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Category 3 Public Meeting to discuss the NRC's intentions and the estimated hours for implementation and annual operations for the rule text changes in the Part 74 rulemaking, "Amendments to Material Control and Accounting Regulations".

Presenter: Tom Pham; Contact: Thomas Young

U.S. Nuclear Regulatory Commission Headquarters

March 5, 2015 1:00 PM – 5:00 PM EST

Audio: bridge line, 800-779-4364 ; passcode, 1141116

Webinar link,

https://attendee.gotowebinar.com/register/1941936910541977345

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Meeting Objectives

- To discuss the NRC's intentions for the rule text
- To discuss the estimated hours
  - To implement the rule changes
  - To conduct annual operations for the rule changes

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Agenda

Time	Topic	Led By
1:00 – 1:15 PM	Opening Remarks Welcome • Schedule for the Final Rule Phase of the Rulemaking Process	NRC
1:15 PM – 4:30 PM	Discussion of the NRC's intention for the rule changes and estimates to implement and conduct annual operations for the rule changes. • Subpart A • Subpart B • Subpart C • Subpart D • Subpart E	ALL
4:30 – 5:00 PM	Closing Remarks	NRC

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Schedule for the Final Rule Phase of the Rulemaking Process

- July 2015—Internal concurrence on the draft final rulemaking package
- September 2015—Public meeting about implementation of the rule
- November 2015—Submit the draft final rulemaking package to the Commission to obtain approval to publish the final rule and the associated regulatory guidance documents (NUREGs and regulatory guide)
- February 2016—Final rule is published by the Office of the Federal Register; effective date is 75 days after publication date.

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Sections Containing Modified Rule Text

- § 74.3 General performance objectives.
- § 74.4 Definitions.
- § 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance.
- § 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance
- § 74.41 Nuclear material control and accounting for special nuclear material of moderate strategic significance.
- § 74.43 Internal controls, inventory, and records.
- § 74.51 Nuclear material control and accounting for strategic special nuclear material.
- § 74.59 Quality assurance and accounting requirements.

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Summary of Estimated Hours to Implement and to Conduct Annual Operations for the Rule Text

- § 74.19(d), Item Control System for licensees under part 50 or 52 or 72
  - One time implementation: 160 hours
  - Annual operations: NPP or COL, 50 hours; ISFSI or TRTR, 5 hours;
- § 74.31(c)(6), Item Control System for items formerly exempted
  - One time implementation: 250 hours
  - Annual operations: 100 hours
- § 74.33(c)(6), Item Control System for items formerly exempted
  - One time implementation: 250 hours
  - Annual operations: 100 hours
- All other changes in the rule text
  - Subpart A, 0 hours
  - Subpart B, 0 hours
  - Subpart C, 0 hours
  - Subpart D, 0 hours
  - Subpart E, 0 hours

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§ 74.2 Scope.

(a) * * * The general reporting and recordkeeping requirements of subpart B of this part also apply to licensees who possess spent nuclear fuel at independent spent fuel storage installations.

- NRC's intention for the rule change.
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - The MC&A requirements for an independent spent fuel storage installation (ISFSI) would be consolidated with MC&A regulations applicable to other types of facilities authorized to possess SNM.
  - The last sentence of paragraph (a) would be revised to bring licensees who possess spent nuclear fuel at ISFSIs within the scope of the MC&A reporting and recordkeeping requirements in 10 CFR part 74.

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§ 74.2 Scope. (continued)

- Estimated hours to implement and conduct annual operations for the rule change.

Category I	0 hours/Not applicable
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours.
Other	0 hours/Not applicable

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§ 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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§ 74.3 General performance objectives (continued)

- NRC's intention for the rule change.
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - The rule change will formalize in Part 74 the general performance objectives (GPO) that would apply to a future licensee authorized to possess more than 350 grams of SNM.
  - An existing Category III, II, or I licensee is achieving the GPO by implementing the written MC&A procedures that are required in Part 74.
  - The licensee need not alter their MC&A program in response to § 74.3. The licensee may incorporate the GPO from § 74.3 into the existing FNMC or MC&A plan that has already been approved by the NRC without requesting the NRC to amend the license. Implementing the existing plan enables the licensee to achieve the five GPO.

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§ 74.3 General performance objectives. (continued)

- NRC's intention for the rule change. (continued)
  - Licensees other than Category III, II, or I have implemented written MC&A procedures required in § 74.19(b).
  - The licensee's written MC&A procedures include suitable objectives that enable the licensee to achieve the GPO in § 74.3.
  - A licensee need not request an amendment of the license to include the procedures in the MC&A program.
  - Section 74.3(e) supports the recordkeeping requirements in Part 74 and supports § 74.11 that requires a licensee to notify the NRC Operations Center.
  - Licensees authorized to possess 350 grams of SNM or less would not be made subject to the GPO requirements. These licensees are subject to the existing reporting requirements in §§ 74.11, 74.13, and 74.15, which are applicable to licensees authorized to possess 1 gram or more of SNM and the recordkeeping requirements in § 74.19. Agreement State licensees are similarly subject to the corresponding reporting requirements in §§ 150.16 and 150.17.

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§ 74.3 General performance objectives. (continued)

- Estimated hours to implement and conduct annual operations for the rule change.

Category I	0 hours.
Category II	0 hours.
Category III	0 hours.
Category III, enrichment	0 hours.
NPP or COL	0 hours.
TRTR	0 hours.
ISFSI	0 hours.
Other	0 hours.

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§ 74.4 Definitions.

* * * * *

Accounting means a system that documents the quantities of special nuclear material (SNM) held on current inventory by the licensee, and includes tracking of receipts, shipments, and measured discards, and transfers of SNM.

* * * * *

Custodian means an individual authorized and qualified by the licensee who is responsible for controlling the movement of all SNM into, out of, and within a material balance area.

* * * * *

Formula quantity means strategic special nuclear material (SSNM) in any combination in a quantity of 5,000 grams or more computed by the formula, grams = (grams contained U-235) + 2.5 (grams U-233 + grams plutonium). This class of material is also referred to as a Category I quantity of material as shown in appendix A to this part.

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§ 74.4 Definitions.(continued)

Item control area (ICA) means a designated administrative area within the controlled access area, in which SNM is maintained in such a way that, at any time, a count of the items and the related material quantities can be obtained using the accounting system. Control of items moving into, out of, and within an ICA is by the identity of an item and its assigned material quantity.

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.

* * * * *

Material balance area (MBA) means a designated ~~*contiguous*~~ area in which the control of SNM is such that the quantity of material being moved into, out of, and within the MBA is an assigned value based on measurements of both the element content and the isotopic content.

Material control and accounting (MC&A) means a program to control and account for certain types of nuclear material used at a licensed facility, including SNM and source material~~*, and which controls and accounts for unauthorized use of equipment capable of producing enriched uranium*~~. The ~~*purpose of an*~~ MC&A program ~~*is*~~ *serves* to deter and detect any loss, theft, diversion, misuse, or unauthorized *removal,* production*, or enrichment* of nuclear material.

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§ 74.4 Definitions.(continued)

* * * * *

Special nuclear material of low strategic significance means:

(1)(i) Less than an amount of SNM of moderate strategic significance, but more than 15 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope) or 15 grams of uranium-233 or 15 grams of plutonium or the combination of 15 grams when computed by the equation, grams = grams contained U-235 + grams plutonium + grams U-233; or

(ii) Less than 10,000 grams but more than 1,000 grams of uranium-235 (contained in uranium enriched to 10 percent or more, but less than 20 percent in the U-235 isotope); or

(iii) 10,000 grams or more of uranium-235 contained in uranium enriched above natural, but less than 10 percent in the U-235 isotope.

(2) This class of material is also referred to as a Category III quantity of material as shown in appendix A to this part.

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§ 74.4 Definitions.(continued)

Special nuclear material of moderate strategic significance means:

(1)(i) Less than a formula quantity of SSNM but more than 1,000 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope) or more than 500 grams of uranium-233 or plutonium or in a combined quantity of more than 1,000 grams when computed by the equation, grams=(grams contained U-235)+2 (grams U-233+grams plutonium); or

(ii) 10,000 grams or more of uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U-235 isotope).

(2) This class of material is also referred to as a Category II quantity of material as shown in appendix A to this part.

