

RULEMAKING ISSUE AFFIRMATION

December 29, 2007

SECY-07-0224

FOR: The Commissioners

FROM: Luis A. Reyes
Executive Director for Operations

SUBJECT: FINAL RULE: REGULATORY IMPROVEMENTS TO THE NUCLEAR
MATERIALS MANAGEMENT AND SAFEGUARDS SYSTEM
(RIN 3150-AH85)

PURPOSE:

To request Commission approval for publication of the final rule.

SUMMARY:

The final rule will lower the threshold of the quantities of special nuclear material (SNM) and certain source materials that require submission of material status reports to the Nuclear Materials Management and Safeguards System (NMMSS). The final rule modifies the types and timing of submittals of transaction reports to NMMSS. Licensees will also be required to reconcile any material inventory discrepancies identified in the NMMSS database.

BACKGROUND:

The NMMSS is the national database used in the United States by U.S. Nuclear Regulatory Commission (NRC) licensees, Agreement State licensees, and U.S. Department of Energy (DOE) contractors, to report the possession of certain SNM and source material. The NRC reporting requirements related to the NMMSS are primarily contained in 10 CFR Parts 40, 72, 74, 75, and 150.

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In October 2001, the DOE Office of the Inspector General (OIG) issued a report based on an audit of the NMMSS for the DOE-owned nuclear materials.¹ One of the findings was that DOE could not fully account for DOE-owned nuclear materials loaned or leased to licensees. A similar audit, conducted by NRC's OIG, also raised concerns over the accuracy of material inventories in the NMMSS.² In the report, the NRC OIG recommended that the scope of licensee reporting be expanded, to require smaller licensees (those possessing less than 350 grams of SNM) to submit inventory information to the NMMSS, annually.

As a result of the OIG's audit, NRC took immediate steps to verify and reconcile inventories in the NMMSS database by issuing NRC Bulletin 2003-04, "Rebaselining of Data in the Nuclear Materials Management and Safeguards System (Agencywide Documents Access and Management System (ADAMS) Accession Number ML032760009)." The bulletin was sent to all 1,337 NRC and Agreement State licensees then holding NMMSS accounts and requested that they provide inventory information to the NMMSS. The staff provided the summary of the results of this effort in SECY-05-0008, "Results of the Nuclear Materials Management and Safeguards System Database Rebaselining Activities," dated January 6, 2005.

The staff has had extensive interactions with the NMMSS operator and industry representatives since the issuance of NRC Bulletin 2003-04. On the basis of these efforts and an evaluation of current regulations related to the NMMSS reporting, the staff developed recommendations for possible improvements to the regulations related to SNM and source material reporting to the NMMSS. These recommendations were provided to the Commission in SECY-05-0078, "Staff Recommendations for Regulatory Improvements to the Nuclear Materials Management and Safeguards System Database," dated May 4, 2005. The Commission approved development of a proposed rule in a Staff Requirements Memorandum (SRM) dated June 30, 2005 (ML051810381).

In an SRM dated January 17, 2007 (ML070170226), the Commission approved publication of the proposed rule (SECY-07-0001, "Proposed Rule: Regulatory Improvements to the Nuclear Materials Management and Safeguards System," dated January 3, 2007). It was published in the *Federal Register* on February 6, 2007 (72 FR 5348). The comment period closed April 23, 2007, and five comment letters were received. The commenters were all representatives of industry. These comments are discussed in detail in the *Federal Register* notice (Enclosure 1).

DISCUSSION:

The major changes to the regulations are briefly discussed below. All of the changes are discussed in the *Federal Register* notice.

¹ This report entitled, "Accounting for Government-Owned Nuclear Materials Provided to Non-Department Domestic Facilities," dated October 26, 2001, is available at <http://www.ig.doe.gov/documents/calendaryear2001/ig-0529.pdf>.

² This report entitled, "Audit of NRC's Regulatory Oversight of Special Nuclear Materials" (OIG-03-A-15), issued May 23, 2003, is available at <http://www.nrc.gov/reading-rm/doc-collections/insp-gen/2003/03-a-15.pdf>.

NMMSS Inventories

Currently, licensees are required to report annual SNM inventories to the NMMSS only if they are authorized to possess more than 350 grams of SNM. The final rule lowers the reporting threshold to 1 gram or more, requiring a licensee that possesses or who had possessed, in the previous reporting period, 1 gram or more of SNM, to report an annual inventory to the NMMSS. This amendment results in new reporting requirements for licensees that possess 350 grams or less of SNM. By lowering the reporting threshold from 350 grams to 1 gram, the information maintained in the NMMSS database would be more current and reliable for international and domestic regulatory needs.

Currently, licensees are required to submit annual source material inventory reports of foreign obligated source material if they are authorized to possess more than 1,000 kilograms of source material. Foreign obligated materials are those nuclear materials that are subject to tracking by international treaties. The final rule requires an annual report if the licensee possesses 1 kilogram or more of foreign obligated source material. The final rule will also require licensees that use 1 kilogram or more of any source material in enrichment services, in downblending material initially enriched in the isotope uranium-235 (U-235) to 10 percent or more, or in mixed-oxide (MOX) fuel fabrication, to report annual source material inventory. By lowering the reporting threshold from 1,000 kilograms to 1 kilogram, the information maintained in the NMMSS database will be more current and reliable and will help fulfill U.S. obligations under bilateral agreements.

Many facilities that presently report inventory and material balance information also participate in a periodic reconciliation process, with NMMSS, to address any differences between NMMSS-generated inventory values and the facility-reported inventory values. The current regulations do not explicitly require the reconciliation process; however, it is considered to be an integral part of routine NMMSS operations. The final rule requires licensees to reconcile any inventory discrepancies identified by the NRC, in the NMMSS database, within 30 days of being notified by the NRC of the discrepancy. A new definition of "reconciliation" is added, to describe the process by which the NRC evaluates and compares reports to NMMSS' projected material balances.

Transaction Reports

The final rule on NMMSS requires licensees to report adjustments to the SNM inventory that involve 1 gram or more of SNM. The inventory adjustments may be caused by decay or normal operational losses. Domestic material control and accountability (MC&A) safeguards will be enhanced by this change. The required reporting of these adjustments will improve the accuracy of the NMMSS book values. Several commenters requested that the rule language be clarified. The commenters were concerned that as written the rule would require frequent reporting (daily) to reflect changes due to decay and burnup in the reactor core. The staff agrees with the industry comment and the language has been clarified to reflect that all inventory adjustments should be reported, at a minimum, when the licensee reports its physical inventory results to NMMSS.

Current regulations require submission of material transaction reports for the transfer and receipt of SNM, but do not specify the time frames in which the reports must be made. However, the reporting time frames are specified in NUREG- BR/0006, "Instructions for the

Preparation and Distribution of Material Transaction Reports.” In contrast, for source material transactions, transaction reports are currently required to be submitted by the close of business the next working day, for the transfer of source material, and within 10 days of receipt, for the receipt of source material. Therefore, for consistency and clarity, the reporting timeframes for the transfer and receipt of SNM are being added to the regulations to specify that material transfer reports be submitted by the close of business the next working day for the transfer of SNM, and within 10 days of receipt for the receipt of SNM. One commenter requested that the reporting period be changed to 10 business days instead of 10 days to be consistent with DOE’s reporting requirements. The commenter felt that the 10-day rule conflicted with the 10 business days allowed by DOE. The staff is retaining the 10 days for reporting of receipts to ensure more prompt access to this information and avoid prolonged delays associated with facility closure during holiday periods. Staff does not view the difference in the NRC’s 10-day rule and the 10 business days allowed by DOE as a conflict because by meeting the 10-day reporting, the 10 business day reporting would also be met. In addition, the NRC regulations do not apply to DOE facilities.

Currently, a licensee is required to submit a Nuclear Material Transaction Report whenever it transfers, receives, or adjusts the inventory of foreign obligated source material by 1 kilogram or more. Also, reports are required for the import and export of 1 kilogram or more of any source material, regardless of obligation. The final rule requires reporting when a licensee uses 1 kilogram or more of source material in enrichment services, downblends material initially enriched in the U-235 isotope to 10 percent or more, or in MOX fuel fabrication, regardless of obligation. Source material reporting is an important part of the material balance because these materials are used in the downblending of uranium, MOX fuel fabrication, and in the uranium enrichment cycle. This amendment to NMMSS reporting will facilitate the evaluation of the prior and ending balances of licensees that engage in activities that change the SNM values of their inventories. It will thus improve the accuracy of the information contained in the NMMSS.

Reporting Identification Symbol and Holding Accounts

NRC currently assigns a NMMSS account number, called a Reporting Identification Symbol (RIS) to each licensee, for submitting information to the NMMSS. Some licensees established holding accounts to identify the material that they were not actively using. Currently, licensees are not required to acknowledge shipments and receipts, or to report inventory information pertaining to the holding accounts to NMMSS. The final rule requires licensees to report inventories not only in their primary RIS accounts but also inventories in the associated holding accounts. MC&A safeguards will be enhanced by this change because of the increase in accuracy and availability of inventory information in the NMMSS. Two comments related to holding accounts were received. The first commenter suggested that a definition for holding account be added to the regulations and asked for clarification whether material that a utility was holding at a fuel supplier would fall under the definition of holding account. The staff response is that it would not. A discussion on holding accounts has been added to NUREG/BR-0006 “Instructions for Preparation and Distribution of Material Transaction Reports.” It would not be appropriate to add a definition to the regulations because other types of NMMSS accounts are not defined and are not necessary to apply the regulations. The second commenter stated that it is currently using “V” RIS’ for waste containers for which safeguards have been terminated and that operations would be adversely impacted if it had to return these drums to the accountability program through the use of holding accounts instead of “V” accounts. The commenter noted that DOE allows the use of “V” RIS’ for waste containers for

which safeguards have been terminated and this allowance for waste containers should be allowed by the rule. NRC uses "V" accounts for those licensees that are authorized for land disposal of SNM. The waste containers should be properly accounted for in a licensee's inventory. Lack of knowledge as to the contents of containers is both a safety and security concern. The staff did not change the rule language in response to this comment.

Reporting Requirements for Export of Material Shipments

Currently, licensees that export reportable quantities of SNM or source material file both the shipper's and receiver's information on two separate forms, when exporting nuclear material, as described in NUREG-BR/0006. Based on staff inspections, the current additional requirement to report a foreign facility description of the same transactions has not been useful in assuring the accuracy of domestic MC&A information and is not necessary to meet international reporting requirements. Consequently, for most exports, this requirement is being eliminated, as doing so will reduce licensee burden, without adverse effects on safety or security or the accuracy of information in the NMMSS database.

Implementation Date

DOE has requested that the effective date of the rule be delayed until January 1, 2009. Before this rule can be implemented, DOE needs to make upgrades to the NMMSS database. These upgrades will not be complete until January 1, 2009. Therefore, the staff is proposing that the final rule be effective on January 1, 2009, instead of the usual 90 days after publication. NRC staff continues to work closely with DOE on the NMMSS upgrades to make sure that the NMMSS database will be able to accommodate these changes by the effective date of the rule.

Strategic Objective and Performance Goals

The rule is consistent with the NRC's strategic objective and performance goals. The rule would continue to ensure the secure use and management of radioactive materials. Some of the revisions would enhance MC&A safeguards through the availability of more current and useful data on SNM and source material in the NMMSS. By providing better data collection and eliminating certain requirements that are no longer necessary, these amendments would help to ensure that NRC actions are effective, efficient, realistic, and timely. The rulemaking was conducted in an open process. The proposed rule was published in the *Federal Register* for a 75-day public comment period. The staff has briefed DOE program managers and the NMMSS upgrade staff on potential changes to the NMMSS reporting. The staff also published an article on the proposed rule in the September 2006 Nuclear Material Safety and Safeguards (NMSS) Quarterly Newsletter, and made a presentation on the proposed rule at the May 2007 annual NMMSS users and training meeting.

Agreement State Issues

NRC staff has analyzed the final rule in accordance with the procedures established within Part III of the Handbook to Management Directive 5.9, "Adequacy and Compatibility of Agreement State Programs." Staff has determined that the proposed rule is 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 Atomic Energy Act of 1954, as amended, as implemented in the provisions of Title 10 of the *Code of Federal Regulations*.

Although an Agreement State may not adopt program elements reserved to the NRC, it may wish to inform its licensees of certain requirements via a mechanism that is consistent with the particular State's administrative procedure laws but does not confer regulatory authority on the State.

COMMITMENTS:

The staff will issue revisions to NUREG/BR-0006, "Instructions for the Preparation and Distribution of Material Transaction Reports" and NUREG/BR-007, "Instructions for the Preparation and Distribution of Material Status Reports" to reflect the changes being made by the final rule.

