

**FINAL ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT
FOR THE FINAL RULE AMENDING 10 CFR PARTS 40, 60, 63, 70, 72, 74, AND 150**

AMENDMENTS TO MATERIAL CONTROL AND ACCOUNTING REGULATIONS

**OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION**

I. INTRODUCTION AND BACKGROUND

The U.S. Nuclear Regulatory Commission (NRC) is making changes to revise and consolidate its regulations regarding the material control and accounting (MC&A) of special nuclear material (SNM) in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 74. The changes to the MC&A regulations primarily affect certain licensees who are authorized to possess SNM in a quantity greater than 350 grams. Licensees authorized to possess SNM in a quantity of 350 grams or less are only affected by the plain language revisions that clarify the material status reporting requirements within the Nuclear Materials Management and Safeguards System (NMMSS) and conforming changes to the parallel Agreement State licensee reporting requirements.

On February 5, 2009, the Commission directed the NRC staff in the staff requirements memorandum (SRM) for SECY-08-0059 to revise and consolidate the current MC&A regulations for SNM (Agencywide Documents Access Management System (ADAMS) Accession No. ML090360473). The Commission approved Option 4 of the rulemaking plan in SECY-08-0059, dated April 25, 2008 (ADAMS Accession No. ML080580307). On November 8, 2013, the NRC published in the *Federal Register* (FR) for public comment a proposed rule to amend its MC&A regulations (78 FR 67225). The proposed rule addressed MC&A programs, including administrative procedures and operations to track and control SNM and related information to deter and detect loss, theft, diversion, misuse, or unauthorized production of nuclear material. During the public comment period for the proposed rule, the NRC staff held two public meetings

on January 9, 2014 (ADAMS Accession No. ML14031A355), and on February 5, 2014 (ADAMS Accession No. ML14041A032). The public comment period closed on March 10, 2014. The NRC also received numerous substantive comments about the proposed rule and draft regulatory guidance documents. A compilation and summary of the specific comments received and the NRC staff responses to the summaries are provided separately (ADAMS Accession No. ML18061A050). The NRC staff's regulatory analysis of the costs and benefits of implementation by licensees and the NRC, and the costs and benefits of annual operations, is also provided separately (ADAMS Accession No. ML18061A055).

II. THE PROPOSED ACTION

The amendments pertain to certain MC&A programmatic activities relating to safeguards or security in addition to information collection and reporting requirements. The majority of the changes are to the MC&A provisions in Subparts A-E of 10 CFR Part 74, and in general reduce ambiguity, facilitate implementation, and better align the requirements with current standards of practice for MC&A of SNM. Specifically, the rulemaking action would:

- consolidate the MC&A requirements currently in 10 CFR Part 72 for independent spent fuel storage installations and monitored retrievable storage installations (referred to as storage installations) in 10 CFR Part 74, and remove the redundant 10 CFR Part 72 requirements in 10 CFR 72.72, 72.74, 72.76, and 72.78;
- consolidate and revise the requirements for general performance objectives (GPOs) to apply to all licensees authorized that possess more than 350 grams of SNM;
- expand the requirement to establish an item control system to include reactor facilities licensed under 10 CFR Part 50 or 52 and storage installations licensed under 10 CFR Part 72, in order to better ensure that these licensees are able to adequately deter or detect a diversion or misuse of SNM;

- make the requirements for tamper-safing procedures applicable to licensed Category III fuel fabrication and uranium enrichment facilities;
- require Category I, II, and III licensees to designate one or more material balance areas, or a combination of one or more material balance areas and one or more item control areas, at their facilities, and designate material custodians who would be responsible for monitoring these areas;
- modify some current exemptions from the item control requirements in Subparts C and D of 10 CFR Part 74;
- amend 10 CFR 74.4 by adding, removing, and modifying certain terms;
- make references to due dates and reporting frequencies more uniform, by expressing such times in terms of calendar days;
- add a new Appendix A, entitled “Categories of Special Nuclear Material,” showing the Category I, II, and III quantities of SNM, the corresponding Subpart in 10 CFR Part 74 that governs NRC licensees authorized to hold Category I, II, and III quantities of SNM, and formulae to calculate Category I, II, and III quantities of SNM; and
- make plain language revisions to 10 CFR Parts 74 and 150 to clarify the language describing the required elements of an MC&A program and the various systems that comprise the MC&A program.

