COMSECY-12-0026

November 6, 2012

MEMORANDUM FOR: Chairman Macfarlane
Commissioner Svinicki
Commissioner Apostolakis
Commissioner Magwood
Commissioner Ostendorff

FROM: Annette Vietti-Cook, Secretary ***/RA/***

SUBJECT: COMSECY-12-0026 – REVISIONS TO PROPOSED RULE: AMENDMENTS TO MATERIAL CONTROL AND ACCOUNTING REGULATIONS (RIN 3150-AI61)

In the Staff Requirements Memorandum (SRM) for SECY-11-0175, "Proposed Rule: Amendments to Material Control and Accounting Regulations (RIN 3150-AI61)," dated April 12, 2012, the Commission directed the staff to provide the revised Federal Register Notice (FRN) to the Commission for information 5 days prior to its submittal for publication in the Federal Register. In a Memorandum dated October 12, 2012, the Director of the Office of Federal and State Materials and Environmental Management Programs provided the Commission with the revised FRN and an explanation of how the issues identified in the SRM were addressed.

Subsequently, in an email dated November 1, 2012, the Office of the Secretary provided the Commission with the revised FRN for the proposed rule along with the draft Environmental Assessment and Finding of No Significant Impact, and the draft Regulatory Analysis, and indicated that the Secretary would sign the FRN on November 9, 2012, and send it to the Office of the Federal Register for publication.

At the request of Commissioner Svinicki, the attached proposed changes to the FRN, Environmental Assessment and Regulatory Analysis have been converted to a COMSECY. Vote sheets will be forwarded electronically. Please reply to SECY by COB Wednesday, November 21, 2012.

Attachments:
As stated

cc: EDO
OGC
OPA
CFO

[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Parts 40, 70, 72, 74, and 150

[NRC-2009-0096]

RIN 3150-AI61

Amendments to Material Control and Accounting Regulations

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC or the Commission) is proposing to amend its regulations for material control and accounting (MC&A) of special nuclear material (SNM). The NRC's regulations specify requirements for collecting and reporting information about SNM that is held by a licensee. The MC&A regulations ensure that the information about SNM is accurate, authentic, and sufficiently detailed to enable a licensee to maintain current knowledge of its SNM and manage its program for securing and protecting SNM. The MC&A, together with physical protection of facilities and information security requirements, make up the primary elements of the NRC's SNM safeguards program. The MC&A component of the larger safeguards program helps ensure that SNM within a fuel cycle facility is not stolen or otherwise diverted from the facility and promotes the NRC's strategic goal of maintaining adequate protection over the use and management of radioactive materials.

The goal of this rulemaking is to revise and consolidate the MC&A requirements in order to update, clarify and strengthen them. The proposed amendments add new requirements that would apply to NRC licensees who are authorized to possess SNM in a quantity greater than 350 grams. 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. General performance objectives (GPOs) would be made applicable to an additional set of NRC licensees who are authorized to possess more than 350 grams of SNM. Some current exemptions in the MC&A regulations would be removed or modified to strengthen the requirements, and defined terms would be added to clarify the regulations. Plain language revisions would also be made. Guidance documents would be updated as necessary to reflect these proposed changes.

The NRC seeks input on several specific aspects of the proposed rule, including the appropriate threshold amount of SNM on which item control requirements should be imposed, and the proposed adoption of a two-person rule to verify the accuracy of MC&A information that licensees must collect and report. With respect to these and other proposed requirements that go beyond consolidation and clarification of existing requirements, the NRC seeks input on the need for the requirements in relation to the proportionate levels of risk represented by the processes and material quantities and forms that are used at different types of licensee facilities. The NRC also seeks input on whether there are less burdensome alternatives to the proposed requirements that would still ensure the information about SNM is accurate.

DATES: Submit comments on the rule by **[insert 100 days from date of publication in the *Federal Register*]**. Submit comments specific to the information collections aspects of this rule by **[insert date 30 days from date of publication in the *Federal Register*]**.

Comments received after these dates will be considered if it is practical to do so, but the NRC is able to assure consideration only for comments received on or before these dates.

ADDRESSES: You may access information and comment submissions related to this proposed rule, which the NRC possesses and are publicly available, by searching on http://www.regulations.gov under Docket ID NRC-2009-0096. You may submit comments by any of the following methods (unless this document describes a different method for submitting comments on a specific subject):

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID NRC-2009-0096. Address questions about NRC dockets to Carol Gallagher; telephone: 301-492-3668; e-mail: Carol.Gallagher@nrc.gov.

- **E-mail comments to**: Rulemaking.Comments@nrc.gov. If you do not receive an automatic e-mail reply confirming receipt, then contact us at 301-415-1677.

- **Fax comments to:** Secretary, U.S. Nuclear Regulatory Commission at 301-415-1101.

- **Mail comments to:** Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff.

- **Hand deliver comments to:** 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m. (Eastern Time) Federal workdays; telephone: 301-415-1677.

For additional direction on accessing information and submitting comments, see "Accessing Information and Submitting Comments" in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Thomas Young, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-5795, e-mail: Thomas.Young@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Accessing Information and Submitting Comments.

A. Accessing Information

Please refer to Docket ID NRC-2009-0096 when contacting the NRC about the availability of information for this proposed rule. You may access information related to this

proposed rule, which the NRC possesses and is publicly available, by any of the following methods:

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID NRC-2009-0096.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may access publicly available documents online in the NRC Library at http://www.nrc.gov/reading-rm/adams.html. To begin the search, select "ADAMS Public Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced in this document (if that document is available in ADAMS) is provided the first time that a document is referenced. In addition, for the convenience of the reader, the ADAMS accession numbers are provided in a table in the section of this document entitled, "Availability of Documents."

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

B. Submitting Comments

Please include Docket ID NRC-2009-0096 in the subject line of your comment submission, in order to ensure that the NRC is able to make your comment submission available to the public in this docket.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at http://www.regulations.gov as well as enter the comment submissions into

ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information. If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment submissions into ADAMS.

II. Introduction and Summary of Proposed Revisions to MC&A Regulations.

The NRC plans to amend Title 10 of the *Code of Federal Regulations* (10 CFR) to consolidate the MC&A provisions in 10 CFR part 74. Conforming changes would be made to 10 CFR parts 40, 70, 72 and 150. The changes are intended to update, clarify, and strengthen MC&A requirements.

The existing 10 CFR part 74 regulations contain subparts A through F, and the MC&A requirements are organized in a graded fashion with subpart E containing the most rigorous set of MC&A requirements. General MC&A reporting and recordkeeping requirements in subpart B apply to all materials licensees authorized to possess SNM under 10 CFR part 70, and such requirements also apply to licensees under 10 CFR parts 50 or 52, and ISFSI licensees under 10 CFR part 72. Licensees authorized to possess SNM of “low strategic significance” (defined in 10 CFR 74.4) are subject to the more rigorous MC&A requirements in subpart C. Such licensees operate what are known as Category III facilities, which include licensed uranium enrichment facilities and the three fuel fabrication facilities supplying fresh fuel assemblies (containing low enriched uranium) to commercial power reactors. Licensees authorized to possess SNM of “moderate strategic significance” (defined in 10 CFR 74.4) are subject to the

MC&A requirements in subpart D, and are authorized to operate Category II facilities (no such facilities now operate). The most rigorous MC&A requirements are in subpart E, and apply to licensees authorized to possess a "formula quantity" (defined in 10 CFR 74.4) of strategic special nuclear material (SSNM). Such 10 CFR part 70 licensees operate what are known as Category I facilities. Only two such facilities now operate, and they fabricate fuel (containing high enriched uranium) for use by the U.S. Navy and in research and test reactors. One potential Category I facility may operate in the future as a mixed oxide fuel fabrication facility.

Table 1 shows the location of the proposed MC&A requirements within 10 CFR part 74 and the types of facilities which are licensed to possess SNM. A list of specific questions about the proposed requirements is provided in Section III of this document.

Table 1. Location of Proposed MC&A Requirements for Certain Types of Facilities

New Requirement	**Location in proposed 10 CFR part 74 by type of facility**					
	Subparts A and B			**Subpart C**	**Subpart D**	**Subpart E**
	Part 70 license authorizing > 350 grams	Part 50 or 52 Reactor Facility	Part 72 ISFSI	Part 70 Fuel Cycle Facility		
				Category III	Category II	Category I
General performance objectives	74.3			modified the existing requirements in 74.31(a) and 74.33(a) to refer to 74.3; retained the unique performance objectives in 74.33(a) for an enrichment facility	modified the existing requirement in 74.41(a) to refer to 74.3	modified the existing requirement in 74.51(a) to refer to 74.3 and retain unique performance objectives 74.51(a)
Item control system	no requirement	74.19(d)		modified the existing requirements in 74.31(c)(6) and 74.33(c)(6) to remove some exemptions	modified the existing requirement in 74.43(b)(5) to remove some exemptions	no modification would be needed for existing 74.55, Item Monitoring
Tamper-safing of containers or vaults	no requirement			74.31(c)(9) 74.33(c)(9)	clarified the existing requirement in 74.43(c)(3)	clarified the existing requirement in 74.59(f)(2)(i)
Two-person rule for certain operations	no requirement			74.31(c)(10) 74.33(c)(10)	74.43(c)(9)	clarified the existing requirement and added 74.59(h)(6)

MBA/ICA and custodians	no requirement	74.31(c)(11) 74.33(c)(11)	74.43(c)(10)	74.59(h)(5)

In 2008, the NRC developed an MC&A rulemaking plan (SECY-08-0059, Rulemaking Plan: Part 74 - Material Control and Accounting of Special Nuclear Material, ADAMS Accession No. ML080580307) and submitted it to the Commission for its consideration. In accordance with the Commission's approval of the rulemaking plan's Option 4 in the Staff Requirements Memorandum (SRM) for SECY-08-0059 (ADAMS Accession No. ML090360473), various changes would be made to 10 CFR part 74. The considerations on which this rulemaking action are based, and the proposed substantive changes to the MC&A requirements, may be summarized as follows:

General Performance Objectives

The existing GPO requirements are set forth for each type of facility in 10 CFR 74.31(a), 74.33(a), 74.41(a), and 74.51(a). Building on these existing GPOs, the NRC proposes to list five common GPOs in a new 10 CFR 74.3, and these requirements would apply to all licensees authorized to possess more than 350 grams of SNM – a set of licensees that includes power reactors and ISFSIs. The 10 CFR 74.3 GPOs would largely replace the existing GPOs for Category I, II, and III facilities. Some GPOs that are unique to the Category III enrichment facilities, and to the Category I fuel fabrication facilities, would remain in revised 10 CFR 74.33(a) and 74.51(a), respectively. The NRC does not expect that Category I, II, and III licensees would need to alter their MC&A programs in response to the 10 CFR 74.3 GPOs, because these GPOs are similar to the existing GPOs.

Proposed 10 CFR 74.3(e) would require that information related to MC&A be stored in a locked file cabinet or office.

Licensees authorized to possess 350 grams of SNM or less would not be made subject to the GPO requirements, because such licensees are not required to implement a formal MC&A program. These licensees are subject to the existing reporting requirements in 10 CFR 74.11, 74.13, and 74.15, which are applicable to licensees authorized to possess 1 gram or more of SNM. Agreement State licensees are similarly subject to the corresponding reporting requirements in 10 CFR 150.16 and 150.17.

Item Control System

Existing subparts C and D of 10 CFR part 74 contain item control provisions applicable to Category III and II facilities, respectively, that would be modified. In addition, the NRC additionally proposes to add clarifying definitions of two related terms to 10 CFR 74.4. *Item control system* would be defined as a system for tracking the creation, identity, element and isotopic content, location, and disposition of all items, which would enable the licensee to maintain current knowledge of each item in its possession. *Item control area* (ICA) would be defined as a designated administrative area within the controlled access area, in which SNM would be 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 would be indicated by the identity of an item and its assigned material quantity.

As is the case for the GPO requirements previously discussed, licensees authorized to possess 350 grams of SNM or less would not be subject to item control requirements. Starting in 2009, such licensees were required to submit material balance and physical inventory reports on an annual basis under 10 CFR 74.13 (or 10 CFR 150.17 for Agreement State licensees). As there have been no reports of lost SNM items from these licensees, the NRC's view is that imposing item control requirements on them is not necessary.

In a new 10 CFR 74.19(d), the NRC is proposing to expand 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. This requirement is consistent with guidance developed by the reactor industry American National Standards Institute (ANSI) in ANSI N15.8 ("Methods of Nuclear Material Control—Material Control Systems—Special Nuclear Material Control and Accounting Systems for Nuclear Power Plants"), dated February 18, 2009. The NRC has published for comment (77 FR 28407; May 14, 2012) a draft version of Regulatory Guide (RG) 5.29, "Nuclear Material Control Systems for Nuclear Power Plants," which proposes to endorse use of the ANSI N15.8 guidance. Requiring item control systems at reactors and ISFSIs would ensure that SNM is adequately accounted for at these sites.

Licensed Category III fuel fabrication and uranium enrichment facilities are already subject to item control requirements under 10 CFR 74.31(c)(6) and 74.33(c)(6), respectively. Similarly, licensees of Category II facilities are subject to item control requirements under 10 CFR 74.43(b)(6). These requirements are being modified, in part, by removing the exemption provisions for items existing for less than 14 days. These exemptions date from when most facilities did not have, as part of their MC&A programs, automated tracking systems and computer-based accounting systems to help track SNM items. Today, licensees have the ability to track items immediately upon creation instead of waiting for hand-written ledgers to be updated. Removing these exemptions will require tracking of items that could contain large quantities of SNM but were not now subject to a facility's item control system.

The 10 CFR 74.31(c)(6) and 74.33(c)(6) requirements would further be modified by removing the exemptions for individual items containing less than 500 grams of uranium-235, which may contain up to a cumulative total of 50 kilograms of uranium-235. Similarly, for a Category II facility, the exemption (in 10 CFR 74.43(b)(6)) for individual items 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 percent or more but less than 20 percent in the uranium-235 isotope, would be removed. By not allowing large quantities of SNM to be exempt from a Category II or Category III facility's item control system, a more complete and comprehensive inventory would be achieved. Further, since all licensees are required by existing 10 CFR 74.11 to report the loss of 1 gram or more of SNM, removing these item control exemptions increases the internal consistency of the MC&A requirements.

Category I facilities are subject to the item monitoring requirements in10 CFR 74.55, which are not being changed in this rulemaking. Consistent with the present graded approach, these subpart E item monitoring requirements are part of the more stringent MC&A program that applies to Category I facilities. Item monitoring differs significantly from item control. As compared to the item control requirements applicable to Category II and III facilities, the item monitoring requirements in 10 CFR 74.55 are more stringent and rigorous with respect to the scope of item test frequencies, statistical sampling plans, and detection limits. The NRC has found no problems with the item monitoring programs used by Category I licensees, and therefore no changes to 10 CFR 74.55 are proposed.

Tamper-Safing

The NRC proposes to strengthen the existing MC&A requirements related to tamper-safing containers and vaults which contain SNM. The term *tamper-safing* would be defined as the use of devices on containers or vaults in a manner and at a time that ensures a clear indication of any violation of the integrity of previously made measurements of SNM within the container or vault.

Category I and II facilities are required to follow these MC&A requirements by existing 10 CFR 74.59(f)(2)(i) and 10 CFR 74.43(c)(3), respectively. By adding 10 CFR 74.31(c)(9) and

74.33(c)(9), the NRC proposes to make tamper-safing requirements applicable to licensed Category III fuel fabrication and uranium enrichment facilities as well. Such licensees would be required to develop tamper-safing procedures and use tamper-safing devices on containers or vaults holding SNM. These procedures must "include control of access to, and distribution of, unused seals and records." The quoted language is part of existing 10 CFR 74.43(c)(3), and would be added to existing 10 CFR 74.59(f)(2)(i) so that the tamper-safing requirements in subparts C, D, and E of 10 CFR part 74 would be similarly worded. As the intent of the tamper-safing requirement remains the same, the changes in wording are not expected to affect the MC&A programs at Category I and II facilities.

The proposed 10 CFR 74.31(c)(9) and 74.33(c)(9) would incorporate as requirements common practices and procedures already used at Category III facilities, and would supplement and strengthen their existing SNM item control and inventory programs that help to protect against the unauthorized and unrecorded removal of SNM. All Category III facilities routinely tamper-safe containers of SNM so this regulatory change is not expected to be a burden for the affected licensees.

The use of tamper-safing procedures would not be required at other types of NRC-licensed facilities, since SNM at such facilities is generally not in forms where tamper-safing seals can be applied. At reactors, for example, fuel assemblies are not amenable to tamper-safing because the fuel assemblies are not stored in containers where unauthorized opening of a container could be detected with a tamper-safing device. Containers for spent fuel at ISFSIs are welded shut and are sufficiently difficult to open that tamper-safing is not required. At facilities where only sealed sources are used (e.g., at industrial, academic, and research facilities authorized to possess 350 grams or less of SNM), tamper-safing is not required because the manner in which the sealed sources are manufactured and sealed adequately prevents removal of the SNM.

Two-Person Rule

To strengthen the MC&A requirements, the NRC proposes to add a definition of a two-person rule to 10 CFR 74.4. The definition would be referenced in similarly-worded provisions added as 10 CFR 74.59(h)(6) (applicable to Category I facilities); 10 CFR 74.43(c)(9) (applicable to Category II facilities); 10 CFR 74.31(c)(10) (applicable to Category III fuel fabrication facilities); and 10 CFR 74.33(c)(10) (applicable to Category III uranium enrichment facilities). The term *two-person rule* would be defined as a requirement that at least two authorized and qualified persons would be present whenever an information collection and reporting task covered by the rule is performed. Under the proposed definition, an authorized person would be a worker who has been authorized by the licensee to perform the task. A qualified person would be a worker who has sufficient knowledge to determine if the proper procedure has been followed, meets any formal qualification requirements established by the licensee for performing the task, and is capable of attesting that the information collection and reporting task has been performed accurately. Such workers must be able to verify both that the task was completed in accordance with the proper procedures, and that the information collected and recorded during the task is accurate.

The proposed two-person rule minimizes the chance that an individual would intentionally or unintentionally inaccurately record information concerning the locations and quantities of SNM, or would inaccurately identify SNM containers and their tamper-safing seals. The primary objective of this requirement is to ensure the accuracy of MC&A records. The two-person rule would have additional security-related benefits, such as reducing the likelihood that a single individual would be able to carry out unauthorized diversions of SNM, and would increase the likelihood that deviation from safety and security procedures would be detected.

The proposed provisions would require Category I, II, and III licensees to ensure that two qualified and authorized individuals are present when tamper-safing devices are applied to SNM

containers; when physical inventories are performed; when SNM is transferred; and when SNM that is not under an active control measure is handled. It is important to ensure that information concerning tamper-safing of a container is accurate because some tamper-safed containers may not be reopened for months or even years after a seal is applied. Physical inventories are one of the primary means through which the accuracy of MC&A information is verified. Mistakes in performing a physical inventory could result in discrepancies between the MC&A accounting system and actual locations of material not being identified and resolved in a timely manner. Having two qualified individuals perform the physical inventory provides a second check that the results are accurately recorded. Many licensees already deploy two-person teams for physical inventories. Transferring SNM between material balance areas (MBAs) and ICAs is already routinely conducted by two people at all fuel cycle facilities because of the importance of ensuring the accuracy of movements of SNM. The use of a two-person rule for handling of SNM that is not under an active control measure would provide additional assurance that information generated or recorded for the operation being performed is accurate.

Licensed Category I facilities now rely on internal procedures that are similar to the proposed two-person rule to meet the existing 10 CFR 74.51(b) requirement that their MC&A systems incorporate checks and balances sufficient to detect falsification of data and reports that could conceal diversion of SNM by 1) a single individual, or 2) collusion between two persons.

The two-person rule would not apply to reactors, ISFISIs, and licensees authorized to possess 350 grams of SNM or less. At reactors and ISFSIs, it is not likely that an individual can remove SNM without being detected, as the SNM is generally in the form of fuel rods and fuel assemblies that are very large and heavy and require access to and use of large equipment to handle and move. Licensed facilities authorized to possess 350 grams of SNM or less – e.g., industrial, academic, and research facilities – do not use storage vaults or other types of areas

(such as material balance areas and item control areas) where the two-person rule is typically applied. Most SNM at these facilities is in the form of sealed sources and generally there is no need to tamper-safe sealed sources for the reasons previously discussed. As these facilities generally possess few items containing SNM, the likelihood of errors occurring during a physical inventory is low.

Material Balance Areas, Item Control Areas, and Custodians

As previously discussed, the NRC proposes to add a definition of an ICA to 10 CFR 74.4. Similarly, the NRC proposes to add a definition of a MBA to 10 CFR 74.4. The term *material balance area* would be defined as 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, if known.

The proposed rule adds requirements that all Category I, II, and III licensees must designate ICAs and MBAs at their facilities, and identify custodians who would be responsible for monitoring these areas. The proposed requirements are set forth in 10 CFR 74.59(h)(5), 74.43(c)(10), 74.31(c)(11), and 74.33(c)(11). These required areas form the basis for nuclear material accounting and control of all SNM within a Category I, II, or III facility's boundaries, and these new requirements are expected to enhance the capability of licensees to detect the unauthorized removal of SNM. In general, smaller accounting areas make control of SNM easier, and reduce the size of the area in which detected losses of SNM can be attributed.

All Category I and III facilities (there are no operating Category II facilities) are voluntarily using MBAs and ICAs and have designated custodians assigned to them, so these proposed 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.

Licensees at other types of NRC-licensed facilities do not use complex processing operations involving large quantities of SNM in multiple forms and their operations do not involve moving SNM frequently throughout the facility. Accordingly, the NRC is proposing to make these MBA, ICA, and custodian requirements applicable only to licensed Category I, II, and III facilities.

Other Proposed Changes to the Material Control and Accounting Requirements

Other proposed changes to the MC&A requirements are considered to be non-substantive (in that they are either plain language revisions to improve clarity, conforming changes, or are otherwise organizational or administrative in nature) are summarized as follows:

- The MC&A requirements for ISFSIs that are currently located in 10 CFR part 72 would be relocated to 10 CFR part 74, including requirements for reporting to the Nuclear Materials Management and Safeguards System (NMMSS). These 10 CFR part 72 requirements duplicate reporting requirements in existing subpart B of 10 CFR part 74 and duplicate similar reporting requirements applicable to certain types of source material as specified in 10 CFR 40.64. The following list shows how 10 CFR part 74 requirements relate to the 10 CFR part 72 requirements being removed:
    - The requirement for recordkeeping at 10 CFR 72.72(a) would be covered in proposed 10 CFR 74.19(d).
    - The requirement for physical inventory at 10 CFR 72.72(b) would be covered in 10 CFR 74.19(c).