RECOMMENDATIONS:

That the Commission:

1. Approve for publication in the *Federal Register* the enclosed notice of final rulemaking (Enclosure 1).
2. To satisfy the requirement of the Regulatory Flexibility Act, 5 U.S.C. 605 (b), certify that this rule if promulgated will not have significant impact on a substantial number of small entities. This certification is included in the enclosed *Federal Register* notice.
3. Note:
 - a. The Chief Counsel for Advocacy of the Small Business Administration will be informed of the certification and the reasons for it, as required by the Regulatory Flexibility Act, 5 U.S.C. 605(b);
 - b. That a final Regulatory Analysis has been prepared for this rulemaking (Enclosure 2);
 - c. The staff has determined that this action is not a "major rule," as defined in the Congressional Review Act of 1996 [5 U.S.C 804(2)] and has confirmed this determination with the Office of Management and Budget (OMB). The appropriate Congressional and Government Accountability Office contacts will be informed;
 - d. The appropriate Congressional committees will be informed;
 - e. A press release will be issued by the Office of Public Affairs when the final rulemaking is filed with the Office of the Federal Register; and

- f. The final rule contains amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, et seq.) that must be submitted to the OMB for its review and approval before publication of the final rule in the *Federal Register*.

RESOURCES:

To issue the regulatory guidance, 0.5 full-time equivalent positions will be required. These resources are included in the fiscal year 2008 budget. No additional resources are necessary to complete this rulemaking.

COORDINATION:

The Office of the General Counsel has no legal objection to the final rulemaking. The Office of the Chief Financial Officer has reviewed this Commission paper for resource implications and has no objections.

/RA Martin J. Virgilio for/

Luis A. Reyes
Executive Director
for Operations

Enclosures:

1. *Federal Register* Notice
2. Regulatory Analysis

NUCLEAR REGULATORY COMMISSION

10 CFR Parts 40, 72, 73, 74 and 150

RIN: 3150-AH85

Regulatory Improvements to the Nuclear Materials Management and Safeguards System

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is amending its regulations related to licensee reporting requirements for source material and special nuclear material (SNM) to the Nuclear Materials Management and Safeguards System (NMMSS). The amendments lower the threshold of the quantities of SNM and certain source materials that require the submission of material status reports to the NMMSS. Also, the amendments modify the types and timing of submittals of some transaction reports to the NMMSS. The amendments also require licensees to reconcile any material inventory discrepancies that NRC identifies in the NMMSS database. The amendments reduce some regulatory burden by reducing the current reporting requirements related to the export of certain source material and SNM. However, the annual reporting requirements are new requirements for licensees who possess 350 grams or less of SNM. These amendments are needed to improve the accuracy of the material inventory information maintained in the NMMSS.

DATES: This final rule is effective on January 1, 2009.

FOR FURTHER INFORMATION CONTACT: Neelam Bhalla, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-6843, e-mail, nxb@nrc.gov.

SUPPLEMENTARY INFORMATION:

- I. Background
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 - A. Special Nuclear Material Transfer Reports
 - B. Special Nuclear Material Status Reports
 - C. Source Material Transfer Reports
 - D. Source Material Status Reports
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I. Background

The Nuclear Materials Management and Safeguards System (NMMSS) is the national database used in the United States by Nuclear Regulatory Commission (NRC) licensees, the Agreement State licensees, and Department of Energy (DOE) contractors to report the possession of certain special nuclear material (SNM) and source material. The NMMSS was created as a result of comprehensive accounting procedures developed by the Atomic Energy Commission in response to the passage of the Atomic Energy Act of 1954 and began processing of facility submittals in 1965. The DOE is responsible for maintaining the NMMSS database. The NMMSS database supports NRC domestically in the review of licensee material control and accounting programs, and internationally as the U.S. Government database for collecting and reporting information required by international treaties. The NRC reporting requirements related to the NMMSS are primarily contained in 10 CFR Parts 40, 72, 74, 75, and 150.

The NMMSS database uses licensee submittals to serve two important functions: 1) meeting international reporting obligations, and 2) assisting in the oversight of licensee material control and accounting (MC&A) programs required by 10 CFR Parts 40, 72, 74, 75, 76, and 150.

With regard to international commitments, the United States has committed to a national accountancy and control system for nuclear materials through treaties with nuclear trading partners and the International Atomic Energy Agency (IAEA). The NMMSS is part of the overall program to help satisfy these international commitments by constituting the national database used by NRC and the Agreement State licensees, and DOE contractors to report the possession of certain quantities of SNM and source material. The information submitted to the NMMSS is then reported externally by the United States in order to satisfy these treaty requirements. The NMMSS also maintains accounting data on U.S. peaceful use exports and imports of nuclear materials that have occurred since 1965.

With respect to NRC's oversight of the MC&A at licensed facilities, the NMMSS is the national database that serves as the central collection and processing point for inventory, shipment, and receipt information required to be reported by commercial and Federal Government facilities. Applicable NRC reporting requirements are specified in 10 CFR Parts 40, 72, 74, 75, and 150. As a result of these reporting requirements, the NMMSS can provide the NRC staff with a projection of quantities of reportable materials located, shipped, or received at a particular licensee site.

In October 2001, the DOE Office of the Inspector General (OIG) issued a report based on an audit of the NMMSS for DOE-owned nuclear materials.¹ One of the findings of that report was that DOE could not fully account for DOE-owned nuclear materials loaned or leased to licensees. A similar audit conducted by NRC's OIG also raised concerns over the accuracy

¹ This report entitled, "Accounting for Government Owned Nuclear Materials Provided to Non-Department Domestic Facilities" (October 26, 2001), is available at <http://www.ig.doe.gov/documents/calendaryear2001/ig-0529.pdf>.

of material inventories in the NMMSS.² In the report, the NRC OIG recommended that the scope of licensee reporting be expanded to include a requirement that smaller licensees (those possessing less than 350 grams of SNM) submit inventory information to the NMMSS annually.

As a result of its audit, NRC took immediate steps to verify and reconcile inventories in the NMMSS database by issuing a bulletin, NRC Bulletin 2003-04: "Rebaselining of Data in the Nuclear Materials Management and Safeguards System." (Agencywide Documents Access and Management System (ADAMS) Accession Number ML0732760009). The bulletin was sent to all NRC and Agreement State licensees then holding NMMSS accounts and requested that they provide inventory information to the NMMSS. The NRC staff also conducted site visits to review selected licensees' submitted information in comparison to actual physical inventories. The review concluded that licensees did not submit or update inventories to the NMMSS for several years (or decades) because they possessed or transferred materials that did not meet minimum reporting thresholds. These efforts also helped identify accounts with zero balances. The rebaselining efforts resulted in decreasing the number of active accounts and supported a further review and reconciliation of material inventories in the remaining accounts.

At the end of these efforts, NRC determined that enhanced reporting of inventory information by those licensees not presently required to do so would provide greater assurance about the accuracy of licensee inventory information maintained in the database. NRC believes that licensee inventories must be submitted regularly and reconciled in comparison to values projected by the NMMSS database to maintain the usefulness of the database for international and domestic regulatory needs.

² This report entitled, "Audit of NRC's Regulatory Oversight of Special Nuclear Materials" (OIG-03-A-15, May 23, 2003), is available at http://www.nrc.gov/reading-rm/doc_collections/insp-gen/2003/03-a-15.pdf.

II. Discussion

The NRC staff has had extensive interactions with the NMMSS operator and industry representatives since the issuance of NRC Bulletin 2003-04. On the basis of these efforts and an evaluation of the current regulations related to the NMMSS reporting, the NRC staff concluded that many of the discrepancies in NMMSS information resulted because: (1) many licensees (those that possess less than 350 grams of SNM) infrequently ship and/or receive reportable materials, and (2) many licensees do not meet the current regulatory threshold for annual reporting of SNM or source material and lose institutional awareness of the NMMSS over time. As a result, for many licensees there are no requirements to periodically confirm the accuracy of values projected by the NMMSS.

This conclusion led NRC to embark on an effort to amend its regulations to enhance the accuracy of the NMMSS database. The amendments lower the threshold of quantities of special nuclear materials and certain source materials requiring the submission of both status and transaction reports to the NMMSS. Another amendment to keep the NMMSS data more current modifies reporting requirements in § 40.64 to require licensees involved in enrichment services, downblending material initially enriched in uranium-235 (U^{235}) isotope 10 percent or more, or mixed-oxide (MOX) fuel fabrication of uranium, to report the transfer, receipt, inventory adjustment, inventory, and material balance information for source material. These changes to NMMSS reporting requirements will improve the accuracy of material balance (inputs/outputs) information. Currently, licensees are only required to report source material subject to international treaty requirements. However, source material reporting is an important part of the material balance equation because these materials are used as an input material in the

downblending of uranium, in MOX fuel fabrication, and in the uranium enrichment cycle. This type of facility reporting will facilitate the evaluation of the prior and ending source material balances of licensees that engage in activities that change the SNM values of materials.

The NRC staff considered other possible consequences posed by inaccurate NMMSS information associated with these holders of small quantities of SNM. Gram quantities of SNM held by many small quantity licensees do not appear to pose a significant challenge to the promotion of security from an MC&A perspective. However, if periodic reporting and evaluation of small licensee balances are not required, it could reduce public confidence in the primary tool used by the NRC in the oversight of small licensee MC&A activities since NRC would not have assurance that projected material balances are representative of the quantities of materials at these sites.

The following sections summarize the significant changes to the regulations and the NRC's basis for those changes.

A. Special Nuclear Material Transaction Reports

Currently, licensees are required by § 74.15(a) to report to the NMMSS whenever they transfer or receive one gram or more of SNM. The revision adds a requirement that a licensee must also report to the NMMSS whenever it makes an on-site adjustment to the SNM inventory involving a quantity of one gram or more SNM. The inventory adjustments may be due to decay, or normal operational losses. The adjustments must be made, at a minimum, when the licensee reports its physical inventory. Domestic MC&A safeguards will be enhanced by this change and NMMSS generated inventories will more accurately reflect actual facility inventory values. The required reporting of these adjustments will improve the accuracy of the NMMSS database.

Additionally, §§ 72.78 and 74.15 require submission of material transaction reports for the transfer and receipt of SNM but do not specify the time frames in which the reports must be made. However, the reporting time frames are specified in NUREG/BR-0006, "Instructions for the Preparation and Distribution of Material Transaction Reports." In contrast, for source material transactions under § 40.64(a), nuclear material transaction reports are required to be submitted by the close of business the next working day for the transfer of source material, and within ten days of receipt for the receipt of source material. Therefore, for consistency between those provisions and also with the guidance documents, §§ 72.78 and 74.15 are amended to require each licensee who transfers SNM to submit a nuclear material transaction report no later than the close of business the next working day, and to require each licensee who receives the material to submit a nuclear material transaction report within ten days after the material is received. Consistent with this change, 10 CFR Part 150 is amended to require licensees who transfer SNM to submit a nuclear material transaction report to NMMSS no later than the close of business the next working day. Currently, § 150.16(a) requires licensees only to submit the SNM transaction report "promptly" after the SNM transfer takes place. By changing "promptly" to "no later than the close of business the next working day," the regulation will be unambiguous.

A revision is also made to the section headings of §§ 72.78, 74.15 and 150.16. Currently, §§ 72.78 and 74.15 are entitled "Nuclear material transfer reports," and § 150.16 is entitled "Submission to Commission of nuclear material transfer reports." The amended heading of §§ 72.78 and 74.15 is "Nuclear material transaction reports." Section 150.16 is now entitled "Submission to Commission of nuclear material transaction reports." The amended section headings more accurately reflect the requirements contained in these sections for both

receipt and transfer of nuclear material, and are consistent with the name of the submitted report.

B. Special Nuclear Material Status Reports

Currently, licensees are required by § 74.13(a) to report annual SNM inventories to the NMMSS only if they are authorized to possess more than 350 grams of SNM. The amendments lower the reporting threshold to one gram or more, requiring a licensee who possesses, or who had possessed in the previous reporting period, one gram or more of SNM to report an annual inventory to the NMMSS. By lowering the reporting threshold, NRC will improve its knowledge of the location and presence of SNM possessed by licensees. The staff considered changing the current 350-gram threshold to a number of values that were less than 350 grams but more than one gram. However, these approaches were rejected because they would still result in a number of licensees that would not have to report inventory regularly and ultimately cause a variation of the same problem i.e., that NRC would not have adequate input regarding inventories held by these licensees. The staff also considered lowering the inventory/material balance threshold to less than one gram of SNM. This method was not pursued because it would "mis-align" NRC regulations with DOE and with international entities with whom the U.S. has treaty agreements in place. Also, the licensee community would potentially have an additional burden to develop new (less than one gram) measurement techniques. Finally, the staff established the new threshold at one gram of SNM because:

- (1) international entities (those with which the United States has treaties) recognize one gram as the basic measuring unit for SNM;
- (2) one gram is a threshold value accepted by DOE and would meet its reporting expectations for licensees possessing government-owned material;
- (3) a one gram threshold would address the NRC OIG concern about ensuring that NRC has

interaction with and reporting from small-quantity licensees; and (4) the one gram threshold for inventory/material balance reporting would align with the present one gram requirement for licensees reporting shipments and receipts (transactions) of SNM.