* * * * *

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§ 74.4 Definitions.(continued)

- NRC's intention for the rule change.
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - The existing definitions for special nuclear material will refer to the new Appendix A to Part 74 that shows the quantities and units for categories of SNM.
  - The defined term *effective kilograms of special nuclear material* would be removed and quantities of SNM would instead be expressed in gram units to simplify the accounting requirements and provide consistency with the existing definitions of the various types of SNM, all of which specify gram units.
  - Correct an inconsistency within the current § 74.19 by replacing in paragraph (b) the reference to a quantity of SNM exceeding *one effective kilogram* with "greater than 350 grams" in specifying the set of licensees that must establish written MC&A procedures. Existing paragraph (c) refers to "greater than 350 grams" in specifying the set of licensees that must conduct physical inventories.

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§ 74.4 Definitions.(continued)

- NRC's intention for the rule change. (continued)
  - Removing *effective kilograms of special nuclear material* from 10 CFR part 74 would also eliminate confusion caused by a conflict between the regulatory thresholds for the SNM categories (Category I, Category II, and Category III) and an effective kilogram of SNM. *Effective kilograms of special nuclear material* would remain as a defined term in 10 CFR parts 40, 70, 75, 76, and 110, to ensure the continued effective implementation of the U.S./International Atomic Energy Agency (IAEA) Safeguards Agreement.
  - The defined terms for *accounting* and *material control and accounting w*ould be added because the terms are commonly used by NRC and licensees and interested entities and the both terms already appear throughout Part 74.
  - The new terms for *custodian, material balance area,* and *item control area* appear only in subparts C, D, and E that respectively apply to Category III, II, and I facilities.
  - The term, item control program, in subparts C, D, and E has been modified and newly defined in § 74.4 as *item control system* and the newly defined term is also used in the new requirement in subpart B at § 74.19(d).

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§ 74.4 Definitions.(continued)

- Estimated hours to implement and conduct annual operations for the rule change.

Category I	0 hours.
Category II	0 hours.
Category III	0 hours.
Category III, enrichment	0 hours.
NPP or COL	0 hours.
TRTR	0 hours.
ISFSI	0 hours.
Other	0 hours.

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§ 74.11 Reports of loss or theft or attempted theft or unauthorized production of special nuclear material.

* * * * *

(b) Each licensee shall make the notifications required by paragraph (a) of this section to the NRC Headquarters Operations Center via any available telephone system to ensure that a report is received within 1 hour.

* * * * *

- NRC's intention for the rule change.
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Licensee notifications would be made to the NRC Headquarters Operations Center via any available telephone system.

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§ 74.11 Reports of loss or theft or attempted theft or unauthorized production of special nuclear material. (continued)

- Estimated hours to implement and conduct annual operations for the rule change.

Category I	0 hours.
Category II	0 hours.
Category III	0 hours.
Category III, enrichment	0 hours.
NPP or COL	0 hours.
TRTR	0 hours.
ISFSI	0 hours.
Other	0 hours.

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§ 74.13 Material status reports.

(a) All licensees who possess or who had possessed in the previous reporting period one gram or more of irradiated or non-irradiated SNM are required to submit both a Material Balance Report and a Physical Inventory Listing Report of these materials to the NMMSS in accordance with the instructions in paragraph (b) of this section and according to the following schedule:

(1) Commercial power reactor licensees, authorized under part 50 or part 52 of this chapter shall submit both reports within 60 calendar days of the beginning of the physical inventory covered by the reports;

(2) Research and test reactors, authorized under part 50 of this chapter shall submit both reports within 60 calendar days of the beginning of the physical inventory covered by the reports;

(3) Independent spent fuel storage licensees, authorized under part 72 of this chapter shall submit both reports within 60 calendar days of the beginning of the physical inventory covered by the reports.

(4) Licensees subject to § 74.31 shall submit both reports within 60 calendar days of the beginning of the physical inventory covered by the reports;

(5) Licensees operating uranium enrichment facilities shall submit both reports within 60 calendar days of the beginning of the physical inventory providing a total plant material balance as described in § 74.33(c)(4)(i);

(6) Licensees subject to subpart D of this part shall submit both reports within 60 calendar days of the beginning of the physical inventory covered by the reports;

(7) Licensees subject to subpart E of this part shall submit both reports within 30 calendar days of the beginning of the physical inventory covered by the reports; and

(8) All other licensees who possess, or had possessed in the previous reporting period, one gram or more of irradiated or non-irradiated SNM shall submit both reports between January 1 and March 31 of each year.

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§ 74.13 Material status reports. (continued)

(b) Each licensee shall prepare and submit the reports described in paragraph (a) of this section as follows:

(1) Reports must be submitted for each Reporting Identification Symbol (RIS) account, including all holding accounts, concerning SNM that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost.

(2) Each licensee shall prepare and submit the reports described in this section as specified in the instructions in both NUREG/BR–0007 and NMMSS Report D–24 "Personal Computer Data Input for NRC Licensees."

(i) This prescribed computer-readable report replaces the DOE/NRC Form 742, Material Balance Report, and DOE/NRC Form 742C, Physical Inventory Listing Report, which have been previously submitted in paper form.

(ii) Copies of these instructions may be obtained from the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555–0001 or by e-mail to *RidsNmssFcss.Resource@nrc.gov*.

(c) The Commission may permit a licensee to submit the reports at other times for good cause. Such requests must be submitted in writing to Chief, Material Control and Accounting Branch, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. The licensee must continue to report as required until such request is granted.

(d) Any licensee who is required to submit routine Material Status Reports under § 75.35 of this chapter (pertaining to implementation of the U.S./IAEA Safeguards Agreement) shall prepare and submit these reports only as provided in that section (instead of as provided in paragraphs (a) through (b) of this section).

(e) Each licensee subject to the requirements of this section shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by the NRC.

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§ 74.13 Material status reports. (continued)

- NRC's intention for the rule change.
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Complete the plain language revisions in § 74.13 to make the reporting requirements easier to read and understand. The plain language revisions would make no substantive changes to the existing requirements.
  - Clarify the intervals and due dates for each type of facility.

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§ 74.13 Material status reports. (continued)

- Estimated hours to implement and conduct annual operations for the rule change.

Category I	0 hours.
Category II	0 hours.
Category III	0 hours.
Category III, enrichment	0 hours.
NPP or COL	0 hours.
TRTR	0 hours.
ISFSI	0 hours.
Other	0 hours.

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§ 74.15 Nuclear material transaction reports.

* * * * *

(b) * * *

(2) Perform independent tests to assure the accurate identification and measurement of the material received, including its weight and enrichment; except that a licensee authorized under parts 50 or 52 of this chapter receiving unirradiated fuel rods or unirradiated fuel assemblies or a licensee authorized under part 70 of this chapter receiving SNM contained in a sealed source that will not be opened need not perform such tests; and

* * * * *

- NRC's intention for the rule change.
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - To voluntarily add the exception because independent testing is impractical for determining the contents of such a shipment of SNM.

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§ 74.15 Nuclear material transaction reports. (continued)

- Estimated hours to implement and conduct annual operations for the rule change.

Category I	0 hours/Not applicable
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours.
TRTR	0 hours.
ISFSI	0 hours/Not applicable
Other	0 hours.

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§ 74.19 Recordkeeping, procedures, item controls, and physical inventories.

* * * * *

(b) Each licensee authorized to possess special nuclear material, at any one time and site location, in a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof, shall establish, maintain, and follow written material control and accounting procedures that are sufficient to enable the licensee to account for the SNM in its possession under the license. The licensee shall retain these procedures until the Commission terminates the license that authorizes possession of the special nuclear material and retain any superseded portion of the procedures for 3 years after the portion is superseded.

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§ 74.19 Recordkeeping, procedures, item controls, and physical inventories. (continued)

- NRC's intention for the rule change. (paragraph (b))
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Correct an inconsistency within the current § 74.19 provisions by replacing in paragraph (b) the reference to "one effective kilogram" with the quantity "350 grams". This 350-gram amount is referenced in existing paragraph (c) regarding the physical inventory provisions stated there. The NRC intends that a licensee establish, maintain, and follow written procedures to conduct the physical inventory that is required by paragraph (c).

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§ 74.19 Recordkeeping, procedures, item controls, and physical inventories. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (b))

Category I	0 hours/Not applicable
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours.
TRTR	0 hours.
ISFSI	0 hours.
Other	0 hours.

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§ 74.19 Recordkeeping, procedures, item controls, and physical inventories. (continued)

* * * * *

(d) Production or utilization 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.