- The requirement for written MC&A procedures at 10 CFR 72.72(c) would be covered in 10 CFR 74.19(b).
- The requirement for recordkeeping at 10 CFR 72.72(d) would be removed.
- The requirement to report loss of SNM at 10 CFR 72.74 would be covered in 10 CFR 74.11.
- The requirement for submitting material status reports to NMMSS at 10 CFR 72.76 would be covered in 10 CFR 74.13.
- The requirement for submitting nuclear material transaction reports to NMMSS at 10 CFR 72.78 would be covered in 10 CFR 74.15.

- Revisions are proposed to 10 CFR 72.72 and 72.74, and 10 CFR 72.76 and 72.78 would be deleted. Revisions would be made to 10 CFR 40.64 and 150.17(b) to remove their references to 10 CFR part 72 material status reports.
- Because some licensees have expressed confusion as to what MC&A requirements apply to a particular facility, the NRC proposes to revise the 10 CFR part 74 definitions of *formula quantity, special nuclear material of moderate strategic significance*, and *special nuclear material of low strategic significance* by conforming them to the existing definitions in 10 CFR parts 70 and 73, making clear that these classes of SNM are what is referred to, respectively, as Category I, II, and III quantities of material. Licensees authorized to possess Category I material are subject to the 10 CFR part 74 subpart E requirements, while licensees authorized to possess Category II and III material are subject to the subpart D and C requirements, respectively. To further clarify these divisions, the staff proposes to add Appendix A ("Categories of SNM") to 10 CFR part 74. Also for purposes of clarification, the NRC proposes to add defined terms for *accounting* and *material control and accounting.*

Plain language revisions are reflected in the proposed regulations, and include replacing the existing references to the fundamental nuclear material control (FNMC) plan with references

to an MC&A plan. The staff's view is that FNMC is an outdated term and does not include "accounting;" thus, it does not fully describe the accounting aspects of an MC&A program. Licensees would not be required to change the name of their FNMC plans to MC&A plans.

The defined term *effective kilograms of special nuclear material* (and references to it in several provisions) would be removed from 10 CFR part 74. Quantities of SNM would instead be expressed in gram units to simplify the accounting requirements in 10 CFR part 74 and provide consistency with the existing 10 CFR part 74 definitions of the various types of SNM, all of which specify quantities in gram units. This proposed change would also correct an inconsistency within the current 10 CFR 74.19 provisions. Existing 10 CFR 74.19(b) refers to a quantity of SNM "exceeding one effective kilogram" in specifying the set of licensees that must establish written MC&A procedures. Existing 10 CFR 74.19(c) refers to a quantity of SNM "greater than 350 grams" in specifying the set of licensees that must conduct physical inventories. 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.

Other proposed changes include revising 10 CFR 150.17(a) to conform with the proposed plain language revisions to 10 CFR 74.13. The instructions for material status reporting would be clarified in 10 CFR 74.13. The intervals and due dates for each type of facility would also be clarified in 10 CFR 74.13. No substantive changes are being proposed in this regard and licensees authorized to possess SNM under a license from an Agreement State would continue to submit material status reports to the NRC via the NMMSS. References to

due dates and reporting frequencies would be made more uniform by expressing most timeframes in terms of calendar days (e.g., 7, 30, 60, 65, 95, 185, or 370 calendar days). The interval for the number of months assigned to a licensee's assessment of the MC&A program would be retained (e.g., 12 months, 18 months, or 24 months). The retention period for records would be retained (e.g., 3 years). An Appendix A, "Categories of Special Nuclear Material," would be added to 10 CFR part 74. The appendix would be based on existing Appendix M to 10 CFR part 110, and would show the SNM quantity limits for Category I, Category II, and Category III facilities. The new appendix would also show the corresponding subpart in 10 CFR part 74 for each category, and the formulae to calculate any combination of SSNM within the quantity limits for a category. A conforming change would be made to replace the reference to 10 CFR 74.51(c) with 10 CFR 74.51(b) because the paragraph designation regarding implementation of an MC&A plan would then be consistent with the other citations listed in 10 CFR 70.32(c)(1)(i) and (iii) that refer to paragraph (b) in 10 CFR 74.31, 74.33, and 74.41.

The SECY-09-0082 ("Update on Reprocessing Regulatory Framework – Summary of Gap Analysis," ADAMS Accession No. ML091520280), dated May 28, 2009, included the NRC staff's recommendation that the existing 10 CFR 74.51(a) exemption for an irradiated fuel reprocessing plant be removed as part of this rulemaking. Proposed 10 CFR 74.51(a)(2) reflects the removal of this exemption.

The NRC placed on www.regulations.gov a preliminary version of the proposed rule language to inform stakeholders of the status of the proposed rulemaking and invited stakeholders to provide informal comments by June 30, 2011. Thirteen comment letters were received by this date, and were considered. Public input at this stage helped to develop the proposed rule in its current form.

III. Specific Request for Comments on the Proposed New Requirements.

In addition to the general opportunity to submit comments on the proposed rule, the NRC also requests comments on the following questions about the proposed new requirements:

General Performance Objectives:

In 10 CFR 74.3, the NRC proposes GPOs that would apply to all licensees authorized to possess greater than 350 grams of SNM. Are there other GPOs that the NRC should consider adding? Do the proposed GPOs impose unnecessary expenses or burdens on licensees? Should the regulatory threshold for GPOs be higher or lower than 350 grams, and if so, why? If this threshold amount is lower than 350 grams, the NRC would add a similar set of GPO requirements to 10 CFR part 150 to apply to Agreement State licensees. If that were done, how could the NRC best ensure compliance with the GPOs in Agreement States?

Item Control System:

In 10 CFR 74.19(d), the NRC proposes to make item control requirements applicable to licensed reactors and ISFSIs. Licensees of fuel cycle facilities authorized to possess Category III amounts of SNM are subject to existing item control requirements in subpart C of 10 CFR part 74, and subpart D of 10 CFR part 74 contains item control requirements that would be applicable to any future fuel cycle facility that may be authorized to possess Category II amounts of SNM. Are such requirements necessary at reactor and ISFSI sites? Are there alternatives that should be considered? Should other types of licensees be required to have an item control system? What is the appropriate regulatory threshold for requiring an item control system under 10 CFR part 74?

Tamper-Safing:

In 10 CFR 74.31(c)(9) and 74.33(c)(9), the NRC proposes a new requirement for tamper-safing containers and vaults. The NRC also proposes clarifying the existing requirements for tamper-safing in 10 CFR 74.43(c)(3) and 74.59(f)(2)(i) to provide a consistent approach for all Category I, II, and III licensees. Should tamper-safing be required for Category III licensees? Are there alternative measures that should be considered?

Two-Person Rule:

In 10 CFR 74.31(c)(10), 74.33(c)(10), and 74.43(c)(9), the NRC proposes a new requirement for use of a two-person rule for specific tasks that involve information collection and reporting. The NRC also proposes that a similar two-person rule be added to 10 CFR 74.59(h)(6) (consistent with the existing 10 CFR 74.51(b) requirement to incorporate checks and balances to detect falsification of data and reports) to provide a consistent approach for all Category I, II, and III licensees. Should the two-person rule be required for Category I, II, and III licensees? Are there certain operations or areas that should be exempted from the two-person rule? Are there other information collection and reporting tasks for which the two-person rule should apply? What alternative or less burdensome approaches should the NRC consider?

Material Balance Areas, Item Control Areas, and Custodians:

In 10 CFR 74.31(c)(11), 74.33(c)(11), and 74.43(c)(10), the NRC proposes a new requirement to identify specific MBAs and ICAs, and to designate custodians for these areas. The NRC also proposes that the existing requirement for custodians in 10 CFR 74.59(h)(5) be revised to match the new language to provide a consistent approach for all Category I, II, and III licensees. Should use of MBAs and ICAs be required? Should other facilities be required to have MBAs and ICAs? Are there alternatives that should be considered?

Alternatives resulting in equivalent outcome and less burden:

Throughout this proposed rule, the NRC is proposing measures that would strengthen MC&A requirements at licensee sites. Are there alternative ways to strengthen existing MC&A requirements that would impose less burden on NRC licensees? What specific alternatives should be considered? For the proposed requirements that go beyond consolidation and clarification, the NRC is seeking input on the need for such requirements in relation to the proportionate levels of risk represented by the processes and material quantities and forms of SNM that are used at different types of licensee facilities.

IV. Discussion.

To further describe this proposed rulemaking the following series of questions and answers is set forth.

A. Whom would this action affect?

Licensees authorized by the NRC to possess SNM in a quantity greater than 350 grams would be affected by the proposed rule. For example, the proposed 10 CFR 74.3 would require a licensee authorized to possess a quantity of SNM greater than 350 grams to implement and maintain a material control and accounting program that enables the licensee to achieve the GPOs provided in the new 10 CFR 74.3.

Agreement State licensees authorized to possess SNM are subject to the 10 CFR 150.17 material status reporting requirements. The proposed changes to these requirements are plain language revisions, and conform with the proposed plain language revisions to the 10 CFR 74.13 material status reporting requirements. These changes do not require any action by the Agreement State licensees.

B. Why are the requirements being revised?

Many of the current MC&A requirements were developed over 20 years ago and need to be updated to include commonly used terms. Item control system requirements would be strengthened by including items that are currently exempted from these requirements. The requirements for general performance objectives to deter, detect, or aid in responding to any loss, theft, diversion or misuse of SNM need to be extended to NRC licensees who are not authorized to possess Category I, II, or III amounts of material, but who are authorized to possess SNM in a quantity greater than 350 grams. The NRC's view is that all MC&A regulations governing SNM held by NRC licensees should be in 10 CFR part 74 in order to provide a focal point and a complete framework/umbrella for controlling and accounting for all SNM under NRC oversight.

C. When would these actions become effective?

The NRC expects that the final rule would be published within 12 months of the publication of the proposed rule for comment. The revisions to the regulations would become effective 90 days after the publication of the final rule. Question R in this section requests comments on the cumulative effects of this rulemaking and specifically asks whether an effective date of 6 months from the date the final rule is published in the *Federal Register* would provide sufficient time to implement the new proposed requirements.

D. How does NRC use a graded approach for MC&A?

The NRC currently uses a graded, risk-informed approach for MC&A. Based on the quantity and form of material a licensee possesses, the licensee is subject to specific requirements that increase with the amount of SNM the licensee is authorized to possess. Table 2 shows the requirements that apply to various types of licensed facilities based on their possession limits and how the NRC proposes to strengthen information collection and reporting requirements through this rulemaking.

Table 2. NRC's Graded, Risk-Informed Approach to Material Control and Accounting

Grams of SNM the Licensee is Authorized to Possess	Current MC&A Requirements in 10 CFR part 74	Proposed Changes to Strengthen MC&A Requirements in 10 CFR part 74
1 gram or more of SNM (all licensees, including part 70 licensees authorized to possess 350 grams or less and licensees authorized by an Agreement State)	74.11/150.16 Reporting loss and theft 74.13/150.17 Material status reports for NMMSS 74.15/150.16 Material transaction reports for NMMSS 74.19(a) Recordkeeping 74.19(d) Retention of records	Existing 74.19(d) would be moved to 74.19(e) to accommodate a new item control requirement for reactors and ISFSIs.
>350 grams of SNM (part 70 licensees authorized for industrial, academic, and research types of use)	74.11 Reporting loss and theft 74.13 Material status reports for NMMSS 74.15 Material transaction reports for NMMSS 74.19(a) Recordkeeping 74.19(b) Written procedures 74.19(c) Physical inventory 74.19(d) Retention of records	New GPOs in 74.3. To replace the term "one effective kilogram," 74.19(b) would apply to licensees possessing greater than 350 grams of SNM. Existing 74.19(d) would be moved to 74.19(e) to accommodate a new item control requirement for reactors and ISFSIs.
Reactors licensed under part 50 or part 52 and ISFSIs licensed under part 72	74.11 Reporting loss and theft 74.13 Material status reports for NMMSS 74.15 Material transaction reports for NMMSS 74.19(a) Recordkeeping 74.19(b) Written procedures 74.19(c) Physical inventory 74.19(d) Retention of records	New GPOs in 74.3. New requirement for item control in 74.19(d). Existing 74.19(d) would be designated as 74.19(e).
>350 grams of SNM of low strategic significance (also known as Category III facilities) *Current threshold of one effective kilogram would be replaced with 350 grams*	74.11 Reporting loss and theft 74.13 Material status reports for NMMSS 74.15 Material transaction reports for NMMSS 74.17 Physical inventory summary report 74.31 (a) GPOs	74.31(a)(1)-(3) GPOs would be revised and relocated to 74.3. 74.31(b) Replace FNMCP with MC&A Plan. Remove two exemptions related to item control in

	(b) FNMCP (c)(1) Management and procedures (c)(2) Measurement (c)(3) Measurement control (c)(4) SEID (c)(5) Physical inventory (c)(6) Item control (c)(7) Shipper-receiver differences (c)(8) Assessments (d) Recordkeeping and retention	74.31(c)(6). New requirement for tamper-safing in 74.31(c)(9). New requirement for two-person rule in 74.31(c)(10). New requirement for MBAs and ICAs and for custodians in 74.31(c)(11).
>350 grams of SNM of low strategic significance for uranium enrichment facilities, also known as Category III enrichment facilities) *Current threshold of one effective kilogram would be replaced with 350 grams*	74.11 Reporting loss and theft 74.13 Material status reports for NMMSS 74.15 Material transaction reports for NMMSS 74.17 Physical inventory summary report 74.33 (a) GPOs (b) FNMCP (c)(1) Management and procedures (c)(2) Measurement (c)(3) Measurement control (c)(4) Physical inventory (c)(5) Detection program (c)(6) Item control (c)(7) Shipper-receiver differences (c)(8) Assessments (d) Recordkeeping and retention	74.33(a)(1)-(9) GPOs revised and relocated to 74.3, except for five retained in proposed 74.33(a)(1)-(5). 74.33(b) Replace FNMCP with MC&A Plan. Remove two exemptions related to item control in 74.33(c)(6). New requirement for tamper-safing in 74.33(c)(9). New requirement for two-person rule in 74.33(c)(10). New requirement for MBAs and ICAs and custodians in 74.33(c)(11).
>1000 grams of SNM of moderate strategic significance (there is currently no operating Category II facility or applicant for such a license) *Current threshold of one effective kilogram would be replaced with 1000 grams*	74.11 Reporting loss and theft 74.13 Material status reports for NMMSS 74.15 Material transaction reports for NMMSS 74.17 Physical inventory summary report 74.41 (a) GPOs (b) FNMCP (c) Checks and balances 74.43 (b)(1)-(4) Management and procedures	74.41(a)(1)-(4) GPOs revised and relocated to 74.3. 74.41(b) Replace FNMCP with MC&A Plan. Remove two exemptions related to item control in 74.43(b)(6). Reword the requirement for tamper-safing in 74.43(c)(3). New requirement for

	(b)(5)-(6) Item control (b)(7) Shipper-receiver differences (b)(8) Assessments (c)(1) Identification of items (c)(2) Documenting transfers (c)(3) Tamper-safing (c)(4) Validity of prior measurements (c)(5)-(8) Physical inventory (d) Recordkeeping and retention 74.45 (b) Measurements (c) Measurement control	two-person rule in 74.43(c)(9). New requirement for MBAs and ICAs and custodians in 74.43(c)(10).
>5000 grams of formula quantities of strategic SNM (also known as Category I facilities) *Current threshold of five formula kilograms would be replaced with 5000 grams*	74.11 Reporting loss and theft 74.13 Material status reports for NMMSS 74.15 Material transaction reports for NMMSS 74.17 Physical inventory summary report 74.51 (a) GPOs (b) Checks and balances (c) FNMCP (d) Bimonthly physical inventory 74.53 Process monitoring 74.55 Item monitoring 74.57 Alarm resolution 74.59 (a) Quality assurance (b) Management and procedures (c) Qualification and training (d) Measurements (e) Measurement control (f) Physical inventory (f)(2)(i) Tamper-safing (g) Accounting records retention (h)(1) Shipper-receiver differences (h)(2) Scrap control (h)(3) Checks and balances for human error (h)(4) Assessments (h)(5) Custodians	74.51(a)(1)-(5) GPOs revised and relocated to 74.3, except for three retained in proposed 74.33(a)(1)(i)-(iii). Removed the exemption for irradiated fuel reprocessing plants in 74.51(a). Switching 74.51(b) and (c) for consistency with other sections of part 74. New 74.51(b) Replace FNMCP with MC&A Plan. Reword the requirement for tamper-safing in 74.59(c)(3). Revise the requirement for custodians to include new requirement for MBAs and ICAs in 74.59(h)(5). New requirement for two-person rule in 74.59(h)(6).

E. What are the changes to the general performance objectives?

The existing GPOs in 10 CFR 74.31(a) and 74.33(a) (applicable to licensees of Category III facilities), 74.41(a) (applicable to licensees of Category II facilities), and 74.51(a) (applicable to licensees of Category I facilities) would be revised by consolidating their common provisions into a new 10 CFR 74.3. In addition to being applicable to Category I, II, and III facilities, the 10 CFR 74.3 GPOs would be applicable to reactor licensees and two NRC materials licensees that are authorized to hold more than 350 grams of SNM, but which are not Category I, II, or III facilities. The proposed 10 CFR 74.3 GPOs describe activities to deter, detect, or aid in responding to any loss, theft, diversion or misuse of SNM. The existing GPO provisions in 10 CFR 74.31, 74.33, 74.41, and 74.51 would be revised to refer to 10 CFR 74.3, but GPOs that are unique to uranium enrichment facilities and Category I fuel fabrication facilities would be retained in 10 CFR 74.33 and 74.51.

F. Are sealed sources included in the general performance objectives for Category II and III facilities?

Yes. The current exclusion for sealed sources in the 10 CFR 74.31 and 74.41 GPO provisions would be relocated to Appendix A (Note 1) to clarify that the sealed sources would not be considered for determining whether a facility is a Category III facility or a Category II facility, respectively. The change would be consistent with the current requirements, which were intended to exclude sealed sources from the material quantity calculations used to determine whether a facility is a Category III facility subject to subpart C requirements, or a Category II facility subject to the subpart D requirements of 10 CFR part 74. However, sealed sources would be within the scope of the proposed 10 CFR 74.3 GPOs. Sealed sources would continue to be subject to a licensee's MC&A program.

G. Why would newly defined terms be added to 10 CFR 74.4?

Certain terms are commonly used by licensees in their internal procedures implementing their MC&A systems, plans and programs, including *accounting, custodian, material control and accounting*. Defining these terms in the NRC's regulations would clarify the requirements and improve understanding of the regulations. Other newly defined terms (*material balance area, item control area,* and *two-person rule*) and their related requirements are deemed necessary to strengthen the MC&A requirements at facilities holding significant amounts of SNM, thereby making diversion or misuse of SNM at such facilities less likely.

H. Why would the term "effective kilograms of special nuclear material" be removed from 10 CFR part 74?

Doing so would allow quantities of SNM specified in 10 CFR part 74 to be expressed in gram units which would simplify the accounting requirements and provide consistency with the existing definitions of *formula quantity, special nuclear material of low strategic significance,* and *special nuclear material of moderate strategic significance,* which specify quantities in gram units. The reference to one effective kilogram in the 10 CFR 74.19(b) written MC&A procedures provision would be replaced with a reference to a quantity of SNM greater than 350 grams. This 350-gram amount is referenced in existing 10 CFR 74.19(c) regarding the physical inventory provisions stated there. References to one effective kilogram in the GPO provisions of 10 CFR 74.31, 74.33, and 74.41 would be revised to reference gram units of material. The new Appendix A would also use gram units. The effective kilogram term would remain in 10 CFR parts 40, 70, 75, 76, and 110, to ensure the continued effective implementation of the U.S./IAEA Safeguards Agreement.

I. Why would Appendix A to 10 CFR part 74 be added?

Appendix A would be added to clarify the definitions and quantities and units of the various categories of SNM. Similar information is provided in existing Appendix M to 10 CFR

part 110 and would be appended to 10 CFR part 74 as well for the convenience of licensees, the NRC staff, and members of the public. Appendix A would clarify the elements, isotopic composition, and quantities of material that Category I, Category II, and Category III facilities are authorized to possess. Notes would be included to clarify that sealed sources are excluded from the quantity limits that are used to determine the category of a facility. An additional note is included to clarify that spent nuclear fuel is reduced one category level during the period of time that the radiation exposure exceeds 1 Sievert (Sv) per hour (100 rads per hour) at 1 meter, unshielded. Formulae are included to calculate a quantity of material for Category I, Category II, or Category III.

J. Why would references to the MC&A "system" be changed to the MC&A "program," and why would "MC&A plan" replace "FNMC plan?"

Portions of existing 10 CFR part 74 that refer to the MC&A "system" (e.g., 10 CFR 74.31(c), 74.33(a), and 74.51(a)) would be revised 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 systems (e.g., 10 CFR 74.31(c)(2), 74.33(c)(3), and 74.59(d)) that are part of the overall MC&A program. Similarly, existing references to the overall "system" capabilities would be changed to "program" capabilities. The existing requirements referring to an item control program (e.g., 10 CFR 74.31(c)(6), 74.33(c)(6) and 74.43(b)(5)) would be revised to instead refer to an item control system.

Replacing the existing references to the "FNMC plan" with references to an "MC&A plan" is necessary in the NRC staff's view because FNMC is an outdated term and does not include accounting. It does not fully describe the accounting aspects of the MC&A program, and is not consistent with the general title of 10 CFR part 74 ("Material Control and Accounting of Special Nuclear Material").

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.

K. What would change in the reporting requirements to NMMSS, including those that ISFSIs are subject to?

The proposed addition of numbered subsections to 10 CFR 74.13(a) would make these reporting requirements easier to read and understand. The plain language revisions would make no substantive changes to the existing requirements.

The NMMSS reporting requirements for an ISFSI currently in § 72.76 for material status reports and in § 72.78 for nuclear material transaction reports are duplicated in §§ 74.13 and 74.15, respectively. Proposed 10 CFR 74.2 would include existing ISFSIs within the scope of 10 CFR part 74. Accordingly, §§ 72.76 and 72.78 would be removed from 10 CFR part 72. The requirements in § 72.72 for storage of source material (SM) and SNM would be revised to direct a licensee to refer to §§ 40.61 and 40.64 for SM and to subparts A and B in 10 CFR part 74 for SNM.