The submission of material balance reports under the current rule is linked to the performance and conduct of annual physical inventories and related reports required by §§ 74.19(c), 74.31(c)(5), 74.33(c)(4), or 74.43(c)(6) and in March and September for those subject to § 74.51. Those provisions are linked for the convenience of licensees, since both reports contain the same minimum threshold requirements of more than 350 grams. However, the activities associated with performing, documenting, and maintaining records associated with a physical inventory, as required by § 74.19(c), are different and more encompassing than those associated with preparing and submitting a material status report required by § 74.13. Because the staff does not plan to revise § 74.19(c) as part of this rulemaking, it would therefore no longer be possible to link the reporting requirements of the two rules since a physical inventory under § 74.19(c) is only implicated if a licensee is authorized to possess greater than 350 grams of SNM.

Thus, § 74.13 is revised to continue to permit licensees authorized to possess greater than 350 grams of SNM to submit material status reports along with their physical inventory reports as required by §§ 74.19(c), 74.31(c)(5), 74.33(c)(4), or 74.43(c)(6) and in March and September of each year, for those subject to § 74.51. However, for those licensees who are authorized to possess 350 grams or less of SNM, the rule requires the submission of material balance reports no later than March 31 of each year. The NRC finds that this schedule will eliminate any reporting problems related to inconsistencies in reporting quantities that persist between §§ 74.13 and 74.19, but will also maintain the intended flexibility and efficiency of the current rule.

C. Source Material Transaction Reports

Currently, § 40.64(a) requires submission of a Nuclear Material Transaction Report whenever a licensee transfers, receives, or adjusts the inventory of foreign obligated source material by one kilogram or more. Foreign obligated materials are those nuclear materials that are subject to tracking by international treaties. Also, reports are required for the import and export of one kilogram or more of any source material, regardless of obligation. However, the current requirements do not require reporting when material is utilized. The revision amends the rule to require reporting when a licensee utilizes one kilogram or more of source material in enrichment services, in downblending material initially enriched in the U^{235} isotope to 10 percent or more, or in MOX fuel fabrication, regardless of obligation. The NRC staff believes that source material reporting is an important part of the material balance equation because these materials are used as an input material in the downblending of uranium, in MOX fuel fabrication, and in the uranium enrichment cycle. This amendment to NMMSS reporting will facilitate the evaluation of the prior and ending balances of licensees that engage in activities that change the SNM values of their inventories and thus will improve the accuracy of the NMMSS data.

D. Source Material Status Reports

Currently, § 40.64(b) requires annual source material inventory reports of foreign obligated source material for licensees authorized to possess more than 1000 kilograms of source material. The revision lowers this value to one kilogram or more of foreign obligated source material. A lowered reporting threshold will provide the NRC with better knowledge of the location and presence of foreign obligated source material possessed by the licensees. The revision also requires the licensees to report annual source material inventory when a licensee utilizes one kilogram or more of any source material in enrichment services, in downblending material initially enriched in the U^{235} isotope to 10 percent or more, or in MOX

fuel fabrication, regardless of the obligation. Based on a review of the rebaselining efforts, the NRC staff has concluded that many licensees did not submit or update inventories to the NMMSS for several years, because they possessed or transferred materials that did not meet the minimum reporting thresholds. By lowering the reporting threshold from 1000 kilograms to 1 kilogram of foreign obligated material, the staff believes the information maintained in the NMMSS database will be more current and reliable and help fulfil U.S. obligations under bilateral agreements.

E. Reconciliation of Submitted Inventories

Many facilities that presently report inventory and material balance information also participate in a periodic reconciliation process with the NMMSS to address any differences between NMMSS generated inventory values and the facility reported inventory values. Currently, the reconciliation process is not explicitly required by regulations; however, it is considered to be an integral part of routine NMMSS operations. To address this issue, the amendments to §§ 40.64(b), 72.76(a), 74.13(a), 150.17(a) and 150.17(b) require licensees to reconcile any inventory discrepancies identified by NRC in the NMMSS database within 30 days of being notified of a discrepancy by NRC. In the amendments to §§ 40.4, 72.3, 74.4 and 150.3, a new definition, “reconciliation,” is added to describe the process by which licensees’ reports are evaluated and compared by NRC to the projected material balances by the NMMSS. The NMMSS projected balances are the NMMSS calculated material balances based on the transfer, receipt, or other adjustments reported to the NMMSS by the licensees during the previous reporting period. The process is considered complete when a licensee resolves any differences between the reported inventory and the inventory projected by the NMMSS database. This requirement will help maintain the accuracy of information in the NMMSS database.

F. Reporting Identification Symbol (RIS) and Holding Accounts

NRC currently assigns a NMMSS account number called a Reporting Identification Symbol (RIS) to each licensee for submitting information to the NMMSS. The revisions to §§ 40.64(b) and 74.13(a) require licensees to report inventory of source material and SNM, respectively, not only for their primary RIS account but also source and SNM inventories in associated holding accounts. Holding accounts were established by a few licensees to identify the material that the licensee was not actively using. Currently, licensees are not required to acknowledge shipments and receipts, or to report inventory information pertaining to the holding accounts to the NMMSS. The revisions will enhance MC&A safeguards because of the increased accuracy and availability of inventory information to the NRC staff.

G. Reduction in Reporting Requirements for Export of Material Shipments

Currently, licensees who export reportable quantities of SNM or source material file both the shipper's and receiver's information on two separate forms when exporting nuclear material, as described in NUREG/BR-0006. Based on the NRC inspector observations, the current additional requirement to report a foreign facility description of the same transactions has not been useful in assuring the accuracy of domestic MC&A information and it is not necessary to meet international reporting requirements. Consequently, this requirement can be eliminated to reduce burden without adverse effects on safety or security or the NMMSS database. This change is reflected in the amendments to §§ 40.64, 74.15 and 150.16 and will be reflected in the revised NUREG/BR-0006.

In the amendment, licensees are required to file only the shipper's information form unless there is a significant shipper/receiver difference or a theft or diversion is identified. In this context "significant" refers to a difference, for SNM, that requires resolution as described in §§ 74.31, 74.43, or 74.59, as applicable. For source material, the quantities delineated in

§ 40.64(c)(1) involving a theft or unlawful diversion would be the threshold quantities for additional reporting. This change to the reporting requirement will reduce the licensee's reporting burdens when shipping nuclear materials without significantly impacting the quality of the information reported to the database.

H. Who Would This Action Affect?

Currently, licensees possessing more than 350 grams of SNM report inventory and material balance information annually to the NMMSS. The lowering of the threshold to one gram of SNM and one kilogram of source material subject to treaty obligations will affect approximately 200 additional NRC and Agreement State licensees who presently possess between one and 350 grams of SNM.

New requirements associated with source material reporting will also apply to licensees that perform uranium enrichment services, downblend material initially enriched in the U²³⁵ isotope to 10 percent or more, and perform MOX fuel fabrication. However, the actual impact on these licensees will be minimal because much of the source material used for these type of processes has associated treaty obligations and is subject to the current reporting requirements.

Finally, the reduction in reporting requirements associated with export of SNM and source material will impact approximately 17 NRC and Agreement State licensees that export such materials. This change to the reporting requirements as specified in NUREG/BR-0006 will result in a reduction of about 1,700 reports per year, from the current number of 3,400 reports per year to the NMMSS, without impacting the quality of information in the NMMSS database.

I. How Would the Information be Reported?

Licensees may continue to submit foreign obligated source material information pursuant to § 40.64(b) as a statement and may submit the statement with other reports that the

licensee is required to submit, such as the SNM material balance report. However, source material and SNM transaction reports must be submitted by filing the Nuclear Material Transaction Reports form in computer-readable format as specified in NRC NUREG/BR-0006. Additional source and SNM inventory and material balance reports must be submitted in computer-readable format as specified in the NRC NUREG/BR-0007, "Instructions for the Preparation and Distribution of Material Status Reports." Specific details about the forms and format for these reports are contained in the NRC NUREG/BR-0006 and 0007. Additionally, reporting software is available to the licensees free of charge from the NMMSS contractor.

III. Summary of Public Comments on the Proposed Rule

The NRC received 5 comment letters on the proposed rule. The commenters were all representatives of industry. Copies of the public comments are available for review in the NRC Public Document Room, 11555 Rockville Pike, Rockville, MD. A review of the comments and the NRC staff's responses follow:

Comment 1: Four commenters indicated that the proposed language in 10 CFR 74.15(a) regarding on-site inventory adjustments needed to be clarified. As written, the commenters were concerned that frequent (daily to monthly) reporting would be necessary to account for decay and burnup in the reactor core. Commenters described this as an unnecessary reporting burden with no commensurate benefit or improvement in SNM accountability. Two of the licensees suggested revised language that would clarify the rule text to make it clear that the adjustments would be submitted to coincide with the submission of the annual or semi-annual Material Balance Report. One commenter requested that the rule state that its current practice of bi-monthly adjustments is acceptable.

Response: NRC agrees with the commenters that the rule language needs to be clarified. Early in the comment period, the NRC posted a Frequently Asked Question on the Ruleforum website after several licensee inquiries during the comment period. The question and answer was also included in a special edition of the NMMSS News in March 2007. The answer stated that the NRC expects that a licensee, at a minimum, report all inventory adjustments no later than when the licensee reports its physical inventory results to NMMSS (i.e., 12 months for power reactors). The NRC has revised the final rule language to clarify the timing of the inventory adjustments. Licensees are allowed to adjust inventory on a more frequent basis than what is required by the regulations. Therefore the commenter is correct to assume that it is acceptable to continue to report its adjustments with its bi-monthly inventory data. However, the NRC does not agree that this option needs to be acknowledged in the final rule text. A licensee can always do more than required by the regulations as long as it meets the minimum requirements.

Comment 2: One commenter requested that 10 CFR 73.67(g)(2)(ii) be revised to remove a reference to § 70.54 because that section of the regulations no longer exists. The commenter noted that the correct reference should be to § 74.15. The commenter requested that the inadvertent omission be picked up in this rule since changes are being made that affect § 74.15.

Response: The NRC agrees with the commenter that the correction should be made. In a final rule published in 2002 (67 FR 78130; December 23, 2002), the NRC deleted § 70.54 in its entirety. The requirements in that section are now covered by the requirements found in

§ 74.15. The 2002 rulemaking was part of an effort to move all of the MC&A requirements into 10 CFR Part 74. References to the deleted sections were revised to reference the new locations in 10 CFR Part 74. The reference to § 70.54 contained in § 73.67(g)(2)(ii) should have been changed to § 74.15 in the 2002 rulemaking but was overlooked. Because this is a minor conforming change and no purpose would be served by seeking public comment on the correction, the Commission, under 5 U.S.C. 553(b)(3)(B), finds that good cause exists to dispense with notice and comment procedures for this correction. The NRC has made the correction to the rule text.

Comment 3: One commenter stated that complete reconciliation of all reports submitted to NMMSS may not be practical due to reporting precision and errors caused by rounding. The commenter stated that the rule should be limited to reconciliation of the ending inventory balances in the Material Status Reports (742 section A line 81 and 742 section B) between the licensee and NMMSS. The commenter noted that this limitation would be consistent with the Discussion section of the proposed rule.

Response: The staff disagrees that reconciliation is limited to the ending inventory balance. The commenter is correct that reconciliation of licensee submittals is partially a review of database ending values, based on other licensee submittals, compared to the ending balances reported by the licensee in the Material Status Report, section A line 81 and section B. However, the reconciliation effort also includes section A Line 80 (government-owned materials, if any) of the Material Status Report and a comparison of the Total line values listed on Form 742C, the Physical Inventory Listing. Additionally, to correct any identified inconsistencies

in these ending values, a licensee may find it necessary to review previous submittals made during the period being reconciled. No changes to the rule language have been made.

Comment 4: One commenter stated that a definition for 'holding accounts' should be added to 10 CFR Part 74. The commenter stated that the addition of holding accounts to a licensee's reporting requirements should be clarified such that the excess material from a reload campaign or any other inventory that may be held at a supplier is not considered a 'holding account' under the new requirement.

Response: The staff does not find it appropriate to add such a definition to the regulations because other types of NMMSS accounts are not separately defined. However, the NRC has included further description of 'holding accounts' in both NUREG/BR-0006 and NUREG/BR-0007. The staff agrees with the commenter that material that is held at a supplier is not considered a holding account.

Comment 5: One commenter stated that the 10-day rule for submitting receipt data conflicts with the 10-business day submittal required by DOE and that the revised reporting requirements should be consistent with the DOE reporting requirements and specify 10 business days for submittal of receipt data.

Response: The NRC disagrees with the commenter. The 10 days versus 10 business days has been NRC practice for many years, as documented in previous versions of NUREG/BR-0006. Allowing 10 business days could cause delays associated with facility closure during holiday periods. The commenter has not provided an adequate reason for

changing the reporting time. The rule only applies to Agreement State and NRC licensees and certificate holders and does not apply to DOE sites. Even if the requirements applied to DOE sites, there would be no conflict because by filing the report within 10 days, the 10 business days would also be met.

Comment 6: One commenter stated that it is currently using “V” RISs for waste containers for which safeguards have been terminated and that operations would be adversely impacted if it had to use holding accounts instead of “V” RISs. The commenter argued that significant resources would be needed to inventory all items currently in the “V” RIS (thousands of waste drums) before returning them to active inventory. The commenter stated that DOE allows the use of “V” RISs for waste containers for which safeguards have been terminated and this allowance for waste containers should be allowed by the rule. The commenter stated that the costs associated with adding waste items to active inventory must be evaluated against the benefits obtained from increasing the level of accountability.