In addition to these amendments, several guidance documents have been revised and updated in conjunction with the proposed action. The second guidance document listed below is for Category II facilities (SNM of moderate strategic significance). The document had not been previously issued as final, and the draft version has now been updated and issued with the existing guidance documents below:

- NUREG-1280, Revision 2, “Acceptable Standard Format and Content for the Material Control and Accounting (MC&A) Plan Required for Strategic Special Nuclear Material” (ADAMS Accession No. ML18017A192);
- NUREG-2159, “Acceptable Standard Format and Content for the Material Control and Accounting (MC&A) Plan Required for Special Nuclear Material of Moderate Strategic Significance” (ADAMS Accession No. ML18017A206);
- NUREG-1065, Revision 3, “Acceptable Standard Format and Content for the Material Control and Accounting (MC&A) Plan Required for Special Nuclear Material of Low Strategic Significance” (ADAMS Accession No. ML18017A148);
- NUREG-2158 (formerly NUREG/CR-5734), “Acceptable Standard Format and Content for the Material Control and Accounting (MC&A) Plan Required for Low Enriched Uranium Enrichment Facilities” (ADAMS Accession No. ML18017A168);
- NUREG/BR-0096, Revision 2, “Instructions and Guidance for Completing Physical Inventory Summary Reports” (ADAMS Accession No. ML18017A176); and
- Regulatory Guide 5.29, Revision 3, “Special Nuclear Material Control and Accounting System for Non-Fuel Cycle Facilities” (ADAMS Accession No. ML18019B209).

III. THE NEED FOR THE PROPOSED ACTION

Many of the current MC&A requirements were developed over 20 years ago and need to be updated, in part, to reflect advances in technology.

The revised rule would enhance security and safeguards, knowledge, and regulatory efficiency. The new item control requirements would increase the accuracy of inventory information that supports the resolution of discrepancies, protect against unauthorized or unrecorded removal of items or removal of SNM from an item, and enhance the capability to

rapidly locate selected items. By revising existing item control exemptions, the rule would help ensure that SNM within a facility is not stolen or otherwise diverted from the facility and would promote the NRC's security strategic goal of ensuring the secure use of radioactive materials. By consolidating and clarifying GPOs for all affected facilities, the revised MC&A regulations ensure that the information collected is accurate, authentic, and sufficiently detailed to enable a licensee to maintain current knowledge of its SNM and manage its program for securing and protecting SNM. Finally, clarifying which requirements apply to different types of facilities as well as clarifying acceptable methods for achieving GPOs would increase regulatory efficiency and effectiveness and promote efficient licensee implementation and NRC inspection.

IV. ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

The amendments would not result in any significant environmental impact. The amendments pertain to MC&A program requirements, which consist of administrative procedures and operations to track and control SNM and related information, in order to deter and detect a loss, theft, diversion, misuse, or unauthorized production of nuclear material.

The amendments pertain to certain MC&A programmatic activities for safeguards or security, in addition to information collection and reporting requirements, and adopting them would have no significant impact on the quality of the human environment because the amendments would not change manufacturing processes or alter the release of effluents to the environment. The proposed action would not alter the amounts of any radioactive effluents that could be released offsite from an NRC-licensed facility, and would not cause a significant increase in individual or cumulative radiological exposures to plant workers or members of the public. Further, the proposed action would not result in any significant increase in the potential for accidents at NRC-licensed facilities. Improving MC&A reduces the likelihood of

unauthorized loss, theft, and diversion of SNM. Thus, this rulemaking would also reduce the likelihood of associated environmental impacts that could result from loss of control of SNM.