L. Why would a two-person rule be added?

The two-person rule would ensure that correct procedures are used, that covered actions are completed correctly by qualified and authorized personnel, and to verify the accuracy of the information about SNM that is being collected and reported. A licensee subject to subpart C, D, or E would be required to have two qualified and authorized individuals involved for tamper-safing, performing physical inventories, transferring SNM, or handling any SNM that is not under an active control measure, monitoring or surveillance condition. The two-person rule would have additional benefits such as reducing the likelihood that a single individual would be able to carry out any unauthorized diversions of SNM. The two-person rule would increase the likelihood that a deviation from safety and security procedures would be detected at Category I, II, and III facilities.

M. Why would requirements be added to designate material balance areas, item control areas, and custodians?

The added MC&A requirements would strengthen and specifically define the terms for MBA, ICA, and custodians. The added requirements would be consistent in requiring licensees under subparts C, D, and E to designate MBAs and ICAs and custodians for these areas. The terms are widely used in the regulated community and 10 CFR part 74 would be clarified by setting forth the specific definition for the terms in 10 CFR 74.4. A licensee would be required to designate MBAs, ICAs, and assign custodial responsibilities for these areas to provide internal controls to deter or detect any diversion or misuse of SNM at the licensee's facility.

N. Why would calendar days be inserted into 10 CFR part 74?

To clarify 10 CFR part 74, references to due dates and reporting frequencies would be made more uniform by expressing most timeframes in 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 proposed clarifications are intended to make 10 CFR part 74 more internally consistent with existing 10 CFR 74.33(c)(4), which requires that annual static physical inventories be taken "at least every 370 calendar days." Existing 10 CFR part 74 provisions referencing 6-month intervals would be changed to "185 calendar days."

O. Would the implementation guidance documents be updated for the MC&A program?

The following guidance documents would be revised and updated in conjunction with the rulemaking effort. In addition, a guidance document for Category II facilities (SNM of Moderate Strategic Significance) would be updated and issued with the following existing guidance documents. All revised NUREG guidance documents will be available for public comment in parallel with the scheduled publication of the proposed rule.

i. NUREG-1280, “Standard Format and Content Acceptance Criteria for the MC&A Reform Amendment,”

ii. NUREG-1065, “Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Facilities,”

iii. NUREG/CR-5734, “Recommendations to the NRC on Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Enrichment Facilities,”

iv. NUREG/BR-0096, “Instructions and Guidance for Completing Physical Inventory Summary Report.”

P. Would there be changes for item controls or physical inventories?

Subpart B in 10 CFR part 74 would be revised to include a new requirement in 10 CFR 74.19(d) that licensees of power reactors and ISFSIs must establish, document, implement, and maintain an item control system (as would be defined in 10 CFR 74.4).

Some of the current exemption provisions for item controls would be removed. Specifically, the exemption provisions in 10 CFR 74.31(c)(6), 74.33(c)(6)(ii) and 74.43(b)(6) for items existing 14 days or less in Category III and II facilities would be removed. The 14-day exemption was put in the current regulations at a time when most Category III licensees did not have computer inventory controls and instead relied on manual ledger entries. In other words, the current regulation aligned the risk with what the licensees could do in a production environment.

However, over the last several years, licensees have implemented business systems that track SNM containing items through the use of bar codes and entries to computer systems. This has had the secondary benefit of giving these licensees the ability to track individual items and total inventory in near real time. Licensees have demonstrated this ability numerous times during inspections by the NRC staff.

Current requirements in 10 CFR part 74 recognize the importance of conducting timely inventories and reporting the results by requiring the reporting of shipments and receipts of a gram or more of material in 10 days (see 10 CFR 74.15) and through the reporting of lost, stolen, or diverted SNM of a gram or more within one hour (10 CFR 74.11). Inspections performed by the NRC have identified cases where there were “near-misses” associated with current exemptions. Removal of the exemptions from the item control requirements would align this regulation with other requirements in 10 CFR part 74 to better ensure accurate SNM item bearing inventories. These proposed regulatory changes are not expected to impact licensees significantly since licensees have in-house systems that track such items in near real time.

Additionally, for Category III facilities, the exemption provisions (in 10 CFR 74.31(c)(6) and 74.33(c)(6)(ii)) for individual items each containing less than 500 grams of uranium-235, up to a total of 50 kilograms of uranium-235, would be removed. For a Category II facility, the exemption (in 10 CFR 74.43(b)(6)) for individual items 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 percent or more but less than 20 percent in the uranium-235 isotope, would be removed. These exemptions were identified for removal in SECY-08-0059. Item control requirements that exclude kilogram amounts of SNM are not consistent with protection of the common defense and security.

Q. Why would an exception be added to 10 CFR 74.15(b)(2)?

The exception from performing independent tests when receiving unirradiated fuel rods or unirradiated fuel assemblies would be included to clarify the requirement for licensees under 10 CFR part 50 or 52. Similarly the requirement would be clarified for a licensee under 10 CFR part 70 receiving SNM contained in a sealed source that will not be opened. The NRC inspection program has indicated that a licensee will typically verify the contents of such

shipments by reviewing the shipping papers and visual inspection of the material because independent testing (e.g., destructive testing or sampling) is impractical for determining the contents of the shipment being received.

R. Are there any cumulative effects of regulation associated with this rule?

Cumulative effects of regulation (CER) describe the challenges that licensees or other impacted entities (such as State partners) face while implementing new regulatory positions, programs, or requirements (e.g., rules, generic letters, backfits, inspections). The CER are organizational effectiveness challenges that result from a licensee or impacted entity implementing a number of complex regulatory positions, programs or requirements within a limited implementation period and with available resources (which may include limited available expertise to address a specific issue). The CER can potentially distract licensee or entity staff from executing other primary duties that ensure safety or security.

The NRC is specifically requesting comment on the cumulative effects of this rulemaking. In developing comments on CER, consider the following questions:

i. In light of any current or projected CER challenges, would an effective date 6 months from the date the final rule is published in the *Federal Register* provide sufficient time to implement the new proposed requirements?

ii. If current or projected CER challenges exist, what should be done to address this situation (e.g., if more time is required to implement the new requirements, what period of time would be sufficient)?

iii. Do other regulatory actions (e.g., orders, generic communications, license amendment requests, and inspection findings of a generic nature) influence the implementation of the proposed requirements?

iv. Are there unintended consequences? Does the proposed rule create conditions that would be contrary to the proposed rule's purposes and objectives? If so, what are the unintended consequences and how should they be addressed?

v. Please comment on the NRC's cost and benefit estimates in the regulatory analysis that supports this proposed rule.

S. What should I consider as I prepare my comments to the NRC?

When submitting your comments, remember to:

i. Identify the rulemaking (RIN 3150-AI61; NRC-2009-0096).

ii. Explain why you agree or disagree; suggest alternatives and substitute language.

iii. Describe any assumptions and include technical information or data that you used.

iv. If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.

v. Provide specific examples to illustrate your concerns, and suggest alternatives.

vi. Explain your views as clearly as possible.

vii. Submit your comments by the comment period deadline identified.

viii. The NRC is particularly interested in your comments concerning the issues in Sections II and III of this document about item controls, two-person rule, designating MBAs, ICAs and custodial responsibilities for these areas. Section VIII, Agreement State Compatibility, of this document contains a request for comment on the compatibility designations for the proposed rule; Section IX, Plain Writing, contains a request for comments on the use of plain language; Section XI, Environmental Assessment and Finding of No Significant Environmental Impact Availability, contains a request for comments on the draft environmental assessment; Section XII, Paperwork Reduction Act Statement, contains a request for comments on the information collection requirements; Section XIII, Regulatory Analysis, contains a request for

comments on the draft regulatory analysis; and Section XIV, Regulatory Flexibility Certification, contains a request for comments on the impact of the proposed rule on small businesses.

V. Discussion of Proposed Amendments by Section.

Section 40.64 Reports.

Paragraphs (b)(1) and (2) would be revised to remove the reference to 10 CFR part 72.

Section 70.32 Conditions of licenses.

Paragraphs (c)(1)(i) and (iii) would be revised to replace the reference to § 74.51(c) with § 74.51(b). These sections were revised to provide consistent organization for subparts C, D, and E in 10 CFR part 74 and a conforming change would be completed in 10 CFR 70.32(c)(1)(i) and (iii).

Section 72.72 Material control and accounting requirements for source material and special nuclear material.

The title of the section would be revised from “Material balance, inventory, and records requirements for stored materials” to “Material control and accounting requirements for source material and special nuclear material.” Paragraph (a) would be revised to only reference requirements for source material, and would reference §§ 40.61 and 40.64 in this regard. The remainder of existing § 72.72 (a), (b), (c), and (d) would be removed because these requirements are duplicated in 10 CFR part 74. As previously discussed, the § 74.2 scoping provisions would be revised to include ISFSIs.

New paragraph (b) would reference MC&A requirements for SNM in 10 CFR part 74.

Section 72.74 Reports of accidental criticality.

The title of this section would be revised from “Reports of accidental criticality or loss of special nuclear material” to “Reports of accidental criticality.” Paragraph (a) would be revised to remove the requirement that any loss of SNM be reported within 1 hour of discovery. The ISFSIs would be subject to 10 CFR 74.11(a) with regard to any loss of SNM that must be reported within 1 hour of discovery. Section 72.74 would retain its reporting requirement for accidental criticality.

Paragraph (b) would be revised to state that required one-hour notifications be made to the NRC Headquarters Operations Center via any available telephone system. The outdated reference to the Emergency Notification System would be removed.

Section 72.76 Material status reports.

This section would be removed and reserved and in this regard § 72.9 would be changed.

Section 72.78 Nuclear material transaction reports.

This section would be removed and reserved and in this regard § 72.9 would be changed.

Section 74.2, Scope.

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.

Section 74.3, General performance objectives.

This section would be added to require a licensee authorized by the NRC to possess SNM in a quantity greater than 350 grams to implement and maintain an MC&A program that achieves the general performance objectives listed in paragraphs (a) through (e).

Section 74.4, Definitions.

This section would be revised to remove the definition, *Effective kilograms of special nuclear material.* This section would be revised to add definitions for the following terms: *Accounting, Custodian, Item control area, Item control system, Material balance area, Material control and accounting*, and *Two-person rule*. The definitions of the following terms would be revised to conform with the existing definitions of these terms in 10 CFR parts 70 and 73, and to refer to Appendix A of this part: *Formula quantity, Special nuclear material of low strategic significance*, and *Special nuclear material of moderate strategic significance*.

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

Paragraph (b) would be revised to state that required licensee notifications be made to the NRC Headquarters Operations Center via any available telephone system within 1 hour of the event, and an outdated reference to the Emergency Notification System would be removed.

Section 74.13, Material status reports.

As discussed further in the following paragraph, plain language revisions would be made to paragraph (a) by specifying eight numbered requirements, and new paragraphs (b), (c), and (e) would be added. Existing paragraph (b) would be designated as paragraph (d).

Paragraph (a)(1) through (8) would specify deadlines by which various sets of licensees would be required to submit their material balance reports and physical inventory listing reports.

Paragraph (b) would include the reporting instructions that are in existing § 74.13(a), and would include references to the reporting forms (NUREG/BR-0007 and NMMSS Report D-24, "Personal Computer Data Input for NRC Licensees") referenced in existing § 74.13(a).

Paragraph (c) would retain the provision in existing § 74.13(a) that the reports may be submitted at other times for good cause with prior NRC approval.

As indicated previously, paragraph (d) restates the existing § 74.13(b) provision regarding reports required under section 75.35 of this chapter (pertaining to implementation of the U.S./IAEA Safeguards Agreement).

Paragraph (e) would retain the requirement in existing § 74.13(a) regarding the resolution of any discrepancies identified during the report review.

Section 74.15, Nuclear material transaction reports.

Paragraph (b)(2) would be revised by adding an exception that independent testing is not required for receipt of unirradiated fuel rods, unirradiated fuel assemblies, or sealed sources containing SNM that will not be opened.

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

This section's title would be revised to reference written MC&A procedures, item controls, and physical inventories.

As previously discussed, paragraph (b) would be revised to replace its reference to a quantity of SNM "exceeding one effective kilogram" with "a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof."

Paragraph (d) would be re-designated as paragraph (e) and a new paragraph (d) would be added to require reactor facilities licensed under 10 CFR part 50 or 52 and ISFSIs licensed under 10 CFR part 72 to establish, document, implement, and maintain an item control system. A definition of the term *item control system* would be added to 10 CFR part 74.4.

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

The general performance objectives applicable to licensees of Category III fuel fabrication facilities would be set forth in proposed § 74.3 as previously discussed. Revised § 74.31(a)(1) would incorporate the § 74.3 performance objectives by reference, thereby replacing the performance objectives set forth in existing § 74.31(a)(1)-(3). Proposed paragraph (a)(2) would retain elements of the exemption in existing § 74.31(a) applicable to production or utilization facilities, and any licensee operations involving waste disposal. Proposed paragraph (a)(2) would add an exemption for ISFSIs, thereby making it consistent with existing § 74.51(a).

Paragraph (b) would be revised by replacing the reference to “a fundamental nuclear material control (FNMC) plan” with a reference to “a MC&A plan.” The plan would need to achieve the general performance objectives in § 74.3, and meet the program capability requirements set forth in revised § 74.31(c).

The introductory language of paragraph (c) would be revised to state that the MC&A plan must: include the capabilities described in paragraphs (c)(1) through (11); and achieve the performance objectives in § 74.3. The title of paragraph (c) would be changed from “System capabilities” to “Program capabilities.” Existing paragraphs (c)(1) through (3) would remain unchanged. Paragraph (c)(4) would be clarified to state the standard error as the standard error of the inventory difference (SEID). The paragraph (c)(5) physical inventory timing provisions would be clarified by changing “60 days” to “60 calendar days.” Paragraph (c)(6) would be

revised by referencing the item control system defined in § 74.4. The 14-day provision in the first sentence of the existing requirement would be removed. 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. The wording of paragraph (c)(7) would be revised to state as follows: "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." Paragraph (c)(8) would be revised by referencing the MC&A "program" rather than the MC&A "system." Paragraphs (c)(9), (10), and (11) would be added to require that the MC&A program include, respectively: tamper-safing procedures; use of the two-person rule; and the designation of material balance areas, item control areas, and custodians responsible for these areas.

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

The general performance objectives applicable to Category III uranium enrichment facilities would be set forth in proposed § 74.3 as previously discussed, and revised § 74.33(a) would reflect this. The general performance objectives stated in existing paragraphs (a)(1) through (9) would be replaced by new paragraphs (a)(1) through (4), which would only reference source material. These general performance objectives would parallel those set forth in proposed § 74.3, which would apply only to SNM. New paragraph (a)(5) retains elements of

existing paragraph (a)(8), and retains the exemption for centrifuge enrichment facilities stated in existing (a)(5).

Paragraph (b) would be revised by replacing the reference to "a fundamental nuclear material control (FNMC) plan" with a reference to "an MC&A plan." The plan would need to achieve the general performance objectives in § 74.3, the performance objectives in paragraph (a) as previously discussed, and meet the program capability requirements set forth in revised § 74.33(c).

The introductory language of paragraph (c) would be revised to state that the MC&A plan must: include the capabilities described in paragraphs (c)(1) through (11); and achieve the performance objectives (as previously referenced). The title of paragraph (c) would be changed from "System features and capabilities" to "Program capabilities." Existing paragraphs (c)(1) through (2) would remain unchanged. Paragraph (c)(3)(ii) would be clarified to include the acronym SEID in a parenthetical. Paragraph (c)(4)(i) would be clarified by changing "65 days" to "65 calendar days." Paragraph (c)(4)(ii) would be clarified by changing "60 days" to "60 calendar days." Paragraph (c)(5) would be revised 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." Paragraph (c)(6) would be revised by deleting (c)(6)(i) and (ii). Paragraph (c)(6) would instead reference 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. The reference to detecting the "unauthorized removal of 500 grams or more of uranium-235" in existing § 74.33(c)(6)(ii) would be changed to require detecting the removal of "any quantity of uranium-235." 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," would be removed. This exemption would be replaced with a

provision exempting items in solution with a concentration of less than 5 grams per liter, and waste items destined for burial or incineration (the proposed wording here tracks the portion of the § 74.31(c)(6) exemption that is being retained). Paragraph (c)(7) would be clarified to state the requirements 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 that any shipper-receiver difference that is statistically significant and exceeds twice the estimated standard deviation of the difference and 500 grams of uranium-235 must be investigated and resolved. Paragraph (c)(8) would be revised by referencing the MC&A "program" rather than the MC&A "system." Paragraphs (c)(9), (10), and (11) would be added to require that the MC&A program include, respectively: tamper-safing procedures; use of the two-person rule; and the designation of MBAs, ICAs, and custodians responsible for these areas.

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

The general performance objectives applicable to Category II facilities would be set forth in proposed § 74.3 as previously discussed. Revised § 74.41(a)(1) would incorporate the § 74.3 performance objectives by reference, thereby replacing the performance objectives set forth in existing § 74.41(a)(1) through (4). Proposed paragraph (a)(2) would retain elements of the exemption in existing § 74.41(a) applicable to production or utilization facilities, licensees using reactor irradiated fuels for research purposes, and any licensee operations involving waste disposal.

Paragraph (b) would be revised by replacing the reference to "a fundamental nuclear material control (FNMC) plan" with a reference to "an MC&A plan." The plan would need to achieve the general performance objectives in § 74.3, meet the program capability requirements

set forth in § 74.41(c), and the requirements of §§ 74.43 and 74.45 as previously discussed. 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 consistent with the format used in existing § 74.31(b).

Paragraph (c) would be revised by changing its title from “System capabilities” to “Program capabilities.” The reference in existing § 74.41(c) to the “MC&A system” would be changed to the “MC&A plan,” which must achieve the performance objectives in § 74.3, and include the capabilities described in §§ 74.43 and 74.45. The existing § 74.41(c)(1) and (2) checks and balances requirements remain the same.

Section 74.43 Internal controls, inventory, and records.

Paragraph (b)(3) would be revised to replace the title, “FNMC plan” with “MC&A plan.” Paragraph (b)(5) would be revised 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.” Paragraph (b)(6) would be revised to replace the exemptions stated in the current requirement. Only “items in solution with a concentration of less than 5 grams of U-235 per liter, and items of waste destined for burial or incineration” would be exempt from the detection requirements described previously. The reference to “shipper-receiver comparisons” in existing paragraph (b)(7) would be clarified to state “shipper-receiver difference comparisons.”

Paragraph (c)(3) would be clarified 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.” These changes are proposed so that the tamper-safing requirements in subparts C, D, and E of 10 CFR part 74 will be worded in a consistent manner. Paragraphs (c)(9) and (10) would be added to provide requirements that the MC&A plan capabilities must include, respectively, adherence to the two-person rule, and provide for the designation of MBAs, ICAs, and assigning custodial responsibilities for these areas.

Paragraph (d)(5) would be revised to refer to the performance objectives of proposed §§ 74.3 and 74.41(a)(1), as its current reference to § 74.41(a)(1) through (4) would no longer be accurate if the proposed changes to § 74.41(a) are made.

Section 74.45 Measurements and measurement control.

Paragraph (c)(4) would be clarified by spelling out the acronym SEID as the “standard error of the inventory difference.”

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

The general performance objectives applicable to Category I facilities would be set forth, in part, in proposed § 74.3 as previously discussed. Revised § 74.51(a)(1) would incorporate the § 74.3 performance objectives by reference. Additionally, proposed § 74.51(a)(1)(i) through (iii) would set forth the performance objectives stated in existing § 74.51(a)(2) through (4).

Proposed paragraph (a)(2) would retain the exemptions in existing § 74.51(a) applicable to production or utilization facilities, ISFSIs, and any licensee operations involving waste disposal, but would 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.

To make the organization of requirements for Category I and Category III fuel fabrication facilities more consistent, changes in existing 10 CFR 74.51(b) and (c) are proposed, which would align the format with that used in existing 10 CFR 74.31(b) and (c). Thus, 10 CFR 74.51(b) would be retitled, "Implementation," and would contain elements of existing 10 CFR 74.51(c). Proposed 10 CFR 74.51(b) would refer to an "MC&A plan" rather than a "FNMC plan," for the reasons previously discussed. The MC&A plan would need to 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.

Proposed 10 CFR 74.51(c) would be retitled, "Program capabilities," and would contain elements of existing § 74.51(b). In addition to the MC&A plan requirements discussed in revised 10 CFR 74.51(b) above, 10 CFR 74.51(c) 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). A plain language change to simplify paragraph (c)(1) would revise "An individual" to "A single individual." A plain language change to simplify paragraph (c)(2) would revise "Collusion between an individual with MC&A responsibilities and another individual who has responsibility or control within both the physical protection and the MC&A systems" to "Collusion between two individuals, one or both of whom have authorized access to SNM or SSNM."

Section 74.51(d) would be revised to replace "FNMC" plan with "MC&A" plan. Additionally, the times to perform physical inventories would be expressed in terms of calendar days.

Section 74.53 Process monitoring.

Paragraph (a)(3) would be clarified to replace “a consecutive three-month period” with “a period of 95 calendar days.”

Paragraph (a)(4) would be clarified to replace “any seven-consecutive-day period” with “a period of 7 calendar days.”

Paragraph (c)(1) would be clarified to replace “monthly” with “at intervals not to exceed 30 calendar days.”

Section 74.57 Alarm resolution.

Paragraph (c) would be revised to replace “fundamental nuclear material control plan” with “MC&A plan.”

Section 74.59 Quality assurance and accounting requirements.

In paragraph (e)(7), the requirement to correct SSNM measurement differences “accumulated over a six-month period” would be clarified to instead reference “a period not to exceed 185 calendar days.”

In paragraph (f)(1), the requirement to perform a physical inventory “every six calendar months” would be clarified to instead reference “every 185 calendar days,” and “45 days” would be clarified to specify “45 calendar days.” The paragraph (f)(2)(i) tamper-safing provision would be revised by adding at its end the phrase “and which 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.

With respect to required internal controls regarding how frequently scrap material must be measured, paragraph (h)(2)(ii) would be clarified by replacing “six months” with “185 calendar days.” Paragraph (h)(5) would be revised 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. Paragraph (h)(6) would be added to require use of the two-person rule for conducting tamper-safing operations, physical inventories, transfer of SNM, and for any handling of SNM that is not under an active control measure or monitoring or surveillance condition.

Appendix A to 10 CFR Part 74 -- Categories of Special Nuclear Material.

Appendix A would be added to provide a table stating the elements, isotopic composition, and quantities of material that Category I, Category II, and Category III facilities are authorized to possess. Notes are included to state that sealed sources are excluded from the quantity limits in the table and that spent nuclear fuel is reduced one category level during the period of time that the radiation exposure exceeds 1 Sv per hour (100 rads per hour) at 1 meter, unshielded. Formulae are included to calculate a quantity of SSNM for Category I, Category II, or Category III.

Section 150.17 Submission to Commission of nuclear material status reports.