Response: The NRC disagrees with the commenter. Waste containers should be properly accounted for in a licensee’s inventory. A licensee could have kilogram quantities of special nuclear material in waste drums and this material should be accounted for. Lack of knowledge of the contents of waste containers is both a safety and security concern.

The rule only applies to Agreement State and NRC licensees and certificate holders and does not apply to DOE sites. For NRC and Agreement State licensees, the “V” accounts are limited to those licensees authorized for land disposal of radioactive waste and are not considered to be ‘holding accounts’. These licensees do not need to report and reconcile the values of source and special nuclear material in their account with the NMMSS database. The

fact that the commenter has a “V” account is an artifact of the facility previously being operated by DOE. Because the facility is under NRC jurisdiction, the “V” account should be changed to an “H” account.

Comment 7: One commenter stated that it is operating under an exemption to the reporting requirements of 10 CFR Part 74 for material balance and inventory reports and that the exemption remains in effect until the reporting guidance is revised and appropriate programming changes are made to the NMMSS software. Therefore, the commenter stated that its site systems have not been upgraded for this purpose and that it could not report data to NMMSS in the proposed licensee format until October 2009.

Response: This comment is beyond the scope of the rulemaking. This is a licensing issue that the commenter should discuss with its NRC Project Manager.

Comment 8: One commenter stated that it prefers to continue to report and reconcile NMMSS data as is currently submitted and to certify the NMMSS-generated M-742 report. The commenter stated that the existing method of reporting meets the intent of the reporting requirements and there is no benefit in altering its current reporting method.

Response: The commenter has not provided adequate information to determine if the process it currently uses meets the intent of the regulation. The commenter should discuss this with its NRC Project Manager.

IV. Summary of Amendments by Section

Section 40.4 Definitions.

Section 40.4 is amended to add a definition of “reconciliation.” Reconciliation is defined to mean the process by which licensee inventory submittals are compared to values projected by the NMMSS, and the process is considered complete when the licensee resolves any differences between the two values, including foreign obligated materials.

Section 40.64 Reports.

Section 40.64(a) is amended to (1) require licensees who utilize one kilogram or more of source material, regardless of obligation, in enrichment services, downblending uranium that has an initial enrichment of the U²³⁵ isotope of 10 percent or more, or in the fabrication of MOX fuels, complete and submit a Nuclear Material Transaction Report; and (2) require licensees who export source material to complete only the licensee portion of the transaction report unless there is an indication of loss, theft, or diversion of the source material, in which case both the licensee’s and the foreign facility’s information on the form must be reported.

Section 40.64(b) is amended to (1) lower reporting thresholds for possession and reporting of inventory of foreign obligated source material to one kilogram; (2) require each licensee who possesses one kilogram or more of uranium or thorium source material in the operation of enrichment services, downblending uranium that has an initial enrichment of the U²³⁵ isotope of 10 percent or more, or in the fabrication of MOX fuels, to complete and submit, in computer-readable format, Material Balance and Physical Inventory Listing Reports concerning all source material (both foreign obligated and non-obligated) that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost in the previous reporting period; (3) resolve any inventory discrepancies within 30 calendar days of notification

of the discrepancy identified by the NRC; (4) require inventory reporting not only in the (RIS) account but also in all associated holding accounts; and (5) correct the NRC address for obtaining the reporting instructions.

Section 72.3 Definitions.

Section 72.3 is amended to add a definition of “reconciliation.” Reconciliation is defined to mean the process by which licensee submittals are compared to projected values developed by the NMMSS, and the process is considered complete when the licensee resolves any differences between the two values, including foreign obligated materials.

Section 72.72 Material balance inventory and records requirements for stored materials.

Section 72.72(a) is amended to (1) correct the reference for SNM to § 74.13(a) (the current reference to § 74.13(a)(1) is incorrect because there is no paragraph (a)(1) in § 74.13); and (2) require licensees to keep records showing the receipt, inventory, disposal, acquisition, and transfer of source material in quantities as specified in § 40.64.

Section 72.76 Material status reports.

Section 72.76(a) is amended to (1) require reports on source material as specified in § 40.64; (2) require licensees to resolve any discrepancies identified during the report review (3) and reconciliation process within 30 calendar days of submission of the information; and correct the NRC address for obtaining the reporting instructions.

Section 72.78 Nuclear material transfer reports.

The section heading is revised to read, “Nuclear material transaction reports.” The

amendment is consistent with the name of the report (transaction report) and describes requirements for both receipt and transfer of nuclear materials.

Section 72.78(a) is amended to (1) add a reporting requirement when a licensee adjusts the inventory of SNM as specified by § 74.15 or source material as specified by § 40.64; and (2) correct the NRC address for obtaining the reporting instructions.

Section 73.67 Licensee fixed site and in-transit requirements for the physical protection of special nuclear material of moderate and low strategic significance.

Paragraph (g)(2)(ii) is revised to correct the reference to § 70.54. Section 70.54 was removed from the regulations in a previous revision. The correct reference is to § 74.15.

Section 74.2 Scope.

Section 74.2(a) is amended to lower the applicable threshold of general reporting and recordkeeping requirements of subpart B of 10 CFR Part 74 to each person who possesses one gram or more of SNM.

Section 74.4 Definitions.

Section 74.4 is amended to add a definition of “reconciliation.” Reconciliation is defined to mean the process by which licensee submittals are compared to projected values developed by NMMSS, and the process is considered complete when the licensee resolves any differences between the two values, including foreign obligated materials.

Section 74.13 Material status reports.

Section 74.13(a) is amended to (1) lower reporting thresholds from authorization to

possess more than 350 grams of SNM to possession of one gram or more of SNM, or possession of one gram or more of SNM in the inventory reporting period; (2) require inventory reporting to include not only the primary Reporting Identification Symbol (RIS) account but also SNM in any associated holding accounts; (3) require licensees to resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by the NRC; (4) require licensee submission of material balance reports no later than March 31 of each year for reports not covered under §§ 74.19, 74.31(c)(5), 74.33(c)(4), 74.43(c)(6), or 74.51; and (5) correct the NRC address for obtaining the reporting instructions.

Section 74.15 Nuclear material transfer reports.

The section heading is revised to read, “Nuclear material transaction reports.” The amendment is consistent with the name of the report (transaction report) and describes requirements for both receipt and transfer of nuclear materials.

Section 74.15(a) is amended to (1) add a reporting requirement when the inventory of SNM is adjusted in a quantity of one gram or more; (2) specify that each licensee who transfers SNM must submit a Nuclear Material Transaction Report no later than the close of business the next working day, and each licensee who receives the material must submit a Nuclear Material Transaction Report within ten (10) days after the material is received; and (3) correct the NRC address for obtaining the reporting instructions.

The current paragraph (c) is redesignated as a new paragraph (d). A new paragraph (c) is added to § 74.15 to require licensees who export one gram or more of SNM to complete only the supplier’s portion of the form unless a significant shipper-receiver difference as described in §§ 74.31, 74.43, or 74.59 is identified.

Section 150.3 Definitions.

Section 150.3 is amended to add a definition of “reconciliation.” Reconciliation is defined to mean the process by which licensee submittals are compared to projected values developed by the NMMSS, and the process is considered complete when the licensee resolves any differences between the two values, including foreign obligated materials.

Section 150.8 Information collection requirements: OMB approval.

In Section 150.8 paragraph (c)(1) is revised, paragraph (c)(2) is redesignated as a new paragraph (c)(3), and a new paragraph (c)(2) is added to describe that in §150.17, DOE/NRC Form 742 and its computer-readable format are approved under OMB control number 3150-0004, and DOE/NRC Form 742C and its computer-readable format are approved under OMB control number 3150-0058.

Section 150.16 Submission to Commission of nuclear material transfer reports.

The section heading is revised to read, “Submission to the Commission of nuclear material transaction reports.” The amendment is consistent with the name of the report (transaction report) and describes requirements for both receipt and transfer of nuclear materials.

Section 150.16(a) is revised to add a new paragraph (a)(1) that generally retains the requirements of current paragraph (a), but is amended to (1) require reporting when the inventory of SNM is adjusted in a quantity of one gram or more; (2) specify that for transfer of SNM, the information be submitted no later than the close of next business day; (3) require completion of only the licensee’s portion of the form for exporting SNM unless a significant

shipper-receiver difference as described in §§ 74.31, 74.43, or 74.59 is identified; and
(4) correct the NRC address for obtaining the reporting instructions.

The new paragraph (a)(2) in § 150.16 describes the material transaction reporting requirements for the source material. Currently, source material transaction reporting requirements are described in § 150.17(a), under the heading “Submission to Commission of source material reports.” Moving these requirements to § 150.16 will help licensees locate the material transaction reporting requirements for both SNM and source material in § 150.16.

The new § 150.16(a)(2) also (1) requires a licensee who utilizes any uranium or thorium source material, regardless of obligation, in a quantity of one kilogram or more, in enrichment services, downblending uranium that has an initial enrichment of the U²³⁵ isotope of 10 percent or more, or in the fabrication of MOX fuels, to submit source material transaction reports; (2) requires licensees to file only the licensee’s portion of the form when exporting one kilogram or more of source material, unless there is an indication of theft or diversion as described in § 40.64(c), in which case both the receiver’s and shipper’s portion of the form must be completed; (3) requires the shipper’s portion of the form to be completed for imports; and (4) corrects the NRC address for obtaining the reporting instructions.

Section 150.17 Submission to Commission of source material reports.

The section heading is revised to read, “Submission to Commission of nuclear material status reports.” This amendment will help licensees locate the reporting requirements for material status reports for both source material and SNM. This format is similar to the reporting formats for source and SNM status reporting in 10 CFR Parts 40, 72, and 74.

Section 150.17(a) is amended to require each licensee who is in possession of, or had possessed in the previous reporting period, SNM in a quantity of one gram or more, to annually

complete and submit in computer-readable format Material Balance and Inventory Reports concerning special nuclear material that the licensee has received, produced, possessed, transferred, consumed, disposed of, or lost. It also requires licensees to resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by NRC.

Section 150.17(b) is amended to (1) lower the annual inventory reporting threshold from the current 1000 kilogram of foreign obligated source material to one kilogram; (2) add a reporting requirement that a licensee who utilizes one kilogram or more of any source material in enrichment services, in downblending material initially enriched in the U²³⁵ isotope to 10 percent or more, or in MOX fuel fabrication is required to submit material balance and physical inventory listing reports concerning source material that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost; (3) require licensees to resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by NRC; and (4) correct the NRC address for obtaining the reporting instructions.

V. Criminal Penalties

For the purpose of Section 223 of the Atomic Energy Act (AEA), the Commission is amending 10 CFR Parts 40, 72, 73, 74, and 150 under one or more of Sections 161b, 161i, or 161o of the AEA. Willful violations of the rule will be subject to criminal enforcement.

VI. Agreement State Compatibility

Under the "Policy Statement on Adequacy and Compatibility of Agreement State Programs" approved by the Commission on June 30, 1997, and published in the Federal Register on September 3, 1997 (62 FR 46517), this rule is designated Compatibility Category "NRC." The Compatibility Categories for the sections amended in this proposed rule would be the same as the sections in the current rule. The revisions to §§ 40.64, 72.72(a), 72.76, 72.78, 73.67, 74.4, 74.13, 74.15, 150.16 and 150.17 are designated as Category "NRC," because these are areas of exclusive NRC regulatory authority. The following new sections, §§ 40.4, 72.3 and 150.3, are also designated Compatibility Category "NRC." Compatibility Category "NRC" is the NRC program elements that address areas of regulation that cannot be relinquished to Agreement States under the Atomic Energy Act or provisions of Title 10 of the Code of Federal Regulations. Although an Agreement State may not adopt program elements reserved to NRC, it may wish to inform its licensees of certain requirements via a mechanism that is consistent with the particular State's administrative procedure laws, but does not confer regulatory authority on the State.

VII. 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 final rule, the NRC is modifying current reporting requirements for source material and special nuclear material to the NMMSS. This action does not constitute the establishment of a standard that establishes generally applicable requirements.

VIII. Environmental Impact: Categorical Exclusion

NRC has determined that this final rule is the type of action described in categorical exclusion 10 CFR 51.22(c)(1) for the changes to Part 150 and as described in 10 CFR 51.22(c)(3)(iii) for the changes to Parts 40, 72, 73, and 74. Therefore, neither an environmental impact statement nor an environmental assessment has been prepared for this final rule.

IX. Paperwork Reduction Act Statement

This final rule contains new or amended information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq). These requirements were approved by the Office of Management and Budget, approval numbers 3150-0020, 3150-0003, 3150-0132, 3150-0123, 3150-0032, 3150-0004, and 3150-0058.

Because the rule will reduce the burden for existing information collection requirements, the public burden for these information collections is expected to be decreased by 695 hours (NRC Form 741, -1495 hours at 1.25 hours/response; NRC Form 742, +400 hours at 2 hours/response; and NRC Form 742C, +400 hours at 2 hours/response). This reduction includes the time required for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the information collection. Send comments on any aspect of these information collections, including suggestions for further reducing the burden, to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet electronic mail to INFCOLLECTS@NRC.GOV; and to the Desk Officer, Office of Information and Regulatory

Affairs, NEOB-10202 (3150-0020, 3150-0003, 3150-0132, 3150-0123, 3150-0032, 3150-0004, and 3150-0058), Office of Management and Budget, Washington, DC 20503.