* * * * *

- NRC's intention for the rule change. (paragraph (d))
  - A licensee would change the MC&A program to include the item control system.
  - Additional hours will be needed to implement and conduct annual operations for the item control system.
  - The NRC is expanding the requirement to establish an item control system to include reactor facilities licensed under 10 CFR part 50 or 52, and ISFSIs licensed under 10 CFR part 72.
  - The requirement is consistent with guidance developed for the reactor in ANSI N15.8, dated February 18, 2009. In June 2013, the NRC published RG 5.29, (Revision 2), which endorses use of the ANSI N15.8 guidance.
  - Requiring item control systems at reactors and ISFSIs will ensure that SNM is adequately accounted for at these sites.

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§ 74.19 Recordkeeping, procedures, item controls, and physical inventories. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (d))
  - Implementation would be 160 hours to review the existing written MC&A procedures that are required by § 74.19(b) and revise the procedures to appropriately include the item control system and to prepare the item control system procedure to be included in the written MC&A procedures.
  - The annual operations to complete periodic audits of the items would be 50 hours per audit for a power reactor under Part 50 or 52 or 5 hours per audit for a research reactor or an ISFSI.

Category I	0 hours/Not applicable
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	160 hours for implementation, 50 hours for annual operations.
TRTR	160 hours for implementation, 5 hours for annual operations.
ISFSI	160 hours for implementation, 5 hours for annual operations.
Other	0 hours/Not applicable

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance.

(a) General performance objectives. (1) Each licensee who is authorized to possess and use a quantity greater than 350 grams of contained uranium-235 or SNM of low strategic significance (as defined in § 74.4 and shown in appendix A to this part) at any site or contiguous sites subject to control by the licensee is subject to the performance objective requirements stated in § 74.3.

(2) Production or utilization facilities licensed under part 50 or 52 of this chapter *other than a medical isotope production facility*, independent spent fuel storage installations licensed under part 72 of this chapter, and operations involving waste disposal are not subject to the requirements of subpart C of this part.

* * * * *

- NRC's intention for the rule change. (paragraph (a))
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

- NRC's intention for the rule change. (paragraph (a) continued)
  - Modify the GPO requirements for future licensees under subpart C.
  - Revise and consolidate the existing GPO requirements in § 74.31(a) with their common provisions into the list five GPOs in § 74.3 that apply to all licensees authorized to possess more than 350 grams of SNM. The proposed § 74.3 GPOs describe activities to deter, detect, or aid in responding to any loss, theft, diversion or misuse of SNM.
  - The NRC does not expect that a Category III licensee would need to alter their MC&A program in response to the § 74.3 GPOs, because these GPOs are similar to the existing GPOs.
  - Incorporate the § 74.3 performance objectives by reference, thereby replacing the performance objectives set forth in existing § 74.31(a)(1)-(3).
  - Paragraph (a)(2) retains the elements of the exemptions in existing § 74.31(a) applicable to production or utilization facilities other than a medical isotope production facility, and any licensee operations involving waste disposal.
  - Paragraph (a)(2) adds an exemption for ISFSIs, thereby making it consistent with existing § 74.51(a).
  - A medical isotope production facility authorized to possess more than 350 grams of contained uranium-235 or SNM of low strategic significance would be subject to § 74.31.

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (a))

Category I	0 hours/Not applicable
Category II	0 hours/Not applicable
Category III	0 hours.
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

(b) Implementation. Each applicant for a license, and each licensee that, upon application for modification of its license, would become newly subject to paragraph (a) of this section shall submit for approval an MC&A plan describing how the performance objectives of § 74.3 and the requirements of paragraph (c) of this section will be met. The MC&A plan shall be implemented when a license is issued or modified to authorize the activities being addressed in paragraph (a) of this section, or by the date specified in a license condition.

* * * * *

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

- NRC's intention for the rule change. (paragraph (b))
  - No change to a licensee's MC&A program that has already been successfully implemented. Paragraph (b) applies to a future applicant or licensee.
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Replace the reference to "a fundamental nuclear material control (FNMC) plan" with a reference to "a MC&A plan." The plan describes how a future licensee will achieve the general performance objectives in § 74.3, and meet the program capability requirements set forth in revised § 74.31(c).
  - Plain language revisions are replacing the existing references to the fundamental nuclear material control (FNMC) plan with references to an MC&A plan.
  - Licensees would not be required to change the name of their FNMC plans to MC&A plans. The term MC&A plan is not intended to be an exact name that licensees are required to use and licensees will not be required to change the names of their existing plans

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (b))

Category I	0 hours/Not applicable
Category II	0 hours/Not applicable
Category III	0 hours.
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

(c) Program capabilities. To achieve the § 74.3 performance objectives, the MC&A plan must include the capabilities described in paragraphs (c)(1) through (10) of this section, and require the licensee to:

(1) Establish, document, and maintain a management structure that assures clear overall responsibility for material control and accounting functions, independence from production responsibilities, separation of key responsibilities, and adequate review and use of critical material control and accounting procedures;

(2) Establish and maintain a measurement system, which assures that all quantities in the material accounting records are based on measured values;

(3) Follow a measurement control program, which assures that measurement bias is estimated and significant biases are eliminated from inventory difference values of record;

(4) In each inventory period, control total material control and accounting measurement uncertainty so that twice its standard error of the inventory difference (SEID) is less than the greater of 9,000 grams of U 235 or 0.25 percent of the active inventory, and assure that any measurement performed under contract is controlled so that the licensee can satisfy this requirement;

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

(paragraph (c) continued)

(5) Unless otherwise required to satisfy part 75 of this chapter, perform a physical inventory at least every 12 months and, within 60 calendar days after the start of the inventory, reconcile and adjust the book inventory to the results of the physical inventory, and resolve, or report an inability to resolve, any inventory difference that is rejected by a statistical test that has a 90-percent power of detecting a discrepancy of a quantity of uranium 235 established by the NRC on a site-specific basis;

(6) Establish, document, implement, and maintain an item control system as defined in § 74.4. Store and handle or subsequently measure items in a manner such that unauthorized removals of individual items or any quantity of SNM from items will be detected. Exempted from this requirement are

(i) items in solution with a concentration of less than 5 grams of *plutonium or uranium-233 or* uranium-235 per liter *or a combined concentration of less than 5 grams per liter;*

(ii) items of uranium-235 in laboratory samples and reference standards containing uranium enriched to less than 10 percent in the uranium-235 isotope; (such items shall be controlled by the licensee);

(iii) items existing less than 24 hours and containing less than 25 grams of uranium-235, ~~and~~or;

(iv) items of waste destined for burial or incineration;

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

(paragraph (c) continued)

(7) Conduct and document shipper-receiver difference comparisons for all SNM receipts on a total shipment basis, and on an individual batch basis when required by part 75 of this chapter, and ensure that any shipper-receiver difference that is statistically significant and exceeds twice the estimated standard deviation of the difference estimator and 500 grams of uranium-235 is investigated and resolved;

(8) Independently assess the effectiveness of the MC&A program at least every 24 months, and document management's action on prior assessment recommendations.

(9) Maintain and follow procedures for tamper-safing (as defined in § 74.4) of containers or vaults (as defined in § 74.4) containing SNM, which include control of access to, and distribution of, unused seals and records;

(10) Designate *one or more* material balance areas ~~*and*~~ *or one or more* item control areas *or a combination of such 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.

* * * * *

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

- NRC's intention for the rule change. (paragraph (c))
  - A licensee would change the MC&A program to include the items that are currently exempted in existing paragraph (c)(6) for the item control system.
  - Additional hours will be needed to implement and conduct annual operations to include the items that are currently exempted in existing paragraph (c)(6) for the item control system.
  - Modify portions of existing 10 CFR part 74 that refer to the MC&A "system" (e.g., 10 CFR 74.31(c)) to instead refer to the MC&A "program." The term "program" better describes the over-arching, comprehensive set of methods licensees use to control and track SNM, and using "program" avoids confusion with the required material measurement system (e.g., § 74.31(c)(2)) that is part of the overall MC&A program. Similarly, existing references to the overall "system" capabilities would be changed to "program" capabilities. The existing requirement referring to an item control program (e.g., § 74.31(c)(6)) would be revised to instead refer to an item control system.
  - Update the title of paragraph (c) from "System capabilities" to "Program capabilities" and update the introductory language of paragraph (c) to state that the MC&A plan must: include the capabilities described in paragraphs (c)(1) through (10); and achieve the performance objectives in § 74.3.

