

## RULEMAKING ISSUE NOTATION VOTE

January 3, 2007

SECY-07-0001

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FOR: The Commissioners

FROM: Luis A. Reyes  
Executive Director for Operations

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

PURPOSE:

To request Commission approval to publish a proposed rule, in the *Federal Register*, for public comment. This proposed rule includes amendments to Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 40, 72, 74, and 150, regarding reporting requirements for source material and special nuclear material (SNM) to the Nuclear Materials Management and Safeguards System (NMMSS). This paper does not address any new commitments.

SUMMARY:

The proposed amendments would 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 proposed amendments would make 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 that the U.S. Nuclear Regulatory Commission (NRC) identifies in the NMMSS database. The proposed amendments would reduce regulatory burden by reducing the current reporting requirements related to the export of certain source material and SNM.

CONTACTS: Neelam Bhalla, FSME/DILR  
(301) 415-6843

Larry Harris, NSIR/SRB  
(301) 415-5072

However, the proposed 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.

#### BACKGROUND:

The NMMSS is the national database used in the United States by NRC licensees, Agreement State licensees, and U.S. Department of Energy (DOE) contractors, to report the possession of certain SNM and source material. The background information on the NMMSS was provided to the Commission in SECY-02-0093, dated May 31, 2002, entitled, "Staff Plans for Assisting the Department of Energy to Resolve Discrepancies with Inventories of Government-Owned Nuclear Material at Licensee Sites." The NRC reporting requirements related to the NMMSS are primarily contained in 10 CFR Parts 40, 72, 74, 75, 76, and 150.

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.<sup>1</sup> 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.<sup>2</sup> 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. The staff has provided numerous updates to the NRC OIG and the NMMSS related actions from the associated OIG report are closed.

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." The bulletin was sent to all 1337 NRC and Agreement State licensees then holding NMMSS accounts and requested them to provide inventory information to the NMMSS. The staff provided the summary of the results of this effort, in SECY-05-0008, dated January 6, 2005, entitled "Results of the Nuclear Materials Management and Safeguards System Database Rebaselining Activities."

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 provided the Commission with recommendations for possible improvements to the regulations related to SNM and source material reporting to the NMMSS, in SECY-05-0078, entitled "Staff Recommendations for Regulatory Improvements to the Nuclear Materials Management and Safeguards System Database."

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<sup>1</sup> 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/pdf/ig-0529.pdf>.

<sup>2</sup> 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>.

In a Staff Requirements Memorandum dated June 30, 2005, the Commission approved the development of a proposed rule, in lieu of a rulemaking plan, to amend the reporting requirements to improve the information maintained in the NMMSS.

#### DISCUSSION:

The attached *Federal Register* notice (Enclosure 1) presents a proposed rule that addresses the items noted above.

The following sections summarize the significant proposed changes to the regulations in 10 CFR Parts 40, 72, 74, and 150.

#### A. SNM Transaction Reports

Currently, licensees are required by 10 CFR 74.15(a), to report to the NMMSS whenever they transfer or receive 1 gram or more of SNM. The proposed revision would add a requirement that licensees must also report to the NMMSS whenever they make an on-site adjustment to the SNM inventory involving a quantity of 1 gram or more of SNM. The inventory adjustments may be caused by decay or normal operational losses. As explained in SECY-05-0078, the staff believes the domestic material control and accountability (MC&A) safeguards would be enhanced by this change. The inspection staff would be aware of possible inventory anomalies sooner and NMMSS-generated inventories would more accurately reflect actual facility inventory values between reconciliation periods. Thus, required reporting of these adjustments as they are generated would improve the accuracy of the NMMSS book values.

Current regulations in 10 CFR 72.78, 74.15, and 150.16(a) 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 10 CFR 40.64(a), transaction reports are required to be submitted by the close of business the next working day, for the transfer of source material, and within 10 business days of receipt, for the receipt of source material. Therefore, for consistency and clarity, conforming changes would be made to 10 CFR 72.78, 74.15, and 150.16(a), specifying that material transfer reports be submitted by the close of business the next working day for the transfer of SNM, and within 10 business days of receipt for the receipt of SNM.

A revision would also be made to the titles of 10 CFR 72.78, 74.15 and 150.16. Currently, sections 72.78 and 74.15 are entitled, "Nuclear material transfer reports." Section 150.16 is entitled, "Submission to Commission of nuclear material transfer reports." The amended titles of sections 72.78 and 74.15 would be "Nuclear material transaction reports." Section 150.16 would be entitled, "Submission to Commission of nuclear material transaction reports." The amended titles would correctly reflect the requirements contained in these sections for both receipt and transfer of nuclear material, and would be consistent with the name of the submission report.