The requirements in paragraph (a) would be clarified by arranging the requirements into numbered subsections (a)(1), (2), (3), and (4). The revised introductory paragraph would clarify the requirement to submit both a Material Balance Report and a Physical Inventory Listing Report to the NMMSS in accordance with the instructions in paragraph (a)(1). The reports would be due between January 1 and March 31 of each year.

Paragraph (a)(1) would include the reporting instructions that are in the current requirements in paragraph (a) and would state that individual reports must be prepared for each Reporting Identification Symbol account using the information in NUREG/BR-0007 and NMMSS Report D-24, “Personal Computer Data Input for NRC Licensees.” Paragraph (a)(2) would

include the provision that is currently in paragraph (a) stating that the NRC may permit reports to be submitted at other times for good cause. Paragraph (a)(3) would include the statement in existing paragraph (b) regarding the submittal of reports under 10 CFR 75.35 (pertaining to implementation of the U.S./IAEA Safeguards Agreement). Paragraph (a)(4) would include the requirement that is currently in paragraph (a) that a licensee must resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of being notified of a discrepancy identified by the NRC.

Paragraph (b)(1) would be revised to remove the reference to 10 CFR part 72, and paragraph (b)(2) would also be revised to remove the reference to 10 CFR part 72.

VI. Availability of Documents

The following table indicates the proposed rule and related documents that are available to the public and how they may be obtained. See the information contained in the Accessing Information and Submitting Comments section of SUPPLEMENTARY INFORMATION on the physical locations and Web sites where the documents may be accessed.

Document	PDR	Web	NRC Library (ADAMS)
"Draft Environmental Assessment and Finding of No Significant Impact for the Proposed Rule Amending 10 CFR Parts 40, 70, 72, 74, and 150; Amendments to Material Control and Accounting Regulations"	X	X	ML12291A792
"Draft Regulatory Analysis for Proposed Rule: Amendments to Material Control and Accounting Regulations (10 CFR part 74)"	X	X	ML12291A791
SECY-08-0059, "Rulemaking Plan: Party 74 – Material Control and Accounting of	X	X	ML080580307

Special Nuclear Material"			
Staff Requirements Memorandum (SRM) for SECY-08-0059	X	X	ML090360473
SECY-09-0082, "Update on Reprocessing Regulatory Framework – Summary of Gap Analysis"	X	X	ML091520280

VII. Criminal Penalties.

For the purpose of Section 223 of the Atomic Energy Act of 1954, as amended (AEA), the Commission is proposing to amend 10 CFR parts 40, 70, 72, 74, and 150 under one or more of Sections 161b, 161i, or 161o of the AEA. Willful violations of the rule would be subject to criminal enforcement.

VIII. Agreement State Compatibility.

Under the "Policy Statement on Adequacy and Compatibility of Agreement States Programs," approved by the Commission on June 20, 1997, and published in the *Federal Register* (62 FR 46517; September 3, 1997), the regulations affected by this rulemaking are classified as compatibility Category "NRC." The NRC program elements in this category are those that relate directly to areas of regulation reserved to the NRC by the AEA, or the

provisions of 10 CFR, and cannot be relinquished to the Agreement States. Thus, States should not adopt these program elements.

IX. Plain Writing.

The Plain Writing Act of 2010 (Pub. L. 111-274) requires Federal agencies to write documents in a clear, concise, and well-organized manner. The NRC has written this document to be consistent with the Plain Writing Act as well as the Presidential Memorandum, "Plain Language in Government Writing," published June 10, 1998 (63 FR 31883). The NRC requests comment on the proposed rule with respect to the clarity and effectiveness of the language used.

X. Voluntary Consensus Standards.

The National Technology Transfer and Advancement Act of 1995 (Pub. L. 104-113) requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless the use of such a standard is inconsistent with applicable law or otherwise impractical. In this proposed rule, the NRC would revise and consolidate requirements for MC&A in 10 CFR part 74. The NRC is not aware of any comprehensive voluntary consensus standards that address the proposed subject matter of this proposed rule. The NRC will consider using a voluntary consensus standard if an appropriate standard is identified. If a voluntary consensus standard is identified for consideration, the submittal should explain why the standard should be used.

XI. Environmental Assessment and Finding of No Significant Environmental Impact: Availability.

The Commission has determined under the National Environmental Policy Act of 1969,

as amended, and the Commission's regulations in subpart A of 10 CFR part 51, that this rule, if adopted, would not have any significant environmental impacts, and therefore this rulemaking does not warrant the preparation of an environmental impact statement. The proposed rule pertains to MC&A program requirements, which consist of administrative procedures and operations to track and control SNM and related information, in order to deter and detect any loss, theft, diversion, or unauthorized production of nuclear material. As the proposed amendments pertain to information collection and reporting requirements, adopting them would have no significant impact on the quality of the human environment. The draft environmental assessment, entitled "Draft Environmental Assessment and Finding of No Significant Impact for the Proposed Rule Amending 10 CFR Parts 40, 70, 72, 74, And 150; Amendments to Material Control and Accounting Regulations," can be found at ADAMS Accession No. ML12291A792.

XII. Paperwork Reduction Act Statement.

This proposed rule amends information collection requirements contained in 10 CFR parts 72 and 74 that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq). These information collection requirements have been submitted to the Office of Management and Budget (OMB) for review and approval. The proposed changes to 10 CFR parts 40, 70, and 150 do not contain new or amended information collection requirements. Existing requirements were approved by the OMB, approval numbers 3150-0132 and 3150-0123.

Type of submission, new or revision: Revision.

The title of the information collection: 10 CFR part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste" and 10 CFR part 74, "Material Control and

Accounting of Special Nuclear Material."

The form number if applicable: U.S. Department of Energy (DOE)/NRC Form 741, "Nuclear Material Transaction Report," DOE/NRC Form 742, "Material Balance Report," and DOE/NRC Form 742C, "Physical Inventory Listing."

How often the collection is required: Licensee timeframes for reporting to the NRC have not changed for NRC Forms 741, 742, and 742C. Licensees under subparts B and C of 10 CFR part 74 would submit reports within 60 calendar days after the start of the physical inventory covered by the reports, at intervals not to exceed 370 calendar days or 12 months. Licensees under subpart D of 10 CFR part 74 would submit reports within 60 calendar days after the start of the physical inventory covered by the reports, at intervals not to exceed 9 months. Licensees under subpart E of 10 CFR part 74 would be required to submit reports within 30 calendar days after the start of the physical inventory covered by the reports, 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. Forms are also submitted when a nuclear material transaction is made.

Who will be required or asked to report: Persons licensed under 10 CFR parts 50, 52, 70, 72, and 76 who possess and use certain forms and quantities of SNM.

An estimate of the number of annual responses: 68 responses (0 reporting responses + 68 record keepers).

The estimated number of annual respondents: 68.

An estimate of the total number of hours needed annually to complete the requirement or request: 1,213 hours (0 hours reporting plus 1,213 hours recordkeeping).

Abstract: The NRC is proposing to amend its regulations to revise and consolidate the requirements for MC&A of SNM in 10 CFR part 74. The proposed amendments relocate the

NMMSS-related reporting requirements for a licensee operating an ISFSI from 10 CFR part 72 to 10 CFR part 74; however, no changes have been made to the reporting requirements for NRC Forms 741, 742, or 742C. The proposed rule would change recordkeeping requirements in subparts B, C, and D. The reactor licensees have already implemented item control systems to document, control, and account for discrete items and thus would not be impacted by the proposed requirement. The ISFSI licensees would be impacted by the proposed item control requirement. Licensees under subpart C would include currently exempted items in their item controls. Currently there is no licensee operating a facility under subpart D.

The NRC is seeking public comment on the potential impact of the information collections contained in this proposed rule and on the following issues:

1. Is the proposed information collection necessary for the proper performance of the functions of the NRC, including whether the information will have practical utility?

2. Is the estimate of burden accurate?

3. Is there a way to enhance the quality, utility, and clarity of the information to be collected?

4. How can the burden of the information collection be minimized, including the use of automated collection techniques?

The public may examine and have copied, for a fee, publicly available documents, including the OMB supporting statement, at the NRC's PDR, One White Flint North, 11555 Rockville Pike, Room O-1 F21, Rockville, MD 20852. The OMB clearance package and rule are available on the NRC's Web site, *http://www.nrc.gov/public-involve/doc-comment/omb/index.html*, for 60 days after the signature date of this document.

Send comments on any aspect of these proposed regulations related to information collections, including suggestions for reducing the burden and on the previously stated issues,

by **[INSERT DATE 30 DAYS AFTER PUBLICATION IN THE *FEDERAL REGISTER*]** to the Information Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet electronic mail to *Infocollects.Resource@NRC.gov* and to the Desk Officer, Chad Whiteman, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0132 and 3150-0123), Office of Management and Budget, Washington, DC 20503. Comments can also be emailed to *Chad_S_Whiteman@omb.eop.gov* or submitted by telephone to (202) 395-4718. Comments on the proposed information collections may also be submitted via the Federal rulemaking Web Site *http://www.regulations.gov*, Docket ID NRC-2009-0096. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given to comments received after this date.

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

XIII. Regulatory Analysis.

The Commission has prepared a draft regulatory analysis on this proposed regulation. The analysis examines the costs and benefits of the alternatives considered by the Commission. The Commission requests public comment on the draft regulatory analysis (RA), which can be found at ADAMS Accession No. ML12291A791.

XIV. Regulatory Flexibility Certification.

In accordance with the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the Commission certifies that this rule would not, if promulgated, have a significant economic impact on a substantial number of small entities. The majority of companies that own these plants do not fall within the scope of the definition of ”small entities“ set forth in the Regulatory Flexibility Act or the size standards established by the NRC (10 CFR 2.810).

The NRC is seeking public comment on the potential impact of the proposed rule on small entities. The NRC particularly desires comment from licensees who qualify as small businesses, specifically as to how the proposed regulation will affect them and how the regulation may be tiered or otherwise modified to impose less stringent requirements on small entities while still adequately protecting the public health and safety and common defense and security. Comments on how the regulation could be modified to take into account the differing needs of small entities should specifically discuss:

(a) The size of the business and how the proposed regulation would result in a significant economic burden upon it as compared to a larger organization in the same business community;

(b) How the proposed regulation could be further modified to take into account the business’ differing needs or capabilities;

(c) The benefits that would accrue, or the detriments that would be avoided, if the proposed regulation was modified as suggested by the commenter;

(d) How the proposed regulation, as modified, would more closely equalize the impact of the NRC’s regulations as opposed to providing special advantages to any individuals or groups; and

(e) How the proposed regulation, as modified, would still adequately protect the public

health and safety and common defense and security.

XV. Backfitting and Issue Finality.

The NRC has determined that the NRC's backfitting and issue finality regulations in 10 CFR 50.109, 70.76, 72.62, 76.76, and in 10 CFR part 52, do not apply to this proposed rule because this amendment would not involve any provisions that are subject to these backfitting and issue finality provisions. The proposed rule addresses MC&A programs, which consist of administrative procedures and operations to track and control SNM and related information to deter and detect any loss, theft, diversion, or unauthorized production of nuclear material. The NRC regards MC&A requirements as constituting information collection and reporting requirements. The NRC has long taken the position that information collection and reporting requirements are not subject to the NRC's backfitting and issue finality regulations, as reflected in past MC&A rulemakings published in the *Federal Register* (*e.g.*, 56 FR 55991; October 31, 1991, 67 FR 78130; December 23, 2002, and 73 FR 32453; June 9, 2008). The remainder of this section discusses the NRC's bases for determining that MC&A activities are information collection and reporting requirements.

There are several bases for the NRC's determination that MC&A activities required by 10 CFR part 74 are information collection and reporting requirements. First, several of the existing general provisions in 10 CFR part 74, subpart A, indicate that 10 CFR part 74 includes information collection and reporting requirements. For example, 10 CFR 74.1, *Purpose*, states that the requirements in 10 CFR part 74 address "the *control and accounting* of special nuclear material at fixed sites and for *documenting* the transfer of special nuclear material," and include general "*reporting requirements*" (*emphases added*). This focus on information collection and reporting requirements is further emphasized by the current language of paragraph (a) of 10

CFR 74.2, *Scope*, which states, "The general *reporting and recordkeeping requirements of subpart B*…apply to each person licensed under this chapter…(*emphasis added*)." Similarly, § 74.2(c) states that the regulations in 10 CFR part 74 "establish procedures and criteria for *material control and accounting* for the issuance of a certificate of compliance or the approval of a compliance plan" (*emphasis added*).

The proposed revisions to 10 CFR part 74 subpart A do not change the purpose and scope of 10 CFR part 74. The proposed addition to 10 CFR 74.2(a) states that 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 [*emphasis added]*. Paragraph (b) of proposed § 74.3 states, "In addition, specific *control and accounting* requirements are included in subparts C, D and E for certain licensees…" (*emphasis added*).

Given the language in the preceding paragraphs referencing the existing and proposed provisions of 10 CFR part 74, the NRC believes that the primary issue – from the standpoint of backfitting and issue finality – is whether MC&A requirements may reasonably be deemed "information collection and reporting" requirements. In the NRC's view, the answer is in the affirmative. Required MC&A actions represent a systematic approach for ensuring that information about SNM at a facility is accurate, which in turn, helps achieve the objective of ensuring that items containing SNM are not lost, stolen, diverted, or misused through human error, or because of deliberate acts of malfeasance. *Item* is a defined term in 10 CFR part 74, and means "any discrete quantity or container of SNM or source material, not undergoing processing, having an unique identity and also having an assigned element and isotope quantity." The systematic approach for managing items under 10 CFR part 74 has two aspects: *accounting* for items of material; and maintaining *control* over such items.

The concept of material *accounting* is reflected in the proposed definition of *accounting*

that would be added to 10 CFR 74.4 to read as follows: *Accounting* means a system which documents the quantities of SNM held on current inventory by the licensee, and includes tracking of receipts, shipments, and measured discards, and transfers of SNM. Material accounting constitutes the principles, processes and procedures for collecting and maintaining accurate information and records on the nature and quantities of SNMs within the licensee's control. By *accurate* information and records, the NRC means that the information has been collected and maintained in a manner which minimizes the possibility of human error or deliberate acts of malfeasance affecting the accuracy and quality of the information.

The concept of material *control* is reflected in the proposed definitions that would be added to 10 CFR 74.4 and that read as follows. *Item control area* 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 control constitutes the administrative processes and procedures that a holder of SNM employs to control the location and accounting of items containing SNM, by applying appropriate material accounting principles, processes and procedures. These processes and procedures for controlling the quantities, location, storage, transportation and use of items containing SNM support the accuracy of the material accounting information each time it is collected, and ensure that the information remains accurate throughout the period of time that the items are in the possession of the licensee. This concept of control is reflected in the proposed definition that would be added to 10 CFR 74.4: *Material control and accounting* 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 to deter and detect any loss, theft, diversion, misuse, or unauthorized production of nuclear material.

Material accounting and material control, properly integrated, ensure that accurate information (*i.e*., information which is not inaccurate due to human error or deliberate acts of malfeasance) is developed and maintained on items of SNM in the licensee's possession. By doing so, the NRC's regulatory objective (of ensuring that SNM is not lost, stolen, diverted, or misused through human error or because of deliberate acts of malfeasance) is achieved.

The performance requirements for the MC&A program, set forth in proposed 10 CFR 74.3, *General Performance Requirements*, demonstrate that such a program represents a system of information collection and reporting requirements directed at achieving the NRC's regulatory objective of ensuring that SNM is not lost, stolen, diverted, or misused. Proposed 10 CFR 74.3 would require licensees to implement an MC&A program to achieve five general performance objectives. The nature of the five objectives (shown in Table 3) includes maintaining accurate, current, and reliable information to confirm quantities and locations of SNM. The information would enable a licensee to detect, respond and resolve any anomaly concerning SNM being held by the licensee and would enable the licensee to make a rapid determination of the actual situation. A licensee would be able to provide reliable information to aid in the investigation and recovery of SNM. A licensee would be expected to control access to MC&A information and prevent unauthorized use of the information by adversaries.

The NRC notes that nothing in the current provisions of part 74, or in the proposed amendments to part 74, precludes affected licensees from possessing or using SNM. Such substantive health and safety or common defense and security requirements are set forth in other parts of 10 CFR parts 20, 70, 71, 72, 73, 75, 76, 95, and 110. A review of the substantive

provisions of the proposed rule (*i.e.*, those proposed changes to the regulations *other than* conforming changes, plain language revisions, and other changes of an administrative or organizational nature) confirms that the overall character of the rulemaking is one of information collection and reporting. While the primary objective of the requirements is to ensure the accuracy of MC&A information records and reporting, the NRC acknowledges that some of the requirements, such as the two-person rule, would have additional safeguards-related benefits, such as reducing the likelihood that a single individual would be able to carry out any unauthorized diversions of SNM, and would increase the likelihood that deviation from safety and security procedures would be detected.

Table 3 summarizes the key substantive provisions of the proposed rule, together with a short explanation why the provision constitutes an information collection and reporting requirement.

Table 3. Characterization of Proposed Substantive Amendments to 10 CFR Part 74 as Information Collection and Reporting Requirements

Proposed rule citation	Description of proposed requirement	Explanation of why the proposed requirement would be information collection and reporting
74.3 *General performance objectives*	This section would require a licensee authorized by the NRC to possess SNM in a quantity greater than 350 grams to implement and maintain an MC&A program that achieves the five general performance objectives, as follows: (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 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	The proposed general performance objectives in § 74.3 are directed at maintaining knowledge of SNM which is done through collection and recording of information. Loss of material is detected through activities such as physical inventory that provide information to verify the accuracy of the MC&A records at a site. MC&A information is essential to detecting and resolving any actual or potential loss, theft, diversion, or misuse. Finally, restricting access to MC&A records reduces the likelihood that these records could be tampered with in a manner that would invalidate the information they contain (*i.e.*, concealing the loss, theft or diversion of SNM).

	theft, diversion, misuse, or radiological sabotage involving SNM.	
74.19 *Recordkeeping, procedures, item controls, and physical inventories*	Paragraph (d) would require production or utilization facilities licensed under 10 CFR part 50 or 52 of this chapter and independent spent fuel storage installations licensed under 10 CFR part 72 of this chapter to establish, document, implement, and maintain an item control system as defined in § 74.4.	The reactor and ISFSI licensees would be required to periodically collect and verify the MC&A information recorded on site.
74.31 *Nuclear material control and accounting for special nuclear material of low strategic significance*	To achieve the general performance objectives, a licensee's MC&A plan would include the capabilities described in paragraph (c).	
	In paragraph (c)(6) a licensee would be required to establish, document, implement, and maintain an item control system as defined in § 74.4 to ensure that items are stored and handled or subsequently measured in a manner such that unauthorized removals of individual items or any quantity of SNM from items would be detected. Items in solution with a concentration of less than 5 grams of uranium-235 per liter and items of waste destined for burial or incineration would continue to be exempted from the item control.	Removing some of the currently allowed exemptions for item control for Category III licensees would require these licensees to collect and maintain additional MC&A information on these types of items and verify the information periodically.
	In paragraph (c)(9) a licensee would be required to 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.	Tamper-safing as defined in § 74.4, increases the integrity of MC&A information collected and maintained by the licensee. This reduces the likelihood that these records could be tampered with in a manner that would invalidate the information they contain (*i.e.*, concealing the loss, theft or diversion of SNM).
	In paragraph (c)(10) a licensee would be required to use the two-person rule (as defined in § 74.4) for tamper-safing, performing physical inventories, for transferring SNM, and for any handling of SNM that is not under an active control measure, monitoring, or surveillance condition.	The two-person rule increases the integrity and accuracy of the information collected during a certain task. Requiring two persons to perform key MC&A activities, including the collection and recording of SNM quantities, reduces the likelihood of both inadvertent error and deliberate mis-recording of MC&A information.
	In paragraph (c)(11) a licensee would be required to designate material balance areas and item control areas and assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SNM possessed under the license.	The use of MBAs, ICAs, and designated custodians provides a means of tracking SNM at a more localized level than the entire site. These areas and their custodians help to collect MC&A information on the movement of SNM through the facility.
74.33 *Nuclear material control and accounting for uranium enrichment facilities*	To achieve the general performance objectives, a licensee's MC&A plan would include the capabilities described in paragraph (c).	
	In paragraph (c)(6) a licensee would be required to establish, document, implement,	Removing some of the currently allowed exemptions for item control for Category III

authorized to produce special nuclear material of low strategic significance	and maintain an item control system as defined in § 74.4 to 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. Items in solution with a concentration of less than 5 grams of uranium-235 per liter and items of waste destined for burial or incineration would be exempted from the item control.	licensees would require these licensees to maintain additional MC&A information on these types of items and verify the information periodically.
	In paragraph (c)(9) a licensee would be required to 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.	Tamper-safing, as defined in § 74.4, increases the integrity of MC& A information collected and maintained by the licensee. This reduces the likelihood that these records could be tampered with in a manner that would invalidate the information they contain (*i.e.*, concealing the loss, theft or diversion of SNM).
	In paragraph (c)(10) a licensee would be required to use the two-person rule (as defined in § 74.4) for tamper-safing, performing physical inventories, for transferring SNM, and for any handling of SNM that is not under an active control measure, monitoring, or surveillance condition.	The two-person rule increases the integrity and accuracy of the information collected during a certain task. Requiring two persons to perform key MC&A activities, including the collection and recoding of SNM quantities, reduces the likelihood of both inadvertent error and deliberate mis-recording of MC&A information.
	In paragraph (c)(11) a licensee would be required to designate material balance areas and item control areas and assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SNM possessed under the license.	The use of MBAs, ICAs, and designated custodians provides a means of tracking SNM at a more localized level than the entire site. Collecting information on SNM movements within specific areas of the plant provides increased knowledge of the quantities and movement of SNM through the facility. By increasing the number of data collection areas, and the need to reconcile inventory statements for different areas, this reduces the likelihood that these records could be tampered with in a manner that would invalidate the information they contain (*i.e.*, concealing the loss, theft or diversion of SNM).
74.43 *Internal controls, inventory, and records*	Paragraph (b)(5) would require a licensee to establish, document, implement, and maintain an item control system as defined in § 74.4 to 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. Paragraph (b)(6) would exempt from the requirements of paragraph (b)(5) an item in solution with a concentration of less than 5 grams of U-235 per liter, and items of waste destined for burial or incineration.	Removing some of the currently allowed exemptions for item control for Category II licensees would require these licensees to maintain additional MC&A information on these types of items and verify the information periodically.
	In paragraph (c)(3) a licensee would be	Tamper-safing, as defined in § 74.4, increases

	required to 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. In paragraph (c)(9) a licensee would be required to use the two-person rule (as defined in § 74.4) for tamper-safing, performing physical inventories, for transferring SNM, and for any handling of SNM that is not under an active control measure, monitoring, or surveillance condition. In paragraph (c)(10) a licensee would be required to designate material balance areas and item control areas and assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SNM possessed under the license.	the integrity of MC& A information collected and maintained by the licensee. This reduces the likelihood that these records could be tampered with in a manner that would invalidate the information they contain (*i.e.*, concealing the loss, theft or diversion of SNM). The two-person rule increases the integrity and accuracy of the information collected during a certain task. Requiring two persons to perform key MC&A activities, including the collection and recoding of SNM quantities, reduces the likelihood of both inadvertent error and deliberate mis-recording of MC&A information. The use of MBAs, ICAs, and designated custodians provides a means of tracking SNM at a more localized level than the entire site. Collecting information on SNM movements within specific areas of the plant provides increased knowledge of the quantities and movement of SNM through the facility. By increasing the number of data collection areas, and the need to reconcile inventory statements for different areas, this reduces the likelihood that these records could be tampered with in a manner that would invalidate the information they contain (*i.e.*, concealing the loss, theft or diversion of SNM).
74.59 *Quality assurance and accounting requirements*	Paragraph (f)(2)(i) would require a licensee to develop 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 which include control of access to, and distribution of, unused seals and records. Paragraph (h)(5) would require a licensee to designate material balance areas and item control areas and assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SSNM possessed under the license. Paragraph (h)(6) would require a licensee to use the two-person rule (as defined in § 74.4) for tamper-safing (as defined in § 74.4), performing physical inventories, for transfer of SNM, and for any handling of SNM that is not under an active control measure, monitoring,	Tamper-safing, as defined in § 74.4, increases the integrity of MC& A information collected and maintained by the licensee. This reduces the likelihood that these records could be tampered with in a manner that would invalidate the information they contain (*i.e.*, concealing the loss, theft or diversion of SNM). The use of MBAs, ICAs, and designated custodians provides a means of tracking SNM at a more localized level than the entire site. Collecting information on SNM movements within specific areas of the plant provides increased knowledge of the quantities and movement of SNM through the facility. By increasing the number of data collection areas, and the need to reconcile inventory statements for different areas, this reduces the likelihood that these records could be tampered with in a manner that would invalidate the information they contain (*i.e.*, concealing the loss, theft or diversion of SNM). The two-person rule increases the integrity and accuracy of the information collected during a certain task. Requiring two persons to perform key MC&A activities, including the collection and recoding of SNM quantities, reduces the likelihood of both inadvertent error

	or surveillance condition.	and deliberate mis-recording of MC&A information.

