

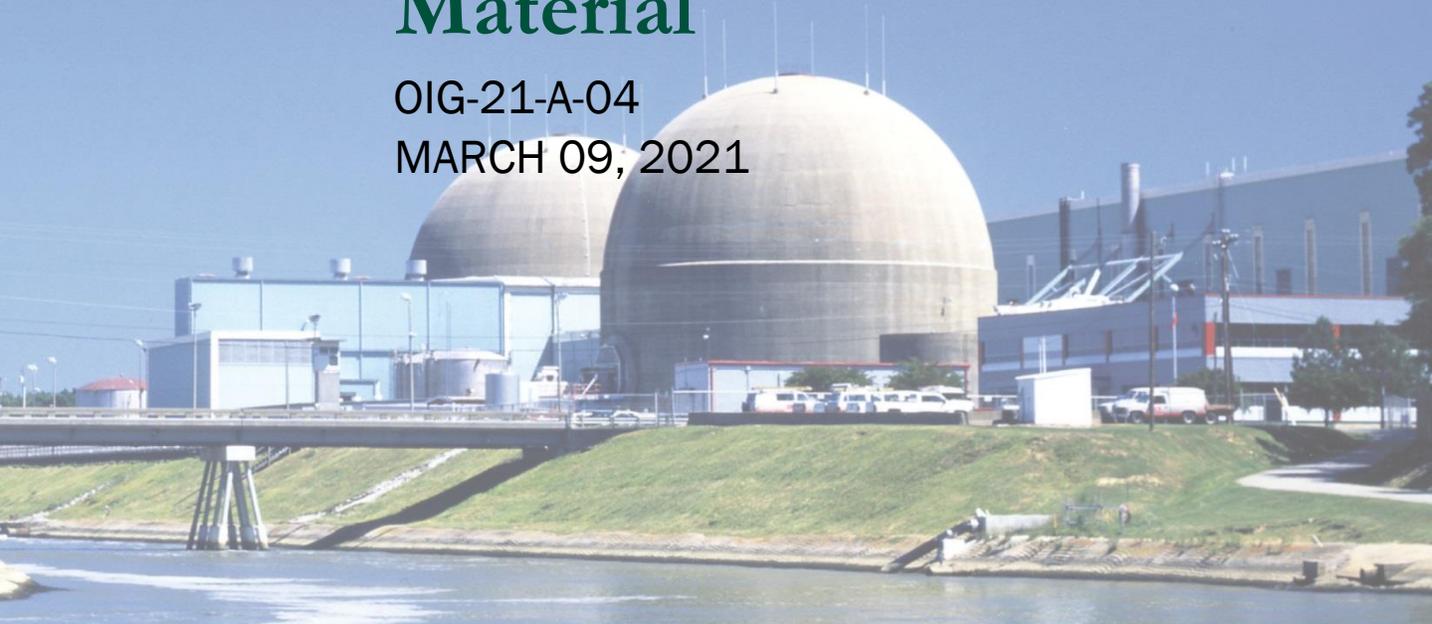


OFFICE OF THE INSPECTOR GENERAL

U.S. NUCLEAR REGULATORY COMMISSION
DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Audit of the NRC's Material Control and Accounting Inspection Program for Special Nuclear Material

OIG-21-A-04
MARCH 09, 2021



All publicly available OIG reports (including this report)
are accessible through the NRC's website at
<http://www.nrc.gov/reading-rm/doc-collections/insp-gen>



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

**OFFICE OF THE
INSPECTOR GENERAL**

March 9, 2021

MEMORANDUM TO: Margaret Doane
Executive Director for Operations

FROM: Dr. Brett Baker */RA/*
Assistant Inspector General for Audits

SUBJECT: AUDIT OF THE NRC'S MATERIAL CONTROL AND
ACCOUNTING INSPECTION PROGRAM FOR SPECIAL
NUCLEAR MATERIAL (OIG-21-A-04)

Attached is the Office of the Inspector General's (OIG) audit report titled *Audit of the NRC's Material Control and Accounting Inspection Program for Special Nuclear Material*.

The report presents the results of the subject audit. Following the March 2, 2021, exit conference, agency staff indicated that they had no formal comments for inclusion in this report.

