

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

**AMENDMENTS TO MATERIAL CONTROL AND ACCOUNTING REGULATIONS**

**Office of Federal and State Materials and Environmental Management Programs  
U.S. Nuclear Regulatory Commission**

**I. INTRODUCTION AND BACKGROUND**

The U.S. Nuclear Regulatory Commission (NRC or the Commission) is proposing to amend, clarify and update its regulations regarding the material control and accounting (MC&A) of special nuclear material (SNM) located in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 74. The current MC&A requirements in Subpart D of 10 CFR Part 72 would be consolidated in Subpart B of 10 CFR Part 74.

The MC&A regulations apply to NRC licensees who are authorized to hold SNM, and to certain licensees within the jurisdiction of the Agreement States that hold SNM in quantities less than a critical mass and who are required by 10 CFR 150.17 to submit material status reports to the NRC via the Nuclear Materials Management and Safeguards System (NMMSS).

**II. THE PROPOSED ACTION**

In the proposed rulemaking action, the MC&A requirements for independent spent fuel storage installations (ISFSIs) in Subpart D of 10 CFR Part 72 would be consolidated with the MC&A regulations in Subpart B of 10 CFR Part 74. In this regard, some of these ISFSI requirements are repeated in 10 CFR Part 74 and the redundant 10 CFR Part 72 requirements

in §§ 72.72, 72.74, 72.76, and 72.78 would be removed. The majority of the changes would be to the MC&A provisions in 10 CFR Part 74, and are intended in general to reduce ambiguity, facilitate implementation, and better align the requirements with current standards of practice for MC&A of SNM. Such changes would include (1) adding general performance objectives (GPOs) in Subpart A of 10 CFR Part 74 (GPOs are informational activities to deter, detect, or aid in responding to any loss, theft, diversion or misuse of SNM) that would apply to all licensees authorized to hold SNM; (2) extending to all SNM licensees requirements to have item control systems to better ensure that all facilities authorized to hold SNM will have adequate internal controls in place to deter or detect any diversion or misuse of SNM; (3) adding a “two-person” rule (*i.e.*, requiring the presence of at least two qualified and authorized individuals) for tamper-safing, performing physical inventories, transferring SNM, or any handling of SNM that is not under an active control measure or monitoring or surveillance condition; (4) removing or modifying some current exemptions in Subparts C, D, and E of 10 CFR Part 74; and (5) revising 10 CFR Part 74 Subparts C, D, and E to require that certain procedures be established for tamper-safing containers or locations, and to require that procedures be established for designating material balance areas, item control areas, and custodial responsibilities for these areas.

Plain language revisions to 10 CFR Parts 74 and 150 would clarify the required elements of an MC&A program and the various systems that comprise the MC&A program. In this regard, existing references to the fundamental nuclear material control (FNMC) plan in 10 CFR Part 74 would be replaced by references to an MC&A plan.

In addition, the proposed action would add new definitions and modify some existing definitions in 10 CFR Part 74. The new terms are: *accounting*, *custodian*, *item control system*, *item control area*, *material balance area*, *material control and accounting*, and

*two-person rule*. To improve clarity, the term *formula quantity* would be modified by describing it as a Category I quantity of material, consistent with the existing definitions of this term in 10 CFR Parts 70 and 73. Similarly, the terms *SNM of moderate strategic significance* and *SNM of low strategic significance* would be modified by describing them as a Category II quantity of material and a Category III quantity of material, respectively, consistent with the existing definitions of these terms in 10 CFR Parts 70 and 73. The term *effective kilogram* would be removed from 10 CFR Part 74 and the affected requirements would instead refer to gram or kilogram quantities of nuclear material.

A new Appendix A, entitled “Categories of Special Nuclear Material,” would be added to 10 CFR Part 74. The Appendix would include a table showing the quantities for each category, the corresponding subpart in 10 CFR Part 74 for each category, and formula to calculate any combination of strategic SNM in a quantity for a category.

The following guidance documents would be revised and updated in conjunction with the proposed action. In addition, a guidance document for Category II facilities (SNM of Moderate Strategic Significance) would be updated and issued with the existing guidance documents below:

- NUREG-1280, “Standard Format and Content Acceptance Criteria for the Material Control and Accounting (MC&A) Reform Amendment”
- NUREG-1065, “Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Facilities”
- NUREG/CR-5734, “Recommendations to the NRC on Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Enrichment Facilities”
- NUREG/BR-0096, “Instructions and Guidance for Completing Physical Inventory Summary Report”

### **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. As discussed above, some MC&A requirements in 10 CFR Part 72 that apply to ISFSIs are repeated in 10 CFR Part 74 and the redundant 10 CFR Part 72 requirements would be deleted. The NMMSS reporting requirements for an ISFSI fall into this category, and §§ 72.72, 72.74, 72.76, and 72.78 would be consolidated in Subpart B of 10 CFR Part 74.

### **IV. ENVIRONMENTAL IMPACTS OF PROPOSED ACTION**

The proposed amendments will not result in any significant environmental impact. The proposed rule pertains 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 any loss, theft, diversion, or unauthorized production of nuclear material. The amendments are intended to strengthen MC&A programs and plans that have already been approved by the NRC. Under Subpart B of 10 CFR Part 74, licensees would be required to establish, implement, and maintain an MC&A program to achieve the GPOs that would be added to Subpart A. Such a program would not require NRC approval before implementation, but would be subject to NRC inspection. Licensees would also be required to establish, implement, and maintain item controls. As the proposed amendments pertain to information collection and reporting requirements, adopting them would have no significant impact on the quality of the human environment.

Thus, the proposed action does not alter the amounts of any radioactive effluents that could be released offsite from an NRC-licensed facility, and does not cause a significant

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

## **V. ALTERNATIVES 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, the more risk-informed and performance-based proposed changes, and their associated program and safety 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 updated, clarified, or consolidated as described above.

## **VI. ALTERNATIVE USE OF RESOURCES**

There are no irreversible commitments of resources determined in this assessment.

## **VII. AGENCIES AND PERSONS CONTACTED**

No agencies or persons outside the NRC were contacted in connection with the preparation of this draft environmental assessment.

## **VIII. FINDING OF NO SIGNIFICANT IMPACT**

The Commission has determined under the National Environmental Policy Act and the Commission's regulations in Subpart A of 10 CFR Part 51, that this rule, if adopted, would not have any significant environmental impacts, and therefore this rulemaking does not warrant the preparation of an environmental impact statement. The proposed rule pertains 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 any loss, theft, diversion, or unauthorized production of nuclear material. As discussed above, the amendments pertain to information collection and reporting requirements, adopting them would have no significant impact on the quality of the human environment.