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

- NRC's intention for the rule change. (paragraph (c) continued)
  - Clarify paragraph (c)(4) by replacing "standard error" with "standard error of the inventory difference (SEID)" and provide the correct acronym to make Part 74 more internally consistent.
  - Clarify paragraph (c)(5) by changing the physical inventory timing provisions from "60 days" to "60 calendar days," and by correcting grammatical errors in the existing text.
  - Modify paragraph (c)(6) by referencing the item control system defined in § 74.4 and by removing the exemption provisions for items existing for less than 14 days. Removing these exemptions will require tracking of items that could contain large quantities of SNM but are not now subject to a facility's item control system. The reference to detecting "unauthorized removals of substantial quantities of material from items" in the second sentence would be changed to require detecting the removal of "any quantity of material." In the third sentence, the existing exemption from the detection requirements for "items individually containing less than 500 grams of uranium-235 up to a total of 50 kilograms of uranium-235" would be removed. By not allowing large quantities of SNM to be exempt from a Category III facility's item control system, a more complete and comprehensive inventory would be achieved. Further, since all licensees are required by existing § 74.11 to report any loss of SNM, removing these item control exemptions increases the internal consistency of the MC&A requirements.

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

- NRC's intention for the rule change. (paragraph (c) continued)
  - Revise the proposed exemptions in paragraph (c)(6) to include additional items that would not be tracked in the item control system:
    - (i) items in solution with a concentration of less than 5 grams of plutonium or uranium-233 or uranium-235 per liter or a combined concentration of less than 5 grams per liter,
    - (ii) items of uranium-235 in laboratory samples and reference standards containing uranium enriched to less than 10 percent in the uranium-235 isotope; (such items shall be controlled by the licensee),
    - (iii) items existing less than 24 hours and containing less than 25 grams of uranium-235, or,
    - (iv) items of waste destined for burial or incineration.
  - Also material in process that has not been designated as an item would not be tracked.

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

- NRC's intention for the rule change. (paragraph (c) continued)
  - Revise paragraph (c)(7) to adopt the most recent wording in § 74.43(b)(7) to conduct and document shipper-receiver difference comparisons for all SNM receipts on a total shipment basis, and on an individual batch basis when required by 10 CFR part 75 of this chapter, and ensure that any shipper-receiver difference that is statistically significant and exceeds twice the estimated standard deviation of the difference estimator and 500 grams of uranium-235 is investigated and resolved.
  - Revise paragraph (c)(8) by referencing the MC&A "program" rather than the MC&A "system."
  - Include paragraph (c)(9) to incorporate as requirements common practices and procedures already used at Category III facilities to supplement and strengthen existing SNM item control and inventory systems that help to protect against the unauthorized and unrecorded removal of SNM. All Category III facilities have implemented tamper-safing procedures to reflect their current practices. Future licensees would also implement tamper-safing procedures.

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

- NRC's intention for the rule change. (paragraph (c) continued)
  - Include paragraph(c)(10) to set forth the areas that form the basis for nuclear material accounting and control of all SNM within a facility's boundaries. The NRC expects these new requirements to enhance the capability of a licensee to deter and detect the unauthorized removal of SNM. In general, smaller accounting areas make control of SNM easier by reducing the size of the area in which detected losses of SNM can be attributed.
  - Provide flexibility for a license to designate one or more material balance areas or one or more item control areas or a combination of such areas and assign custodial responsibility for the area(s). The NRC does not expect a Category III facility that has already designated such areas to implement revised procedures or reconfigure their facility. All Category III facilities are voluntarily using MBAs and ICAs and have designated custodians assigned to them, so the new regulations are not expected to result in significant operating changes.
  - The rule change would require future facilities to follow this best practice for ensuring that timely and accurate information is kept within a designated area to adequately account for and control SNM.

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (c))
  - Implementation time per licensee would be 250 hours to update their written procedure to include tracking additional items.
  - The additional time per licensee to conduct annual operations to track such items would be 100 hours per year.

Category I	0 hours/Not applicable
Category II	0 hours/Not applicable
Category III	250 hours for implementation of paragraph (c)(6) and 0 hours for implementation of paragraphs (c)(1)-(5) and (7)-(10) 100 hours for annual operations in paragraph (c)(6) and 0 hours for annual operations in paragraphs (c)(1)-(5) and (7)-(10)
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance

(a) General performance objectives. Each licensee who is authorized to possess equipment capable of enriching uranium or operate an enrichment facility, and produce, possess, or use a quantity greater than 350 grams of contained uranium-235 or SNM of low strategic significance (as defined in § 74.4 and shown in appendix A to this part) at any site or contiguous sites, subject to control by the licensee, is subject to the performance objective requirements stated in § 74.3 and to the following performance objectives:

(1) Maintain accurate, current, and reliable information on, and confirm the quantities and locations of source material (SM) in its possession;

(2) Detect, respond to, and resolve any anomaly indicating a possible loss, theft, diversion, or misuse of SM;

(3) Permit rapid determination of whether an actual loss, theft, diversion, or misuse of SM has occurred;

(4) Provide information to aid in the investigation and recovery of missing SM in the event of an actual loss, theft, diversion, or misuse; and

(5) Provide information to aid in the investigation of any unauthorized production of uranium, including unauthorized production of uranium enriched to 10 percent or more in the isotope U-235. (For centrifuge enrichment facilities this requirement does not apply to each cascade during its start-up process, not to exceed the first 24 hours.)

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

- NRC's intention for the rule change. (paragraph (a))
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Modify the GPO requirements for future licensees under subpart C.
  - Revise and consolidate the existing GPO requirements in § 74.33(a), with their common provisions into the list five GPOs in § 74.3 that apply to all licensees authorized to possess more than 350 grams of SNM. The proposed § 74.3 GPOs describe activities to deter, detect, or aid in responding to any loss, theft, diversion or misuse of SNM.
  - GPOs that are unique to the Category III enrichment facilities would remain in revised § 74.33(a).
  - The NRC does not expect that a Category III licensee would need to alter their MC&A program in response to the § 74.3 GPOs, because these GPOs are similar to the existing GPOs.

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

- NRC's intention for the rule change. (paragraph (a) continued)
  - Revise § 74.33(a) to refer to the § 74.3 performance objective
  - Replace the performance objectives stated in existing paragraphs (a)(1) through (9) with new paragraphs (a)(1) through (4) that refer only to source material and that parallel the objectives set forth in § 74.3, which apply only to SNM.
  - Paragraph (a)(5) retains elements of existing paragraph (a)(8), and retains the exemption for centrifuge enrichment facilities stated in existing (a)(5).
- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (a))

Category I	0 hours/Not applicable
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours.
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

(b) Implementation. Each applicant for a license who would, upon issuance of a license under any part of this chapter, be subject to the requirements of paragraph (a) of this section shall:

(1) Submit for approval an MC&A plan describing how the performance objectives of §§ 74.3 and 74.33(a), the program capabilities of § 74.33(c), and the recordkeeping requirements of § 74.33(d) will be met; and

(2) Implement the NRC-approved MC&A plan submitted under paragraph (b)(1) of this section prior to:

(i) The cumulative receipt of 5,000 grams of U 235 contained in any combination of natural, depleted, or enriched uranium; or

(ii) The NRC's issuance of a license to test or operate the enrichment facility, whichever occurs first.