Please provide information on actions taken or planned on each of the recommendations within 30 days of the date of this memorandum. Actions taken or planned are subject to OIG followup as stated in Management Directive 6.1.

We appreciate the cooperation extended to us by members of your staff during the audit. If you have any questions or comments about our report, please contact me at (301) 415-5915, or Mike Blair, Team Leader, at (301) 415-8399.

Attachment: As stated



Office of the Inspector General

U.S. Nuclear Regulatory Commission
Defense Nuclear Facilities Safety Board

OIG-21-A-04

March 09, 2021

Results in Brief

Why We Did This Review

The Nuclear Regulatory Commission (NRC) is responsible for protecting the health and safety of the public and the environment by licensing and regulating the civilian uses of radioactive materials.

The NRC's regulations require licensees that possess one or more grams of special nuclear material (SNM) to maintain a nuclear material control and accounting (MC&A) program that tracks and verifies the material is in its authorized location. SNM is uranium 233, uranium 235, or plutonium 239. While not highly radioactive, these elements, in concentrated form, could be used as the primary ingredients of nuclear explosives.

The NRC's inspection program ensures that the licensee's MC&A system adequately detects and protects against the loss, theft, or diversion of SNM. The audit objective was to assess the effectiveness of the NRC's MC&A inspection program over the accounting and control of SNM at fuel facilities.

Audit of the NRC's Material Control and Accounting Inspection Program for Special Nuclear Material

What We Found

Though the OIG found that the NRC's implementation of the MC&A program was generally effective, there are opportunities to enhance it. Specifically:

- Communication between agency offices could be improved.
- The NRC's human capital approach to MC&A qualifications could be strengthened.
- MC&A training needs to be updated and enhanced.

These enhancements would improve the overall direction and effectiveness of MC&A inspections at Category III fuel fabrication facilities.

What We Recommend

The OIG made three recommendations to enhance the MC&A program at Category III fuel fabrication facilities.

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ABBREVIATIONS AND ACRONYMS

| | |
|-------|--|
| CFR: | Code of Federal Regulations |
| DFFI: | Division of Fuel Facility Inspection |
| FNMC: | Fundamental Nuclear Material Control |
| GAO: | Government Accountability Office |
| IMC: | Inspection Manual Chapter |
| MC&A: | Material Control and Accounting |
| NMSS: | Nuclear Material Safety and Safeguards |
| NRC: | Nuclear Regulatory Commission |
| R-II: | Region II |
| SIP: | Smarter Fuel Cycle Inspection Program |
| SNM: | Special Nuclear Material |

I. BACKGROUND

Regulation of Radioactive Materials

The Nuclear Regulatory Commission (NRC) is responsible for protecting the health and safety of the public and the environment by licensing and regulating the civilian uses of radioactive materials. The NRC's regulations require licensees that possess one or more gram of special nuclear material (SNM)¹ to meet the material control and accounting (MC&A) requirements for reporting and recordkeeping in 10 CFR Part 74, Subparts A and B. Licensees that possess greater quantities of SNM may be subject to additional requirements in subparts C, D, or E, which include having more extensive programs for MC&A. While not highly radioactive, SNM, in concentrated form, could be used as the primary ingredient of nuclear explosives. The NRC's inspection program determines whether the relevant licensee's MC&A system adequately detects and protects against the loss, theft, or diversion of SNM.

Special Nuclear Material & Fuel Fabrication Facilities

The NRC divides SNM into three main categories according to the risk and potential for its direct use in a clandestine fissile explosive, or for its use in nuclear material production for use in a fissile explosive. Categories I and II SNM are more highly concentrated, and the amount required to produce nuclear explosives is less than Category III SNM. Category III is the type of SNM primarily used by commercial nuclear plants to generate electricity. Fuel fabrication facilities convert enriched uranium into fuel for nuclear reactors. The three Category III U.S. fuel fabrication facilities are:

- Global Nuclear Fuel-Americas, located in Wilmington, NC.
- Westinghouse Electric Company, Columbia Fuel Fabrication Facility, located in Columbia, SC.
- Framatome, Inc., located in Richland, WA.

¹ SNM is uranium 233, uranium 235, or plutonium 239.