X. 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.

XI. Regulatory Analysis

The Commission has prepared a regulatory analysis on this regulation. The analysis examines the costs and benefits of the alternatives considered by the Commission. The rule will affect about 180 licensees who are currently required to file reports and approximately 200 additional NRC and Agreement State licensees. Affected licensees include enrichment facilities, fuel fabricators, laboratories, reactors, universities, colleges, medical clinics, and hospitals, some of which may qualify as small business entities as defined by 10 CFR 2.810. The rule will result in annual savings for the 17 licensees subject to current reporting requirements because there is a reduction in the number of transaction forms submitted for certain export transactions. However, for the licensees possessing 350 grams or less of SNM, there is an additional cost from the regulations. The annual time required by these licensees to complete each inventory and material balance report is estimated at two hours. The total annual burden to perform the reporting and reconciliation for these 200 licensees is 400 hours.

The annual costs of the amendments for affected licensees are estimated to be \$37,200 total or on average about \$186 per affected licensee.

The analysis is available for inspection in the NRC Public Document Room, 11555 Rockville Pike, Rockville, MD. Single copies of the regulatory analysis are available from Neelam Bhalla, telephone (301) 415-6843, e-mail, nxb@nrc.gov of the Office of Federal and State Materials and Environmental Management Programs.

XII. Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the Commission certifies that this rule does not have a significant economic impact on a substantial number of small entities. The rule would affect about 180 licensees who are currently required to file reports and approximately 200 additional NRC and Agreement State licensees. Affected licensees include enrichment facilities, fuel fabricators, laboratories, reactors, universities, colleges, medical clinics, and hospitals, some of which may qualify as small business entities as defined by 10 CFR 2.810. The rule will result in annual savings for the 17 licensees subject to current reporting requirements because there is a reduction in the number of transaction forms submitted for certain export transactions. However, for the licensees possessing 350 grams or less of SNM, there is an additional cost from the regulations. The annual time required by these licensees to complete each inventory and material balance report is estimated at two hours. No research or compilation is necessary because all information is transcribed from in-house records kept for other purposes. The total annual burden to perform the reporting and reconciliation for these 200 licensees is 400 hours. Based on the regulatory analysis conducted for this action, the annual costs of the amendments for affected licensees are estimated to be

\$37,200 total or on average about \$186 per affected licensee. NRC believes that the selected alternative reflected in the amendment is the least burdensome, most flexible alternative that accomplishes the NRC's regulatory objective.

XIII. Backfit Analysis

NRC has determined that the backfit rule (§§ 50.109, 70.76, 72.62, or 76.76) does not apply to this final rule because this amendment does not involve any provisions that impose backfits as defined in the backfit rule. Therefore, a backfit analysis is not required.

XIV. Congressional Review Act

In accordance with the Congressional Review Act of 1996, the NRC has determined that this action is not a major rule and has verified this determination with the Office of Information and Regulatory Affairs of OMB.

XV. Lists 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 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 73

Criminal penalties, Export, Hazardous materials transportation, Import, Nuclear materials, Nuclear power plants and reactors, Reporting and recordkeeping requirements, Security measures.

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, Special nuclear material.

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 adopting the following amendments to 10 CFR Parts 40, 72, 73, 74, and 150:

PART 40 - DOMESTIC LICENSING OF SOURCE MATERIAL

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

Authority: Secs. 62, 63, 64, 65, 81, 161, 182, 183, 186, 68 Stat. 932, 933, 935, 948, 953, 954, 955, as amended, secs. 11e(2), 83, 84, Pub. L. 95-604, 92 Stat. 3033, as amended, 3039, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2014(e)(2), 2092, 2093, 2094, 2095, 2111, 2113, 2114, 2201, 2232, 2233, 2236, 2282); sec. 274, Pub. L. 86-373, 73 Stat. 688 (42 U.S.C. 2021); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846); sec. 275, 92 Stat. 3021, as amended by Pub. L. 97-415, 96 Stat. 2067 (42 U.S.C. 2022); sec. 193, 104 Stat. 2835, as amended by Pub. L. 104-134, 110 Stat. 1321, 1321-349 (42 U.S.C. 2243); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note).

Section 40.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 40.31(g) also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Section 40.46 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 40.71 also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

2. In § 40.4, a new definition, *Reconciliation*, is added in alphabetical order to read as follows:

§ 40.4 Definitions.

* * * * *

Reconciliation means the process of evaluating and comparing licensee reports required under this part to the projected material balances generated by the Nuclear Materials

Management and Safeguards System. This process is considered complete when the licensee resolves any differences between the reported and projected balances, including those listed for foreign obligated materials.

* * * * *

3. In § 40.64, paragraphs (a) and (b) are revised to read as follows:

§ 40.64 Reports.

(a) Except as specified in paragraphs (d) and (e) of this section, each specific licensee who transfers, receives, or adjusts the inventory in any manner, of uranium or thorium source material with foreign obligations by one kilogram or more; or who imports or exports one kilogram or more of uranium or thorium source material; or who uses one kilogram or more of any uranium or thorium source material in enrichment services, downblending uranium that has an initial enrichment of the U²³⁵ isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels, shall complete a Nuclear Material Transaction Report in computer-readable format as specified in the instructions in NUREG/BR-0006 and NMMSS Report D-24, "Personal Computer Data Input for NRC Licensees." Each licensee who exports one kilogram or more of uranium or thorium source material shall complete in the format listed above the licensee's portion of the Nuclear Material Transaction Report unless there is indication of loss, theft, or diversion as discussed under paragraph (d) of this section, in which case both the licensee's and the foreign facility's information must be reported. Licensees who import one kilogram or more of uranium or thorium source material shall complete the supplier's and the licensee's portion of the Nuclear Material Transaction Report. Copies of the instructions may be obtained either by writing the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555-0001, or by e-mail to RidsNmssFcoss@nrc.gov. Each

licensee who transfers the material shall submit a Nuclear Material Transaction Report in computer-readable format as specified in the instructions no later than the close of business the next working day. Each licensee who receives the material shall submit a Nuclear Material Transaction Report in computer-readable format in accordance with instructions within ten (10) days after the material is received. The Commission's copy of the report must be submitted to the address specified in the instructions. These prescribed computer-readable forms replace the DOE/NRC Form 741 previously submitted in paper form.

(b) Except as specified in paragraphs (d) and (e) of this section, each licensee who:

(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 special nuclear material filed under part 72 or 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 U²³⁵ 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 NMSS 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 parts 72 or 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 RidsNmssFcass@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.

* * * * *

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

4. The authority citation for Part 72 continues to read as follows:

Authority: Secs. 51, 53, 57, 62, 63, 65, 69, 81, 161, 182, 183, 184, 186, 187, 189, 68 Stat. 929, 930, 932, 933, 934, 935, 948, 953, 954, 955, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2071, 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2201, 2232, 2233, 2234, 2236, 2237, 2238, 2282); sec. 274, Pub. L. 86-373, 73 Stat. 688, as amended (42 U.S.C. 2021); sec. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C.

5841, 5842, 5846); Pub. L. 95-601, sec. 10, 92 Stat. 2951 as amended by Pub. L. 102-486, sec. 7902, 106 Stat. 3123 (42 U.S.C. 5851); sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332); secs. 131, 132, 133, 135, 137, 141, Pub. L. 97-425, 96 Stat. 2229, 2230, 2232, 2241, sec. 148, Pub. L. 100-203, 101 Stat. 1330-235 (42 U.S.C. 10151, 10152, 10153, 10155, 10157, 10161, 10168); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note); sec.651(e), Pub. L. 109-58, 119 Stat. 806-10 (42 U.S.C. 2014, 2021, 2021b, 2111).

Section 72.44(g) also issued under secs. 142(b) and 148(c), (d), Pub. L. 100-203, 101 Stat. 1330-232, 1330-236 (42 U.S.C. 10162(b), 10168(c), (d)). Section 72.46 also issued under sec. 189, 68 Stat. 955 (42 U.S.C. 2239); sec. 134, Pub. L. 97-425, 96 Stat. 2230 (42 U.S.C. 10154). Section 72.96(d) also issued under sec. 145(g), Pub. L. 100-203, 101 Stat. 1330-235 (42 U.S.C. 10165(g)). Subpart J also issued under secs. 2(2), 2(15), 2(19), 117(a), 141(h), Pub. L. 97-425, 96 Stat. 2202, 2203, 2204, 2222, 2224 (42 U.S.C. 10101, 10137(a), 10161(h)). Subparts K and L are also issued under sec. 133, 98 Stat. 2230 (42 U.S.C. 10153) and sec. 218(a), 96 Stat. 2252 (42 U.S.C. 10198).

5. In § 72.3, a new definition, *Reconciliation*, is added in alphabetical order to read as follows:

§ 72.3 Definitions.

* * * * *

Reconciliation means the process of evaluating and comparing licensee reports required under this part to the projected material balances generated by the Nuclear Materials Management and Safeguards System. This process is considered complete when the licensee resolves any differences between the reported and projected balances, including those listed for foreign obligated materials.

* * * * *

6. In § 72.72, paragraph (a) is revised to read as follows:

§ 72.72 Material balance, inventory, and records requirements for stored materials.

(a) Each licensee shall keep records showing the receipt, inventory (including location), disposal, acquisition, and transfer of all special nuclear material with quantities as specified in § 74.13(a) of this chapter and for source material as specified in § 40.64 of this chapter. The records must include as a minimum the name of shipper of the material to the ISFSI or MRS, the estimated quantity of radioactive material per item (including special nuclear material in spent fuel and reactor-related GTCC waste), item identification and seal number, storage location, onsite movements of each fuel assembly or storage canister, and ultimate disposal. These records for spent fuel and reactor-related GTCC waste at an ISFSI or for spent fuel, high-level radioactive waste, and reactor-related GTCC waste at an MRS must be retained for as long as the material is stored and for a period of 5 years after the material is disposed of or transferred out of the ISFSI or MRS.

* * * * *

7. In § 72.76, paragraph (a) is revised to read as follows:

§ 72.76 Material status reports.

(a) Except as provided in paragraph (b) of this section, each licensee shall complete in computer-readable format and submit to the Commission a Material Balance Report and a Physical Inventory Listing Report as specified in the instructions in NUREG/BR-0007 and NMMSS Report D-24 "Personal Computer Data Input for NRC Licensees." Copies of these 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. These reports, as specified by § 74.13 or 40.64 of this chapter, provide information concerning the special nuclear material and/or source material possessed, received, transferred, disposed of, or lost by the licensee. Each report must be submitted within 60 days of the beginning of the physical inventory required by § 72.72(b). The Commission may, when good cause is shown, permit a licensee to submit Material Balance Reports and Physical Inventory Listing Reports at other times. 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 notification of a discrepancy identified by NRC. The Commission's copy of this report must be submitted to the address specified in the instructions. These prescribed, computer-readable forms replace the DOE/NRC Forms 742 and 742C previously submitted in paper form.

* * * * *

8. In § 72.78 the section heading and paragraph (a) are revised to read as follows:

§ 72.78 Nuclear material transaction reports.

(a) Except as provided in paragraph (b) of this section, whenever the licensee transfers or receives or adjusts the inventory, in any manner, of special nuclear material as specified by §74.15 and/or source material as specified by § 40.64 of this chapter, the licensee shall complete in computer-readable format a Nuclear Material Transaction Report as specified in the instructions in NUREG/BR-0006 and NMMSS Report D-24, "Personal Computer Data Input for NRC Licensees." Copies of these 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 who transfers the

material shall submit a Nuclear Material Transaction Report in computer-readable format as specified in the instructions no later than the close of business the next working day. Each licensee who receives the material shall submit a Nuclear Material Transaction Report in computer-readable format in accordance with instructions within ten (10) days after the material is received. Each ISFSI licensee who receives spent fuel from a foreign source shall complete both the supplier's and the receiver's portion of the Nuclear Material Transaction Report, verify the identity of the spent fuel, and indicate the results on the receiver's portion of the form. These prescribed computer-readable forms replace the DOE/NRC Form 741 which have been previously submitted in paper form.

* * * * *

PART 73 - PHYSICAL PROTECTION OF PLANTS AND MATERIALS

9. The authority citation for Part 73 continues to read as follows:

Authority: Secs. 53, 161, 149, 68 Stat. 930, 948, as amended, sec. 147, 94 Stat. 780 (42 U.S.C. 2073, 2167, 2169, 2201); sec. 201, as amended, 204, 88 Stat. 1242, as amended, 1245, sec. 1701, 106 Stat. 2951, 2952, 2953 (42 U.S.C. 5841, 5844, 2297f); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note); Energy Policy Act of 2005, Pub. L. 109-58, 119 Stat. 594 (2005). Section 73.1 also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161). Section 73.37(f) also issued under sec. 301, Pub. L. 96-295, 94 Stat. 789 (42 U.S.C. 5841 note). Section 73.57 is issued under sec. 606, Pub. L. 99-399, 100 Stat. 876 (42 U.S.C. 2169) and under sec. 652, Pub. L. 109-58, 119 Stat 810 (42 U.S.C. 2169).