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

- NRC's intention for the rule change. (paragraph (b))
  - No change to a licensee's MC&A program that has already been successfully implemented. Paragraph (b) applies to a future applicant or licensee.
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Replace the reference to "a fundamental nuclear material control (FNMC) plan" with a reference to "a MC&A plan." The plan describes how a future licensee will achieve the general performance objectives in § 74.3, and meet the program capability requirements set forth in revised § 74.33(c).
  - Plain language revisions are replacing the existing references to the fundamental nuclear material control (FNMC) plan with references to an MC&A plan.
  - Licensees would not be required to change the name of their FNMC plans to MC&A plans. The term MC&A plan is not intended to be an exact name that licensees are required to use and licensees will not be required to change the names of their existing plans

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (b))

Category I	0 hours/Not applicable
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours.
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

(c) Program capabilities. To achieve the general performance objectives stated and referenced in paragraph (a) of this section, the MC&A plan must include the capabilities described in paragraphs (c)(1) through (10) of this section. The licensee shall establish, document, implement and maintain:

(1) A management structure that ensures:

(i) Clear overall responsibility for MC&A functions;

(ii) Independence of MC&A management from production responsibilities;

(iii) Separation of key MC&A responsibilities from each other; and

(iv) Use of approved written MC&A procedures and periodic review of those procedures;

(2) A measurement program that ensures that all quantities of SM and SNM in the accounting records are based on measured values;

(3) A measurement control program that ensures that:

(i) Measurement bias is estimated and minimized through the measurement control program, and any significant biases are eliminated from inventory difference values of record;

(ii) All MC&A measurement systems are controlled so that twice the standard error of the inventory difference (SEID), based on all measurement error contributions, is less than the greater of 5,000 grams of U 235 or 0.25 percent of the U 235 of the active inventory for each total plant material balance; and

(iii) Any measurements performed under contract are controlled so that the licensee can satisfy the requirements of paragraphs (c)(3)(i) and (ii) of this section;

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

(paragraph (c) continued)

(4) A physical inventory program that provides for:

(i) Performing, unless otherwise required to satisfy part 75 of this chapter, a dynamic (nonshutdown) physical inventory of in-process (e.g., in the enrichment equipment) uranium and U-235 at least every 65 calendar days, and performing a static physical inventory of all other uranium and total U 235 contained in natural, depleted, and enriched uranium located outside of the enrichment processing equipment at least every 370 calendar days, with static physical inventories being conducted in conjunction with a dynamic physical inventory of in-process uranium and U 235 so as to provide a total plant material balance at least every 370 calendar days; and

(ii) Reconciling and adjusting the book inventory to the results of the static physical inventory and resolving, or reporting an inability to resolve, any inventory difference that is rejected by a statistical test that has a 90-percent power of detecting a discrepancy of a quantity of U 235, established by the NRC on a site-specific basis, within 60 calendar days after the start of each static physical inventory;

(5) A detection program, independent of production, which provides high assurance of detecting and resolving:

(i) Production of uranium enriched to 10 percent or more in the U 235 isotope, to the extent that SNM of moderate strategic significance (as defined in § 74.4) could be produced within any 370 calendar day period;

(ii) Production of uranium enriched to 20 percent or more in the U 235 isotope; and

(iii) Unauthorized production of uranium of low strategic significance (as defined in § 74.4);

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

(paragraph (c) continued)

(6) 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 removal of any quantity of U 235, as individual items or as uranium contained in items, will be detected. Exempted from this requirement are

(i) items in solution with a concentration of less than 5 grams of *plutonium or uranium-233 or* uranium-235 per liter *or a combined concentration of less than 5 grams per liter;*

(ii) items of uranium-235 in laboratory samples and reference standards containing uranium enriched to less than 10 percent in the uranium-235 isotope; (such items shall be controlled by the licensee);

(iii) items existing less than 24 hours and containing less than 25 grams of uranium-235, or;

(iv) items of waste destined for burial or incineration;

(7) A system for conducting and documenting shipper-receiver difference comparisons for all source material and SNM receipts on a total shipment basis, and on an individual batch basis when required by part 75 of this chapter, to ensure that any shipper-receiver difference that is statistically significant and exceeds twice the estimated standard deviation of the difference estimator and 500 grams of uranium-235 is investigated and resolved;

§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

(paragraph (c) continued)

(8) An assessment program that:

(i) Independently assesses the effectiveness of the MC&A program at least every 24 months;

(ii) Documents the results of the above assessment;

(iii) Documents management's findings on whether the MC&A program is currently effective; and

(iv) Documents any actions taken on recommendations from prior assessments;

(9) Procedures for tamper-safing (as defined in § 74.4) of containers or vaults (as defined in § 74.4) containing SNM, which include control of access to, and distribution of, unused seals and records;

(10) *One or more m~~M~~*aterial balance areas *~~and~~ or one or more* item control areas*~~,~~ or a combination of such areas* and shall assign custodial responsibility *~~for each of these areas~~* in a manner that ensures that such responsibility can be effectively executed for all SM and SNM possessed under license.

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

- NRC's intention for the rule change. (paragraph (c))
  - A licensee would change the MC&A program to include the items that are currently exempted in existing paragraph (c)(6) for the item control system.
  - Additional hours will be needed to implement and conduct annual operations to include the items that are currently exempted in existing paragraph (c)(6) for the item control system.
  - Change the title of paragraph (c) from "System features and capabilities" to "Program capabilities." The term "program" better describes the over-arching, comprehensive set of methods licensees use to control and track SNM. The existing requirement referring to an item control program (e.g., § 74.33(c)(6)) would be revised to instead refer to an item control system.
  - Revise the introductory language of paragraph (c) to state that the MC&A plan must include the capabilities described in paragraphs (c)(1) through (10); and achieve the performance objectives referenced in paragraph (a).

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

- NRC's intention for the rule change. (paragraph (c) continued)
  - Existing paragraphs (c)(1) through (2) remain unchanged.
  - Clarify paragraph (c)(3)(ii) to include the acronym SEID in a parenthetical.
  - Clarify paragraph (c)(4)(i) by changing "65 days" to "65 calendar days."
  - Clarify paragraph (c)(4)(ii) by changing "60 days" to "60 calendar days," and make a grammatical correction to the existing regulatory text.
  - Revise paragraph (c)(5) by adding "resolving" at the end of the introductory sentence, to read, "A detection program, independent of production, that provides high assurance of detecting and resolving."
  - Modify the item control requirements in paragraph (c)(6) by replacing (c)(6)(i) and (ii) with the reference to the item control system defined in § 74.4. The requirement to have such an item control system replaces the existing § 74.33(c)(6)(i) requirement.
  - Change the reference to detecting the "unauthorized removal of 500 grams or more of uranium-235" in existing § 74.33(c)(6)(ii) to require detecting the removal of "any quantity of uranium-235."

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

- NRC's intention for the rule change. (paragraph (c) continued)
  - Remove the existing exemption in § 74.33(c)(6)(ii) from the detection requirements for items containing "less than 500 grams of uranium-235 up to a cumulative total of 50 kilograms of uranium-235," and for items that "exist for less than 14 calendar days." This exemption would be replaced and the wording here tracks the modified exemption in § 74.31(c)(6).
  - Revise the proposed exemptions in paragraph (c)(6) to include additional items that would not be tracked in the item control system:
    - (i) items in solution with a concentration of less than 5 grams of plutonium or uranium-233 or uranium-235 per liter or a combined concentration of less than 5 grams per liter,
    - (ii) items of uranium-235 in laboratory samples and reference standards containing uranium enriched to less than 10 percent in the uranium-235 isotope; (such items shall be controlled by the licensee,
    - (iii) items existing less than 24 hours and containing less than 25 grams of uranium-235, or,
    - (iv) items of waste destined for burial or incineration. Also material in process that has not been designated as an item would not be tracked.

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

- NRC's intention for the rule change. (paragraph (c) continued)
  - Revise paragraph (c)(7) to adopt the most recent wording in § 74.43(b)(7) to conduct and document shipper-receiver difference comparisons for all SM and SNM receipts on a total shipment basis, and on an individual batch basis when required by 10 CFR part 75 of this chapter, and ensure that any shipper-receiver difference that is statistically significant and exceeds twice the estimated standard deviation of the difference estimator and 500 grams of uranium-235 is investigated and resolved. The wording here is similar to the modified wording of § 74.31(c)(7).
  - Revise paragraph (c)(8) by referencing the MC&A "program" rather than the MC&A "system."
  - Include paragraph (c)(9) to incorporate as requirements common practices and procedures already used at Category III enrichment facilities to supplement and strengthen existing SNM item control and inventory systems that help to protect against the unauthorized and unrecorded removal of SM and SNM. All Category III enrichment facilities implemented tamper-safing procedures in their current practices. Future licensees would also implement tamper-safing procedures.

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

- NRC's intention for the rule change. (paragraph (c) continued)
  - Include paragraph (c)(10) to set forth the areas that form the basis for nuclear material accounting and control of all SM and SNM within a facility's boundaries. The NRC expects these new requirements to enhance the capability of a licensee to deter and detect the unauthorized removal of SM or SNM. In general, smaller accounting areas make control of SM or SNM easier by reducing the size of the area in which detected losses of SM or SNM can be attributed.
  - Provide flexibility for a license to designate one or more material balance areas or one or more item control areas or a combination of such areas and assign custodial responsibility for the area(s). The NRC does not expect a Category III facility that has already designated such areas to implement revised procedures or reconfigure their facility. All Category III facilities are voluntarily using MBAs and ICAs and have designated custodians assigned to them, so the new regulations are not expected to result in significant operating changes.
  - The rule change would require future facilities to follow this best practice for ensuring that timely and accurate information is kept within a designated area to adequately account for and control SM and SNM

§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (c))
  - Implementation time per licensee would be 250 hours to update their written procedure to include tracking additional items.
  - The additional time per licensee to conduct annual operations to track such items would be 100 hours per year.