V. ALTERNATIVE TO THE PROPOSED ACTION

The alternative to this proposed action is to take no action. Under the no-action alternative, the NRC would not amend the current regulations. Thus, these updates, clarifications, and revisions to strengthen the requirements would not be made and their associated program enhancements would not be achieved.

Under the no-action alternative, licensees would continue to comply with existing regulations. The existing MC&A requirements would not be revised or consolidated as described above. The no-action alternative would not result in any significant environmental impact.

VI. ALTERNATIVE USE OF RESOURCES

No irreversible commitments of resources occur under this proposed action.

VII. AGENCIES AND PERSONS CONTACTED

No agencies outside the NRC were contacted in connection with the preparation of this final environmental assessment. The NRC referenced the draft environmental assessment (ADAMS Accession No. ML12291A792) in the notice of the proposed rule that was published by the Office of the Federal Register on November 8, 2013 (78 FR 67225). In the proposed rule notice, the NRC specifically requested the public to send written comments on the draft environmental assessment to the NRC for consideration. The NRC received no public

comments on the draft environmental assessment. The NRC received numerous comments on the proposed rule and has made changes in response to those comments. Those comments and the NRC staff's responses are outlined in the comment resolution document (ADAMS Accession No. ML18061A050) that is referenced in the *Federal Register* notice for the final rule. The staff determined that the changes did not affect this environmental assessment.

VIII. FINDING OF NO SIGNIFICANT IMPACT

Following is the summary of this proposed action. The amendments involve information collection and reporting requirements and certain MC&A programmatic activities relating to safeguards or security. The majority of the changes are to the MC&A provisions in Subparts A-E of 10 CFR Part 74, and in general reduce ambiguity, facilitate implementation, and better align the requirements with current standards of practice for MC&A of SNM. Additionally, several guidance documents have been revised and updated in conjunction with the proposed action.

The NRC has determined under the National Environmental Policy Act and its regulations in Subpart A of 10 CFR Part 51 that this rule, if adopted, would not have any significant environmental impacts. Therefore, this proposed action does not warrant the preparation of an environmental impact statement.

The revised rule would enhance security and safeguards, knowledge, and regulatory efficiency. The amendments pertain to MC&A program requirements, which consist of administrative procedures and operations to track and control SNM and related information, in order to deter and detect a loss, theft, diversion, misuse, or unauthorized production of nuclear material. The amendments would not change manufacturing processes. The proposed action would not alter the amounts of any radioactive effluents that could be released offsite from an NRC-licensed facility, and would not cause a significant increase in individual or cumulative

radiological exposures to plant workers or members of the public. Further, the proposed action would not result in any significant increase in the potential for accidents at NRC-licensed facilities.

The NRC has verified that there are no other related environmental documents for the proposed action. As discussed above, in this environmental assessment, the amendments pertain to certain MC&A programmatic activities relating to safeguards or security in addition to information collection and reporting requirements, and adopting them would have no significant impact on the quality of the human environment.

This environmental assessment is available in Docket ID NRC-2009-0096 and may be obtained by any of the following methods:

- Federal Rulemaking Web Site: Go to <http://www.regulations.gov> and search for Docket ID NRC-2009-0096.
- NRC's Agencywide Documents Access and Management System (ADAMS): Go to the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>, then select "[ADAMS Public Documents](#)," next select "[Begin Web-based ADAMS Search](#)." The ADAMS accession number for the package containing the environmental assessment is ML18032A499 and the specific ADAMS accession number for this environmental assessment document is ML18061A48. For problems with ADAMS, contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov.
- NRC's PDR: Go to the PDR to examine and purchase copies of the environmental assessment. The PDR is located in Room O1-F21, at One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.