuel cycle program, grow as it is predicted to do.

If you have any questions, please contact Stephen D. Dingbaum, Assistant Inspector General for Audits, at 415-5915 or me at 415-5930.

Attachment: As stated

cc: Commissioner McGaffigan
Commissioner Merrifield
Commissioner Jaczko
Commissioner Lyons
M. Johnson, OEDO

March 23, 2007

MEMORANDUM TO: Luis A. Reyes
Executive Director for Operations

FROM: Stephen D. Dingbaum**/RA/**
Assistant Inspector General for Audits

SUBJECT: MEMORANDUM REPORT: AUDIT OF NRC'S NUCLEAR MATERIAL EVENTS DATABASE (OIG-07-A-11)

This memorandum report is a result of OIG's audit of the Nuclear Material Events Database (NMED). In the context of the audit, OIG found that in general the NMED system works as intended and is a benefit to the agency. That is, NRC is using NMED as a data repository for licensee materials events.

However, during the review, auditors found some concerns with a related system, the Fuel Cycle Nuclear Material Events Database (FCNMED). Without formalized guidance and appropriate oversight, FCNMED lacks the internal control needed to achieve the system's objectives. Furthermore, through January 2008, NRC has budgeted about $52,000 in contract dollars for FCNMED, but the agency is not fully using the system to achieve the maximum benefit for its money.

BACKGROUND

NMED contains a historical collection of information on the occurrence, description, and resolution of events involving the use of radioactive materials in the United States. NMED accommodates the sharing of material event data submitted by Agreement States, non-Agreement States, and NRC licensees. NMED provides users with search capabilities to analyze its data. NRC staff use NMED data for a variety of reasons, including inspections, performance metrics, and trend analyses. The Office of Federal and State Materials and Environmental Management Programs is responsible for NMED. The agency's contractor, Idaho National Laboratory (INL), is responsible for data entry, coding,

and quality control of the data. INL primarily obtains the data for NMED from NRC daily reports (event notifications, preliminary notifications, and morning reports), and licensee written reports of material events. In addition, INL may also obtain data from inspection reports, investigation reports, and enforcement action documents.

In 2004, NRC identified the need for a database specifically for Category 1 fuel cycle facilities.[1] The agency reclassified information concerning events at these fuel cycle facilities as Official Use Only on the basis that it constituted sensitive unclassified information. At NRC's request, INL removed events related to Category 1 fuel cycle facilities from NMED. INL then created FCNMED, a new database, modeled on NMED, specifically for Category 1 fuel cycle facility event data. This new database was transferred to NRC so that staff could update FCNMED with event data as it occurred. However, FCNMED was not updated and in 2005, the task for maintaining the database was transferred back to INL. Today, FCNMED is maintained separate from NMED and its data is not publicly available. FCNMED contains about 200 records and is estimated to cost NRC about $52,000 through January 2008. The agency's intent for FCNMED is to use it the same as NMED--to accommodate the sharing of material event data.

PURPOSE

The objective of this audit was to review the accuracy of the NMED database and agency use of data currently reported, including trend analyses and event follow-up. In conducting the audit of NMED, OIG also reviewed FCNMED with an objective to determine if FCNMED meets the agency's intent for the database. This report focuses on OIG's concerns with FCNMED.

FINDING

Without formalized guidance and appropriate oversight, FCNMED lacks the internal control needed to achieve the system's objectives. Management is responsible for establishing and maintaining internal control to achieve the objectives of effective and efficient operations. In this case, NRC staff should be consistently reviewing FCNMED for data pertaining to trending, performance metrics, and regulatory analyses. However, there are several conditions that preclude FCNMED from being used as intended. Specifically,

- Many NRC staff members[2] are not aware that FCNMED exists and are not accessing its data.

[1] Currently, there are only two Category 1 fuel cycle facilities, Nuclear Fuel Services and BWX Technologies.
[2] Due to its sensitive nature, FCNMED will be available to a limited number of users.

- The FCNMED data available to NRC staff is updated on a monthly basis.

- There is limited assurance that the FCNMED data is complete.

Because there are no written FCNMED procedures[3] for NRC staff and no one is officially the database content coordinator, NRC's trending, performance metrics, and regulatory analyses may not include all pertinent data. As a result, NRC could be missing precursors to significant issues. Although the effect of the FCNMED system not having formalized guidance or appropriate oversight may not be critical today, it could become an issue should the nuclear industry, including the fuel cycle program, grow as it is predicted to do. Therefore, it is important that NRC formalize the FCNMED system to ensure that it has the appropriate internal controls to successfully achieve the system's objectives and maximize the benefit of NRC's contract dollars.

RECOMMENDATIONS

The Office of the Inspector General recommends that the Executive Director for Operations:

1. Develop and implement written procedures for the operation of FCNMED to ensure that a mechanism is available for appropriate staff to share and access data on Category 1 fuel cycle facilities.

2. Appoint an official coordinator, responsible for the day to day oversight of FCNMED.

3. Conduct a quality assurance review of the FCNMED data to ensure that all pertinent data is included in the database.

AGENCY COMMENTS

At an exit conference on March 7, 2007, NRC officials agreed with the report's recommendations and provided editorial suggestions, which OIG incorporated as appropriate.

SCOPE AND METHODLOGY

To accomplish the audit, the OIG audit team reviewed the Code of Federal Regulations, Management Directives, the NMED contract, and other related documents. The audit team interviewed officials internal and external to NRC. NRC officials included senior managers and staff in the Office of Federal and

[3] NMED procedures exist and staff report they are applicable to FCNMED. However, the procedures fail to acknowledge that FCNMED exists and many staff have not applied the procedures to FCNMED.

State Materials and Environmental Management Programs, the Office of Nuclear Material Safety and Safeguards, and Region II. Interviews external to NRC included officials from INL and an agreement state program.

This work was conducted from November 2006 through January 2007 in accordance with generally accepted Government auditing standards and included a review of internal controls related to the objective of this audit. The work was conducted by Anthony Lipuma, Team Leader; Sherri Miotla, Audit Manager; Dan Livermore, Technical Advisor; James McGaughey, Senior Analyst; Rebecca Underhill, Analyst; and Andrea Ferkile, Analyst.

cc: Chairman Klein
Commissioner McGaffigan
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