## B. SNM Status Reports

Currently, 10 CFR 74.13(a) requires licensees to report annual SNM inventories to the NMMSS only if they are authorized to possess more than 350 grams of SNM. The proposed amendment would lower 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 proposed amendment would result in new reporting requirements for licensees that possess 350 grams or less of SNM. As discussed in SECY-05-0078, a review of the rebaselining efforts concluded that many 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 the minimum reporting thresholds. By lowering the reporting threshold from 350 grams to 1 gram, the staff believes the information maintained in the NMMSS database would be more current and reliable for international and domestic regulatory needs. 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. This approach was rejected because this 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, that the 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 international entities with whom the U.S. has treaty agreements in place. Also, the licensee community would have potentially 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 we have treaties) recognize one gram as the basic measuring unit for SNM; (2) one gram is a threshold value accepted by DOE and would meet their reporting expectations for licensees possessing government-owned material; (3) a one gram threshold would address the NRC OIG concern about ensuring we have 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.

## C. Source Material Transaction Reports

Currently, 10 CFR 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 1 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 1 kilogram or more of any source material, regardless of obligation. The proposed revision would amend the rule to also require reporting when a licensee uses 1 kilogram or more of source material in enrichment services, downblend material initially enriched in the uranium-235 (U-235) isotope to 10 percent or more, or conducts mixed-oxide fuel fabrication, regardless of obligation. As discussed in SECY-05-0078 (Supplemental Information), the 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, mixed-oxide (MOX) fuel fabrication, and uranium enrichment cycle. This amendment to NMMSS reporting would 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 improve the accuracy of the information contained in the NMMSS.

#### D. Source Material Status Reports

Currently, 10 CFR 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 proposed revision would require an annual report if the licensee possesses 1 kilogram or more of foreign obligated source material. The proposed revision would also require licensees that use 1 kilogram or more of any source material in enrichment services, downblend material initially enriched in the isotope U-235 to 10 percent or more, or mixed-oxide fuel fabrication, to report annual source material inventory. As discussed in SECY-05-0078, a review of the rebaselining efforts 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, the staff believes the information maintained in the NMMSS database would be more current and reliable.

#### E. Reconciliation of Submitted Inventories

Facilities that presently report inventory and material balance information also voluntarily participate in a periodic reconciliation process, with NMMSS, to address any differences between NMMSS-generated inventory values and the facility-reported inventory values. Although the regulations do not explicitly require the reconciliation process, it is an integral part of routine NMMSS operations. To address this issue, the proposed amendments would 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. Also, in the proposed amendments a new definition of "reconciliation," would be added, to describe the process by which the NRC evaluates and compares reports to NMMSS' projected material balances.

#### F. Reporting Identification Symbol and Holding Accounts

NRC currently assigns a reporting 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 report inventory information pertaining to the holding accounts to NMMSS. The proposed revision would require licensees to report inventories not only in their primary RIS accounts but also inventories in the associated holding accounts. The staff believes that MC&A safeguards would be enhanced by this change because of the increase in accuracy and availability of inventory information in the NMMSS.

#### G. Reduction in 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 will be eliminated, to reduce licensee burden, without adverse effects on safety or security. This change would be reflected in the revised NUREG BR/0006 and in the proposed amendments to 10 CFR 40.64, 74.15, and 150.16.

#### H. Affected Licensees

Currently, licensees possessing more than 350 grams of SNM report inventory and material balance information annually to the NMMSS. The lowering of the reporting thresholds to 1 gram of SNM and 1 kilogram of foreign obligated source material would affect approximately 200 additional NRC and Agreement State licensees that presently possess between 1 and 350 grams of SNM.

New requirements associated with source material reporting would also apply to licensees that perform uranium enrichment services, downblend material initially enriched in the U-235 isotope to 10 percent or more, and mixed-oxide fuel fabrication. However, the actual impact on these licensees would 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 the export of SNM and source material would result in a process efficiency for 17 NRC and Agreement licensees who export such materials. This would result in a reduction of about 1700 reports per year, from the current number of 3400 reports per year, to the NMMSS, without impacting the quality of information maintained in the NMMSS database.

#### I. Outcome of This Proposed Rule: Advancing NRC's Strategic Goals

The proposed rule is consistent with the NRC's strategic objective and performance goals. The proposed 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. Additionally, these amendments would help to ensure that NRC actions are effective, efficient, realistic, and timely. Better data collection would improve the effectiveness and efficiency of NRC's actions through the addition of certain new provisions and the elimination of certain requirements found to be no longer necessary. The rulemaking will be conducted in an open process. The proposed rule will be 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 has also published an article on the proposed rule in the September 2006 NMSS Quarterly Newsletter.

#### J. Agreement State Issues

The staff presented the results of the rebaselining project and NRC's plans to amend the requirements related to the NMMSS, at the 2005 Annual Meeting of the Organization of the Agreement States. Additionally, the draft proposed rule was provided to the Agreement States for preliminary review. A copy of the draft proposed rule was posted on NRC's Technical Conference Forum so the Agreement States could have an early opportunity for review. None of the Agreement States have provided any comments on the draft proposed rule.

The staff has analyzed the proposed rule in accordance with the procedures established within Part III of Handbook 5.9 to Management Directive 5.9, "Categorization Process for NRC Program Elements." The 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.