10. In § 73.67, paragraph (g)(2)(ii) is revised to read as follows:

§ 73.67 Licensee fixed site and in-transit requirements for the physical protection of special nuclear material of moderate and low strategic significance.

* * * * *

(g) ***

(2) ***

(ii) Notify the shipper of receipt of the material as required in § 74.15 of this chapter, and

* * * * *

PART 74 - MATERIAL CONTROL AND ACCOUNTING OF SPECIAL NUCLEAR MATERIAL

11. The authority citation for Part 74 continues to read as follows:

Authority: Secs. 53, 57, 161, 182, 183, 68 Stat. 930, 932, 948, 953, 954, as amended, sec. 234, 83 Stat. 444, as amended, sec.1701, 106 Stat. 2951, 2952, 2953, (42 U.S.C. 2073, 2077, 2201, 2232, 2233, 2282, 2297f); secs. 201, as amended 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note).

12. In § 74.2, paragraph (a) is revised to read as follows:

§ 74.2 Scope.

(a) The general reporting and recordkeeping requirements of subpart B of this part apply to each person licensed under this chapter who possesses special nuclear material in a quantity of one gram or more of contained uranium-235, uranium-233, or plutonium; or who transfers or

receives a quantity of special nuclear material of one gram or more of contained uranium-235, uranium-233, or plutonium. The general reporting and recordkeeping requirements of subpart B of this part do not apply to licensees whose MC&A reporting and recordkeeping requirements are covered by §§ 72.72, 72.76, and 72.78 of this chapter.

* * * * *

13. In § 74.4, a new definition, *Reconciliation*, is added in alphabetical order to read as follows:

§ 74.4 Definitions.

* * * * *

Reconciliation means the process of evaluating and comparing licensee reports required under this part to the projected material balances generated by the Nuclear Materials Management and Safeguards System. This process is considered complete when the licensee resolves any differences between the reported and projected balances, including those listed for foreign obligated materials.

* * * * *

14. In § 74.13, paragraph (a) is revised to read as follows:

§ 74.13 Material status reports.

(a) Each licensee, including nuclear reactor licensees as defined in §§ 50.21 and 50.22 of this chapter, possessing, or who had possessed in the previous reporting period, at any one time and location, special nuclear material in a quantity totaling one gram or more of contained uranium-235, uranium-233, or plutonium shall complete and submit, in computer-readable format Material Balance Reports concerning special nuclear material that the licensee has

received, produced, possessed, transferred, consumed, disposed, or lost. This prescribed computer-readable report replaces the DOE/NRC form 742 which has been previously submitted in paper form. The Physical Inventory Listing Report must be submitted with each Material Balance Report. This prescribed computer-readable report replaces the DOE/NRC Form 742C which has been previously submitted in paper form. Reports must be submitted for each Reporting Identification Symbol (RIS) account including all holding accounts. Each licensee shall prepare and submit the reports described in this paragraph as specified in the instructions in NUREG/BR-0007 and NMMSS Report D-24 "Personal Computer Data Input for NRC Licensees." 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@nrc.gov. Each licensee subject to the requirements of § 74.51 shall compile a report as of March 31 and September 30 of each year and file it within 30 days after the end of the period covered by the report. Licensees subject to the requirements of §§ 74.19(c), 74.31(c)(5), 74.33(c)(4), or 74.43(c)(6) shall submit a report within 60 calendar days of the beginning of the physical inventory. All other licensees shall submit a report no later than March 31 of each year. The Commission may permit a licensee to submit the reports at other times for good cause. Each licensee required to report material balance, and inventory 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 NRC.

* * * * *

15. In § 74.15 the section heading and paragraph (a) are revised, paragraph (c) is redesignated as a new paragraph (d), and a new paragraph (c) is added to read as follows:

§ 74.15 Nuclear material transaction reports.

(a) Each licensee who transfers or receives special nuclear material in a quantity of one gram or more of contained uranium-235, uranium-233, or plutonium shall complete in computer-readable format a Nuclear Material Transaction Report. In addition, each licensee who adjusts the inventory in any manner, other than for transfers and receipts, shall submit a Nuclear Material Transaction Report, in computer-readable format, to coincide with the submission of the Material Balance report. This shall be done as specified in the instructions in NUREG/BR-0006 and NMMSS Report D-24, "Personal Computer Data Input for NRC Licensees." Copies of these instructions NUREG/BR-0006 and NMMSS Report D-24, "Personal Computer Data Input for NRC Licensees" may be obtained either by writing the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555-0001, or by e-mail to RidsNmssFcsc@nrc.gov. Each licensee who transfers the material shall submit a Nuclear Material Transaction Report in computer-readable format as specified in the instructions no later than the close of business the next working day. Each licensee who receives the material shall submit a Nuclear Material Transaction Report in computer-readable format in accordance with instructions within ten (10) days after the material is received. This prescribed computer-readable format replaces the DOE/NRC Form 741 which has been previously submitted in paper form.

* * * * *

(c) Each licensee who ships special nuclear material in a quantity of one gram or more of contained uranium-235, uranium-233, or plutonium to foreign recipient shall complete in computer-readable format the supplier's portion of the Nuclear Material Transaction Report. The licensee shall complete the receiver's portion of the Nuclear Material Transaction Report

only if a significant shipper-receiver difference as described in §§ 74.31, 74.43, or 74.59, as applicable, is identified.

* * * * *

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

16. The authority citation for Part 150 continues to read as follows:

Authority: Sec. 161, 68 Stat. 948, as amended, sec. 274, 73 Stat. 688 (42 U.S.C. 2201, 2021); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note); sec. 651(e), Pub. L. 109-58, 119 Stat. 806-810 (42 U.S.C. 2014, 2021, 2021b, 2111).

Sections 150.3, 150.15, 150.15a, 150.31, 150.32 also issued under secs. 11e(2), 81, 68 Stat. 923, 935, as amended, secs. 83, 84, 92 Stat. 3033, 3039 (42 U.S.C. 2014e(2), 2111, 2113, 2114). Section 150.14 also issued under sec. 53, 68 Stat. 930, as amended (42 U.S.C. 2073). Section 150.15 also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161). Section 150.17a also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Section 150.30 also issued under sec. 234, 83 Stat. 444 (42 U.S.C. 2282).

17. In § 150.3, a new definition, *Reconciliation*, is added in alphabetical order to read as follows:

§ 150.3 Definitions.

* * * * *

Reconciliation means the process of evaluating and comparing licensee reports required under this part to the projected material balances generated by the Nuclear Materials Management and Safeguards System. This process is considered complete when the licensee resolves any differences between the reported and projected balances, including those listed for foreign obligated materials.

* * * * *

18. In § 150.8, paragraph (c)(1) is revised, paragraph (c)(2) is redesignated as a new paragraph (c)(3), and a new paragraph (c)(2) is added to read as follows:

§ 150.8 Information collection requirements: OMB approval.

* * * * *

(c) * * *

(1) In § 150.16, DOE/NRC FORM 741 and its computer-readable format are approved under control number 3150-0003.

(2) In § 150.17, DOE/NRC Form 742 and its computer-readable format are approved under control number 3150-0004, and DOE/NRC Form 742C and its computer-readable format are approved under control number 3150-0058.

* * * * *

19. In § 150.16, the section heading and paragraph (a) are revised to read as follows:

§ 150.16 Submission to Commission of nuclear material transaction reports.

(a)(1) Each person who transfers or receives special nuclear material in a quantity of one gram or more of contained uranium-235, uranium-233, or plutonium under an Agreement State license shall complete and submit in computer-readable format Nuclear Material

Transaction Reports as specified in the instructions in NUREG/BR-0006 and NMMSS Report D-24, "Personal Computer Data Input for NRC Licensees." In addition, each person who adjusts the inventory in any manner, other than for transfers and receipts, shall submit in computer-readable format Nuclear Material Transaction Reports as specified in the instructions in NUREG/BR-0006 and NMMSS Report D-24, "Personal Computer Data Input for NRC Licensees." Each licensee who receives special nuclear material in a quantity of one gram or more of contained uranium-235, uranium-233, or plutonium from a foreign source, or who ships special nuclear material in a quantity of one gram or more of contained uranium-235, uranium-233, or plutonium to a foreign source, shall submit the licensee portion of this information as specified in the instructions in this part. The applicable foreign facility portion of the form must be completed and submitted for imports. The foreign facility portion of the form must be completed for exports only if a significant shipper-receiver difference as described in §§ 74.31, 74.43, or 74.59 of this part, as applicable, is identified. Each person who transfers the material shall submit a Nuclear Material Transaction Report in computer-readable format as specified in the instructions no later than the close of business the next working day. Each person who receives special nuclear material shall submit a Nuclear Material Transaction Report in the computer-readable format as specified in the instructions within ten (10) days after the special nuclear material is received. Copies of these 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 RidsNmssFcsc@nrc.gov. These prescribed computer-readable formats replace the DOE/NRC Form 741 which have been previously submitted in paper form.

(2) Except as specified in §§ 150.17(d) and 150.17a, each person who, under an Agreement State specific license transfers, receives, or adjusts the inventory in any manner, of

uranium or thorium source material with foreign obligations by one kilogram or more; imports or exports one kilogram or more of uranium or thorium source material; or uses one kilogram or more of any uranium or thorium source material in enrichment services, downblending uranium that has an initial enrichment of the U²³⁵ isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels, shall complete and submit in computer-readable format Nuclear Material Transaction Reports as specified in the instructions in NUREG/BR-0006 and NMMSS Report D-24, "Personal Computer Data Input for NRC Licensees." Each person who, under an Agreement State specific license exports one kilogram or more of uranium or thorium source material shall complete in the format listed above the licensee's portion of the Nuclear Material Transaction Report unless there is indication of loss, theft, or diversion as discussed in § 40.64(c)(1) of this chapter is identified, in which case both the licensee's and the foreign facility's information shall be reported. For imports, the shipper's portion of the form must also be completed. Copies of the 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 RidsNmssFcsc@nrc.gov. Each licensee who transfers the material shall submit a Nuclear Material Transaction Report in computer-readable format as specified in the instructions no later than the close of business the next working day. Each licensee who receives the material shall submit a Nuclear Material Transaction Report in computer-readable format in accordance with instructions within ten (10) days after the material is received. The Commission's copy of the report must be submitted to the address specified in the instructions. These prescribed computer-readable forms replace the DOE/NRC Form 741 which have been previously submitted in paper form.

* * * * *

20. In § 150.17, the section heading and paragraphs (a) and (b) are revised 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, each person possessing, or who had possessed in the previous reporting period, at any one time and location, under an Agreement State license, special nuclear material in a quantity totaling one gram or more of contained uranium-235, uranium-233, or plutonium, shall complete and submit, in computer-readable format Material Balance Reports concerning special nuclear material that the licensee has received, produced, possessed, transferred, consumed, disposed of, or lost. This prescribed computer-readable report replaces the DOE/NRC Form 742 which has been previously submitted in paper form. The Physical Inventory Listing Report must be submitted with each Material Balance Report. This prescribed computer-readable report replaces the DOE/NRC Form 742C which has been previously submitted in paper form. Each licensee shall prepare and submit the reports described in this paragraph as specified in the instructions in NUREG/BR-0007 and NMMSS Report D-24 "Personal Computer Data Input for NRC Licensees." 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@nrc.gov. Each person subject to this requirement shall submit a report no later than March 31 of each year. The Commission may, when good cause is shown, permit a licensee to submit Material Balance Reports and Physical Inventory Listing Reports at other times. 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 notification of a discrepancy identified by 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 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 72 or 74 of this chapter. This statement must be submitted to the address specified in the reporting instructions in NUREG/BR-007, 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, downblending uranium that has an initial enrichment of the U²³⁵ 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 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 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 72 or 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 RidsNmssFcass@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 2008.

For the Nuclear Regulatory Commission.

Annette L. Vietti-Cook,
Secretary of the Commission.

**Regulatory Analysis for Rulemaking - Regulatory
Improvements to the Nuclear Materials Management
and Safeguards System**

December 2007

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

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Regulatory Analysis for Rulemaking - Regulatory Improvements to The Nuclear Materials Management and Safeguards System (RIN: 3150-AH85)

1. Statement of the Problem and Objective

1.0 Introduction

The U.S. Nuclear Regulatory Commission (NRC) is amending its regulations related to the reporting requirements for certain source material and special nuclear material (SNM) to the Nuclear Materials Management and Safeguards System (NMMSS). These amendments are needed to improve the accuracy of material inventory information maintained in the NMMSS.

The purpose of this regulatory analysis is to evaluate the costs and benefits associated with the rule. The rule would amend 10 CFR Parts 40, 72, 73, 74, and 150. This document presents background material, rulemaking objectives, rulemaking alternatives, and analysis results for each alternative in terms of constant 2007 dollars.

