

# **Material Control and Accounting Regulations Rulemaking**

**Public Meeting about  
Implementation  
August 28, 2018**

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# Agenda, Category 3 Public Meeting

- Welcome and Introductions
- Presentation by NRC
- Discussion by ALL
  - Implementation Date for the Final Rule
- Conclusion

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# Welcome and Introductions

- Welcome and thank you for participating in the meeting today.
- The NRC staff is preparing the final rule to be submitted to the Commission on September 27, 2018.
- Introductions
  - NRC staff in the meeting room.
  - Individuals and organizations represented in the meeting room.
  - NRC staff on the teleconference call.
  - Individuals and organizations represented on the teleconference call.

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# NRC Presentation Outline

- Meeting Purpose
- Meeting Objectives
- Overview of the rule changes in Part 74
- Final Draft Guidance Documents
- Conclusion

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# Meeting Purpose

- Staff Requirements Memorandum (SRM) to SECY-11-0032, “Consideration of the Cumulative Effects of Regulation in the Rulemaking Process,” dated October 11, 2011.
- Cumulative Effects of Regulation (CER) rulemaking processes are designed to:
  - encourage increased interaction with external stakeholders throughout the rulemaking process in order to resolve issues that can lead to implementation challenges and contribute to CER;
  - explicitly solicit feedback on CER concerns to increase stakeholder awareness and enable the Commission to make better informed decisions on how to mitigate CER;
  - improve the process for establishing the time allowed for implementation by seeking additional information on CER.

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# Meeting Objective

- To discuss implementation of the requirements within 180 days after the notice of the final rule is published by the Office of the Federal Register.
- To focus on whether there are current or potential challenges that would cause licensees to delay implementation of the final rule.
- This public meeting is not a further opportunity to comment on the rulemaking and the NRC is not requesting additional comments on the rule

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# Overview of the rule changes in Part 74

- Subpart A—General Provisions
  - § 74.3 General performance objectives.
- Subpart B—General Reporting and Recordkeeping Requirements
  - § 74.19 Recordkeeping, procedures, item controls, and physical inventories.
    - Paragraph (d), Item control system for reactor facilities and storage installations.

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# Overview of the rule changes in Part 74—Continued

- Subpart C—Special Nuclear Material of Low Strategic Significance.  
(Category III facilities)
  - § 74.31(c)(6) and § 74.33(c)(6), Item control system requirements and exemptions.
  - § 74.31(c)(9) and § 74.33(c)(9), Procedures for tamper-safing.
  - § 74.31(c)(10) and § 74.33(c)(10), Designation of material balance areas, item control areas, and material custodians.
- Subpart D—Special Nuclear Material of Moderate Strategic Significance.  
(Category II facilities)
  - § 74.43(b)(5) and (6), Item control system requirements and exemptions.
  - § 74.43(c)(9), Designation of material balance areas, item control areas, and material custodians.
- Subpart E—Formula Quantities of Strategic Special Nuclear Material.  
(Category I facilities)
  - § 74.59(h)(5), Designation of material balance areas, item control areas, and material custodians.



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# Subpart A—General Provisions

## § 74.3 General performance objectives.

In addition to any other requirements in this part, each licensee who is authorized to possess or use SNM in a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof, at a fixed site, shall implement and maintain a material control and accounting program that enables the licensee to achieve the following general performance objectives in a timely manner:

- (a) Maintain accurate, current, and reliable information on, and confirm the quantities and locations of SNM in its possession;
- (b) Detect, respond to, and resolve ~~any~~ an anomaly indicating a possible loss, theft, diversion, or misuse of SNM;
- (c) Permit rapid determination of whether an actual loss, theft, diversion, or misuse of SNM has occurred;
- (d) Provide information to aid in the investigation and recovery of missing SNM in the event of an actual loss, theft, diversion, or misuse; and
- (e) Control access to MC&A information ~~that might assist adversaries to carry out acts of to preclude loss, theft, diversion, or misuse of theft, diversion, misuse, or radiological sabotage involving~~ SNM.

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## Subpart B—General Reporting and Recordkeeping Requirements

- §74.19 Recordkeeping, procedures, item controls, and physical inventories.
  - (d) ~~Production or utilization~~ Nuclear reactor facilities licensed under part 50 or 52 of this chapter and ~~independent spent fuel~~ storage installations licensed under part 72 of this chapter shall establish, document, implement, and maintain an item control system as defined in § 74.4.
- § 74.4 Definitions
  - *Item control system* means a system tracking the creation, identity, element and isotopic content, location, and disposition of all items, which enables the licensee to maintain current knowledge of each item.

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## Subpart C (Category III facilities)

### Item control system requirements and exemptions

§ 74.31 and § 74.33, (c) Program capabilities.

