

# NRC INSPECTION MANUAL

NMSS

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## INSPECTION PROCEDURE 85407

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### ASSESSMENT PROGRAM

PROGRAM APPLICABILITY: 2683

#### 85407-01 INSPECTION OBJECTIVES

The objective of this inspection procedure is to verify that the licensee's<sup>1</sup> material control and accounting (MC&A) program, for a Category III fuel facility or uranium enrichment facility, includes a program to assess the effectiveness of the licensee's MC&A system, and that it meets the appropriate regulatory requirements, for the applicable type of facility.

#### 85407-02 INSPECTION REQUIREMENTS

The inspector should ensure that the licensee has implemented an assessment program, that independent assessments have been performed, and that the results of the assessments are credible. The inspector should review the following:

02.01 Design and Implementation. Review the scope and effectiveness of the design of the assessment program, its procedures, and its implementation.

02.02 Roles and Responsibilities. Review the roles and responsibilities of assessment team members and selection procedures for team personnel.

02.03 Licensee Response. Review the following aspects of the assessment program's documentation: assessment results, licensee management's responses to assessment findings on whether its MC&A system is effective, and any actions taken on recommendations from prior assessments.

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<sup>1</sup>Hereinafter, the term licensee subsumes the term "certificate holder," which applies in the case of the gaseous diffusion plants (GDPs). Likewise, all certificate-related requirements, including those in GDP compliance plans and corrective action commitments, are subsumed under the term "licensee."

### General Guidance

Independent assessments should be conducted periodically (at least every 24 months) to: (1) determine whether the MC&A system is adhering to Fundamental Nuclear Material Control (FNMC) Plan commitments and is following generally accepted policies and practices; and (2) ensure that MC&A general performance objectives are being met, and (3) required MC&A system capabilities are being achieved. The assessment program should avoid potential conflicts of interest in the assessment program, through careful selection and assignment of assessment team members.

The results of assessments should be thoroughly documented to allow management to determine the effectiveness of the MC&A system and any necessary corrective actions. Corrective actions taken as a result of assessment recommendations should be documented to ensure tracking and completion of the tasks.

To prepare for the inspection, the inspector should:

1. Review those portions of the FNMC Plan and license conditions pertaining to the planned inspection activities.
2. Review the previous two MC&A inspection reports for the site.
3. Review any unresolved or follow-up items from the previous MC&A inspections to be addressed during the current inspection.
4. Review the content of any communications (including Information Notices and Bulletins) addressed to the licensee that were issued since the last inspection.

### Specific Guidance

03.01 Design and Implementation. The inspector should verify that assessments comprehensively and independently evaluate the MC&A system. Assessments should: (1) assess the system design; (2) evaluate the MC&A system's capabilities for achieving the general performance objectives stated in 10 CFR 74.31(a) or 74.33(a), as applicable; and (3) detect deficiencies or weaknesses in either the system design or implementation.

An assessment should encompass the entire MC&A system, with particular emphasis on loss detection, item control, and indicator resolution. The assessment should base its judgments on audits and reviews. Audits should verify the timeliness, completeness, and accuracy of the written accounting records. By assessing the accuracy of accounting and measurement records, the inspector

should verify that human errors are controlled. Reviews should be conducted to verify that the MC&A system is effective and is being implemented according to the FNMC plan commitments. Reviews should focus on the scope and intent of the MC&A system. The assessment team should examine the results of both audits and reviews in light of the MC&A performance history to make a judgment on MC&A system effectiveness. The entire MC&A system should be reviewed and evaluated during each assessment. When this occurs, intervals between assessments can be as much as 24 months. However, if individual assessments only cover part of the MC&A system, individual subsystems should be assessed at intervals no greater than 12 months. (The type of assessment, whether partial or total, and the maximum interval between assessments should have been specified in the FNMC Plan.)

The inspector should verify that the FNMC plan commitments are implemented in the MC&A system assessment program. Program responsibilities should be delineated and features of the program described. Procedures should be documented in sufficient detail to allow for effective implementation of the program. The inspector should perform spot audits of the MC&A system to verify the effectiveness of the assessment program.

The inspector should verify the following:

- a. The results of assessments have not been tainted by potential conflicts of interest among the assessment team members.
- b. The implemented MC&A assessment program ensures the integrity and quality of the MC&A records, verifies correct implementation of MC&A procedures and practices, and ensures that material controls are effective.
- c. The assessment program reviews the entire MC&A system at a level of detail that ensures judgments can be made on the system's effectiveness.
- d. The assessment reviews the MC&A system as a whole and evaluates the interrelationships and interactions between the subsystems.
- e. Documentation of MC&A procedures and responsibilities reflects current practice.
- f. The MC&A system is reviewed and assessed to determine its ability to detect and localize losses, and to detect improper or unauthorized changes to the location of special nuclear material.
- g. Audits of material accounting records ensure soundness of system design, correctness of entries, and implementation consistent with the FNMC Plan.
- h. The total MC&A system is reviewed and assessed at least every 24 months; or each individual subsystem is assessed at

least every 12 months, if assessments do not cover the total program.