1.1 Background

The NMMSS is the national database used in the United States for NRC licensees, Agreement State licensees, and Department of Energy (DOE) contractors to report the possession of certain special nuclear material (SNM) and source material. NRC reporting requirements related to the NMMSS are primarily contained in 10 CFR Parts 40, 72, 74, 75, 76, and 150. Using licensee submittals, the NMMSS database serves two important functions: 1) meeting international reporting obligations, and 2), assisting in the oversight of licensee material control and accounting (MC&A) programs, required by 10 CFR Parts 40, 72, 74, 75, and 150. As a result of these reporting requirements, the NMMSS can provide the NRC staff with information on the quantities of reportable materials located, shipped, or received at a particular licensee site.

In October 2001, the DOE Office of the Inspector General (OIG) issued a report based on an audit of the NMMSS for DOE-owned nuclear materials.¹ One of the findings of that report was that DOE could not fully account for DOE-owned nuclear materials loaned or leased to licensees. A similar audit conducted by NRC's OIG also raised concerns over the accuracy of material inventories in the NMMSS.²

As a result of its audit, NRC took immediate steps to verify and reconcile inventories in the NMMSS database by issuing NRC Bulletin 2003-04: "Rebaselining of Data in the Nuclear Materials Management and Safeguards System." (Agencywide Documents Access and

¹ This report entitled "Accounting for Government Owned Nuclear Materials Provided to Non-Department Domestic Facilities" (October 26, 2001), is available at <http://www.ig.doe.gov/documents/calendaryear2001/ig-0529.pdf>.

² This report entitled "Audit of NRC's Regulatory Oversight of Special Nuclear Materials" (OIG-03-A-15, May 23, 2003), is available at <http://www.nrc.gov/reading-rm/doc-collections/insp-gen/2003/03-a-15.pdf>.

Management System (ADAMS) Accession Number ML0732760009). The bulletin was sent to all 1,337 NRC and Agreement State licensees then holding NMMSS accounts and requested that they provide inventory information to the NMMSS. Also, the NRC staff conducted site visits to review selected licensees' submitted information in comparison to actual physical inventories. The review concluded that licensees did not submit or update inventories to the NMMSS for several years (or decades) because they possessed or transferred materials that did not meet minimum reporting thresholds. These efforts also helped identify accounts with zero balances. The rebaselining efforts resulted in decreasing the number of active accounts and supported a further review and reconciliation of material inventories in the remaining accounts.

At the end of these efforts, NRC determined that enhanced reporting of inventory information by those licensees not presently required to do so, would provide greater assurance about the accuracy of licensee inventory information maintained in the database. To maintain the usefulness of the database for international and domestic regulatory needs, NRC believes that licensee inventories must be submitted regularly and reconciled in comparison to values maintained in the NMMSS database.

1.2 Objectives of the Rule

The objectives of the rulemaking are to improve the quality of information in the NMMSS database, reduce licensee burdens, provide for more timely reporting and reconciliation of the material inventory information maintained in the database, and enhance public confidence in NRC's ability to monitor small licensees' material holdings.

The Commission's rule is not intended to impose unnecessary regulatory burden beyond what is necessary and sufficient for ensuring the secure use and management of radioactive materials. This purpose is consistent with NRC's policy, as discussed in "U.S. Nuclear Regulatory Commission Strategic Plan, Fiscal Year 2005-2009," to assure that the nation's use of radioactive material is conducted in a manner that promotes common defense and security. The action is also consistent with NRC's goal that its actions be effective, efficient, realistic and timely. The action would meet NRC's effectiveness strategy by improving NRC regulations by adding needed requirements and eliminating unnecessary requirements.

2. Identification of Regulatory Alternatives

This regulatory analysis evaluates the values and impacts of two regulatory alternatives. The following subsections describe these two alternatives.

2.1 No Action Alternative: Alternative 1

The no action alternative retains the current regulations described above. If NRC does not take action, there would not be any changes in costs or benefit to the public, licensees or NRC. The no action alternative would not address identified concerns with NMMSS. However, this alternative provides a baseline condition from which the other alternative will be assessed.

2.2 Rule Alternative: Alternative 2 (preferred alternative)

Under the rule alternative, NRC would amend 10 CFR Parts 40, 72, 73, 74, and 150 related to the material reporting requirements in the NMMSS database. The amendments would lower the threshold of the quantities of special nuclear materials and certain source materials that require the submission of material status reports to the NMMSS. Also, the amendments would make some modifications to the types of and timing of submittals of transaction reports to the NMMSS. The amendments would also require licensees to reconcile any material inventory discrepancies identified by the NRC in the NMMSS database. The amendments would reduce some regulatory burden by reducing the current reporting requirements related to the export of certain source and special nuclear materials. However, the changes would result in new annual reporting requirements for licensees that possess less than 350 grams of SNM. These amendments are needed to improve the accuracy of material inventory information maintained in the NMMSS.

The next section describes the methodology used to analyze benefits and costs of implementing the rule.

3. Analysis of Values and Impacts

This section examines the values (benefits) and impacts (costs) expected to result from NRC's rule. The benefits and costs are analyzed for implementation of the rule under Alternative 2. Alternative 1 is described below as the "baseline" for the analysis.

Section 3.1 lists the affected attributes. Section 3.2 describes the methodology for calculating the values and impacts associated with each attribute. The analysis is done over a ten-year time period.

The results are shown in Section 4.0, in constant 2007 dollars. The results are presented for the one-time costs and the annual operating expense to implement the proposed rule. The implementation cost is the cost to NRC. The proposed rule changes are expected to result in savings (Benefit) in annual operational cost to both NRC and licensees. Total benefit of the rule over the 10-year implementation period is estimated using 7 percent and 3 percent real discount rates for savings over 10 years and subtracting the one-time implementation cost. The estimated total savings (Benefit) are \$1,192,119 and \$1,462,403 at 7 percent and 3 percent discount rate, respectively.

3.1 Identification of Affected Attributes

The attributes that the rule could affect were identified using the list of potential attributes provided in Chapter 5 of NUREG/BR-0184, "Regulatory Analysis Technical Evaluation Handbook," dated January 1997. Each attribute listed in Chapter 5 was evaluated. The affected attributes are: industry implementation, industry operation, NRC implementation, regulatory efficiency, and safeguards and security considerations.

- **Industry Implementation.** These are the one-time costs industry would incur, both capital and labor, to implement the rule. No cost is anticipated for those licensees who are subject to current reporting requirements. For the licensees who would be affected by lowering the reporting thresholds, there will be negligible costs because these licensees have participated in the "rebaselining project" and also are required to maintain inventory

records. The reporting of the maintained information would be a new requirement and these costs are estimated under “Industry Operation,” described below.

- **Industry Operation.** Under the rule, licensees that possess one gram or more of SNM or one kilogram or more of foreign obligated source material, would incur an increase in annual cost to implement the rule. The cost would be in making the annual report to the NMMSS and in reconciling any discrepancies identified by NRC in the NMMSS database. However, licensees who are under current reporting requirements (that possess more than 350 grams of SNM or 1000 kilograms of source material), NRC expects a net decrease in burden because of a reduction in the reporting requirements related to the export of SNM and source material.
- **NRC Implementation.** NRC will incur one-time costs to support development of guidance documentation.
- **NRC Operation.** Although the number of licensees required to make annual reports would increase from 180 to 380, the rule would result in a net decrease in the number of forms submitted to the NMMSS (Appendix A, NRC Costs). A decrease in the number of submitted forms would result in savings (Benefit) to NRC. No additional expense to NRC is anticipated since the inspection efforts would be included in the routine inspections.
- **Safeguards and Security Considerations.** NRC is required to collect nuclear material transaction information and make it available to the International Atomic Energy Agency (IAEA). The information maintained in the NMMSS enables NRC to submit the data to IAEA to fulfill its reporting responsibilities and to satisfy the terms of the US/IAEA Safeguards Agreement, and it also provides information for the domestic inspection program. More accurate data in NMMSS would support NRC in fulfilling its responsibilities for IAEA safeguards and in the protection of common defense and security.
- **Other Government.** The preferred alternative would not result in costs to Agreement State governments since no new rules need to be developed by the States. The Agreement States efforts will be limited to making their licensees aware of the amended regulations. This cost is insignificant and is not included in the analysis.
- **Regulatory Efficiency.** The rule would result in decreasing burden on the licensees by making changes to the requirements related to the export of certain materials. Also, the requirements of timely reports would result in more accurate data in the NMMSS.
- **Other Considerations.** Public confidence in NRC may be affected positively by the rule. The public may have more confidence in NRC’s program for secure use and management of radioactive materials.

The rule would not be expected to affect the following attributes:

- Public Health (Accident)
- Public Health (Routine)
- Occupational Health (Accident)
- Occupational Health (Routine)
- Offsite Property

- Onsite Property
- General Public
- Improvements in Knowledge
- Antitrust Considerations
- Environmental Considerations

3.2 Analytical Methodology

This section describes the process used to evaluate values and impacts associated with the affected attributes discussed above for Alternative 2 of implementing the rule. The *values* (benefits) include any desirable changes in affected attributes. The *impacts* (costs) include any undesirable changes in affected attributes, such as increased costs for different segments of industry to conduct their business in accordance with new regulations. The following attributes have quantifiable values and impacts associated with implementing the rule:

- Industry Implementation
- Industry Operation
- NRC Implementation
- NRC Operation

Costs are calculated for Alternative 2 to implement the rule. These calculations require input assumptions for the following:

- Number of existing licensees that may be affected by the rule;
- Industry costs for recordkeeping and reporting to comply with new regulations;
- NRC's costs for review of submitted forms to NMMSS

NRC obtained the input assumptions for this analysis from the following sources: NMMSS users, NRC Workgroups and NRC Staff experience; NRC reports and documents (e.g., OMB burden statements); and independent research. The number of affected entities for this rule was estimated using NRC information on existing licensees, NRC staff best professional judgment, and consultation with the NMMSS operator/contractor.

3.2.1 General Assumptions

The general input assumptions for the analysis are discussed below.

NRC wage rate: \$93.00/hour. This is NRC's incremental labor rate, which includes only the variable costs associated with implementation and operation costs of the rule; this labor rate is consistent with Section 5.2 of NUREG/CR-4627, Generic Cost Estimates Revision 1 & 2, January 1992.

Industry wage rate: \$93.00/hour.

The time period for the analysis is 10 years. We estimate implementation costs and an increase in annual operating expense to support implementation of the rule. The values for annual

operating expense are identical for each of the 10 years in the analysis, and are based primarily on labor hours contained in current OMB submission statements for the affected regulations. The annuity formula used to discount the annual expense values is on page B.3 of the "Regulatory Analysis Technical Evaluation Handbook, Final Report," NUREG/BR-0184, January 1997.

3.2.2 Specific Assumptions for Alternative 1

Under the No-Action alternative (Alternative 1), NRC would maintain the current reporting requirements for the NMMSS. Thus, relative to existing requirements, no values or impacts would result from Alternative 1. The costs (impacts) and benefits (values) to be derived from Alternative 2 would not be realized.

3.2.3 Specific Assumptions for Alternative 2

The specific assumptions are shown below for Alternative 2, the rule change for each affected Part. Appendix A shows the line item assumptions for the implementation and annual operating expense for Alternative 2. The change to 10 CFR Part 73 is to correct a reference and as such has no impact. Therefore it is not included in the cost analysis.

10 CFR Part 40, Domestic Licensing of Source Material

We assume there are 130 existing licensees under 10 CFR Part 40 reporting requirements. The number of licensees affected by rule text change in section 40.64(a) and 40.64(b) are identified in Appendix A.

10 CFR Part 72, Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High Level Waste, and Reactor Related Greater than Class C waste

We assume there are four licensees under current 10 CFR Part 72 reporting requirements.

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

We assume there are 230 licensees subject to reporting under Part 74. The number of licensees affected by section 74.13(a), 74.15(a), and 74.15(c) is given in Appendix A.

10 CFR Part 150, Exemptions and Continued Regulatory Authority in Agreement States and in Offshore Waters Under Section 274

We assume there are 150 licensees subject to reporting under 10 CFR Part 150. The number of licensees affected by section 150.16(a)(1), 150.16(a)(2), 150.17(a), 150.17(b)(1), and 150.17(b)(2) is given in Appendix A.

3.3 Analysis of Impacts

NRC Implementation. The NRC staff estimates that 0.5 FTE (Appendix A) will be needed to revise the Guides, NUREG/BR-0006 and NUREG/ BR-0007. Assuming a labor rate of \$93 per

staff-hour, the associated cost to NRC is \$67,890 (based on 1,460 hours/FTE). These are assumed to occur in a single year.

NRC Operations

It is estimated that the collection of information requires an average of 5 minutes/form of NRC staff time. In the regulations, there will be an estimated decrease of 1200 submissions of Form 741(transaction reports), an increase of 200 submittals of Form 742 (material balance reports) and an increase of about 200 submittals of Form 742C (physical inventory listing). These changes would result in a net decrease of 800 forms per year and a saving of (800x5=4000 minutes or approximately 67 hours). At the NRC's current labor cost of \$93 per staff hour, the annual saving will be \$6,231.00 (Appendix A) and will be considered in 10 year analysis. Other costs are attributed to operating the Nuclear Materials Management and Safeguards System (NMMSS).³ Since the total number of submittals are expected to decrease, no added cost is anticipated for operating the NMMSS.