Figure 1: A Fuel Fabrication Facility



Source: NRC

MC&A Regulations and Inspection Program Procedures

Chapter 10 of the United States Code of Federal Regulations (10 CFR) Part 70 requires certain SNM license applicants for more than one effective kilogram of SNM, or for uranium enrichment, to submit to the NRC a full description of their program for control and accounting of SNM that will be in their possession.

Chapter 10 CFR Part 74 specifies the requirements for licensees' Fundamental Nuclear Material Control (FNMC) plan by SNM category. The FNMC plan describes how a licensee implements the NRC's MC&A-related requirements. NRC regulations require all licensees authorized to possess more than one effective kilogram of SNM to submit an FNMC plan for the NRC's review and approval.²

²For facilities that possess Category III quantities of SNM, an FNMC plan is required except for a production or utilization facility (i.e., a reactor) or operations involved in waste disposal.

MC&A Oversight

The NRC oversees a licensee's MC&A program through licensing and inspections. The Office of Nuclear Material Safety and Safeguards (NMSS) provides overall program direction for the fuel cycle MC&A inspection program and is responsible for licensing the use of SNM and for the control and accounting for SNM. Within NMSS, the Material Control and Accounting Branch (MCAB) conducts technical and regulatory reviews of the MC&A programs at NRC licensed facilities. The MCAB reviews and approves the FNMC plan submitted by an applicant to obtain a material license. It reviews and approves the revisions made to the existing FNMC plans submitted by material licensees that require the NRC's pre-approval before being implemented. The MCAB provides technical advice for MC&A inspections as needed, but generally does not directly support regional staff as inspection participants.

In addition to the NMSS, the NRC's Region II office is responsible for implementing the different inspection programs, including MC&A. Region II's Division of Fuel Facility Inspection (DFFI) implements and coordinates the inspection of all fuel facilities and programs in the United States. Inspectors in Project Branches 1 and 2 perform MC&A inspections in addition to other fuel cycle facility inspections.

The Smarter Fuel Cycle Inspection Program (SIP)

During 2019-2020, the NMSS undertook a review of the fuel cycle inspection program to improve the effectiveness and efficiency of the program inspections in areas of safety and safeguards. The NMSS comprehensively reviewed Inspection Manual Chapters (IMC) and Inspection Procedures considering operating experience, international experience, and inspection data. Reviewers determined whether the inspection program guidance applied the appropriate focus on different areas of oversight using risk insights. These areas demonstrated performance issues and areas that provided the greatest benefit to determine that a facility is operating safely and securely in compliance with regulatory requirements.

As a result of this review, the NMSS has updated the Inspection Procedures and modified the inspection schedule to refocus some inspection activities on areas that provide the greatest safety benefit while

maintaining an effective fuel cycle oversight program. The NMSS's new program revised the MC&A inspection program by reducing the frequency of Cat III inspections to once every 2 years (previously done annually) based on insights from industry and NRC staff. The NMSS scheduled SIP for implementation in 2021.

II. OBJECTIVE

The purpose of this audit was to assess the effectiveness of the NRC's material control and accounting inspection program over the accounting and control of SNM at fuel facilities. The scope of this audit is Category III fuel fabrication facilities. Appendix A contains information on the audit scope and methodology.

III. FINDINGS

The Office of the Inspector General (OIG) reviewed inspection reports, inspection schedules, inspection procedures, and licensee violations and found that the NRC's implementation of the MC&A program was generally effective. In its review and analyses, the OIG identified:

- 1) no major safety concerns;
- 2) no significant violation trends over the past 5 calendar years;
- 3) the NRC always implemented corrective actions; and
- 4) no missed or incomplete safety inspections from calendar years 2015 through 2020 at Cat III fuel fabrication facilities despite the challenges of COVID-19.

Though the OIG found that the NRC's implementation of the MC&A program was generally effective, there are opportunities to enhance the program. The OIG found the following:

- A. Communication between agency offices could be improved;
- B. The NRC's human capital approach to MC&A qualifications could be strengthened; and
- C. MC&A training needs to be updated and enhanced.

A. Communication Between Agency Offices Could Be Improved

The NRC could enhance communication between headquarters and Region II. Headquarters and Region II should communicate quality information across all levels of an entity. However, there are communications weaknesses between headquarters MCAB and Region II DFFI. As a result, they may delay MC&A oversight decisions or make them based on incomplete information.