Category I	0 hours/Not applicable
Category II	0 hours/Not applicable
Category III	250 hours for implementation of paragraph (c)(6) and 0 hours for implementation of paragraphs (c)(1)-(5) and (7)-(10) 100 hours for annual operations in paragraph (c)(6) and 0 hours for annual operations in paragraphs (c)(1)-(5) and (7)-(10)
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

(d) Recordkeeping.

(1) Each licensee shall establish records that will demonstrate that the performance objectives stated and referenced in paragraph (a) of this section and the program capabilities of paragraph (c) of this section have been met and maintain these records in an auditable form, available for inspection, for at least 3 years, unless a longer retention time is required by part 75 of this chapter.

(2) Records that must be maintained pursuant to this part may be the original or a reproduced copy or a microform if such reproduced copy or microform is duly authenticated by authorized personnel and the microform is capable of producing a clear and legible copy after storage for the period specified by Commission regulations. The record may also be stored in electronic media with the capability for producing, on demand, legible, accurate, and complete records during the required retention period. Records such as letters, drawings, and specifications must include all pertinent information such as stamps, initials, and signatures.

(3) The licensee shall maintain adequate safeguards against tampering with and loss of records.

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

- NRC's intention for the rule change. (paragraph (d))
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Complete wording changes to conform the referenced title of paragraph (c) that is included paragraph (d)(1) and to refer to the program capabilities of paragraph (c) that replaces the reference to the system features and capabilities of paragraph (c).
  - Paragraphs (d)(2) and (3) are unchanged.

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§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (d))

Category I	0 hours/Not applicable
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours.
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.41 Nuclear material control and accounting for special nuclear material of moderate strategic significance.

(a) General performance objectives. (1) Each licensee who is authorized to possess and use SNM of moderate strategic significance (as defined in §74.4 and shown in appendix A of this part) or 1 kilogram or more but less than 5 kilograms of SSNM (as defined in § 74.4 and shown in appendix A to this part) in irradiated fuel reprocessing operations *or a medical isotope production facility* at any site or contiguous sites subject to control by the licensee, is subject to the performance objective requirements stated in § 74.3.

(2) Production or utilization facilities licensed under part 50 or 52 of this chapter~~;~~ *other than a medical isotope production facility;* licensees using reactor irradiated fuels involved in research, development, and evaluation programs in facilities other than irradiated fuel reprocessing plants; and operations involving waste disposal, are not subject to the requirements of subpart D of this part.

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§ 74.41 Nuclear material control and accounting for special nuclear material of moderate strategic significance. (continued)

- NRC's intention for the rule change. (paragraph (a))
  - Currently there is no facility that is licensed to operate under subpart D as a Category II facility. The rule text changes would apply to a future licensee.
  - Modify the GPO requirements for future licensees under subpart D. The existing GPO requirements in § 74.41(a), are being revised and consolidated with their common provisions into the list five GPOs in § 74.3 that apply to all licensees authorized to possess more than 350 grams of SNM. The GPOs in § 74.3 describe activities to deter, detect, or aid in responding to any loss, theft, diversion or misuse of SNM.
  - Revised paragraph (a)(1) refers to the § 74.3 performance objectives, thereby replacing the performance objectives set forth in existing paragraph (a)(1)-(4).
  - Make the requirements in subpart D applicable to a medical isotope production facility that is included in paragraph (a)(1).
  - Retain in paragraph (a)(2) the exemption in existing § 74.41(a) applicable to production or utilization facilities other than a medical isotope production facility, licensees using reactor irradiated fuels for research purposes other than irradiated fuel reprocessing plants, and any licensee operations involving waste disposal.

§ 74.41 Nuclear material control and accounting for special nuclear material of moderate strategic significance. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (a))

Category I	0 hours/Not applicable
Category II	0 hours.
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.41 Nuclear material control and accounting for special nuclear material of moderate strategic significance. (continued)

(b) Implementation. Each applicant for a license, and each licensee that, upon application for modification of its license, would become newly subject to paragraph (a) of this section shall submit for approval an MC&A plan describing how the performance objectives of § 74.3 and the requirements of paragraph (c) of this section will be met. The MC&A plan shall be implemented when a license is issued or modified to authorize the activities being addressed in paragraph (a) of this section, or by the date specified in a license condition.

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§ 74.41 Nuclear material control and accounting for special nuclear material of moderate strategic significance. (continued)

- NRC's intention for the rule change. (paragraph (b))
  - Currently there is no facility that is licensed to operate under subpart D as a Category II facility. The rule text changes would apply to a future licensee.
  - The title of paragraph (b) would be changed from "Implementation schedule" to "Implementation," and the existing paragraphs (b)(1) and (2) would be consolidated into a single paragraph.
  - Revise paragraph (b) by replacing the reference to "a fundamental nuclear material control (FNMC) plan" with a reference to "an MC&A plan." The plan describes how a future licensee will achieve the general performance objectives in § 74.3, and meet the program capability requirements set forth in § 74.41(c) that refers to the requirements of §§ 74.43 and 74.45.
  - The term "MC&A plan" is not an exact name that licensees are required to use and licensees will not be required to change the names of their existing plans

§ 74.41 Nuclear material control and accounting for special nuclear material of moderate strategic significance. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (b))

Category I	0 hours/Not applicable
Category II	0 hours.
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.41 Nuclear material control and accounting for special nuclear material of moderate strategic significance. (continued)

(c) Program capabilities. To achieve the § 74.3 performance objectives, the MC&A plan must include the capabilities described in §§ 74.43 and 74.45, and must incorporate checks and balances that are sufficient to detect falsification of data and reports that could conceal diversion of SNM by:

(1) A single individual, including an employee in any position; or

(2) Collusion between two individuals, one or both of whom have authorized access to SNM.

- NRC's intention for the rule change. (paragraph (c))
  - Currently there is no facility that is licensed to operate under subpart D as a Category II facility. The rule text changes would apply to a future licensee.
  - Change the title from "System capabilities" to "Program capabilities"
  - Change the reference to "§ 74.41(a)" to "§ 74.3" that contains the GPO
  - Change "MC&A system" to "MC&A plan,"
  - Retain the existing paragraphs (c)(1) and (2).

§ 74.41 Nuclear material control and accounting for special nuclear material of moderate strategic significance. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (c))

Category I	0 hours/Not applicable
Category II	0 hours.
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.43 Internal controls, inventory, and records.

* * * * *

(b) * * *

(3) The licensee shall provide for the adequate review, approval, and use of written MC&A procedures that are identified in the approved MC&A plan as being critical to the effectiveness of the described system.

* * * * *

(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 any quantity of material (as defined in § 74.4) from items will be detected.

(6) Exempted from the requirements of paragraph (b)(5) of this section are

(i) items in solution with a concentration of less than 5 grams of *plutonium or uranium-233 or* uranium-235 per liter *or a combined concentration of less than 5 grams per liter;*

(ii) items of uranium-235 in laboratory samples and reference standards containing uranium enriched to less than 10 percent in the uranium-235 isotope; (such items shall be controlled by the licensee);

(iii) items existing less than 24 hours and containing less than 25 grams of uranium-235, ~~*and*~~*or,*

(iv) items of waste destined for burial or incineration.

(7) Conduct and document shipper-receiver difference comparisons for all SNM receipts,

* * * * *

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§ 74.43 Internal controls, inventory, and records. (continued)

- NRC's intention for the rule change. (paragraph (b))
  - Currently there is no facility that is licensed to operate under subpart D as a Category II facility. The rule text changes would apply to a future licensee.
  - Revise paragraph (b)(3) to replace the title, "FNMC plan" with "MC&A plan." The term "MC&A plan" is not an exact name that licensees are required to use and licensees will not be required to change the names of their existing plans
  - Revise paragraph (b)(5) by replacing the term "item control program" with "item control system" as newly defined in § 74.4. The current paragraphs (b)(5)(i) and (b)(5)(ii) would be consolidated into proposed paragraph (b)(5). The current detection requirement in paragraph (5)(ii) would be revised to require the detection of "unauthorized removals of individual items or any quantity of material (as defined in § 74.4) from items," replacing the existing reference to the "unauthorized removal of 200 grams or more of plutonium or uranium-233 or 300 grams or more of uranium-235, as one or more whole items and/or as SNM removed from containers."