4.0 Results

This section presents results of values and impacts that are expected to be derived from the rule. The results are shown for each affected part in Title 10 of the Code of Federal Regulations and by the following four attributes as discussed in section 3.2:

- Industry Implementation
- Industry Operation
- NRC Implementation
- NRC Operation

The rule is expected to provide values in other attributes, such as Safeguards and Security Considerations, Regulatory Efficiency, and Other Considerations, but these values are not quantified because there is no verifiable input available at this time to support input assumptions. As a result, the quantifiable results in this analysis are entirely on the impacts (i.e., costs) expected from implementation of the rule to enhance regulatory improvements to NMMSS. The costs are presented in constant 2007 dollars, for both implementation and annual operating expense. The impact of the rule over a 10-year analysis period is estimated using 7 percent and 3 percent real discount rates to show an overall effect in terms of constant 2007 dollars.

³ NRC and DOE share the cost of operating the Nuclear Materials Management and Safeguards System (NMMSS). Current NRC cost of the system for FY07 is \$1,850,000. This cost is attributable to nuclear materials transaction and accounting report forms. This includes the cost of ADP, record holding, and clerical processing of all forms (DOE/NRC Forms 741, 740M, 742, and 742C). The NRC cost to operate the system would be incurred regardless of the selection of Alternative 1 or Alternative 2 in this rule. As a result, the cost to operate the system is not included in this regulatory analysis.

4.1 Summary of Results

Table 4-1 presents the net impact of the rule for both alternatives, at 7 percent and 3 percent real discount rates, including all benefits and costs, over the 10-year analysis period.

Table 4-1: Net Impact (Benefit) of Alternatives 1 and 2

Regulatory Alternative	10-Year Total 7% discount rate (2007\$)	10-Year Total 3% discount rate (2007\$)
1. No-Action (Alternative 1)	0	0
2. Amendments to Parts 40, 72, 74 and 150 (Alternative 2)	1,192,119	1,462,403

Table 4-2 provides the estimated costs, by attribute, over the 10-year analysis period. There are no Industry Implementation costs expected as a result of the rulemaking. NRC implementation costs are all one-time expenses, in 2007 dollars, and are thus not discounted. The operating attribute categories have annual expenses, so the discounted expenses are different under 7 percent and 3 percent discount rates. Costs are shown in parentheses; benefits are shown as positive numbers with no parentheses.

Table 4-2. Values and Impacts by Attribute

Attribute	Alternative 2 10-Year Total Cost (2007\$)	
	7 percent discount	3 percent discount
Industry Implementation	0.00	0.00
Industry Operation	1,216,246	1,477,141
NRC Implementation	(67,890)	(67,890)
NRC Operation	43,763	53,152
Total	1,192,119	1,462,403

The Industry Operation attribute represents the additional annual operating expense projected to be incurred by the affected licensees as required by the regulations in the rule. Although there will be a net saving for the industry, there will be an additional cost to licensees that possess 350 grams or less of SNM (Appendix A).

The NRC Operation attribute represents a benefit to NRC from the rule change. A saving in operational cost to NRC is expected from the rule change because of a decrease in total number of forms required to be submitted to NMMSS.

Table 4-3 shows the results for estimated implementation costs and annual operating expense to comply with the rule, grouped by affected 10 CFR Parts. A reduction in cost (i.e. benefit) is shown as a positive number. Cost is shown in parentheses. The present value of the annual operating cost over 10 years is \$1,260,009 at 7 percent annual discount value and \$1,530,293 at 3 percent annual discount value. The estimated total savings are reduced by the one-time NRC implementation cost.

Table 4-3. Summary of One-Time Costs and Annual Labor Expenses

10 CFR Part	Alternative 2	
	One-time Cost (\$)	Annual Cost (\$)
40	0	51,615
72	0	0
74	0	151,125
150	0	(29,574)
NRC Operation	0	6,231
NRC Implementation	(67,890)	0
Total	(67,890)	179,397

5. Decision Rationale

Based on the assessment of costs and benefits discussed above, quantitatively when possible and qualitatively otherwise, the NRC staff recommends proceeding with the rulemaking. The revisions are needed to improve the inventory information maintained in the NMMSS. The rule would reduce licensee burden and provide for more timely reporting and reconciliation of the material inventory information maintained in the database.

The rule is consistent with NRC's strategic objective and performance goals. The rule will continue to promote common defense and security and decrease unnecessary regulatory burden on the licensees.

6. Implementation

The final rule will be published in the *Federal Register* and will become effective January 1, 2009. No impediments to the implementation of the recommended alternative have been identified.

7. Effect on Small Entities

The rule will affect about 180 licensees who are currently required to file reports and approximately 200 additional NRC and Agreement State licensees. Affected licensees include enrichment facilities, fuel fabricators, laboratories, reactors, universities, colleges, medical clinics, and hospitals, some of which may qualify as small business entities as defined by 10 CFR 2.810. However, this rule would not, if promulgated, have a significant economic impact on a substantial number of small entities. The total time required by small licensees (possessing 350 grams or less of SNM) to complete each inventory and material balance report is estimated to be one hour, and one hour to resolve inventory discrepancies. No research or compilation is necessary because all information is transcribed from in-house records kept for other purposes. Costs of the proposed amendments for licensees possessing 350 grams or less of SNM are estimated to be \$186 per licensee.

Based on the analysis provided in Section 3 of this Regulatory Analysis, NRC believes that the selected alternative is protective of common defense and security and is not overly burdensome in order to accomplish NRC's regulatory objective.

APPENDIX A

This appendix provides details of the line-by-line input and results for Alternative 2, the rulemaking. The following pages show input and results for 10 CFR Parts 40, 72, 73, 74, 150, and NRC Costs.

10 CFR Part 40 Alternative 2

Section #	Total Number of Licensees	Total number of affected licensees	hours of labor per licensee	Total number of hours all licensees	Total Annual saving (benefit)	Net Annual saving (benefit)
40.64(a)	130	130	-3.5	-455	\$ 42,315	\$51,615
40.64(b)	130	20	-5	-100	\$9,300	

Notes:

1. There are 130 licensees subject to reporting requirements under Part 40.
2. Rule change would result in a decrease in licensee labor-hours because the licensees that export SNM or source material would be required to file only one report, instead of two reports that are required under current requirements.
3. Negative hours represent hours of labor saved by the proposed rule change. Cost is shown in parenthesis; saving(benefit) is shown as a positive number.

Amendments to the pertinent sections are:

Section 40.64(a) Adds a requirement for licensees who utilize one kilogram or more of source material in enrichment services, downblending uranium that has an initial enrichment of the U²³⁵ isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels, to complete and submit a Nuclear Material Transaction Report; and requires licensees who export source material to complete only the licensee portion of the transaction report unless there is an indication of loss, theft, or diversion of the source material, in which case both the licensee's and the foreign facility's information on the form would have to be reported.

Section 40.64(b) Requires licensees who possess one kilogram of foreign obligated source material to report inventory of source material; requires each licensee who possesses one kilogram or more of uranium or thorium source material in the operation of enrichment services, downblending uranium that has an initial enrichment of the U²³⁵ isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels, to complete and submit, in computer-readable format, Material Balance and Physical Inventory Listing Reports concerning all source material (both foreign obligated and non-obligated) that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost in the previous reporting period;

requires these licensees to resolve any inventory discrepancies identified by the NRC and requires inventory reporting not only in the (RIS) account but also in all associated holding accounts.

10 CFR Part 72
Alternative 2

Section #	Total No. Of Licensees	Total number of affected licensees	hours of labor per licensee	Total number of hours per licensee	Total Annual Cost
72.72(a)	4	4	0		0
72.76(a)	4	4	0		0
72.78(a)	4	4	0		0

Notes: The reporting is covered under section 40.64 requirements. These licensees create and submit these reports now with no additional requirements in the rule. Rule change would formalize the licensees reporting actions by creating a link to 10 CFR Part 40.

Amendments to the pertinent sections are:

Section 72.72(a) Requires licensees to keep records showing the receipt, inventory, disposal, acquisition, and transfer of source material in quantities as specified in section 40.64.

Section 72.76(a) Requires reports on source material as specified in section 40.64; and requires licensees to resolve any discrepancies identified during the report review and reconciliation process.

Section 72.78(a) Adds a reporting requirement when a licensee adjusts the inventory of SNM as specified by section 74.15 or source material as specified by section 40.64

10 CFR Part 73
Alternative 2

There is no cost associated with the minor conforming change to section 73.67(g)(2)(ii).

10 CFR Part 74
Alternative 2

Section #	Total No. of Licensees	Total number of affected licensees	hours of labor per licensee	Total number of hours all licensees	Total Annual Cost	Net Annual saving
74.13(a)	230	50	2	100	(\$9,300)	\$151,125
74.15(a)	230	0	2	0	0	
74.15(c)	230	230	-7.5	-1725	\$160,425	

Notes:

1. There are approximately 180 licensees subject to current reporting requirements under Part 74.
2. An additional 200 licensees would be required to report due to rule change which lowers the reporting threshold from 350 grams of SNM to 1 gram. It is estimated that approximately 50 of these licensees are NRC licensees subject to this Part and 150 licensees are Agreement State licenses (subject to Part 150 requirements).
3. Cost is shown by parenthesis; saving(benefit) is shown as a positive number. A decrease in labor-hours is shown by negative numbers.

Amendments to the pertinent sections are:

- Section 74.13(a) Requires licensees possessing one gram or more of SNM in the inventory reporting period to make annual reports; requires inventory reporting to include not only the primary Reporting Identification Symbol (RIS) account but SNM in any associated holding accounts; and requires licensees to resolve any discrepancies identified during the report review and reconciliation process.
- Section 74.15(a) Adds a reporting requirement for the licensees to submit a nuclear material transaction report when the inventory of SNM is adjusted in a quantity of one gram or more.
- Section 74.15(c) Requires licensees who export one gram or more of SNM to complete only the supplier's portion of the form unless a significant shipper-receiver difference as described in sections 74.31, 74.43, or 74.59 is identified.

10 CFR Part 150
Alternative 2

Section #	Total number of affected licensees	hours of labor per licensee	Total number of hours for all licensees	Total Annual Cost	Net annual cost
150.16(a)(1)	15	1.25	19	(\$1,767)	(\$29,574)
150.16(a)(2)	4	-1.25	-5	\$465	
150.17(a)	150	2.0	300	(\$27,900)	
150.17(b)(1)	2	2	4	(\$372)	
150.17(b)(2)	0	0	0	0	

Notes:

1. There are approximately 150 Agreement State licensees subject to Part 150 reporting requirements.
2. Cost is shown by parenthesis; saving(benefit) is shown as a positive number. A decrease in labor-hours is shown by negative numbers.
3. The rulechange would result in net annual cost to Agreement State licensees.

Amendments to the pertinent sections are:

Section 150.16(a)(1) Adds a reporting requirement for the licensees to submit a nuclear material transaction report when the inventory of SNM is adjusted in a quantity of one gram or more. And for exporting SNM, requires completion of only the licensee's portion of the form unless a significant shipper-receiver difference as described in sections 74.31, 74.43, or 74.59 is identified.

Section 150.16(a)(2) Requires that a licensee who utilizes any uranium or thorium source material, regardless of obligation, in a quantity of one kilogram or more, in enrichment services, downblending uranium that has an initial enrichment of the U²³⁵ isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels, submit source material transaction reports, annually; and requires licensees to file only the licensee's portion of the form when exporting one kilogram or more of source material unless there is an indication of theft or diversion as described in section 40.64(c) of this chapter, in which case both receiver and shipper portion of the form must be completed.

- Section 150.17(a) Requires each licensee who is in possession of, or had possessed in the previous reporting period, SNM in a quantity of one gram or more, to submit an annual report concerning SNM that the licensee has received, produced, possessed, transferred, consumed, disposed of, or lost. Also requires licensees to resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of the discrepancy.
- Section 150.17(b)(1) Requires annual inventory reporting for a licensee who possesses one kilogram or more of foreign obligated source material.
- Section 150.17(b)(2) Requires reporting by a licensee who utilizes one kilogram or more of any source material in enrichment services, in downblending material initially enriched in U²³⁵ isotope to 10 percent or more, or in mixed-oxide fuel fabrication to submit material balance and physical inventory listing reports concerning source material that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost; and requires licensees to resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of the discrepancy.

NRC Costs

Implementation Costs

Guidance development (0.5 FTE, 1460 hours/FTE=1460 hours)	730 hours
assumed wage rate	\$93 per hour
labor expense	\$67,890
other direct cost	\$0.00
Total one-time implementation cost	\$67,890

Operations Costs

Net Decrease in Form 741 Submittals (due to reduction in export forms)	-1200 Forms per year
Net Increase in Form 742 Submittals (due to lowering the SNM reporting threshold)	200 forms per year
Net Increase in Form 742c Submittals (due to lowering the SNM reporting threshold)	200 Forms per year
Total decrease of Submittals	-800 forms per year
Staff time saved (5 minutes per form review)	-67 hours per year
staff wage	\$93 per hour
Annual saving (87x67)	\$6,231