What Is Required

Communication Should be Systematic and Structured

For an organization to operate in an efficient and effective manner, the Government Accountability Office's (GAO) *Standards for Internal Control in the Federal Government, Principle 14, Communicate Internally*, requires that entities communicate quality information down, across, up, and around reporting lines to all of its levels. Management should internally communicate the necessary quality information to achieve the entity's objectives. Management should select appropriate methods to communicate internally.

The Office of Personnel Management's *Services for Agencies Workforce and Succession Planning* recommends continuous communication as key to success in becoming a high-performing organization. The organization must build a clear roadmap of agency direction to secure employee commitment. Critical messages must have communication vehicles for strategic and orderly delivery to intended audiences.

What We Found

Communication Between Headquarters and Region II Could be Improved

The guidance, roles, and responsibilities for communication between headquarters and Region II are not as systematic and structured as they could be.

There are several communications processes in place between headquarters and Region II to facilitate MC&A and other inspection activities. These include staff level Communities of Practice³ and counterpart meetings, weekly division coordination meetings, knowledge management sessions, and inspection debriefs. At the management level, there are biweekly branch chief meetings and divisional leadership biweekly/monthly periodic meetings. More frequent meetings can occur, as necessary. However, the OIG found areas to improve communications between headquarters and Region II offices.

Headquarters Internal Communication

Most MC&A information received by headquarters goes through the headquarters MCAB Branch Chief with the result that routine communications—such as meetings, telephone calls, or emails—do not appear to regularly reach staff. In some cases, headquarters staff were not copied on emails that were sent as a courtesy to other staff involved with MC&A.⁴

³ The NRC's Communities of Practice were established as part of a Knowledge Management program in 2006. Communities of Practice enable interaction and sharing of resources and experiences to support job performance, avoid duplication of effort, and connect people and ideas across organizational lines.

⁴ MCAB hereafter referred to as "headquarters" and DFFI as "Region II" unless otherwise noted.

Headquarters and Region II Communications

Headquarters staff are not always made aware of MC&A-related activities. For example, headquarters reviewers do not see inspection reports, which identify and describe inspection findings and necessary corrective actions, unless they look up the reports themselves in the NRC's Agencywide Documents Access and Management System (ADAMS).⁵ Another example involves FNMC plans. Region II DFFI often receives the latest revised FNMC plans directly from licensees; however, headquarters staff are not always informed of those updated plans. According to current regulations, licensees must only submit certain specific FNMC plan updates for headquarters' review and approval; otherwise, they can send any minor updates directly to Region II. Region II inspectors presumed that headquarters staff reviewed all FNMC plan changes since this was standard procedure in the past. The gap in communication to headquarters of updates to FNMC has led to situations where Region II inspectors receive FNMC plans with modifications from licensees, and headquarters is unaware of them. The noted communication gaps produce the potential for headquarters and Region II MC&A inspectors not having the same FNMC plan as a reference.

Why This Occurred

Communications Weaknesses Exist In the MC&A Inspection Program

There are weaknesses in the communications process between headquarters and Region II. Additionally, headquarters and Region II have allowed formal and informal recurring communications practices used in the past to degrade over time. An informal communication link existed when a former headquarters staff member bridged the communication between headquarters and Region II. For example, during that time, the individual kept staff from both offices familiar with the inspection schedule and whether headquarters wanted inspectors to note certain items during inspections. However, this individual retired and

⁵ ADAMS is the NRC's official recordkeeping system, through which the NRC provides access to "libraries" or collections of publicly available documents.

headquarters did not replace them; consequently, the office lost that communication link with Region II.

Also, some managers remarked that headquarters and Region II discontinued the routine of quarterly calls because of staff retirements. The NRC did not replace staff who retired but added their earlier responsibilities to existing staff who already had other responsibilities. No one volunteered to continue those communications practices. Headquarters and the Region II office based their MC&A-related communication between one another on an individual's relationship with other staff rather than an established process.