Inasmuch as the MC&A provisions constitute requirements to collect and report information, they are not subject to backfitting and issue finality requirements. Accordingly, the NRC did not prepare a backfit analysis for the proposed rulemaking. This conclusion is consistent with the NRC's position on the applicability of backfitting to past MC&A rulemakings published in the *Federal Register* (*e.g.*, 56 FR 55991; October 31, 1991, 67 FR 78130; December 23, 2002, and 73 FR 32453; June 9, 2008).

List of Subjects

10 CFR Part 40

Criminal penalties, Government contracts, Hazardous materials transportation, Nuclear materials, Reporting and recordkeeping requirements, Source material, Uranium.

10 CFR Part 70

Criminal penalties, Hazardous materials transportation, Material control and accounting, Nuclear materials, Packaging and containers, Radiation protection, Reporting and recordkeeping requirements, Scientific equipment, Security measures, Special nuclear material.

10 CFR Part 72

Administrative practice and procedure, Criminal penalties, Manpower training programs, Nuclear materials, Occupational safety and health, Penalties, Radiation protection, Reporting and recordkeeping requirements, Security measures, Spent fuel, Whistleblowing.

10 CFR Part 74

Accounting, Criminal penalties, Hazardous materials transportation, Material control and accounting, Nuclear materials, Packaging and containers, Radiation protection, Reporting and recordkeeping requirements, Scientific equipment, Special nuclear material.

10 CFR Part 150

Criminal penalties, Hazardous materials transportation, Intergovernmental relations, Nuclear materials, Reporting and recordkeeping requirements, Security measures, Source material, SNM.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; and 5 U.S.C. 553; the NRC is proposing to adopt the following amendments to 10 CFR parts 40, 70, 72, 74, and 150.

1. The authority citation for part 40 continues to read as follows:

PART 40 - DOMESTIC LICENSING OF SOURCE MATERIAL

AUTHORITY: Atomic Energy Act secs. 11(e)(2), 62, 63, 64, 65, 81, 161, 181, 182, 183,

186, 193, 223, 234, 274, 275 (42 U.S.C. 2014(e)(2), 2092, 2093, 2094, 2095, 2111, 2113, 2114, 2201, 2231, 2232, 2233, 2236, 2243, 2273, 2282, 2021, 2022); Energy Reorganization Act secs. 201, 202, 206 (42 U.S.C. 5841, 5842, 5846); Government Paperwork Elimination Act sec. 1704 (44 U.S.C. 3504 note); Energy Policy Act of 2005, Pub. L. No. 109-59, 119 Stat. 594 (2005).

Section 40.7 also issued under Energy Reorganization Act sec. 211, Pub. L. 95-601, sec. 10, as amended by Pub. L. 102-486, sec. 2902 (42 U.S.C. 5851). Section 40.31(g) also issued under Atomic Energy Act sec. 122 (42 U.S.C. 2152). Section 40.46 also issued under Atomic Energy Act sec. 184 (42 U.S.C. 2234). Section 40.71 also issued under Atomic Energy Act sec. 187 (42 U.S.C. 2237).

2. In § 40.64, revise paragraphs (b)(1)and (2) to read as follows:

§ 40.64 Reports.

* * * * *

(b) * * *

(1) Possesses, or had possessed in the previous reporting period, at any one time and location, one kilogram or more of uranium or thorium source material with foreign obligations as defined in this part, shall document holdings as of September 30 of each year and submit to the Commission within 30 days, a statement of its source material inventory with foreign obligations as defined in this part. Alternatively, this information may be submitted with the licensee's material status reports on SNM filed under part 74 of this chapter, as a statement of its source material inventory with foreign obligations as defined in this part. This statement must be submitted to the address specified in the reporting instructions in NUREG/BR–0007, and include the Reporting Identification Symbol (RIS) assigned by the Commission to the licensee.

(2) Possesses, or had possessed in the previous reporting period, one kilogram or more of uranium or thorium source material pursuant to the operation of enrichment services, downblending uranium that has an initial enrichment of the U-235 isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels shall complete and submit, in computer-readable format, Material Balance and Physical Inventory Listing Reports concerning all source material that the licensee has received, produced, possessed, transferred, consumed, disposed of, or lost. Reports must be submitted for each Reporting Identification Symbol (RIS) account including all holding accounts. Each licensee shall prepare and submit these reports as specified in the instructions in NUREG/BR–0007 and NMMSS Report D–24, ‘‘Personal Computer Data Input for NRC Licensees.’’ These reports must document holdings as of September 30 of each year and must be submitted to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee’s material status reports on special nuclear material filed under part 74 of this chapter. Copies of the reporting instructions may be obtained either by writing to the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555–0001, or by e-mail to *RidsNmssFcss@nrc.gov*. Each licensee required to report material balance, inventory, and/or foreign obligation information, as detailed in this part, 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.

* * * * *

3. The authority citation for part 70 continues to read as follows:

PART 70 - DOMESTIC LICENSING OF SPECIAL NUCLEAR MATERIAL

AUTHORITY: Atomic Energy Act secs. 51, 53, 161, 182, 183, 193, 223, 234 (42 U.S.C.

2071, 2073, 2201, 2232, 2233, 2243, 2273, 2282, 2297f); secs. 201, 202, 204, 206, 211 (42 U.S.C. 5841, 5842, 5845, 5846, 5851); Government Paperwork Elimination Act sec. 1704 (44 U.S.C. 3504 note); Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 194 (2005).

Sections 70.1(c) and 70.20a(b) also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161).

Section 70.21(g) also issued under Atomic Energy Act sec. 122 (42 U.S.C. 2152). Section 70.31 also issued under Atomic Energy Act sec. 57(d) (42 U.S.C. 2077(d)). Sections 70.36 and 70.44 also issued under Atomic Energy Act sec. 184 (42 U.S.C. 2234). Section 70.81 also issued under Atomic Energy Act secs. 186, 187 (42 U.S.C. 2236, 2237). Section 70.82 also issued under Atomic Energy Act sec. 108 (42 U.S.C. 2138).

4. In § 70.32, revise paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) to read as follows:

§ 70.32 Conditions of licenses.

* * * * *

(c)(1) * * *

(i) The program for control and accounting of uranium source material at a uranium enrichment facility and SNM at all applicable facilities as implemented pursuant to § 70.22(b), or §§ 74.31(b), 74.33(b), 74.41(b), or 74.51(b) of this chapter, as appropriate;

(ii) The measurement control program for uranium source material at a uranium enrichment facility and for SNM at all applicable facilities as implemented pursuant to §§ 74.31(b), 74.33(b), 74.45(c), or 74.59(e) of this chapter, as appropriate; and

(iii) Other material control procedures as the Commission determines to be essential for the safeguarding of uranium source material at a uranium enrichment facility or of SNM and

providing that the licensee shall make no change that would decrease the effectiveness of the material control and accounting program implemented pursuant to § 70.22(b), or §§ 74.31(b), 74.33(b), 74.41(b), or 74.51(b) of this chapter, and the measurement control program implemented pursuant to §§74.31(b), 74.33(b), 74.41(b), or 74.59(e) of this chapter without the prior approval of the Commission. A licensee desiring to make changes that would decrease the effectiveness of its material control and accounting program or its measurement control program shall submit an application for amendment to its license pursuant to § 70.34.

* * * * *

5. The authority citation for part 72 continues to read as follows:

PART 72 - LICENSING REQUIREMENTS FOR THE INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL, HIGH-LEVEL RADIOACTIVE WASTE AND REACTOR-RELATED GREATER THAN CLASS C WASTE

AUTHORITY: Atomic Energy Act secs. 51, 53, 57, 62, 63, 65, 69, 81, 161, 182, 183, 184, 186, 187, 189, 223, 234, 274 (42 U.S.C. 2071, 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2201, 2232, 2233, 2234, 2236, 2237, 2238, 2273, 2282, 2021); Energy Reorganization Act sec. 201, 202, 206, 211 (42 U.S.C. 5841, 5842, 5846, 5851); National Environmental Policy Act sec. 102 (42 U.S.C. 4332); Nuclear Waste Policy Act secs. 131, 132, 133, 135, 137, 141 148 (42 U.S.C. 10151, 10152, 10153, 10155, 10157, 10161, 10168); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note); Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 549 (2005).

Section 72.44(g) also issued under secs. Nuclear Waste Policy Act 142(b) and 148(c), (d) (42 U.S.C. 10162(b), 10168(c), (d)). Section 72.46 also issued under Atomic Energy Act sec. 189 (42 U.S.C. 2239); Nuclear Waste Policy Act sec. 134 (42 U.S.C. 10154). Section 72.96(d) also issued under Nuclear Waste Policy Act sec. 145(g) (42 U.S.C. 10165(g)). Subpart

J also issued under Nuclear Waste Policy Act secs. 117(a), 141(h) (42 U.S.C. 10137(a), 10161(h)). Subpart K is also issued under sec. 218(a) (42 U.S.C. 10198).

6. Revise § 72.72 to read as follows:

§ 72.72 Material control and accounting requirements for source material and special nuclear material.

(a) Each licensee shall follow the requirements of § 40.61 and § 40.64 of this chapter for source material.

(b) Each licensee shall follow the requirements of 10 CFR part 74, subparts A and B, for special nuclear material.

7. Revise § 72.74 to read as follows:

§ 72.74 Reports of accidental criticality.

(a) Each licensee shall notify the NRC Headquarters Operations Center within one hour of discovery of accidental criticality.

(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 one hour.

(c) Reports required under § 73.71 of this chapter need not be duplicated under the requirements of this section.

§ 72.76 [Removed and Reserved]

§ 72.78 [Removed and Reserved]

8. Remove and reserve §§ 72.76 and 72.78.

9. The authority citation for part 74 continues to read as follows:

PART 74 - MATERIAL CONTROL AND ACCOUNTING OF SPECIAL NUCLEAR MATERIAL

AUTHORITY: Atomic Energy Act secs. 53, 57, 161, 182, 183, 223, 234, 1701 (42 U.S.C.2073, 2077, 2201, 2232, 2233, 2273, 2282, 2297f); Energy Reorganization Act secs. 201, 202, 206 (42 U.S.C. 5841, 5842, 5846); Government Paperwork Elimination Act sec. 1704 (44 U.S.C. 3504 note).

10. In § 74.2, revise the last sentence in paragraph (a) to read as follows:

§ 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.

* * * * *

11. Add § 74.3 to read as follows:

§ 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 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 theft, diversion, misuse, or radiological sabotage involving SNM.

12. In § 74.4:

a. Remove the definition for *Effective kilograms of special nuclear material*;

b. Add the definitions *Accounting, Custodian, Item control system, Item control area, Material balance area*, *Material control and accounting*, and *Two-person rule* in alphabetical order; and

c. Revise the definitions for *Formula quantity*, *Special nuclear material of low strategic significance*, and *Special nuclear material of moderate strategic significance*.

The additions and revisions read as follows:

§ 74.4 Definitions.

* * * * *

Accounting means a system which 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.

* * * * *

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 to deter and detect any loss, theft, diversion, misuse, or unauthorized production of nuclear material.

* * * * *

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.

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.

* * * * *

Two-person rule means a requirement that at least two authorized and qualified persons be present whenever a task covered by the rule is performed. An authorized person under this rule is one who has been given authority by the licensee to perform the task, and a qualified person is one who has sufficient knowledge to determine if the proper procedure is being followed, meets any formal qualification requirements established by the licensee for performing the task, and is capable of attesting to the accuracy of the task being performed. Such persons must be able to verify both that the task was completed in accordance with the proper procedures, and that the information recorded about the task is accurate.

* * * * *

13. In § 74.11, revise paragraph (b) to read as follows:

§ 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.

* * * * *

14. Revise § 74.13 to read as follows:

§ 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.

(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.

15. In § 74.15, revise paragraph (b)(2) to read as follows:

§ 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

* * * * *

16. In § 74.19, revise paragraph (b), re-designate paragraph (d) as paragraph (e), and add a new paragraph (d) to read as follows:

§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.

* * * * *

(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.

* * * * *

17. In § 74.31, revise paragraphs (a), (b), and (c) to read as follows:

§ 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,

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.

(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.

(c) *Program capabilities.* To achieve the § 74.3 performance objectives, the MC&A plan must include the capabilities described in paragraphs (c)(1) through (11) of this section, and require the licensee to:

(1) Establish, document, and maintain a management structure which 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;

(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 which is rejected by a statistical test which 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 items in solution with a concentration of less than 5 grams of uranium-235 per liter and items of waste destined for burial or incineration;

(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) Use the two-person rule (as defined in § 74.4) for tamper-safing, performing physical inventories, for transferring SNM,
and for any handling of SNM that is not under an active control measure, monitoring, or surveillance condition; and

(11) Designate material balance areas and item control areas and assign custodial

responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SNM possessed under license.

* * * * *

18. In § 74.33, revise paragraphs (a), (b), (c), and (d) to read as follows:

§ 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.)

(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 a 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.

(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 (11) 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;

(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 which 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);

(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 items in solution with a concentration of less than 5 grams of uranium-235 per liter and 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;

(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) The two-person rule (as defined in § 74.4) for tamper-safing, performing physical inventories, for transferring SNM, and for any handling of SNM that is not under an active control measure, monitoring, or surveillance condition; and

(11) Material balance areas and item control 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.

(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.

19. In § 74.41, revise paragraphs (a), (b), and (c) to read as follows:

§ 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 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; 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.

(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.

(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.

20. In § 74.43, revise paragraphs (b)(3), (b)(5), (b)(6), (b)(7), and (c)(3); add new paragraphs (c)(9) and (c)(10); and revise paragraph (d)(5) to read as follows:

§ 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 items in solution with a concentration of less than 5 grams of U-235 per liter, and items of waste destined for burial or incineration.

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

* * * * *

(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) Use the two-person rule (as defined in § 74.4) for tamper-safing (as defined in § 74.4), performing physical inventories, for transferring SNM, and for any handling of SNM that is not under an active control measure, monitoring, or surveillance condition; and

(10) Designate material balance areas and item control areas, and assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SNM possessed under license.

* * * * *

(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.

* * * * *

21. In § 74.45, revise paragraph (c)(4) to read as follows:

§ 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.

* * * * *

22. Revise § 74.51 to read as follows:

§ 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, 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.

(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.

(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.

(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.

23. In § 74.53, revise the introductory text of paragraph (a), and paragraphs (a)(3), (a)(4), and (c)(1) to read as follows:

§ 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;

* * * * *

24. In § 74.57, revise the introductory text of paragraph (c) to read as follows:

§ 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:

* * * * *

25. In § 74.59, revise paragraph (e)(7), the introductory text of paragraph (f)(1), paragraphs (f)(2)(i), (h)(2)(ii), and (h)(5), and add new paragraph (h)(6) to read as follows:

§ 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 which include control of access to, and distribution of, unused seals and records;

* * * * *

(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 material balance areas and item control areas and assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SSNM possessed under license.

(6) Use the two-person rule (as defined in § 74.4) for tamper-safing (as defined in § 74.4), performing physical inventories, for transferring SNM, and for any handling of SNM that is not under an active control measure, monitoring, or surveillance condition.

26. Add Appendix A to part 74 to read as follows:

Appendix A to Part 74 -- Categories of Special Nuclear Material.

Notes:

1. Sealed sources as defined in § 74.4 are excluded from the quantities in the table.

2. Irradiated fuel, which by virtue of its original fissile material content is included as Category I

or II before irradiation, is reduced one category level, during the period of time that the radiation level from the fuel exceeds 1 Sv per hour (100 rads per hour) at 1 meter, unshielded.

Material	Isotopic Composition	Category I (Subpart E)	Category II (Subpart D)	Category III (Subpart C)
Plutonium	All plutonium (element)	2,000 grams or more	Less than 2,000 grams, but more than 500 grams	500 grams or less, but more than 15 grams
Uranium-233	All U-233 enrichments	2,000 grams or more	Less than 2,000 grams, but more than 500 grams	500 grams or less, but more than 15 grams
Uranium-235	Uranium enriched to 20% or more in isotope U-235	5,000 grams or more	Less than 5,000 grams, but more than 1,000 grams	1,000 grams or less, but more than 15 grams
	Uranium enriched to 10%, but less than 20%, in isotope U-235		10,000 grams or more	Less than 10,000 grams, but more than 1,000 grams
	Uranium enriched above 0.711%, but less than 10%, in isotope U-235			10,000 grams or more

The formulae to calculate a quantity of SSNM as defined in § 74.4 are as follows:

- Category I, 5000 grams or more of SSNM
    - grams = grams contained U-235 + 2.5 (grams U-233 + grams Pu)
- Category II, less than 5000 grams but more than 1000 grams of SSNM
    - grams = grams contained U-235 + 2 (grams U-233 + grams Pu)
- Category III, 1000 grams or less but more than 15 grams of SSNM
    - grams = grams contained U-235 + grams U-233 + grams Pu

27. The authority citation for part 150 continues to read as follows:

PART 150 - EXEMPTIONS AND CONTINUED REGULATORY AUTHORITY IN AGREEMENT STATES AND IN OFFSHORE WATERS UNDER SECTION 274

AUTHORITY: Atomic Energy Act secs. 161, 181, 223, 234(42 U.S.C. 2201, 2021, 2231, 2273, 2282); Energy Reorganization Act sec. 201 (42 U.S.C. 5841); Government Paperwork Elimination Act sec. 1704 (44 U.S.C. 3504 note); Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005).

Sections 150.3, 150.15, 150.15a, 150.31, 150.32 also issued under Atomic Energy Act secs. 11e(2), 81, 83, 84 (42 U.S.C. 2014e(2), 2111, 2113, 2114). Section 150.14 also issued under Atomic Energy Act sec. 53 (42 U.S.C. 2073).

Section 150.15 also issued under Nuclear Waste Policy Act secs. 135 (42 U.S.C. 10155, 10161). Section 150.17a also issued under Atomic Energy Act sec. 122 (42 U.S.C. 2152). Section 150.30 also issued under Atomic Energy Act sec. 234 (42 U.S.C. 2282).

28. In § 150.17 revise paragraphs (a) and (b) to read as follows:

§ 150.17 Submission to commission of nuclear material status reports.

(a) Except as specified in paragraph (d) of this section and § 150.17a, all licensees who possess or who had possessed in the previous reporting period, under an Agreement State license, one gram or more of irradiated or non-irradiated special nuclear material 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 (a)(1) of this section. Both reports shall be submitted between January 1 and March 31 of each year.

(1) Each licensee shall prepare and submit the reports described in this section as

follows:

(i) Reports must be submitted for each Reporting Identification Symbol (RIS) account, including all special nuclear material that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost.

(ii) 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.’’

(iii) 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.

(iv) 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*.

(2) 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.

(3) 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).

(4) 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.

(b) Except as specified in paragraph (d) of this section and § 150.17a, each person possessing, or who had possessed in the previous reporting period, at any one time and location, under an Agreement State license:

(1) One kilogram or more of uranium or thorium source material with foreign obligations, shall document holdings as of September 30 of each year and submit the material status reports to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee's material status reports on special nuclear material filed under part 74 of this chapter. This statement must be submitted to the address specified in the reporting instructions in NUREG/BR–0007, and include the Reporting Identification Symbol (RIS) assigned by the Commission.

(2) One kilogram or more of uranium or thorium source material in the operation of enrichment services, down blending uranium that has an initial enrichment of the U-235 isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels shall complete and submit, in computer-readable format, Material Balance and Physical Inventory Listing Reports concerning source material that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost. Reports must be submitted for each RIS account including all holding accounts. Each licensee shall prepare and submit these reports as specified in the instructions in NUREG/BR–0007 and NMMSS Report D–24, ''Personal Computer Data Input for NRC Licensees.'' These reports must document holdings as of September 30 of each year and be submitted to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee's material status reports on special nuclear material filed under part 74 of this chapter. Copies of the reporting instructions may be obtained by writing to 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*. Each licensee required to report material balance, and inventory information, as described in this part, shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of the notification of a discrepancy identified by the NRC.

* * * * *

Dated at Rockville, Maryland, this_____day of_____, 2012.

For the Nuclear Regulatory Commission.

Annette Vietti-Cook,
Secretary of the Commission.

