

Material Control and Accounting Regulations Rulemaking

CRGR Meeting
August 16, 2018

Agenda

- Schedule Issues.
- Key Messages for the Final Rule.
- Background on the Rulemaking.
- Stakeholder Interactions in the Proposed and Final Rule Phases.
- Overview of the Final Rule and Guidance.
- Regulatory Analysis and Backfit Evaluation.
- Conclusion and Recommendation.

Schedule Update

- OGC review is underway.
 - Initial edits and comments were resolved by staff.
 - The next round of edits and comments is being prepared by OGC.
- The package is due to the Commission on September 27.

Key Messages for the Final Rule

- The Commission directed staff to revise and consolidate material control and accounting (MC&A) requirements for special nuclear material (SNM) in Part 74 in order to update, clarify, and strengthen the requirements.
- The principal benefits of the rule include reducing the risk of loss, theft, diversion, or misuse of SNM, and increasing regulatory efficiency and effectiveness.
- Certain provisions constitute backfitting. These provisions are necessary to ensure licensees maintain adequate protection of public health and safety and are in accord with the common defense and security. Therefore, these certain provisions are excepted from the requirement to conduct a backfit analysis. Staff has provided a documented evaluation explaining this conclusion.

Background: Rulemaking, Amendments to Material Control and Accounting Regulations

- SECY-08-0059, April 25, 2008, provided the rulemaking plan that presented 6 options.
- SRM-SECY-08-0059—the Commission approved the option for clarification and consolidation, and directed staff to proceed.
- SECY-11-0175 provided the proposed rule on December 15, 2011.
- COMSECY-12-0026, resulted in a revised proposed rule that was published on November 8, 2013.
- Two public meetings were held during the public comment period (120 days) that ended on March 10, 2014.
- NRC received 27 comment submissions about the proposed rule and draft guidance from licensees, industry representatives, Agreement State entities, and private citizens.

Stakeholder Interactions in the Final Rule Phase

- Two public meetings were held after the comment period.
 - On September 25, 2014, the NRC staff discussed the public comments about the regulatory analysis.
 - On March 5, 2015, the NRC staff shared preliminary information about the draft final rule text that included proposed rule text and rule text that had been modified in response to the public comments.
- Staff provided periodic updates during 2015-2018 by participating in the quarterly public meetings hosted by FCSE to discuss the status of the NRC's rulemakings and other pertinent issues that may affect the fuel cycle facilities.
- On August 28, 2018, the NRC plans to hold the public meeting about implementation of the final rule and whether there are cumulative effects of regulations (CER) for the affected facilities.

Overview of 10 CFR Part 74, Material Control and Accounting of Special Nuclear Material

- Specify control and accounting requirements for SNM and some source material (SM) at fixed sites and for documenting the transfer of SNM or SM.
- Requirements enable detection in a timely manner of loss, theft, diversion, or misuse of SNM.
- Subparts, organized in a graded fashion, address general requirements and specific requirements based on the category of material possessed by the facility.
 - Subpart A, General Provisions.
 - Subpart B, General Recordkeeping and Reporting (Part 50, 52, 70, 72).
 - Subpart C, SNM of **Low** Strategic Significance (Part 70, Category III).
 - Subpart D, SNM of **Moderate** Strategic Significance (Part 70, Category II).
 - Subpart E, **Formula Quantities** of Strategic SNM (Part 70, Category I).

Overview of Final Rule

- Revision of MC&A regulations to consolidate, clarify, update, and strengthen them.
- Many of final rule provisions do not constitute backfitting.
 - Administrative matters, information collection and reporting, clarifications, permissive relaxations or voluntary alternatives.
 - Provisions that might otherwise constitute backfitting which do not affect any existing licensee (e.g., Category II requirements).
- Examples of revisions in final rule that do not constitute backfitting.
 - Consolidate MC&A requirements from 10 CFR Part 72 to Part 74.
 - Consolidate general performance objective (GPO) requirements within 10 CFR Part 74.
 - Remove, add, revise definitions in 10 CFR 74.4.
 - Plain language revisions to update, clarify, and improve understanding of the applicability of the requirements to various licensees.

Overview of Final Rule Backfit

- Provisions of the final rule that constitute backfitting are necessary for adequate protection and excepted from the requirement to complete a backfit analysis.
- Four new or revised provisions that constitute backfitting.
 - **New:** provision for item control system at nuclear reactors licensed under 10 CFR Part 50 or 52 or storage installations licensed under Part 72.
 - **Revised:** provisions regarding item control of SNM for licensees subject to Subpart C of Part 74.
 - **New:** provision for the use of tamper-safing procedures for licensees subject to Subpart C of Part 74.
 - **New:** provisions for the designation of material balance areas (MBAs), item control areas (ICAs), and material custodians for licensees subject to Subparts C and E of Part 74.