- 6) An item control system (as defined in § 74.4). The system must ensure that items (as defined in § 74.4) are stored and handled or subsequently measured in a manner such that unauthorized removal of individual items or 500 grams or more of uranium-235 from one or more items ~~any quantity of U-235, as individual items or as uranium contained in items,~~ will be detected. Exempted from this requirement are
  - (i) Solutions with a concentration of less than 5 grams per liter of plutonium or uranium-233 or uranium-235 or a combined concentration thereof of less than 5 grams per liter;
  - (ii) Laboratory samples and reference standards maintained in the laboratory material management system and containing uranium enriched to less than 10 percent in uranium-235;
  - (iii) Items existing less than 3 calendar days and containing less than 100 grams of uranium-235, or;
  - (iv) Items of waste destined for burial or incineration;

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## Subpart D (Category II facilities)

### Item control system requirements and exemptions.

#### § 74.43(b), Internal controls.

- 5) The licensee shall establish, document, implement, and maintain an item control system as defined in § 74.4. The system must ensure that items are stored and handled, or subsequently measured, in a manner such that unauthorized removals of individual items or 200 grams or more of plutonium or uranium-233, or 300 grams or more of uranium-235, from one or more items ~~any quantity of material (as defined in § 74.4) from items~~ will be detected.
- (6) Exempted from the requirements of (b)(5) of this section are:
  - (i) Solutions with a concentration of less than 5 grams per liter of plutonium or uranium-233 or uranium-235 or a combined concentration thereof of less than 5 grams per liter;
  - (ii) Laboratory samples and reference standards maintained in the laboratory material management system and containing uranium enriched to less than 20 percent in uranium-235;
  - (iii) Items existing less than 3 calendar days and containing less than 75 grams of plutonium or uranium-233 or 100 grams of uranium-235, or;
  - (iv) Items of waste destined for burial or incineration.

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## Subparts C, D, and E (Category III,II, and I facilities), Procedures for tamper-safing.

- The final rule text is similar at the locations.
- §§ 74.31(c)(9), 74.33(c)(9), and 74.43(c)(3)
  - If tamper-safe seals are to be used, ~~M~~m maintain and follow procedures for tamper-safing (as defined in § 74.4) ~~of containers or vaults (as defined in § 74.4) containing SSNM,~~ which include control of access to, and distribution of, unused seals and records;
- § 74.59(f)(2)(i),
  - Development of procedures for tamper-safing of containers or vaults containing SSNM not in process that include adequate controls to assure the validity of assigned SSNM values and that include control of access to, and distribution of, unused seals and records;

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## Subparts C, D, and E (Category III, II, and I facilities), Designation of material balance areas.

- The final rule text is similar at the locations.
- §§ 74.31(c)(10), 74.33(c)(10), 74.43(c)(9), and 74.59(h)(5)
  - Designate one or more material balance areas, ~~and~~ or a combination of one or more material balance areas and one or more item control areas, and assign custodial responsibility ~~for each of these areas~~ in a manner that ensures that such responsibility can be effectively executed for all SNM possessed under license.

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# Final Draft Guidance Documents

- The final draft guidance describes an acceptable methodology to comply with the revised requirements.
- Use of the final draft guidance by a licensee is voluntary.
  - Subpart B, General applicability
    - NUREG-BR-0096, Rev. 2, "Instructions and Guidance for Completing Physical Inventory Summary Reports," Final Draft Guidance. (ML18235A240)
    - Draft Regulatory Guide DG-5057, Special Nuclear Material Control and Accounting System for Non-Fuel Cycle Facilities. (ML18234A096)
  - Subpart C, Category III facilities
    - NUREG-1065, Rev. 3, "Acceptable Standard Format and Content for the Material Control and Accounting Plan Required for Special Nuclear Material of Low Strategic Significance," Final Draft Guidance. (ML18233A375)
    - NUREG-2158, Final Draft Guidance, "Acceptable Standard Format and Content for the Material Control and Accounting Plan Required for Low-Enriched Uranium Enrichment Facilities." (ML18234A098)
  - Subpart D, Category II facilities
    - NUREG-2159, "Acceptable Standard Format and Content for the Material Control and Accounting Plan Required for Special Nuclear Material Of Moderate Strategic Significance, Final Draft Guidance." (ML18236A394)
  - Subpart E, Category I facilities
    - NUREG-1280, Final Draft Guidance, Rev. 2, "Acceptable Standard Format and Content for the Material Control and Accounting Plan Required for Strategic Special Nuclear Material." (ML18234A097)

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# Conclusion

- Licensees would implement the final rule by October 2019
  - January 2019, the Commission issues the Staff Requirements Memorandum (SRM)
  - March 2019, the staff modifies the final rule to incorporate changes directed by the SRM
  - April 2019, the final rule is published by the Office of the Federal Register,
    - Effective date, 30 days after the publication date (May 2019)
    - Implementation date, 180 days after the publication date (October 2019)