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

AMENDMENTS TO MATERIAL CONTROL AND ACCOUNTING REGULATIONS

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

I. INTRODUCTION AND BACKGROUND

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

The proposed substantive changes to the MC&A regulations would affect NRC licensees who are authorized to possess SNM in a quantity greater than 350 grams. Plain language revisions to 10 CFR 74.13 would clarify the material status reporting requirements within the Nuclear Materials Management and Safeguards System (NMMSS), and conforming changes would be made to the parallel Agreement State reporting requirements in 10 CFR 150.17. Agreement States do not have authority to issue a license to possess SNM in a quantity greater than 350 grams. A person desiring to possess and use such quantities would be required to submit an application to the NRC under 10 CFR part 70.

II. THE PROPOSED ACTION

As part of the proposed rulemaking action, the MC&A requirements for independent spent fuel storage installations (ISFSIs) in subpart D of 10 CFR part 72 would be consolidated with the MC&A regulations in subpart B of 10 CFR part 74. The 10 CFR part 72 requirements at issue are repeated in 10 CFR part 74 and the redundant 10 CFR part 72 requirements in §§ 72.72, 72.74, 72.76, and 72.78 would be removed.

The majority of the changes would be to the MC&A provisions in subparts A-E of 10 CFR part 74, and are intended in general to reduce ambiguity, facilitate implementation, and better align the requirements with current standards of practice for MC&A of SNM. Such changes would include (1) adding general performance objectives (GPOs) to subpart A of 10 CFR part 74 (GPOs are informational activities to deter, detect, or aid in responding to any loss, theft, diversion or misuse of SNM) that would apply to all NRC licensees that are authorized to possess SNM in quantities greater than 350 grams; (2) adding item control requirements to subpart B to better ensure that NRC licensees under 10 CFR part 50 or 52 or 72 will be able to adequately deter or detect any diversion or misuse of SNM; (3) adding a "two-person" rule (*i.e.*, requiring the presence of at least two qualified and authorized individuals) to subparts C-E, applicable to actions involving tamper-safing, performing physical inventories, transferring SNM, or any handling of SNM that is not under an active control measure or monitoring or surveillance condition; (4) removing or modifying some current exemptions in subparts C, D, and E of 10 CFR part 74**;** and (5) revising 10 CFR part 74 subparts C, D, and E to require that certain procedures be established for tamper-safing containers or locations, and to require that procedures be established for designating material balance areas, item control areas, and custodial responsibilities for these areas.

Plain language revisions to 10 CFR parts 74 and 150 would clarify the required elements of an MC&A program and the various systems that comprise the MC&A program. Existing references to the fundamental nuclear material control (FNMC) plan in 10 CFR part 74 would be replaced by references to an MC&A plan.

In addition, the proposed action would add new definitions and modify some existing definitions in 10 CFR part 74. The proposed new defined terms are: *accounting, custodian, item control system, item control area, material balance area, material control and accounting*, and *two-person rule*. To improve clarity, the term *formula quantity* would be modified by describing it as a Category I quantity of material, consistent with the existing definitions of this term in 10 CFR parts 70 and 73. Similarly, the terms *SNM of moderate strategic significance* and *SNM of low strategic significance* would be modified by describing them as a Category II quantity of material and a Category III quantity of material, respectively, consistent with the existing definitions of these terms in 10 CFR parts 70 and 73. The term *effective kilogram of special nuclear material* would be removed from 10 CFR part 74 so that all MC&A definitions of the various types of SNM (and the affected MC&A provisions) would refer to gram quantities of nuclear material.

A new Appendix A, entitled “Categories of Special Nuclear Material,” would be added to 10 CFR part 74. The Appendix would include a table showing the Category I, II, and III quantities of SNM, the corresponding subpart in 10 CFR part 74 which governs NRC licensees authorized to hold Category I, II, and III quantities of SNM, and formulae to calculate Category I, II, and III quantities of SNM.

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

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

III. THE NEED FOR THE PROPOSED ACTION

Many of the current MC&A requirements were developed over 20 years ago and need to be updated, in part, to reflect advances in technology. As discussed above, some MC&A requirements in 10 CFR part 72 that apply to ISFSIs are repeated in 10 CFR part 74 and the redundant 10 CFR part 72 requirements would be deleted. The NMMSS reporting requirements for an ISFSI fall into this category, and §§ 72.72, 72.74, 72.76, and 72.78 would be consolidated in subpart B of 10 CFR part 74. Also, GPO requirements are being extended to cover all NRC licensees that are authorized to hold more than 350 grams of SNM and item controls are being extended to include NRC licensees subject to 10 CFR part 50 or 52, and the ISFSIs licensed under 10 CFR part 72, to better ensure that such licensees will be able to adequately deter or detect any diversion or misuse of SNM.

IV. ENVIRONMENTAL IMPACTS OF PROPOSED ACTION

The proposed amendments will not result in any significant environmental impact. The proposed rule pertains to MC&A program requirements, which consist of administrative procedures and operations to track and control SNM and related information, in order to deter and detect any loss, theft, diversion, or unauthorized production of nuclear material. The amendments are intended to strengthen MC&A programs and plans that have already been approved by the NRC. Under the proposed revisions to subpart B of 10 CFR part 74, licensees authorized to hold more than 350 grams of SNM (but which are not authorized to hold Category I-III quantities of SNM), would be required to establish, implement, and maintain an MC&A program to achieve the GPOs that would be added to subpart A. Unlike the MC&A plans that must be approved by the NRC before they are implemented (under the existing subpart C-E requirements of 10 CFR part 74), MC&A programs to be established at non-Category I-III facilities would not require NRC approval before implementation, but these programs would be subject to NRC inspection. As discussed above, licensees subject to 10 CFR part 50 or 52, and ISFSI licensees under 10 CFR part 72, would also be required to establish, implement, and maintain item controls.

As the proposed amendments pertain to information collection and reporting requirements, adopting them would have no significant impact on the quality of the human environment. The proposed action does not alter the amounts of any radioactive effluents that could be released offsite from an NRC-licensed facility, and does not cause a significant increase in individual or cumulative radiological exposures to plant workers or members of the public. Further, the proposed action does not result in any significant increase in the potential for accidents at NRC-licensed facilities.

V. ALTERNATIVES TO THE PROPOSED ACTION

The alternative to this proposed action is to take no action. Under the no-action alternative, the NRC would not amend the current regulations. Thus, the more risk-informed and performance-based proposed changes, and their associated program and safety enhancements, would not be achieved.

Under the no-action alternative, licensees would continue to comply with existing regulations. The existing MC&A requirements would not be updated, clarified, or consolidated as described above.

VI. ALTERNATIVE USE OF RESOURCES

No irreversible commitments of resources would occur under this proposed action.

VII. AGENCIES AND PERSONS CONTACTED

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

VIII. FINDING OF NO SIGNIFICANT IMPACT

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

pertain to information collection and reporting requirements, and adopting them would have no significant impact on the quality of the human environment.

Draft Regulatory Analysis for Proposed Rule: Amendments to Material Control and Accounting Regulations (10 CFR part 74)

U.S. Nuclear Regulatory Commission

October 2012

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Executive Summary

The U.S. Nuclear Regulatory Commission (NRC or the Commission) is proposing to amend the Title 10 of the *Code of Federal Regulations* (10 CFR) part 74 material control and accounting (MC&A) regulations applicable to special nuclear material (SNM) and some source material. This rulemaking would consolidate the MC&A requirements currently in 10 CFR part 72 for independent spent fuel storage installations (ISFSIs) in 10 CFR part 74. Also, 10 CFR 150.17 (applicable to licensees located in Agreement States) would be changed to conform to 10 CFR 74.13. The requirements in 10 CFR part 74 would also be revised to include a "two-person" rule to strengthen requirements for tamper-safing, performing physical inventories, transferring SNM, or any handling of SNM that is not under an active control measure or monitoring or surveillance condition. Other miscellaneous changes would also be made to 10 CFR part 74 requirements for Category III, II, and I facilities respectively in Subparts C, D, and E. Plain language revisions would also be made to 10 CFR part 74. Existing NUREG guidance documents would be revised to reflect these changes and a previously un-issued NUREG guidance document for Category II facilities would also be updated and included. References to due dates and reporting frequencies would be made more uniform by expressing such times in terms of calendar days. Section 74.4 would be amended by adding, removing, and modifying certain defined terms that are used throughout 10 CFR part 74.

The regulatory analysis examines the benefits and costs of the proposed changes to the requirements for general performance objectives; recordkeeping and submitting reports; written MC&A procedures; completing physical inventories, item controls; tamper-safing operations; two-person rule for tamper-safing, performing physical inventories, handling nuclear materials, and for transferring nuclear materials; and designating material balance areas and item control areas and custodial responsibilities for these areas. The analysis makes the following key findings:

- Total Cost to Industry. The proposed rule would result in a total one-time cost to licensees of approximately $495,000 to $519,000 followed by total annual costs of approximately $786,000 to $800,000. The analysis estimates the total present value of these costs at $6.0 million to $6.1 million (using a 7-percent discount rate) and at $7.2 million to $7.3 million (using a 3-percent discount rate) over the 10-year analysis period.

- Costs to the NRC. The rule would result in a one-time cost to the NRC of approximately $259,000, followed by no annual costs.

Decision Rationale. The NRC believes that the rule is cost-justified because the proposed regulatory initiatives would update, clarify, and strengthen the existing requirements, and thereby, promote the common defense and security.

Acronyms

ADAMS	NRC's Agencywide Documents Access and Management System
10 CFR	Title 10 of the *Code of Federal Regulations*
FNMC	Fundamental Nuclear Material Control
FTE	Full-Time Equivalent
GPO	General Performance Objective
NRC	U.S. Nuclear Regulatory Commission
SNM	Special Nuclear Material
ISFSI	Independent Spent Fuel Storage Installation
MC&A	Material Control and Accounting
MOX	Mixed Oxide
NMMSS	Nuclear Materials Management and Safeguards System
NUREG	Nuclear Regulatory Publication
OMB	Office of Management and Budget
ROP	Reactor Oversight Program

1. Introduction

The NRC is proposing to amend the 10 CFR part 74 MC&A regulations applicable to SNM. This rulemaking would consolidate the MC&A requirements currently in 10 CFR part 72 for ISFSIs in 10 CFR part 74. Also, 10 CFR 150.17 (applicable to licensees located in Agreement States) would be changed to conform to 10 CFR 74.13. No substantive changes would be involved. References to due dates and reporting frequencies would be made more uniform by expressing such times in terms of calendar days. Section 74.4 would be amended by adding, removing, and modifying certain defined terms that are used throughout 10 CFR part 74.

This analysis presents background material, rulemaking objectives, alternatives, and input assumptions, and it describes the consequences of the rule language and alternative approaches necessary to accomplish the regulatory objectives.

The remainder of this introduction is divided into two sections. Section 1.1 states the problem and the objective of the rulemaking. Section 1.2 provides background information.

1.1 Statement of the Problem and Objective of the Rulemaking

The Commission has directed the staff to revise and consolidate requirements for MC&A in 10 CFR part 74. The MC&A requirements for an ISFSI that are currently located in 10 CFR part 72 would be relocated in 10 CFR part 74. In addition, 10 CFR part 74 would be revised to make it clear what requirements apply to different types of facilities. The general provisions would be revised to include general performance objectives (GPOs) for the MC&A program that would apply to licensees authorized to possess SNM in a quantity greater than 350 grams. Some current exemptions in the regulations would be deleted or modified. The requirements in 10 CFR part 74 would be revised to include definitions for some new terms and to clarify the definitions of some terms. The requirements would also be revised to include a “two-person” rule to strengthen requirements for tamper-safing, performing physical inventories, transferring SNM, or any handling of SNM that is not under an active control measure or monitoring or surveillance condition. Other miscellaneous changes would also be made to 10 CFR part 74 requirements for Category III, II, and I facilities respectively in Subparts C, D, and E. Plain language revisions would also be made to 10 CFR part 74. Existing NUREG guidance documents would be revised to reflect these changes and a NUREG guidance document for Category II facilities would be developed.

1.2 Background

Many of the current MC&A requirements were developed over 20 years ago and have been considered over the past several years during self-assessment and operating experience activities completed by the NRC. A more risk-informed and performance-based approach is being considered for the requirements in 10 CFR part 74. The previous amendments to 10 CFR part 74 consolidated the MC&A requirements from 10 CFR part 70. All that remains to be moved are the requirements in 10 CFR part 72 that apply to a licensee operating an ISFSI. There are reporting requirements for the Nuclear Materials Management and Safeguards System (NMMSS) that are located in 10 CFR part 40 for source material. These requirements would not be moved as they are not applicable for SNM. There are also NMMSS reporting requirements in 10 CFR part 150 that apply to Agreement State licensees. These requirements

would not be relocated to 10 CFR part 74. This rulemaking would complete the relocation process by including ISFSIs in the scope of 10 CFR part 74 and in the requirements for submitting material status reports and nuclear material transaction reports to the NRC via the NMMSS. Conforming changes would remove the requirements from 10 CFR part 72 and refer to the MC&A requirements in 10 CFR part 74. The proposed reporting requirements for a licensee under 10 CFR part 72 would be essentially unchanged except that the requirements would be located in 10 CFR part 74.

Currently there are no GPO requirements for NRC-licensed facilities which are authorized to possess more than 350 grams of SNM, but which are not Category I, II, or III facilities. This rulemaking would revise Subpart A of 10 CFR part 74 to enlarge the set of NRC licensees who are subject to GPO requirements.

This rulemaking would add defined terms to 10 CFR part 74, modify some existing terms, and remove one defined term. Newly defined terms include: *accounting, custodian, item control system* and *item control area, material balance area, material control and accounting,* and *two person rule*. Modified terms include, *formula quantity, special nuclear material of moderate strategic significance,* and *special nuclear material of low strategic significance*. For these classes of materials, 10 CFR part 74 would be revised to improve clarity of the requirements that apply to different types of facilities. These classes of materials would be designated respectively as a Category I quantity, a Category II quantity, and a Category III quantity. Also, a new appendix would be added to 10 CFR part 74: Appendix A, Categories of Special Nuclear Material, that includes a table showing the quantities for each category, the reference corresponding to the subpart in 10 CFR part 74 for each category, and formulae to calculate any combination of SNM in a quantity for a category. The term *Effective kilograms of special nuclear material* would be removed from 10 CFR part 74 and the requirements would simply refer to gram quantities. *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 Safeguards Agreement.

Many of the references to due dates and reporting frequencies would be changed to calendar days, to make 10 CFR part 74 more uniform in this regard. 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.

A new item control requirement would be added to Subpart B of 10 CFR part 74. Subparts C and D would be revised to remove some exemptions or modify requirements for item control of smaller quantities of SNM. Subparts C, D, and E would be revised to require at least two, qualified and authorized individuals to complete and observe certain operations and to require certain procedures to be established for tamper-safing containers or locations and to require designation of material balance areas or item control areas. Plain language revisions would clarify an MC&A program and various systems that comprise the MC&A program. The term, MC&A plan would replace the term, Fundamental Nuclear Material Control (FNMC) plan. Conforming changes would be completed for associated guidance documents that are used by licensees and the NRC and interested members of the public.

2. Identification and Preliminary Analysis of Alternative Approaches

The following sections describe the two regulatory options that the NRC is considering in order to meet the rulemaking objective identified in the previous section. Section 3 presents a detailed analysis.

2.1 Option 1: No Action

Under Option 1, the no-action alternative, the NRC would not amend the current regulations at 10 CFR part 74. Current NRC regulations do not include GPO requirements for licensees authorized to possess more than 350 grams of SNM, but which are not Category I, II, or III facilities. Licensees under Subpart B are required to establish and follow written MC&A procedures but reactor licensees and ISFSI licensees are not required to implement item controls. Licensees under Subparts C and D (Category III and II facilities, respectively) are now exempt from certain item controls involving kilogram amounts of SNM. There is no tamper-safing requirement in Subparts C or D and licensees under Subpart E (Category I facilities) are not required to control access to unused tamper seals or account for seals. Licensees under Subparts C, D, and E are not required to designate material balance areas, item control areas, or custodians for these areas. There is no direct requirement for the two-person rule. Any future irradiated fuel reprocessing plant would currently be exempt from the Subpart E requirements.

The licensees would continue to comply with existing regulations. They may choose to voluntarily implement these practices that have been encouraged within the industry for many years. There are currently no facilities that are licensed to operate under Subpart D of 10 CFR part 74. The licensees operating under Subparts C and E have already implemented best practices which are similar to the proposed changes. Option 1 would avoid costs that the proposed rule would impose; however, the existing requirements would not be updated, clarified, or consolidated to improve security issues for facilities authorized to possess and use SNM that the NRC considers necessary to assure the common defense and security. Option 1, which is the no-action alternative, is the baseline for this regulatory analysis.

2.2 Option 2: Amend 10 CFR part 74

The changes listed below are consistent with Option 2 to revise and consolidate MC&A requirements in 10 CFR part 74.

- Relocate to 10 CFR part 74 the NMMSS-related reporting requirements for ISFSIs that currently exist in 10 CFR part 72. These requirements in 10 CFR part 72 duplicate requirements in existing Subpart B of 10 CFR part 74. In this regard, revisions are proposed to 10 CFR 72.72 and 72.74; 10 CFR 72.76 and 72.78 would be removed.

- Revise 10 CFR part 74 to make it clear what requirements apply to different types of facilities because although the Subpart B general provisions apply to almost all facilities that are authorized to possess and use SNM, some licensees and NRC staff have expressed confusion as to what requirements apply to a particular facility. To address this matter, the staff proposes to modify the 10 CFR part 74 definitions for *formula quantity, special nuclear material of moderate strategic significance*, and *SNM of low strategic significance* by

conforming them to the existing definitions in 10 CFR parts 70 and 73, which clarify these classes of SNM respectively as Category I, II, and III quantities of strategic SNM. Licensees authorized to possess Category I material are subject to the requirements in 10 CFR part 74, Subpart E, while licensees authorized to possess Category II or III material are subject to the requirements in Subpart D or C, respectively. To further clarify these divisions, the staff proposes to add Appendix A to 10 CFR part 74 – a table listing the Category I, II, and III quantities of strategic SNM, and the formulae used to calculate these quantities.

- Include GPOs that would apply to licensees authorized to possess more than 350 grams of SNM but which are not licensees authorized to possess Category I, II, and III quantities of material. Examples of GPOs include the need to confirm the presence of SNM and to resolve indications of missing material. The GPOs that would apply to all NRC licensees authorized to possess SNM in a quantity greater than 350 grams are stated in proposed 10 CFR 74.3.

- Add item control requirements in proposed 10 CFR 74.19(d) that would apply to reactor licensees under 10 CFR part 50 or 52 and ISFSI licensees under 10 CFR part 72. Item control exemptions would be removed from 10 CFR 74.31(c)(6), 10 CFR 74.33(c)(6), and 10 CFR 74.43(b)(6).

- Move the exemptions for sealed sources in 10 CFR 74.31(a)(1) and 10 CFR 74.41(a)(1). These exemptions exclude sealed sources from being used in calculating whether or not a facility possesses SNM of low strategic significance or SNM of moderate strategic significance, respectively. To clarify this point, these exemptions would be moved to Appendix A.

- Remove the existing exemption in 10 CFR 74.51(a) for an irradiated fuel reprocessing plant.

- Include definitions for some new terms and to clarify the definitions of some terms. In this regard, the staff proposes to add defined terms for *accounting, custodian, item control area, item control system, material balance area, material control and accounting,* and *two-person rule.*

- Add requirements related to the two-person rule. Current requirements for checks and balances use the two-person rule concept for the MC&A program capabilities and for the quality assurance and accounting requirements in Subpart E at 10 CFR 74.51(b)(1) and 10 CFR 74.59(b)(1) and (h)(3). The staff proposed to include the two-person rule in 10 CFR 74.31(c)(10), 74.33(c)(10), 74.43(c)(9), and 74.59(h)(6).

- Strengthen requirements related to tamper-indicating device programs. Having a tamper-safing program is already required in Subparts D and E at 10 CFR 74.43(c)(3) and 74.59(f)(2), respectively, and similar tamper-safing requirements would be added to Subpart C in proposed 10 CFR 74.31(c)(9) for fuel fabrication facilities using SNM of low strategic significance and 10 CFR 74.33(c)(9) for uranium enrichment facilities.

Other miscellaneous changes would be made, including plain language revisions. These changes and revisions would replace the existing references to the FNMC Plan with references

to an MC&A Plan. The staff's view is that FNMC is an outdated term and does not explicitly refer to "accounting." Thus, it does not fully describe the accounting aspects of the MC&A program.

The NUREG guidance documents listed below would be updated. A previously un-issued guidance document for a Category II facility would be updated and included with the guidance documents listed below.

1. NUREG-1280, Rev. 1 (1995), "Standard Format and Content Acceptance Criteria for the Material Control and Accounting (MC&A) Reform Amendment"

2. NUREG-1065, Rev. 2 (1995), "Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Facilities"

3. NUREG/CR-5734 (1991), "Recommendations to the NRC on Acceptable Standard Format and Content for the Fundamental Nuclear Material Control (FNMC) Plan Required for Low-Enriched Uranium Enrichment Facilities"

4. NUREG/BR-0096 (1992), "Instructions and Guidance for Completing Physical Inventory Summary Report"

The NRC has estimated the benefits and costs of this option, as described in Sections 3 and 4 of this regulatory analysis, and has pursued Option 2 for the reasons discussed in Section 5.

3. Estimation and Evaluation of Values and Impacts

This section describes the analysis that the NRC conducted to identify and evaluate the benefits (values) and costs (impacts) of the two regulatory options. Section 3.1 identifies the attributes that the staff expects the proposed rulemaking to affect. Section 3.2 describes how the values and impacts have been analyzed. Finally, Section 3.3 presents the detailed results of the projected impacts.

3.1 Identification of Affected Attributes

This section identifies the factors within the public and private sectors that the final rule is expected to affect, using the list of potential attributes in Chapter 5 of NUREG/BR-0184, "Regulatory Analysis Technical Evaluation Handbook," issued January 1997, and in Chapter 4 of NUREG/BR-0058, "Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission," Revision 4, issued September 2004. The evaluation considered each attribute listed in Chapter 5 of NUREG/BR-0184. The basis for selecting those attributes is presented below.

Affected attributes include the following:

- Industry Implementation. The proposed changes would require certain licensees to implement general performance objectives, establish and follow written MC&A procedures, implement an item control system, implement a two-person rule for certain

operations such as tamper-safing of containers or vaults, and designate material balance areas and/or item control areas and custodial responsibilities for these areas. Certain items currently exempted from an item control program would be subject to item controls. An irradiated fuel reprocessing plant would no longer be exempted from the requirements for a Category I facility in 10 CFR part 74, Subpart E.