Why This Is Important

MC&A Decisions Could Be Based on Incomplete Information

MC&A decisions might not have all necessary information. Without more structured communication between headquarters staff and Region II, information that could be useful to oversee licensees' MC&A programs may be incomplete or missing. The Region II MC&A inspectors do not routinely communicate with headquarters staff about their inspection planning and schedules or about other MC&A issues that should be shared. Headquarters is focused on licensing, while Region II is focused on inspections. By not having a communication process for the routine sharing of this kind of information, headquarters staff may not know if there are any problems with a facility, and Region II inspectors may not be aware of headquarters staff observations made during FNMC plan revision reviews. This could lead to gaps in inspections and FNMC plan review decisions, and the potential loss of important information.

Recommendations

The OIG recommends that the Executive Director for Operations:

1. Develop and implement enhancements to the existing MC&A communications process to sustain regular communications between headquarters MCAB and Region II DFFI.

B. The NRC's Human Capital Approach To MC&A Qualifications Could Be Strengthened

While the NRC has a human capital planning approach, it has not fully considered MC&A expertise needs. According to GAO, management should timely assess the needs of the program to obtain the workforce needed to achieve organizational goals. However, the NRC does not have an alternate plan to fully meet MC&A oversight requirements should the need arise. As a result, MC&A oversight effectiveness could be diminished.

What Is Required

Organizations Should Have Progressive and Efficient Training Programs

For an organization to operate efficiently and effectively, the GAO *Standards for Internal Control in the Federal Government, Management of Human Capital* states management should timely assess the entity's needs to obtain the workforce needed to achieve organizational goals.

Additionally, Executive Order 11348, *Providing for the Further Training of Government Employees, Section 102*, states that it is the policy of the Government of the United States to develop its employees through the establishment and operation of progressive and efficient training programs. These programs improve public service, increase efficiency and economy, build and retain a force of skilled and efficient employees, and install and use the best modern practices and techniques in the conduct of the government's business. Management also should plan for valuable employees' eventual departure and maintain a continuity of needed skills and abilities.

What We Found

The NRC's Human Capital Planning Approach to MC&A Qualifications Could Be Strengthened

The NRC's human capital planning has not fully considered the potential impact of the decrease in MC&A inspectors. The NRC has reduced the Region II MC&A staff to the minimum to achieve its regulatory objectives. This reduction corresponded to a decreased workload for MC&A inspections with budget and staffing levels based on workload anticipated by the NRC. From 2016 to 2020, the number of MC&A qualified inspectors in Region II available to perform MC&A inspections has decreased by approximately 38 percent. Currently, there are three MC&A qualified staff assigned as inspectors in Region II. One of the three inspectors is a highly experienced MC&A inspector who performs only MC&A inspections. The other two inspectors have multiple qualifications and perform other inspections in addition to MC&A. Two additional MC&A qualified inspectors are assigned to Region II's reactor division and, subject to their availability, may assist the DFFI to meet the MC&A inspection schedule.

Before 2020, headquarters had four MC&A experts assigned to MC&A activities; however, in 2019, one of them retired. In 2021, one of the current three MC&A experts at headquarters plans to retire. This change will reduce headquarters expertise by 50 percent over 2 years.

Headquarters staff are supposed to be the MC&A expert advisors when Region II staff need assistance. There are concerns that headquarters will not have support for Region II. A key staff member stated Region II urgently needs MC&A inspector help. In addition, a manager said Region II barely has enough staff to complete the work because staff who left have not been replaced. Two key staff members asserted Region II barely has enough resources, and staff had to reach out to other divisions for help.

In late 2019, Region II determined there was a need for additional qualified inspectors. Region II management assigned four staff to undergo the MC&A qualification program. However, the Department of Energy hosts many of the classes, and it was unable to offer training in

2020 due to the COVID-19 pandemic. Thus, the four staff members could not start the program. This shortage of training opportunities is notable because it can take more than 2 years to obtain an MC&A qualification. Furthermore, Region II inspectors are not only responsible for inspecting the three Cat III facilities, but two Cat I facilities as well, and potentially additional Cat II facilities under construction.

Impact of Smarter Fuel Cycle Inspection Program (SIP)

Starting in 2021, the inspection frequency at Cat III facilities will decrease from once a year to once every 2 years. However, in 2021, a Cat II facility will likely start operations, adding another set of inspections to the schedule the DFFI's inspectors must complete. While the NRC recently completed SIP inspection guidance revisions, the OIG learned that managers and staff were having to address proposed revisions for a number of Inspection Procedures and Inspection Manual Chapter, to include MC&A related documents, which added to the inspector's workload. A key individual told the OIG they did not have the staff to address the Inspection Procedure revisions in a timely manner. They had to rush to assign available staff currently or previously qualified as MC&A inspectors to review the new SIP-revised Inspection Procedures.