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§ 74.43 Internal controls, inventory, and records. (continued)

- NRC's intention for the rule change. (paragraph (b) continued)
  - Revise paragraph (b)(6) by replacing the exemptions stated in the current requirement with the items listed below that are exempt from the item control system. The existing exemptions include items that exist for less than 14 calendar days and licensee-identified items each containing less than 200 grams of plutonium or uranium-233 or 300 grams or more of uranium-235 up to a cumulative total of one formula kilogram of strategic SNM or 17 kilograms of uranium-235 contained in uranium enriched to 10.00 percent or more but less than 20.00 percent in the uranium-235 isotope. The following items are listed in paragraph (b)(6) and are exempt from the item control system requirement
    - (i) items in solution with a concentration of less than 5 grams of plutonium or uranium-233 or uranium-235 per liter or a combined concentration of less than 5 grams per liter,
    - (ii) items of uranium-235 in laboratory samples and reference standards containing uranium enriched to less than 10 percent in the uranium-235 isotope; (such items shall be controlled by the licensee,
    - (iii) items existing less than 24 hours and containing less than 25 grams of uranium-235, or,
    - (iv) items of waste destined for burial or incineration.
  - Clarify paragraph (b)(7) by changing the reference to "shipper-receiver comparisons" to state "shipper-receiver difference comparisons".

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§ 74.43 Internal controls, inventory, and records. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (b))

Category I	0 hours/Not applicable
Category II	0 hours
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.43 Internal controls, inventory, and records. (continued)

(c) * * *

(3) Maintain and follow procedures for tamper-safing (as defined in § 74.4) of containers or vaults (as defined in § 74.4) containing SNM which include control of access to, and distribution of, unused seals and records;

* * * * *

(9) Designate *one or more* material balance areas ~~*and*~~ *or one or more* item control areas *or a combination of such 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.

* * * * *

- NRC's intention for the rule change. (paragraph (c))
  - Currently there is no facility that is licensed to operate under subpart D as a Category II facility. The rule text changes would apply to a future licensee.
  - Revise paragraph (c)(3) by removing the phrases, "if tamper-safe seals are to be used for assuring the validity of prior measurements," and "showing the date and time of seal application." The changes make wording of the tamper-safing requirements in subparts C, D, and E of 10 CFR part 74 internally consistent.

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§ 74.43 Internal controls, inventory, and records. (continued)

- NRC's intention for the rule change. (paragraph (c) continued)
  - Include paragraph (c)(9) to provide requirements that the MC&A plan capabilities must include the designation of MBAs, ICAs, and assigning custodial responsibilities for these areas The NRC intends to set forth the areas that form the basis for nuclear material accounting and control of all SNM within a facility's boundaries. The NRC expects these new requirements to enhance the capability of a licensee to deter and detect the unauthorized removal of SNM. In general, smaller accounting areas make control of SNM easier by reducing the size of the area in which detected losses of SNM can be attributed.
  - Provide flexibility for a licensee to designate one or more material balance areas or one or more item control areas or a combination of such areas and assign custodial responsibility for the area(s).
  - The rule change would require future facilities to follow this best practice for ensuring that timely and accurate information is kept within a designated area to adequately account for and control SNM.

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§ 74.43 Internal controls, inventory, and records. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (c))

Category I	0 hours/Not applicable
Category II	0 hours.
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.43 Internal controls, inventory, and records. (continued)

(d) * * *

(5) Establish records that will demonstrate that the performance objectives of § 74.3 and § 74.41(a)(1), the system capabilities of paragraphs (b) and (c) of this section, and § 74.45(b) and (c) have been met, and maintain these records in an auditable form, available for inspection, for at least 3 years, unless a longer retention time is specified by § 74.19(b), part 75 of this chapter, or by a specific license condition.

- NRC's intention for the rule change. (paragraph (d))
  - Currently there is no facility that is licensed to operate under subpart D as a Category II facility. The rule text changes would apply to a future licensee
  - Complete a conforming change in paragraph (d)(5) by referring to the performance objectives of proposed §§ 74.3 and 74.41(a)(1), because the reference to § 74.41(a)(1) through (4) is no longer current.

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§ 74.43 Internal controls, inventory, and records. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (d))

Category I	0 hours/Not applicable
Category II	0 hours.
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

§ 74.45 Measurements and measurement control

* * * * *

(c) * * *

(4) Establish and maintain a measurement control system so that for each inventory period the standard error of the inventory difference (SEID) is less than 0.125 percent of the active inventory, and assure that any MC&A measurements performed under contract are controlled so that the licensee can satisfy this requirement.

* * * * *

- NRC's intention for the rule change. (paragraph (c))
  - Currently there is no facility that is licensed to operate under subpart D as a Category II facility. The rule text changes would apply to a future licensee
  - Clarify paragraph (c)(4) by spelling out the acronym SEID as the "standard error of the inventory difference."

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§ 74.45 Measurements and measurement control. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (c))

Category I	0 hours/Not applicable
Category II	0 hours.
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

§ 74.51 Nuclear material control and accounting for strategic special nuclear material.

(a) General performance objectives. (1) Each licensee who is authorized to possess and use five or more formula kilograms of strategic special nuclear material (SSNM), as defined in § 74.4 and shown in appendix A to this part, at any site or contiguous sites subject to control by the licensee is subject to the performance objective requirements stated in § 74.3, and to the following performance objectives:

(i) Ongoing confirmation of the presence of SSNM in assigned locations;

(ii) Timely detection of the possible abrupt loss of five or more formula kilograms of SSNM from an individual unit process; and

(iii) Rapid determination of whether an actual loss of five or more formula kilograms of SSNM occurred.

(2) Production or utilization facilities licensed under part 50 or 52 of this chapter *other than a medical isotope production facility*, independent spent fuel storage installations licensed under part 72 of this chapter; and any licensee operations involving waste disposal, are not subject to the requirements of subpart E of this part.

§ 74.51 Nuclear material control and accounting for strategic special nuclear material. (continued)

- NRC's intention for the rule change. (paragraph (a))
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Modify the GPO requirements for future licensees under subpart E. The existing GPO requirements in § 74.51(a), are being revised and consolidated with their common provisions into the list five GPOs in § 74.3 that apply to all licensees authorized to possess more than 350 grams of SNM. The proposed § 74.3 GPOs describe activities to deter, detect, or aid in responding to any loss, theft, diversion or misuse of SNM. The NRC does not expect that a Category I licensee would need to alter their MC&A program in response to the § 74.3 GPOs, because these GPOs are similar to the existing GPOs.
  - Retain in paragraph (a) the existing GPOs that are unique to a Category I facility Retain existing § 74.51(a)(2), (3), and (4) as § 74.51(a)(1)(i), (ii), and (iii).

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§ 74.51 Nuclear material control and accounting for strategic special nuclear material. (continued)

- NRC's intention for the rule change. (paragraph (a) continued)
  - Retain in paragraph (a)(2) the exemptions in existing § 74.51(a) applicable to production or utilization facilities other than a medical production facility, ISFSIs, and any licensee operations involving waste disposal.
  - Remove the exemption for an irradiated fuel reprocessing plant. The removal of this exemption is in accordance with the NRC staff's recommendation in its regulatory framework gap analysis for irradiated fuel reprocessing documented in SECY-09-0082. The licensee of any future irradiated fuel reprocessing facility would likely be authorized to possess quantities of strategic SNM that need to be subject to the highest level of MC&A safeguards and security requirements, to ensure that this material would be adequately protected.
  - A medical isotope production facility authorized to possess and use five or more formula kilograms of SSNM would be subject to § 74.51.

§ 74.51 Nuclear material control and accounting for strategic special nuclear material. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (a))

Category I	0 hours.
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

§ 74.51 Nuclear material control and accounting for strategic special nuclear material. (continued)

(b) Implementation. Each applicant for a license, and each licensee that, upon application for modification of its license, would become newly subject to paragraph (a) of this section shall submit for approval an MC&A plan describing how the performance objectives of § 74.3 and paragraph (a) of this section will be achieved, and how the requirements of paragraph (c) of this section will be met. The MC&A plan shall be implemented when a license is issued or modified to authorize the activities being addressed in paragraph (a) of this section, or by the date specified in a license condition.