- NRC Implementation. Under the proposed action, the NRC would develop the proposed rule package to be published by the Office of the Federal Register and prepare the final rule package that responds to comments from stakeholders and sets forth the final rule text for publication by the Office of the Federal Register. The NRC would revise guidance and inspection procedures to accommodate the requirements that would be added or modified by the rulemaking process.

- Industry Operations. The new 10 CFR 74.19(d) in subpart B would require licensees under 10 CFR part 50 or 52 and ISFSI licensees under 10 CFR part 72 to establish item control systems. Licensees under subparts C, D, and E of 10 CFR part 74 would follow the two-person rule by ensuring that individuals are qualified and authorized to perform and observe certain MC&A operations. Licensees would maintain material balance areas and/or item control areas and ensure custodial responsibilities are assigned to these areas. Certain items currently exempted from item control requirements would be tracked to maintain current knowledge of each item.

- NRC Operations. The proposed changes would include inspection and enforcement of requirements for certain licensees to adequately assure common defense and security of workers and members of the public from lost, missing, stolen, or diverted SNM. Inspectors would assess licensee implementation of the requirements noted above and operational activities noted above to maintain the MC&A program at licensee facilities. The NRC does not estimate any additional operating cost due to the proposed regulations because the routine inspection program is reviewed and updated at 3-year intervals and the proposed changes would be incorporated without increasing cost to the NRC to update procedures. The NRC inspection activities at a facility would include the proposed changes without increasing inspection effort.

- Security and Safeguards Considerations. The regulatory basis for 10 CFR part 74 is security and the information and data and the activities to manage the information and data ensure that an adequate level of safety and security over SNM is maintained.

Attributes that the rulemaking options would *not* affect include the following: occupational health (routine), occupational health (accidents), public health (routine), public health (accidents), regulatory efficiency, environmental considerations, general public, improvements in knowledge, offsite property, onsite property, antitrust considerations, and other Government regulations.

3.2 Analytical Methodology

This section describes the methodology used to analyze the consequences associated with the proposed rule. The values (benefits) include any desirable changes in the affected attributes. The impacts (costs) include any undesirable changes in the affected attributes.

As described in Section 3.1, the attributes expected to be affected include the following:

- Industry implementation
- Industry operation
- NRC implementation
- NRC operations
- Security and safeguards considerations

This analysis relies on a qualitative evaluation of one of the affected attributes (security and safeguards considerations) due to the difficulty in quantifying the impact of the current rulemaking. This attribute would be affected by the regulatory options through the associated reduction in the risks of damage from malevolent use of SNM. Quantification would require estimation of factors such as: (1) the frequency of attempted theft or diversion, (2) the frequency with which theft or diversion attempts are (i.e., pre-rule) and will be (i.e., post-rule) successful, and (3) the impacts associated with successful theft or diversion attempts.

The NRC collected input assumptions using data and information from NRC workgroups and staff experience and NRC databases to estimate the costs associated with implementation and costs associated with annual operations of industry and the NRC.

In accordance with guidance from the Office of Management and Budget (OMB) and NUREG/BR-0058, Revision 4, this regulatory analysis presents the results of the analysis using both 3-percent and 7-percent real discount rates. The real discounted rates or present-worth calculation simply determines how much society would need to invest today to ensure that the designated dollar amount is available in a given year in the future. By using present-worth, costs and benefits, regardless of when averted in time, are valued equally. Based on OMB guidance (OMB Circular No. A-4, September, 17, 2003), present-worth calculations are presented using both 3-percent and 7-percent real discount rates. The 3-percent rate approximates the real rate of return on long-term government debt which serves as a proxy for the real rate of return on savings. This rate is appropriate when the primary effect of the regulation is on private consumption. Alternatively, the 7-percent rate approximates the marginal pretax real rate of return on an average investment in the private sector, and is the appropriate discount rate whenever the main effect of a regulation is to displace or alter the use of capital in the private sector. The NRC seeks public comments on the accuracy of these regulatory analysis assumptions and on the validity of the proposed rule's value and impact estimation methods.

3.2.1 Data and Assumptions

The analysis assumes that one-time implementation costs will be incurred in calendar year 2014. The analysis assumes that ongoing costs to revise and consolidate requirements for MC&A in 10 CFR part 74 related to the proposed rule will begin in 2013 and will be modeled on an annual cost basis. The analysis calculated cost and savings over a 10-year time horizon with each year's costs or savings discounted back at a 7-percent and 3-percent discount rate in accordance with NUREG/BR-0058, Revision 4. Costs and savings are expressed in 2012 dollars.

Data/Affected Entities

The analysis assumes that licensees of the following existing facilities will be affected by this rule:

- Reactor facilities licensed under 10 CFR part 50 or 52
- Industrial, academic, and research facilities licensed under 10 CFR part 70
- Category III- Enrichment Facilities licensed under 10 CFR part 70
- Category III- Fuel Fabrication Facilities licensed under 10 CFR part 70
- Category I- Fuel Fabrication Facilities licensed under 10 CFR part 70
- ISFSIs licensed under 10 CFR part 72

Within the next 10 years, the NRC expects to receive and review an application for a medical isotope production facility. Such a facility, if licensed, would likely be a Category II facility that would be affected by this rule. In addition, within the next 10 years the NRC expects to issue licenses for new reactor facilities under 10 CFR part 52, however, none are expected to be new sites where no reactor facility is currently licensed to operate. A new reactor facility would not be impacted by this rule because the licensee at the site would have already implemented the rule and the operations at the site would already include an item control system.

Other Data and Assumptions

The analysis makes the following other assumptions:

- The NRC's labor rates are determined using the methodology in Abstract 5.2, "NRC Labor Rates," of NUREG/CR-4627, "Generic Cost Estimates, Abstracts from Generic Studies for Use in Preparing Regulatory Impact Analyses." This methodology considers only variable costs that are directly related to the implementation, operation, and maintenance of the proposed amendments. Currently, the NRC hourly labor rate is $119. The estimation of costs for rulemaking is based on professional NRC staff full-time equivalent (FTE).

- Licensee labor rates were obtained from National Wage Data available on the Bureau of Labor Statistics Web site (www.bls.gov). Depending on the industry and the occupation (e.g., manufacturing, health and safety, etc.), an appropriate mean hourly labor rate is selected. Because exact hourly rates would be difficult to obtain and may not be sufficiently recent, nationwide mean hourly rates are used. The bases for the labor rates are described below. The hourly cost was determined by multiplying the hourly labor rate by 1.5 to account for benefits (insurance premiums, pension, and legally required benefits). For licensee labor rates, $73.20/hour ($48.80/hour X 1.5) is used, which is from the Bureau of Labor Statistics Employer Costs for Employee Compensation data set, "Nuclear Engineers."

- The analysis assumes that the final rule will be published in December 2013 and would be effective in mid-2014.

- The analysis calculated cost over a 10-year timeframe with each year's costs or savings discounted back at a 7-percent and 3-percent discount rate, in accordance with NUREG/BR-0058, Revision 4.

- To the extent practicable, quantitative information (e.g., costs and savings) and qualitative information (e.g., the nature and magnitude of impacts) on attributes affected by the rule were obtained from, or developed in consultation with, the NRC staff.

3.3 Detailed Results

This section presents a detailed estimate of the impacts for the proposed rulemaking (Option 2). Some values and impacts are addressed qualitatively for reasons discussed in Section 3.2. Exhibits 3-1, 3-2, 3-3, and 3-4 summarize these results.

Option 1: No Action

By definition, this option does not result in any values or impacts. The baseline for the Main Analysis is the No-Action Alternative. The baseline assumes full compliance with existing NRC requirements. This baseline is consistent with NUREG/BR-0058, which states that, "in evaluating a new requirement...the staff should assume that all existing NRC requirements have been implemented."

Option 2: Amend Regulations to Revise and Consolidate Requirements for MC&A of SNM in 10 CFR part 74

Sites licensed under 10 CFR part 50 currently perform MC&A activities, which include item controls, that may be routinely inspected under the Reactor Oversight Program (ROP) that is conducted by the NRC, Office of Nuclear Reactor Regulations (NRR). It is unclear to what extent the 10 CFR part 50 licensees have implemented item control systems similar to those proposed in the new 10 CFR 74.19(d) and are capable of quickly resolving indications of missing SNM. For example, a licensee may be capable of quickly and accurately listing all items and associated information. A licensee may be capable of securing their record system to guard against destruction or falsification of data. A licensee may be capable of demonstrating how it would investigate the evidence of missing or compromised items or item records and would quickly determine the status of an item. Because of uncertainty regarding the extent to which 10 CFR part 50 licensees have developed an item control system, similar to that required by the proposed rule, the NRC is using a full credit and no credit scenario to bound the regulatory analysis of impacts.

Consistent with NUREG/BR-0058, two sets of value-impact estimates are presented for Option 2. Option 2A is based on full credit, and Option 2B is based on no credit, being given for current industry actions related to one of the newly proposed requirements (implementing an item control system).

Option 2A: Full Credit Given for Current Industry Actions

<u>Industry Implementation</u>

Impact: Establish, Maintain Written MC&A Procedures

The proposed changes to 10 CFR 74.19(b)(1) would require each licensee authorized to possess SNM, 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, to establish, maintain, and follow written MC&A procedures that are sufficient to enable the licensee to account for the SNM in its possession under the license. It is estimated by the NRC that the changes would not impact any additional licensees. The NRC staff compared the current number of licensees subject to the current requirement with the number of licensees that would be subject to the proposed requirement which would reduce the threshold possession limit from one effective kilogram of SNM to a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof and determined that no additional licensees would be affected by proposed 10 CFR 74.19(b).

Impact: Item Control System

The new 10 CFR 74.19(d) would require licensees under 10 CFR part 50 or 52 and ISFSI licensees under 10 CFR part 72 to establish, document, implement, and maintain an item control system as defined in § 74.4. There are 65 reactor sites with one or more reactor units that are licensed under 10 CFR part 50. The 65 reactor sites have already implemented their programs under existing requirements in 10 CFR part 74 to (1) establish MC&A procedures, (2) conduct physical inventories of the SNM at the site, (3) maintain records, and (4) make reports. Licensee performance is evaluated during routine inspections conducted under the ROP. Under this Option 2A full credit is given to these 65 reactor sites for having an item control system that would satisfy proposed 10 CFR 74.19(d). Thus, there would be no additional cost impact on these sites as a result of the proposed 10 CFR 74.19(d).

There are 63 stand-alone ISFSI licensees under 10 CFR part 72 that would be impacted by the proposed requirement. The staff estimated about 5 labor hours would be needed for each of the 63 ISFSI licensees to establish an item control system. The labor rate is $73.20 per hour. The one-time cost per licensee would be $366 and the total one-time cost to the industry would be $23,058.

Impact: Item Control Exemptions for Category III and II Facilities

The proposed changes to 10 CFR 74.31(c)(6) would require each Category III fuel fabrication facility to include currently exempted items in their item control system. The currently exempted items that a licensee would be required to track include items that exist for 14 days or less and individual items containing less than 500 grams of uranium-235 up to a total of 50 kilograms of uranium-235. It is estimated by the NRC that the changes would impact the three licensees that are currently operating Category III fuel fabrication facilities. The implementation time would be 250 hours at $73.20 per hour. The one-time cost per licensee would be $18,300 and the total one-time cost to the industry would be $54,900.

The proposed changes to 10 CFR 74.33(c)(6)(ii) would require each Category III enrichment facility to include currently exempted items in their item control system. The currently exempted items that a licensee would be required to track include items that exist for less than 14 days and individual items containing less than 500 grams uranium-235 up to a cumulative total of 50 kilograms of uranium-235. It is estimated by the NRC that the changes would impact two licensees that are operating enrichment facilities and two potential licensees that are constructing enrichment facilities that will be licensed to operate in the future. The

implementation time would be 250 hours at $73.20 per hour. The one-time cost per licensee would be $18,300 and the total one-time cost to the industry would be $73,200.

The proposed changes to 10 CFR 74.43(b)(6) would require any future Category II facility to include currently exempted items in their item control system. The currently exempted items include items that exist for less than 14 calendar days and individual items containing less than 200 grams of plutonium or uranium-233 or 300 grams or more of uranium-235 up to a 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. It is estimated by the NRC that the changes would impact one potential licensee (e.g., a medical isotope production facility could be operating within 10 years) and the implementation time would be 250 hours at $73.20 per hour. The total one-time cost to the licensee and the industry would be at $18,300.

Impact: Two- Person Rule

The proposed changes to 10 CFR 74.31(c)(10) would require each Category III fuel fabrication licensee to use the two-person rule (as defined in § 74.4) for conducting tamper-safing operations, physical inventories, transfer of SNM, and for any handling of SNM that is not under an active control measure or monitoring or surveillance condition. It is estimated by the NRC that the changes would impact the three licensees that are currently operating these Category III facilities. The implementation time would be 500 hours to train the workers. The one-time cost of training at $73.20 per hour would be $36,600 per licensee and the total one-time cost to the industry would be $109,800.

The proposed changes to 10 CFR 74.33(c)(10) would require each uranium enrichment licensee to use the two-person rule (as defined in § 74.4) for conducting tamper-safing operations, physical inventories, transfer of SNM, and for any handling of SNM that is not under an active control measure or monitoring or surveillance condition. It is estimated by the NRC that the changes would impact two licensees that are operating enrichment facilities and two potential licensees that are constructing enrichment facilities that will be licensed to operate within 10 years. The implementation time to train the workers would be 500 hours. The one-time cost at $73.20 per hour would be $36,600 per licensee and the total one-time cost to the industry would be $146,400.

The proposed changes to 10 CFR 74.43(c)(9) would require any future Category II licensee to use the two-person rule (as defined in § 74.4) for conducting tamper-safing operations, physical inventories, transfer of SNM, and for any handling of SNM that is not under an active control measure or monitoring or surveillance condition. It is estimated by the NRC that the changes would impact one potential licensee and the implementation time to train the workers would be 500 hours. The one-time cost at $73.20 per hour to a licensee and the industry would be $36,600.

The proposed changes to 10 CFR 74.59(h)(6) would require each Category I fuel cycle licensee to use the two-person rule (as defined in § 74.4) for conducting tamper-safing operations, physical inventories, transfer of SNM, and for any handling of SNM that is not under an active control measure or monitoring or surveillance condition. It is estimated by the NRC that the changes would impact the two licensees that are currently operating the Category I facilities and

the potential licensee that would operate the mixed oxide (MOX) facility. The implementation time would be 150 hours to train the workers. The training time would be less than a Category III or II facility because many operations in a Category I facility are already performed under a two-person rule concept that is similar to the proposed two-person rule. The one-time cost at $73.20 per hour would be $10,980 per licensee and the total one-time cost for the industry would be $32,940.

NRC Implementation

Impact: Develop Rule Package and Revise Guidance Documents

The NRC staff would develop the rule package and revise guidance and inspection procedures to accommodate the requirements that would be added or modified by the rulemaking process. This is an estimated $259,000 one-time cost to the NRC. This effort will require one-half FTE (1040 hours) for participating in the rulemaking activities and one-half FTE (1040 hours) to revise and update the guidance documents.

Industry Operation

Impact: Item Control System

The new 10 CFR 74.19(d) would require licensees under 10 CFR part 50 or 52 and ISFSI licensees under 10 CFR part 72 to establish, document, implement, and maintain an item control system as defined in § 74.4. Assuming sites with 10 CFR part 50 licenses have already implemented their programs to control and account for SNM at the sites, these licensees would not be impacted by the proposed requirement. The 63 ISFSI licensees, would be impacted by the proposed requirement, the annual time to perform these actions would be 3 hours per ISFSI. The annual cost at $73.20 per hour would be $220 per licensee and the total annual cost to the industry would be $13,835.

Impact: Item Control Exemptions for Category III and II Facilities

The proposed changes to 10 CFR 74.31(c)(6) would require each Category III fuel fabrication facility to include currently exempted items in their item control system. The currently exempted items that a licensee would be required to track include items that exist for 14 days or less and individual items containing less than 500 grams of uranium-235 up to a total of 50 kilograms of uranium-235. It is estimated by the NRC that the changes would impact these three licensees that are currently operating the Category III facilities. The annual time would be 100 hours. The annual cost at $73.20 per hour would be $7,320 per licensee and the total annual cost to the industry would be $21,960.

The proposed changes to 10 CFR 74.33(c)(6)(ii) would require each Category III enrichment facility to include currently exempted items in their item control system. The currently exempted items that a licensee would be required to track include items that exist for less than 14 days and individual items containing less than 500 grams uranium-235 up to a cumulative total of 50 kilograms of uranium-235. It is estimated by the NRC that the changes would impact two licensees that are operating enrichment facilities and two potential licensees that are constructing enrichment facilities that will be licensed to operate in the future. The annual time

would be 100 hours at $73.20 per hour. The annual cost per licensee would be $7,320 and the total annual cost to the industry would be $29,280.

The proposed changes to 10 CFR 74.43(b)(6) would require any future Category II facility to include currently exempted items in their item control system. The currently exempted items include items that exist for less than 14 calendar days and individual items containing less than 200 grams of plutonium or uranium-233 or 300 grams or more of uranium-235 up to a total of one formula kilogram of strategic SNM or 17 kilograms of uranium-235 contained in uranium enriched to 10 percent or more but less than 20 percent in the uranium-235 isotope. It is estimated by the NRC that the changes would impact one potential licensee and the annual time would be 100 hours at $73.20 per hour. The annual cost to the licensee and the industry would be $7,320.

Impact: Two-Person Rule

The proposed changes to 10 CFR 74.31(c)(10) would require each Category III fuel fabrication licensee to use the two-person rule (as defined in § 74.4) for conducting tamper-safing operations, physical inventories, transfer of SNM, and for any handling of SNM that is not under an active control measure or monitoring or surveillance condition. It is estimated by the NRC that the changes would impact the three licensees that are currently operating the Category III facilities. The annual time would be 1,500 labor hours each to assign at least two qualified and authorized individuals to prevent collusion and ensure that correct procedures are used, the operations are completed correctly, and that information about the operation is accurately documented. The annual cost at $73.20 per hour would be $109,800 per licensee and the total annual cost to the industry would be $329,400.

The proposed changes to 10 CFR 74.33(c)(10) would require each uranium enrichment licensee to use the two-person rule (as defined in § 74.4) for conducting tamper-safing operations, physical inventories, transfer of SNM, and for any handling of SNM that is not under an active control measure or monitoring or surveillance condition. It is estimated by the NRC that the changes would impact two licensees that are operating enrichment facilities and two potential licensees that are constructing enrichment facilities that will be licensed to operate within 10 years at 500 labor hours each to assign at least two qualified and authorized individuals to prevent collusion and ensure that correct procedures are used, the operations are completed correctly, and that information about the operation is accurately documented. The annual cost at $73.20 per hour would be $36,600 per licensee and the total annual cost to the industry would be $146,400.

The proposed changes to 10 CFR 74.43(c)(9) would require any future Category II licensee to use the two-person rule (as defined in § 74.4) for tamper-safing operations, for conducting tamper-safing operations, physical inventories, transfer of SNM, and for any handling of SNM that is not under an active control measure or monitoring or surveillance condition. The NRC estimates this will impact one potential licensee at 1,000 labor hours to assign at least two qualified and authorized individuals to prevent collusion and ensure that correct procedures are used, the operations are completed correctly, and that information about the operation is accurately documented. The annual cost at $73.20 per hour would be $73,200 for the licensee and the annual cost to the industry would be $73,200.

The proposed changes to 10 CFR 74.59(h)(6) would require each Category I fuel cycle licensee to use the two-person rule (as defined in § 74.4) for tamper-safing operations, for conducting tamper-safing operations, physical inventories, transfer of SNM, and for any handling of SNM that is not under an active control measure or monitoring or surveillance condition. It is estimated by the NRC that the changes would impact the two licensees that are currently operating the Category I facilities and the potential licensee that would operate the MOX facility. The annual time would be 750 labor hours for each licensee to assign at least two qualified and authorized individuals to prevent collusion and ensure that correct procedures are used, the operations are completed correctly, and that information about the operation is accurately documented. The annual cost at $73.20 per hour would be $54,900 per licensee and the total annual cost to the industry would be $164,700.

Impact: Removal of Exemption in 10 CFR 74.51(a) for an Irradiated Fuel Reprocessing Plant

This proposed change would impact no licensees, because there are currently no operating irradiated fuel reprocessing plants.

NRC Operation

Impact: The amount of NRC inspection effort would not change. Inspectors would evaluate licensee implementation of the changes within the scope of the routine inspection program elements. The inspection procedures would be updated within the normal review and revision cycle at 3-year intervals. The procedures were revised in December 2010 and would be reviewed and updated in 2013 which would coincide with the issuance of the final rule.

Security and Safeguards Considerations

The NRC believes that the proposed regulatory initiatives would promote common defense and security by enhancing protection of SNM. The qualitative values or benefits of the proposed rule relate to the reduced risk of malevolent use of SNM that the NRC believes would be achieved as a result of implementing proposed requirements for item controls and the two-person rule. The NRC is unable to quantify this reduction in risk due to factors such as: (1) the frequency of attempted theft or diversion; (2) the frequency with which theft or diversion attempts are and will be successful; and (3) the impact associated with successful theft or diversion. The benefits of the proposed requirements for item controls are discussed below in qualitative terms. The NRC realizes that the incremental increase in benefits is reduced to the extent that licensees are currently performing MC&A activities satisfactorily under the ROP. However, the NRC believes the net overall value realized would warrant the cost of the proposed rule to enhance regulatory effectiveness.

The NRC's regulations specify requirements for collecting and reporting information about SNM that is held by a licensee. The MC&A regulations ensure that the information about SNM is accurate, authentic, and sufficiently detailed to enable a licensee to maintain current knowledge of its SNM and manage its program for securing and protecting SNM. MC&A, together with physical protection of facilities and information security requirements, make up the primary elements of the NRC's SNM safeguards program.

For this regulatory analysis the NRC assumes security benefits for 3 of the proposed changes: the item control system, the removal of existing item exemptions, and the two-person rule.

With regard to the new item control system requirement in 10 CFR 74.19(d), security and safeguards would be enhanced by licensee efforts to maintain current knowledge of items. The new requirement would increase and maintain (1) the accuracy of inventory information that supports the resolution of discrepancies, (2) the protection against unauthorized removal or unrecorded removal of items or removal of SNM from an item, and (3) the capability of rapidly locating selected items.

Under Option 2A, full credit is given to 10 CFR part 50 licensees at the 65 reactor sites for having an adequate item control system in place to enhance their capabilities for security and safeguards as indicated in the previous paragraph, and therefore no benefit is assumed for the licensees. Benefit is assumed however for the 63 stand-alone ISFSI licensees under 10 CFR part 72 that would be required to periodically collect and verify the MC&A information recorded for the installation.