- i. Assessments are completed within a time frame specified in the FNMC Plan (e.g., 30 days), and the final report is issued within a FNMC Plan-specified period (e.g., 15 days) after completion of the assessment. (Failure to meet these FNMC Plan-specified timeliness goals demands a judgement as to whether the delay has affected the effectiveness of the assessment, but should not be the sole justification for a violation.)

03.02 Roles and Responsibilities. The roles and responsibilities of personnel responsible for, and comprising, the assessment team should be clearly described in the FNMC Plan. This should include delegation of responsibility for the various functions of the assessment team. To maintain the team's credibility and objectivity, independence from certain MC&A responsibilities must be maintained. An individual should not assess part of the MC&A system that is the responsibility of another person, if that person will have responsibility for assessing the portion of the MC&A system that is the responsibility of the first person.

Team members should be knowledgeable and experienced in the functional areas they will be assessing. Previous auditing experience or training in audit principles is important. Facility staff or consulting personnel may be used; however, no one should inspect a functional area for which they have direct responsibility. The assessment team leader should not have any MC&A system management responsibilities. Team members must be knowledgeable enough to make judgments about the adequacy and effectiveness of the parts of the MC&A system they review.

The inspector should verify the following:

- a. The structure of the assessment team and line of command is documented, and is consistent with the FNMC Plan.
- b. Responsibility for the assessment program is at least one level higher in the organizational structure than the MC&A manager.
- c. The MC&A manager is not a member of the assessment team, and the assessment team leader does not have any MC&A responsibilities.
- d. The assessment team members' responsibilities are documented.
- e. Reviews are conducted by qualified personnel with no supervisory responsibility in the MC&A areas that they evaluate.
- f. If two or more assessment team members have MC&A responsibilities, they do not review each other's areas of responsibility.

## Management Review and Response to MC&A Assessments

03.03 Licensee Response. The inspector should verify that licensee's management reviews the findings of each assessment, and takes action to ensure that identified deficiencies are corrected in a timely and effective manner. The management review should be documented, and should address resolution and follow-up actions to be taken regarding concerns developed during the assessment. Documentation should include a schedule for corrective actions.

Individuals responsible for corrective actions should be identified, and milestones for completion defined. Responses to findings, and resulting recommendations, should be prioritized in accordance with the safeguards risk-significance of the finding. A dependable system should be in place to monitor the corrective actions until completion, so that licensee management remains aware of their status. The FNMC Plan should specify timeliness goals for resolution of concerns identified during assessments.

The inspector should review the independent assessments to verify that: (1) they are in fact independent; (2) indications of potential MC&A system inadequacies are identified; (3) actions are being taken to resolve issues raised; and (4) the licensee successfully maintained or improved the compliance and effectiveness of the MC&A system.

Excessive MC&A noncompliance, or failure of management to adequately identify and/or to correct MC&A system deficiencies, are probable indications of degradations of effectiveness of the MC&A system. Incidents of noncompliance should be considered safeguards risk-significant if their frequency or severity is greater than experienced at other facilities of the same size and complexity in the nuclear industry. Safeguards risk-significance also may be heightened if it could be determined that the problems underlying such noncompliance should have been identified and corrected before the occurrence was found by the assessment team. In all cases, indications of management inattention to known system weaknesses should be considered a serious problem needing prompt regulatory action.

The inspector should verify the following:

- a. Management review of assessment findings is conducted and documented within the timeliness goal set in the FNMC Plan (e.g., within 30 days of issuance of the assessment team report).
- b. A schedule for correction of identified deficiencies is documented, tracked, and implemented, so that individuals identified in the FNMC Plan as responsible for such implementation are aware of the status of each corrective action.

85407-04 REFERENCES

Regulations

10 CFR 74.31(a) and 74.31(c)(8); 10 CFR 74.33(a) and 74.33(c)(8)

Regulatory Guides and Reports

NUREG-1065, Rev. 2, "Acceptable Standard Format and Content for The Fundamental Nuclear Material Control Plan Required for Low-Enriched Uranium Facilities," November 1995.

NUREG/CR-2031, Science Applications, Inc., "A Method for Assessing the Performance of a Material Control and Accounting System at an Operating Nuclear Fuel Processing Facility," April 1981.

NUREG/CR-5734, "Recommendations to the U.S. Nuclear Regulatory Commission on Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Enrichment Facilities," Chapter 8, November 1991.

NUREG/CR-0772, Battelle Pacific Northwest Laboratory, "Auditing Measurement Control Programs," October 1979.

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