Why This Occurred

There Is No Alternate Plan to Qualify MC&A Inspectors Quickly

The NRC does not have a strategy to get MC&A staff trained in advance of the operational or emergent need. Region II's training process has not accounted for the demands of inspectors' other responsibilities and the impact of COVID-19. For example, one staff member in the reactor division offered to help with MC&A inspections, but had to retract the offer due to health risks associated with COVID-19.

Region II's workforce plans for the years 2018 through 2020 show Region II does not need additional MC&A inspectors through 2025. A manager told the OIG that Region II's workforce plans accurately reflect current and projected staffing requirements. However, the workforce plans do not

account for the length of time required for training and the achievement of full qualification of MC&A inspectors, nor for the impact if multiple people depart their current positions.

Why This Is Important

MC&A Oversight Depth and Quality Could Be Diminished

The depth and quality of MC&A oversight could be weakened. The loss of MC&A qualified staff could lead to a shortage of inspectors, which would lead to disruptions to the inspection schedule. Furthermore, there is a potential for an increased workload when currently planned Cat II fuel fabrication facilities begin operating. As a result, MC&A inspection effectiveness may be reduced.

Recommendations

The OIG recommends that the Executive Director for Operations:

2. Develop and implement a strategy to get staff qualified for MC&A in a timely fashion.

C. MC&A Training Needs To Be Updated And Enhanced

Well-organized training programs are integral to ensuring agencies operate efficiently and effectively. MC&A training needs to be enhanced to ensure employees attain the knowledge, skills, and abilities to meet organizational needs. However, the NRC has not updated MC&A training guidance since 2014. As a result, MC&A inspection program effectiveness may be reduced.

What Is Required

Organizations Should Operate Efficiently and Effectively

For an organization to operate efficiently and effectively, the GAO *Standards for Internal Control in the Federal Government, Principle 4, Section 4.04*, states training is aimed at developing and retaining employee knowledge, skills, and abilities to meet changing organizational needs. The NRC has designed its inspector training and qualification program to ensure the development of competency in technical expertise, among other areas.

Also, Executive Order 11348, *Providing for the Further Training of Government Employees*, states that it is the policy of the U.S. Government to develop its employees through the establishment and operation of progressive and efficient training programs. These programs will improve public service, increase efficiency and economy, build and retain a force of skilled and efficient employees, and install and use the best modern practices and techniques in the conduct of the government's business. In carrying out their responsibilities, each agency head shall review periodically, but not less often than annually, the agency's program to identify training needed to bring about more effective performance and conduct periodic reviews of individual employee's training needs as related to program objectives.

What We Found

MC&A Training Should Be Enhanced

MC&A training guidance should be reviewed and updated. Not all staff members have the mathematics/statistics training to perform a thorough MC&A inspection. Only one headquarters staff member has a degree in statistics, and one Region II inspector has extensive MC&A applied statistics knowledge. Additionally, some required security training classes are no longer available.

Statistics Training

Improvements in statistics training is needed. Staff stated the statistical portions of MC&A inspections sometimes get ignored because the inspectors do not understand them. Another inspector acknowledged that a previous inspector identified a miscalculation because they verified the formula being used, but other inspectors do not look at "those things." One experienced inspector told the OIG that mathematics and statistics refresher courses would be useful for those inspectors who, in addition to performing other types of inspections, might occasionally perform MC&A inspections. Another staff member stated that while they participated in the qualification program, the statistics class was not clear to them and others because they do not have a statistics background.

Security Training

In addition, required security classes listed in MC&A qualification curricula are no longer available.⁶ Some staff told the OIG that they could not find the security classes listed in this document in the NRC's training management system. Consequently, staff members had to search for another class equivalent to the one mentioned in the MC&A curricula.

Why This Occurred

MC&A Qualification Program Guidance Is Not Current

The NRC has not updated MC&A qualification program guidance since 2014. The revision of Appendix C5, which was supposed to be reviewed as part of the SIP, was postponed because of the need to focus on updating the MC&A Inspection Procedures and a Region II decision to defer the review until the impact of implementation of SIP could be assessed.