With regard to removing existing item control exemptions, the MC&A component of the larger safeguards program helps ensure that SNM within a fuel cycle facility is not stolen or otherwise diverted from the facility and promotes the NRC's strategic goal of maintaining adequate protection over the use and management of radioactive materials. Removing some of the currently allowed exemptions for item control for Category III licensees would require these licensees to collect and maintain additional MC&A information on these types of items and verify the information periodically.

With regard to the fuel cycle facilities, the two-person rule increases the integrity and accuracy of the information collected during a certain task. Requiring two persons to perform key MC&A activities, including the collection and recording of SNM quantities, reduces the likelihood of both inadvertent error and deliberate mis-recording of MC&A information.

Exhibit 3-1
Quantitative Results
Total Present Value for the Cost of Option 2A
With Full Credit Given for Current Industry Actions

	One-Time Implementation Costs	Annual Operating Costs	Total Combined Implementation and Annual Cost for 10-Year Period at 3% Discount Rate	Total Combined Implementation and Annual Cost for 10-Year Period at 7% Discount Rate
Industry Costs	$495,198	$786,095	$7,200,746	$6,016,399
NRC Costs	$259,420	$0	$259,420	$259,420
Total	$754,618	$786,095	$7,460,166	$6,275,819

Exhibit 3-2
Detailed Quantitative Results: Licensee Costs of Option 2A
With Full Credit Given for Current Industry Actions

CFR Citation	Description	Number of Licensees Affected	Labor Rate $/hr	Annual Hours per Licensee	Annual Cost per Licensee	Total Annual Cost	One-Time Implementation Cost per Licensee	Total One-Time Implementation Cost
74.19(b)	Written MC&A Procedures	0	$73.20	0	$0	$0	$0	$0
74.19(d)	Item Control System	63	$73.20	3	$220	$13,835	$366	$23,058
74.31(c)(6)	Item Control Exemptions	3	$73.20	100	$7,320	$21,960	$18,300	$54,900
74.31(c)(10)	Two-Person Rule	3	$73.20	1,500	$109,800	$329,400	$36,600	$109,800
74.33(c)(6)(ii)	Item Control Exemptions	4	$73.20	100	$7,320	$29,280	$18,300	$73,200
74.33(c)(10)	Two-Person Rule	4	$73.20	500	$36,600	$146,400	$36,600	$146,400
74.43(b)(6)	Item Control Exemptions	1	$73.20	100	$7,320	$7,320	$18,300	$18,300
74.43(c)(9)	Two-Person Rule	1	$73.20	1,000	$73,200	$73,200	$36,600	$36,600
74.59(h)(6)	Two-Person Rule	3	$73.20	750	$54,900	$164,700	$10,980	$32,940
Total						$786,095		$495,198

Option 2B: No Credit Given for Current Industry Actions

This value-impact estimate addresses the attributes that would change when no credit is given to industry for MC&A activities that are currently being performed to establish, implement, and maintain an item control system. There are 65 reactor sites with one or more reactor units that are licensed under 10 CFR part 50. Option 2A gives full credit for these licensees having an adequate item control system in place. Because of the uncertainty of knowing the extent to which 10 CFR part 50 licensees have developed an adequate item control system, Option 2B assumes no credit for these licensees having an item control system in place.

As with Option 2A, Option 2B also assumes no credit for the 63 stand-alone ISFSI licensees under 10 CFR part 72 that would be impacted by the proposed requirement.

With no credit given for the current actions taken by the licensees to track and control SNM at the site, it is assumed that the only attributes that would change under Option 2B are the industry implementation, the industry operations, and the security and safeguards considerations.

Industry Implementation

Impact: Item Control System

Under Option 2B, the new 10 CFR 74.19(d) would require licensees under 10 CFR part 50 or 52 and ISFSI licensees under 10 CFR part 72 to establish, document, implement, and maintain an item control system as defined in § 74.4. The staff estimated about 5 labor hours would be needed for each of the 128 (65 reactor sites and 63 ISFSIs) licensees to establish an item control system. The labor rate is $73.20 per hour. The one-time cost per licensee would be $366 and the total one-time cost to the industry would be $46,848 and no credit would be given for the actions currently being taken by the licensees to track and control SNM at the site.

Industry Operation

Impact: Item Control System

Under Option 2B, the new 10 CFR 74.19(d) would require licensees under 10 CFR part 50 or 52 and ISFSI licensees under 10 CFR part 72 to establish, document, implement, and maintain an item control system as defined in § 74.4. The 128 licensees would be impacted by the proposed requirement, the annual time to perform these actions would be 3 hours per licensee. The annual cost at $73.20 per hour would be $220 per licensee and the total annual cost to the industry would be $28,109 and no credit would be given for the actions currently being taken by the licensees to track and control SNM at the site.

Security and Safeguards Considerations

The NRC believes that the proposed regulatory initiatives would promote common defense and security by enhancing protection of SNM. The qualitative values or benefits of the proposed rule relate to the reduced risk of malevolent use of SNM that the NRC believes would be achieved as a result of implementing proposed requirements for item controls and the two-

person rule. The NRC is unable to quantify this reduction in risk due to factors such as: (1) the frequency of attempted theft or diversion; (2) the frequency with which theft or diversion attempts are and will be successful; and (3) the impact associated with successful theft or diversion. The benefits of the proposed requirements for item controls are discussed below in qualitative terms. The NRC realizes that the incremental increase in benefits is reduced to the extent that licensees are currently performing MC&A activities satisfactorily under the ROP. However, the NRC believes the net overall value realized would warrant the cost of the proposed rule to enhance regulatory effectiveness.

The NRC's regulations specify requirements for collecting and reporting information about SNM that is held by a licensee. The MC&A regulations ensure that the information about SNM is accurate, authentic, and sufficiently detailed to enable a licensee to maintain current knowledge of its SNM and manage its program for securing and protecting SNM. MC&A, together with physical protection of facilities and information security requirements, make up the primary elements of the NRC's SNM safeguards program.

For this regulatory analysis the NRC assumes security benefits for 3 of the proposed changes: the item control system, the removal of existing item exemptions, and the two-person rule. With respect to security benefits, the only difference between Option 2A and Option 2B is the benefit assumed to be gained under the proposed item control system requirement.

The primary qualitative benefit of the new item control system requirement in 10 CFR 74.19(d) is that security and safeguards would be enhanced at 128 sites that are licensed by the NRC (the 65 reactor sites and the 63 stand-alone ISFSIs). The licensees would be required to increase and maintain (1) the accuracy of inventory information that supports the resolution of discrepancies, (2) the protection against unauthorized removal or unrecorded removal of items or removal of SNM from an item, and (3) the capability of rapidly locating selected items.

Under Option 2B, no credit is given to 10 CFR part 50 licensees at the 65 reactor sites for having an adequate item control system in place to enhance their capabilities for security and safeguards as indicated in the previous paragraph, and therefore full benefit is assumed for the licensees. Option 2A assumes full benefit only for the 63 stand-alone ISFSI licensees under 10 CFR part 72 that would be required to implement and maintain an item control system to collect and verify the MC&A information recorded for the installation. Thus, the additional benefits under Option 2B are associated with the 65 reactor sites that would be required to implement and maintain item control systems for SNM at the sites.

Exhibit 3-3
Quantitative Results
Total Present Value for the Cost of Option 2B
With No Credit Given for Current Industry Actions

	One-time Implementation Costs	Annual Operating Costs	Total combined Implementation and Annual Cost for 10-year period at 3% discount rate	Total combined Implementation and Annual Cost for 10-year period at 7% discount rate
Industry Costs	$518,988	$800,369	$7,346,296	$6,140,444
NRC Costs	$259,420	$0	$259,420	$259,420
Total	$778,408	$800,369	$7,605,716	$6,399,864

Exhibit 3-4
Detailed Quantitative Results: Licensee Costs of Option 2B
With No Credit Given for Current Industry Actions

Citation	Description	Number of Licensees Affected	Labor Rate/S/hr	Annual Hours per Licensee	Annual Cost Per Licensee	Total Annual Costs	One-Time Implementation cost per Licensee	Total One-Time Implementation Cost
74.19(b)	written MC&A procedures	0	$73.20	0	$0	$0	$0	$0
74.19 (d)	Item Control System	128	$73.20	3	$220	$28,109	$366	$46,848
74.31(c)(6)	Item Control Exemptions	3	$73.20	100	$7,320	$21,960	$18,300	$54,900
74.31 (c)(10)	Two-person rule	3	$73.20	1,500	$109,800	$329,400	$36,600	$109,800
74.33 (c)(6)(ii)	Item Control Exemptions	4	$73.20	100	$7,320	$29,280	$18,300	$73,200
74.33(c)(10)	Two-person rule	4	$73.20	500	$36,600	$146,400	$36,600	$146,400
74.43(b)(6)	Item Control Exemptions	1	$73.20	100	$7,320	$7,320	$18,300	$18,300
74.43(c)(9)	Two-person rule	1	$73.20	1,000	$73,200	$73,200	$36,600	$36,600
74.59(h)(6)	Two-person rule	3	$73.20	750	$54,900	$164,700	$10,980	$32,940
Total						$800,369		$518,988

4. Presentation of Results

4.1 Values and Impacts

This section summarizes the values (benefits) and impacts (costs) estimated for these regulatory options. (Section 3.3 presents a more detailed analysis) To the extent that the affected attributes could be analyzed quantitatively, the net effect of each option has been calculated and is presented in Exhibits 4.1 and 4.2. However, some values and impacts could be evaluated only on a qualitative basis.

The NRC has not quantified the values (i.e. benefits) associated with the proposed rule. The qualitative values of the proposed rule relate to security and safeguards considerations regarding an expected decrease in the risk of a security-related event, such as theft or diversion of SNM and the subsequent use of SNM for unauthorized purposes. Increasing the security of SNM decreases this risk and increases the common defense and security of the nation. The NRC realizes that the incremental increase in benefits is reduced to the extent that licensees are currently performing MC&A activities which are routinely inspected by the NRC under the ROP and which may already include an item control system to track and control SNM. However, the NRC believes the net overall value realized would warrant the cost of the proposed rule to enhance regulatory effectiveness by providing a baseline requirement for the expectation that a licensee would establish, implement, and maintain an item control system for purposes of information collection and reporting about items containing SNM.

Exhibit 4-1 summarizes the results of the value-impact analysis with full credit given for current industry actions (Option 2A) relative to the no-action alternative (Option 1). Option 2A would result in a net quantitative impact estimation of approximately $7.5 million at a 3-percent discount rate and $6.3 million at a 7-percent discount rate. The qualitative benefits would include the enhancements to security and safeguards that are described in Section 3.3. It is assumed that there would be reduced qualitative benefit because licensees under 10 CFR part 50 at the 65 reactor sites are assumed to be currently performing MC&A activities which include tracking SNM at the site, which would constitute an adequate item control system.

Exhibit 4-2 summarizes the results of the value-impact analysis with no credit given for current industry actions (Option 2B), relative to the no-action alternative (Option 1).Option 2B would result in a net quantitative impact estimation of approximately $7.6 million at a 3-percent discount rate and $6.4 million at a 7-percent discount rate. The qualitative benefits would include the enhancements to security and safeguards that are described in Section 3.3. Under Option 2B, the full qualitative benefit would be realized for licensees under 10 CFR part 50 at the 65 reactor sites implementing the item control system that would be required by 10 CFR 74.19(d).

Exhibit 4-1
Summary of Impacts at Discount Rates of 3 Percent and 10 Percent for a 10-Year Period With Full Credit Given for Current Industry Actions (Option 2A)

Attribute	One-Time Implementation Costs	Annual Operating Costs	Total Combined Implementation and Annual Cost for 10-Year Period at 3% Discount Rate	Total Combined Implementation and Annual Cost for 10-Year Period at 7% Discount Rate
Industry Implementation	$495,198		$495,198	$495,198
Industry Operation		$786,095	$6,705,548	$5,521,201
Industry Total Costs			$7,200,746	$6,016,399
NRC Implementation	$259,420		$259,420	$259,420
NRC Total Costs			$259,420	$259,420
Total	$754,618	$786,095	$7,460,166	$6,275,819

Exhibit 4-2
Summary of Impacts at Discount Rates of 3 Percent and 10 Percent for a 10-Year Period With No Credit Given for Current Industry Actions (Option 2B)

Attribute	One-time Implementation Costs	Annual Operating Costs	Total Combined Implementation and Annual Cost for 10-year period at 3% Discount Rate	Total combined Implementation and Annual Cost for 10-year period at 7% Discount Rate
Industry Implementation	$518,988		$518,988	$518,988
Industry Operation		$800,369	$6,827,308	$5,621,456
Industry Total Costs			$7,346,296	$6,140,444
NRC Implementation	$259,420		$259,420	$259,420
NRC Total Costs			$259,420	$259,420
Total	$778,408	$800,369	$7,605,716	$6,399,864

5. Decision Rationale

The changes in this rulemaking are intended to consolidate MC&A requirements in 10 CFR part 74 and to clarify, revise, modify, and strengthen the existing requirements. The decision rationale is based on how the values and impacts have been analyzed. Relative to the no-action alternative, Option 2 would result in a one-time implementation cost to the industry of approximately $495,000 to $519,000 and a net annual cost to the industry of approximately $786,000 to $800,000. Offsetting the net cost, the NRC believes that Option 2 would result in substantial qualitative benefits, as discussed previously in Section 3.3. Although costs are incurred as a result of the rule, the qualitative benefits associated with the rule outweigh its cost. The NRC believes that the rule is cost-justified because the proposed regulatory initiatives would promote the common defense and security of SNM.

6. Implementation

The staff proposes to make the final rule effective 90 days after its publication in the *Federal Register*. For this analysis, the final rule effective date is mid-2014.

7. References

- NUREG/BR-0184, "Regulatory Analysis Technical Evaluation Handbook, Final Report," U.S. Nuclear Regulatory Commission, Washington, DC, January 1997.

- NUREG/BR-0058, "Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission," Revision 4, U.S. Nuclear Regulatory Commission, Washington, DC, September 2004.

- SECY-08-0059, Rulemaking Plan: part 74 - Material Control and Accounting of Special Nuclear Material, April 25, 2008.

- NUREG/CR-4627, "Generic Cost Estimates, Abstracts from Generic Studies for Use in Preparing Regulatory Impact Analyses."

- OMB Circular No. A-4, September, 17, 2003.

- Department of Labor (U.S.), Bureau of Labor Statistics. Occupational Employment Statistics, Occupational Employment and Wages.

October 12, 2012

MEMORANDUM TO: Chairman Macfarlane
Commissioner Svinicki
Commissioner Apostolakis
Commissioner Magwood
Commissioner Ostendorff

FROM: Mark A. Satorius, Director ***/RA/***
Office of Federal and State Materials
and Environmental Management Programs

SUBJECT: ADDITIONAL INFORMATION RESPONDING TO STAFF REQUIREMENTS – SECY-11-0175 – PROPOSED RULE: AMENDMENTS TO MATERIAL CONTROL AND ACCOUNTING REGULATIONS (RIN 3150-AI61)

In the subject Staff Requirements Memorandum (SRM), dated April 12, 2012, the Commission approved publication of the draft *Federal Register* Notice (FRN) for the proposed amendments to 10 CFR parts 40, 70, 72, 74, and 150, subject to the changes and comments in the bolded excerpts, below, which are copied from the SRM. The Commission also directed the staff to provide the revised draft FRN to the Commission for its information, 5 days prior to its submittal for publication in the *Federal Register.* Enclosed is the revised draft FRN that staff prepared in response to the SRM. A summary of the draft FRN revisions in response to each of the issues identified in the SRM follows.

The staff should revise the draft FRN to provide a full and clear justification for the staff's proposed changes and clearly delineate how each new requirement will be applied to each class of facility.

To address this SRM direction, the staff revised draft FRN Section II, Introduction and Summary of Proposed Revisions to Material Control and Accounting (MC&A) Regulations, to describe and justify each of the proposed regulatory changes, and to delineate how the requirements would be applied to each class of licensee and facility to strengthen the information collection and reporting requirements. A new Table 1 shows the new MC&A requirements that would be located in 10 CFR part 74. The table clarifies the types of facilities that would be subject to the new requirements.

Rather than establishing a 350 gram threshold, the staff should seek input from stakeholders in the form of a question regarding the appropriate threshold for an item control system under 10 CFR part 74. This input can then be applied to analysis that can result in a clear technical basis that staff can then provide to the Commission.

CONTACT: Thomas Young, FSME/DILR
301-415-5795

The staff proposes that the existing item control system requirements be extended to cover 10 CFR part 50 or 52 licensees, and independent spent fuel storage installation (ISFSI) licensees under 10 CFR part 72. Such licensees would be required by proposed 10 CFR 74.19(d) to establish, document, implement, and maintain an item control system. This proposed requirement would not contain a 350 gram threshold.

The staff revised draft FRN Section III, Specific Request for Comments on the Proposed New Requirements, to include a specific question to elicit comments about an appropriate threshold quantity for an item control system under 10 CFR part 74.

The staff also revised draft FRN Section IV, Discussion, Question D (How does the NRC use a graded approach for MC&A?) to include a new Table 2 that lists the existing threshold quantities of special nuclear material (SNM) and the corresponding requirements in 10 CFR part 74 that apply to certain types of facilities. Based on the quantity and form of material a licensee possesses, the licensee is subject to specific requirements that increase with the amount of SNM the licensee is authorized to possess. The table also shows the location of the proposed requirements that would be included within the existing risk-informed, graded approach for the information collection and reporting requirements.

The Federal Register notice should note that the Commission is evaluating the use of the two-person rule as part of the enhancements to the current regulation and is seeking public comment. Once stakeholder interaction has been completed and additional analysis completed, staff may be in a position to provide an improved recommendation to the Commission.

The staff revised the Summary section in the FRN to indicate that the NRC is seeking input and evaluating the use of a two-person rule to verify the accuracy of the information collected and reported to control and account for SNM.

Draft FRN Section III, Specific Request for Comments on the Proposed New Requirements, includes a question seeking comments about use of a two-person rule for specific tasks that involve information collection and reporting.

The staff should either include a more thorough discussion of how the requirements in this proposed rule satisfy one or more of the backfit exception provisions of 70.76(a)(4) or the staff should provide a backfit analysis if the proposed rule is determined not to qualify for an exception.

The draft FRN incorporates an alternative to this SRM direction that in the staff's view is consistent with longstanding agency practice. When the primary purpose of a regulation is to require that information be collected and reported, imposing such a requirement is not a backfit. While 10 CFR parts 50, 70, 72, and 76 contain backfit requirements, there is no backfit provision in 10 CFR part 74, and past MC&A rulemakings (e.g., 56 FR 55991; October 31, 1991, 67 FR 78130; December 23, 2002, and 73 FR 32453; June 9, 2008), were not considered to involve provisions that imposed backfits as defined in the backfit rule, because those provisions imposed information collection and reporting requirements. The staff thus maintains that the information collection and reporting requirements in the proposed rule are not backfits and are not subject to the backfit rule.

Additionally, the staff's view is that the backfit exception provisions of 10 CFR 70.76(a)(4) are not applicable here, because the establishment of information collection and reporting requirements is not backfitting as defined in 10 CFR 70.76(a)(1). Therefore, neither a backfit analysis nor a consideration of the backfit exception provisions of 10 CFR 70.76(a)(4), is necessary to support the proposed rule.

The staff continues to believe that all regulatory changes described in the proposed rulemaking are primarily information collection and reporting requirements. As discussed below, while the primary objective of the requirements is to ensure the accuracy of MC&A information collection and reporting, some of the requirements, such as the two-person rule, have additional safeguards-related benefits. This is evident when the MC&A provisions are viewed together with the requirements for the physical protection of facilities, and information security requirements. Collectively, these requirements constitute the NRC's SNM safeguards program. The MC&A component of the larger safeguards program helps ensure that SNM within a fuel cycle facility is not stolen or otherwise diverted from the facility, and promotes the NRC's strategic goal of maintaining adequate protection over the use and management of radioactive materials.

The Summary at the beginning of the draft FRN has been revised to state that the NRC's MC&A regulations specify requirements for collecting and reporting information about SNM that is held by a licensee, and that the primary purpose of the MC&A regulations is to ensure that the information about SNM is accurate, authentic, and sufficiently detailed to enable a licensee to manage its program for securing and protecting SNM. The staff revised Section XIV, Backfitting and Issue Finality, of the draft FRN, to include a new Table 3 (Characterization of Proposed Substantive Amendments to 10 CFR Part 74 as Information Collection and Reporting Requirements) which summarizes the key substantive provisions of the proposed rule, together with a short explanation of why each provision constitutes an information collection and reporting requirement.

In addition to further explaining the basis for the new requirements, the Statements of Consideration should also include specific questions regarding the need for the new requirements that go beyond consolidation and clarification in relation to the proportionate levels of risk represented by the processes and material quantities and forms at different types of licensee facilities.

The Summary at the beginning of the draft FRN has been revised to indicate that the NRC is seeking input for the proposed requirements that go beyond consolidation and clarification of existing requirements.

Draft FRN Section III, Specific Request for Comments on the Proposed New Requirements, includes a question seeking comments regarding the appropriateness of the requirements in relation to the proportionate levels of risk represented by the processes and material quantities and forms that are used at different types of licensee facilities.

The FRN should also solicit information on alternatives that might address any purported concerns with equivalent outcomes but lesser burden.

The Summary at the beginning of the draft FRN has been revised to indicate that the NRC is seeking input about less burdensome alternatives to the proposed requirements that would still ensure the information about SNM is accurate.

The revised draft FRN, Section III, asks for input about alternative ways that would strengthen existing MC&A requirements and that would impose less burden on the NRC licensees.

The staff should consider the cumulative effect of regulations as directed by the Commission (SRM-SECY-11-0032 – Consideration of the Effects of Regulation in the Rulemaking Process).

The revised draft FRN, Section IV, Discussion, includes Question R (Are there any cumulative effects of regulation associated with this rule?). The wording of Question R is similar to text that the staff provided to the Commission for its consideration in the FRN for the proposed rule discussed in SECY-12-0034.

The SRM specified edits for the Federal Register notice.

The specified edits have been made.

Enclosure:
Federal Register Notice of Proposed Rulemaking

cc: SECY
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The Summary at the beginning of the draft FRN has been revised to indicate that the NRC is seeking input about less burdensome alternatives to the proposed requirements that would still ensure the information about SNM is accurate.

The revised draft FRN, Section III, asks for input about alternative ways that would strengthen existing MC&A requirements and that would impose less burden on the NRC licensees.

The staff should consider the cumulative effect of regulations as directed by the Commission (SRM-SECY-11-0032 – Consideration of the Effects of Regulation in the Rulemaking Process).

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The SRM specified edits for the Federal Register notice.

The specified edits have been made.

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