Overview of Final Draft Guidance

- A *Federal Register* notice solicited formal comments on the proposed draft guidance documents.
- The final draft guidance documents have been updated, to address comments and to reflect the changes in the final rule.
- Five final draft guidance documents discuss acceptable methods that licensees and applicants may use to prepare and implement their MC&A plans.
- One final draft guidance document has been expanded as guidance for licensees not required to prepare an MC&A plan.
- The final draft guidance documents clarify that using the guidance is voluntary and does not constitute a backfit.

Entities Affected by the Final Rule

- 61 power reactors licensed under 10 CFR Part 50 or 52.
- 6 decommissioning reactors licensed under 10 CFR Part 50.
- 31 non-power reactors licensed under 10 CFR Part 50.
- 15 storage installations licensed under 10 CFR Part 72.
- 8 greater than critical mass facilities licensed under 10 CFR Part 70.
- 2 Category I facilities licensed under 10 CFR Part 70.
- 3 Category III fuel fabrication facilities licensed under 10 CFR Part 70.
- 1 Category III uranium enrichment facility licensed under 10 CFR Part 70.
- 2 Category II facilities expected to submit applications for licensing under 10 CFR Part 70 and/or Part 50 for use of SNM for production of isotopes for medical use. There are no existing Category II facilities*.

*Category II facilities are considered in the Regulatory Analysis, but not in the Backfit Evaluation.

Overview of Draft Final Regulatory Analysis

- Implementation costs: Industry – Approximately \$28,000 per licensee.
- Annual operations costs: Industry – Approximately \$2,700 annual per licensee.

Benefits

Qualitative Considerations

- Enhance security and safeguards.
- Improve licensee's ability to maintain current knowledge of the SNM in their possession.
- Improve regulatory efficiency.

Backfit Evaluation

- **Step 1: Is the proposed action *of the type excluded* from backfitting and issue finality provisions?**
 - Many provisions of the final rule are of the type that are excluded.
 - Four new or revised provisions of the final rule are not of the type that are excluded.
- **Step 2: Would the proposed action affect any entity that is the subject of a backfitting or issue finality provision?**
 - Yes, nuclear reactors licensed under 10 CFR Part 50 or 52.
 - Yes, storage installations licensed under 10 CFR Part 72.
 - Yes, facilities licensed under 10 CFR Part 70 and subject to Subpart H.
- **Step 3: Would the proposed action constitute backfitting or involve a concern with issue finality?**
 - Yes, four new or revised provisions of the final rule constitute backfitting.
- **Step 4: Do one or more of the *Adequate Protection exceptions* to preparing a backfit analysis apply?**
 - Yes, four new or revised provisions of the final rule constitute backfitting and are necessary to ensure that licensees maintain adequate protection of public health and safety and are in accord with the common defense and security.
- **Step 5: Does the proposed action pass a backfit analysis or meet an issue finality criterion?**
 - N/A, provisions necessary for adequate protection are excepted from the requirements for a backfit analysis demonstrating a substantial increase in overall protection and cost justification.
- **Step 6: Should the NRC take action to avoid the effect of the backfitting or issue finality provision on the proposed action by invoking an *administrative exemption* from the backfitting provision?**
 - No, on the basis of the documented evaluation, the staff finds that the final rule constitutes an acceptable instance of backfitting and violation of issue finality and recommends that the Commission issue the final rule.

Need for Adequate Protection

- **New:** item control system at nuclear reactors and storage installations.
 - Existing regulations lack formal item control requirements for these types of facilities.
- **Revised:** item control of SNM for licensees subject to Subpart C of Part 74.
 - Existing regulations include various exemptions that may allow significant quantities of SNM to be inadequately accounted for or protected.
- **New:** use of tamper-safing procedures for licensees subject to Subpart C of Part 74.
 - Existing regulations lack formal requirements for written procedures if tamper-safing is used for MC&A purposes.
- **New:** designation of MBAs, ICAs, and material custodians for licensees subject to Subparts C and E of Part 74.
 - Existing regulations lack formal requirements for area and custodian designations.
- Provisions are necessary extensions and clarifications of existing requirements for control and accounting of SNM at licensed facilities.
- Provisions provide reasonable assurance that the licensees would detect in a timely manner, and protect against, unauthorized removal or misuse of SNM.

Need for Final Rule

- Overall, the final rule is needed to provide for a comprehensive MC&A framework and continue to achieve the NRC's Strategic Goal of ensuring the secure use of radioactive materials, including SNM.

Conclusion and Recommendation

- The final rule strengthens the MC&A requirements and enables licensees to detect, in a timely manner, loss, theft, diversion, or misuse of SNM.
- The final rule provides reasonable assurance that the licensees maintain adequate protection of the health and safety of the public and are in accord with the common defense and security.
- Staff recommends CRGR endorsement of publishing the final rule and associated regulatory guidance documents.