⁶IMC 1247 is the NRC's Qualification Program for Fuel Facility Inspectors in the Nuclear Material Safety and Safeguards Program Area. Appendix C5, Fuel Facility Material Control and Accounting Inspector Technical Proficiency Training and Qualification Journal, contains the requirements and classes needed to become MC&A qualified.

Why This Is Important

MC&A Inspection Program Effectiveness Could Be Reduced

The effectiveness of MC&A inspections could potentially be degraded. Inspectors may overlook the statistical components of the licensees' MC&A programs. Without an adequate statistics background, inspectors could miss identifying items during inspections that could have a profound impact on licensees' adequate application of their MC&A responsibilities and be in compliance with the NRC's regulations. Staff enrolled or planning to enroll in the qualification program may not have up-to-date information regarding the classes they must attend to complete all stages of the qualification program.

Recommendations

The OIG recommends that the Executive Director for Operations:

3. Review and update the MC&A inspector qualification program guidance to include a strategy to address emergent MC&A inspection program needs.

IV. CONSOLIDATED LIST OF RECOMMENDATIONS

The OIG recommends that the Executive Director for Operations:

1. Develop and implement enhancements to the existing MC&A communications process to sustain recurring communications between headquarters MCAB and Region II DFFI;
2. Develop and implement a strategy to get staff qualified for MC&A in a timely fashion; and,
3. Review and update the MC&A inspector qualification program guidance to include a strategy to address emergent MC&A inspection program needs.

V. AGENCY COMMENTS

An exit conference was held with the agency on March 2, 2021. After reviewing a discussion draft, agency management provided comments that have been incorporated into this report, as appropriate. As a result, agency management opted not to provide formal comments for inclusion in this report.

OBJECTIVE, SCOPE, AND METHODOLOGY

Objective

The audit objective was to assess the effectiveness of the NRC's inspection program for the accounting and control of special nuclear material at fuel fabrication facilities.

Scope

The audit focused on the NRC's inspection program for Materials Control and Accounting (MC&A) of SNM. The OIG conducted this performance audit from June 2020 to January 2021 via teleconferences at NRC headquarters (Rockville, MD) and via teleconferences with NRC staff located in Region II (Atlanta, GA). Internal controls related to the audit objective were reviewed and analyzed. Specifically, the OIG reviewed the components of the control environment, control activities, and information and communication. Within those components, the OIG reviewed the principles of demonstrating commitment to competence implementing control activities through policies and communicating internally and externally.

Methodology

The OIG reviewed the following relevant criteria, regulations, and guidance documents for this audit, to include:

- *The Atomic Energy Act of 1954*, as amended;
- *Government Accountability Office (GAO) Standards for Internal Control in Federal Government*;
- Executive Order 11348: *Providing for Further Training of Government Employees*;
- Office of Personnel Management (OPM) *Communications Guidance*;
- 10 CFR Part 74: "Material Control and Accounting (MC&A) of Special Nuclear Material (SNM);"
- Inspection Manual Chapter (IMC) 2683: "Material Control and Accounting of Fuel Cycle Facilities;"

- IMC 1247 Appendix 5: "Fuel Facility MC&A Inspector Technical Proficiency;"
- NUREG 1065: "Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Facilities, Revision 2;"
- Various MC&A-related Inspection Procedures (IPs);
- Documents related to the Revised Fuel Cycle Oversight Project; and,
- COVID-19 Pandemic Guidance.

The OIG interviewed NMSS and Region II managers and staff to gain an understanding of the NRC's inspection program for MC&A of SNM at Category III facilities.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Throughout the audit, auditors considered the possibility of fraud, waste, and abuse in the program.

The audit was conducted by Mike Blair, Team Leader; Tim Wilson, Audit Manager; Roxana Hartsock, Senior Auditor; Stephanie Dingbaum, Auditor; and, John Thorp, Senior Technical Advisor.

TO REPORT FRAUD, WASTE, OR ABUSE

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COMMENTS AND SUGGESTIONS

If you wish to provide comments on this report, please email the OIG using this [link](#).

In addition, if you have suggestions for future OIG audits, please provide them using this [link](#).