- NRC's intention for the rule change. (paragraph (b))
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Make the organization in subparts C, D, and E more consistent by aligning the format in § 74.51(b) and (c) with the formats for paragraphs (b) and (c) in existing §§ 74.31, 74.33, and 74.41. Section 74.51(b) would be retitled, "Implementation," and would contain elements of existing § 74.51(c) and would refer to an "MC&A plan" rather than a "FNMC plan". The MC&A plan describes how a future licensee will achieve the general performance objectives in §§ 74.3 and 74.51(a), and meet the requirements of §§ 74.53, 74.55, 74.57, and 74.59

§ 74.51 Nuclear material control and accounting for strategic special nuclear material. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (b))

Category I	0 hours.
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

§ 74.51 Nuclear material control and accounting for strategic special nuclear material. (continued)

(c) Program capabilities. To achieve the general performance objectives specified in § 74.3 and paragraph (a) of this section, the MC&A plan must provide the capabilities described in §§ 74.53, 74.55, 74.57 and 74.59 and must incorporate checks and balances that are sufficient to detect falsification of data and reports that could conceal diversion of SNM or SSNM by:

* * * * *

~~*(1) A single individual, including an employee in any position; or*~~

~~*(2) Collusion between two individuals, one or both of whom have authorized access to SNM or SSNM.*~~

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§ 74.51 Nuclear material control and accounting for strategic special nuclear material. (continued)

- NRC's intention for the rule change. (paragraph (c))
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Retitle paragraph (c), "Program capabilities," retain elements of existing § 74.51(b), and refer to the MC&A plan rather than the MC&A system. Paragraph (c) retains the requirements discussed in revised § 74.51(b) that would require that the plan incorporate checks and balances that are sufficient to detect falsification of data and reports that could conceal diversion of SNM or strategic SNM (SSNM).

§ 74.51 Nuclear material control and accounting for strategic special nuclear material. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (c))

Category I	0 hours.
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.51 Nuclear material control and accounting for strategic special nuclear material. (continued)

(d) Inventories. Notwithstanding § 74.59(f)(1), licensees shall perform at least 3 physical inventories at intervals not to exceed 65 calendar days after implementation of the NRC approved MC&A plan and shall continue to perform such inventories at intervals not to exceed 65 calendar days until performance acceptable to the NRC has been demonstrated and the Commission has issued formal approval to perform physical inventories at intervals not to exceed 185 calendar days. Licensees who have prior experience with process monitoring and/or can demonstrate acceptable performance against all MC&A plan commitments may request authorization to perform inventories at intervals not to exceed 185 calendar days at an earlier date.

- NRC's intention for the rule change. (paragraph (d))
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Revise paragraph (d) to replace "FNMC" plan with "MC&A" plan. Additionally, the times to perform physical inventories would be expressed in terms of calendar days.

§ 74.51 Nuclear material control and accounting for strategic special nuclear material. (continued)

- Estimated hours to implement and conduct annual operations for the rule change. (paragraph (d))

Category I	0 hours.
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.53 Process monitoring.

(a) Licensees subject to § 74.51 shall monitor internal transfers, storage, and processing of SSNM. The process monitoring must achieve the detection capabilities described in paragraph (b) of this section for all SSNM except:

* * * * *

(3) SSNM with an estimated measurement standard deviation greater than 5 percent that is either input or output material associated with a unit that processes less than five formula kilograms over a period of 95 calendar days; and

(4) SSNM involved in research and development operations that process less than five formula kilograms during a period of seven calendar days.

* * * * *

(c) * * *

(1) Perform material balance tests on a lot or a batch basis, as appropriate, or at intervals not to exceed 30 calendar days, whichever is sooner, and investigate any difference greater than 200 grams of plutonium or U-233 or 300 grams of U-235 that exceeds three times the estimated standard error of the inventory difference;

* * * * *

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§ 74.53 Process monitoring. (continued)

- NRC's intention for the rule change.
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Modify the references to due dates and reporting frequencies to uniformly express most timeframes in terms of calendar days (e.g., 7, 30, 60, 65, 95, 185, or 370 calendar days). Using calendar days avoids the existing uncertainty over whether weekends and holidays are counted in determining whether or not a licensee has taken timely action. The clarifications are intended to make 10 CFR part 74 more internally consistent.
  - Clarify paragraph (a)(3) by replacing "a consecutive three-month period" with "a period of 95 calendar days."
  - Clarify paragraph (a)(4) by replacing "any seven-consecutive-day period" with "a period of 7 calendar days."
  - Clarify paragraph (c)(1) by replacing "monthly" with "at intervals not to exceed 30 calendar days."

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§ 74.53 Process monitoring. (continued)

- Estimated hours to implement and conduct annual operations for the rule change.

Category I	0 hours.
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

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§ 74.57 Alarm resolution.

* * * * *

(c) Each licensee shall notify the NRC Headquarters Operations Center by telephone of any MC&A alarm that remains unresolved beyond the time period specified for its resolution in the licensee's MC&A plan. Notification must occur within 24 hours except when a holiday or weekend intervenes in which case the notification must occur on the next scheduled workday. The licensee may consider an alarm to be resolved if:

* * * * *

- NRC's intention for the rule change.
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
- Revise paragraph (c) to replace "fundamental nuclear material control plan" with "MC&A plan."
- The term MC&A plan is not an exact name that licensees are required to use and licensees will not be required to change the names of their existing plans

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§ 74.57 Alarm resolution . (continued)

- Estimated hours to implement and conduct annual operations for the rule change.

Category I	0 hours.
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable

§ 74.59 Quality assurance and accounting requirements.

* * * * *

(e) * * *

(7) Investigate and take corrective action, as appropriate, to identify and reduce associated measurement biases when, for like material types (i.e., measured by the same measurement system), the net cumulative shipper/receiver differences accumulated over a period not to exceed 185 calendar days results in a value greater than one formula kilogram or 0.1 percent of the total amount received.

* * * * *

(f) * * *

(1) Except as required by part 75 of this chapter, perform a physical inventory at least every 185 calendar days and within 45 calendar days after the start of the ending inventory:

* * * * *

(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;

* * * * *

§ 74.59 Quality assurance and accounting requirements . (continued)

(h) * * *

(2) * * *

(ii) Any scrap measured with a standard deviation greater than 5 percent of the measured amount is recovered so that the results are segregated by inventory period and recovered within 185 calendar days of the end of the inventory period in which the scrap was generated except where it can be demonstrated that the scrap measurement uncertainty will not cause noncompliance with § 74.59(e)(5).

* * * * *

(5) Designate *one or more* material balance areas ~~*and*~~ *or one or more* item control areas *or a combination of such areas* and assign custodial responsibility ~~*for each of these areas*~~ in a manner that ensures that such responsibility can be effectively executed for all SSNM possessed under license.

* * * * *

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§ 74.59 Quality assurance and accounting requirements. (continued)

- NRC's intention for the rule change.
  - No change to a licensee's MC&A program that has already been successfully implemented
  - No change in the hours to implement and conduct annual operations for the MC&A program.
  - Update paragraph (e)(7) to correct SSNM measurement differences "accumulated over a six-month period" to instead reference "a period not to exceed 185 calendar days."
  - Update paragraph (f)(1), to perform a physical inventory "every six calendar months" to instead reference "every 185 calendar days," and update "45 days" \to specify "45 calendar days."

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§ 74.59 Quality assurance and accounting requirements. (continued)

- NRC's intention for the rule change. (continued)
- Modifying the tamper-safing provision in paragraph (f)(2)(i) by adding at its end the phrase "and that include control of access to, and distribution of, unused seals and records," in order to make this provision consistent across subparts C, D, and E of 10 CFR part 74.
- Update the required internal controls regarding how frequently scrap material must be measured by replacing "six months" with "185 calendar days" in, paragraph (h)(2)(ii).
- Revise paragraph (h)(5) by adding at its beginning a requirement to designate MBAs and ICAs, in order to make this provision consistent across subparts C, D, and E of 10 CFR part 74.

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§ 74.59 Quality assurance and accounting requirements. (continued)

- Estimated hours to implement and conduct annual operations for the rule change.

Category I	0 hours.
Category II	0 hours/Not applicable
Category III	0 hours/Not applicable
Category III, enrichment	0 hours/Not applicable
NPP or COL	0 hours/Not applicable
TRTR	0 hours/Not applicable
ISFSI	0 hours/Not applicable
Other	0 hours/Not applicable