RECOMMENDATIONS:

That the Commission:

1. Approve for publication, in the *Federal Register*, the proposed amendments to Parts 40, 72, 74, and 150 of 10 CFR (Enclosure 1).
2. Note:
  - a. That the proposed amendments will be published in the *Federal Register*, allowing 75 days for public comment.
  - b. That 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).
  - c. That a draft Regulatory Analysis has been prepared for this rulemaking (Enclosure 2).
  - d. That appropriate Congressional committees will be informed of this action.
  - e. That a press release will be issued by the Office of Public Affairs when the proposed rulemaking is filed with the Office of the Federal Register.
  - f. Office of Management and Budget (OMB) review is required and a clearance package will be forwarded to OMB no later than the date the proposed rule is submitted to the Office of the Federal Register, for publication.
  - g. Regulatory Guides NUREG BR/0006 and NUREG BR/0007 are being revised for consistency with these proposed amendments and will be published for public comments at approximately the same time the proposed rule will be published for public comments.

RESOURCES:

The Commissioners

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To complete the rulemaking, 2.0 full-time equivalent positions (FTEs) (1.5 FTEs in fiscal year 2007 and 0.5 FTE in FY 2008) will be required. These resources are included in the FY 2007 and FY 2008 budget requests.

COORDINATION:

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

***/RA Jacqueline E. Silber Acting For/***

Luis A. Reyes  
Executive Director  
for Operations

Enclosures:

1. *Federal Register* Notice
2. Draft Regulatory Analysis

NUCLEAR REGULATORY COMMISSION

10 CFR Parts 40, 72, 74, and 150

RIN: 3150-AH85

Regulatory Improvements to the Nuclear Materials Management and Safeguards System

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Proposed rule.

**SUMMARY:** The Nuclear Regulatory Commission (NRC) is proposing to amend 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 proposed amendments would 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 proposed 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 that NRC identifies in the NMMSS database. The proposed amendments would 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 would be 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:** Submit comments on the rule by **(INSERT DATE 75 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER)**. Submit comments specific to the information collections aspects of this rule by **(INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER)**. Comments received after this date will be considered if it is practical to do so, but the NRC is able to assure consideration only for comments received on or before this date.

**ADDRESSES:** You may submit comments by any one of the following methods. Please include the following number RIN 3150-AH85 in the subject line of your comments. Comments on rulemakings submitted in writing or in electronic form will be made available for public inspection. Because your comments will not be edited to remove any identifying or contact information, the NRC cautions you against including personal information such as social security numbers and birth dates in your submission.

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

E-mail comments to: [SECY@nrc.gov](mailto:SECY@nrc.gov). If you do not receive a reply e-mail confirming that we have received your comments, contact us directly at (301) 415-1966. You may also submit comments via NRC's rulemaking web site at <http://ruleforum.llnl.gov>. Address questions about our rulemaking website to Carol Gallagher (301) 415-5905; email [cag@nrc.gov](mailto:cag@nrc.gov).

Comments can also be submitted via the Federal eRulemaking Portal <http://www.regulations.gov>.

Hand deliver comments to: 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 am and 4:15 pm Federal workdays. (Telephone (301) 415-1966).

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

Publicly available documents related to this rulemaking may be viewed electronically on

the public computers located at the NRC's Public Document Room (PDR), O1 F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The PDR reproduction contractor will copy documents for a fee. Selected documents, including comments, may be viewed and downloaded electronically via the NRC rulemaking web site at <http://ruleforum.llnl.gov>.

Publicly available documents created or received at the NRC after November 1, 1999, are available electronically at NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. From this site, the public can gain entry into NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737 or by email to [pdr@nrc.gov](mailto:pdr@nrc.gov).

You may submit comments on the information collections by the methods indicated in the Paperwork Reduction Act Statement.

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](mailto:nxb@nrc.gov).

## **SUPPLEMENTARY INFORMATION:**

I. Background

II. Discussion

- A. Special Nuclear Material Transfer Reports
  - B. Special Nuclear Material Status Reports
  - C. Source Material Transfer Reports
  - D. Source Material Status Reports
  - E. Reconciliation of Submitted Inventories
  - F. Reporting Identification Symbol and Holding Accounts
  - G. Reduction in Reporting Requirements for Export of Material Shipments
  - H. Who Would This Action Affect?
  - I. How Would the Information be Reported?
- III. Summary of Proposed Amendments by Section
  - IV. Criminal Penalties
  - V. Agreement State Compatibility
  - VI. Plain Language
  - VII. Voluntary Consensus Standards
  - VIII. Environmental Impact: Categorical Exclusion
  - IX. Paperwork Reduction Act Statement
  - X. Public Protection Notification
  - XI. Regulatory Analysis
  - XII. Regulatory Flexibility Certification
  - XIII. Backfit Analysis

## I. Background

The NMMSS is the national database used in the United States by 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, 76, 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 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, 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.<sup>1</sup> 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.<sup>2</sup> In the report, the NRC OIG recommended that the scope of licensee reporting should 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

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<sup>1</sup> 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/pdf/ig-0529.pdf>.

<sup>2</sup> 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>.

Nuclear Materials Management and Safeguards System." The bulletin was sent to all NRC and Agreement State licensees then holding NMMSS accounts and requested them to 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.

## 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 proposed amendments would 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, would be to modify reporting requirements in § 40.64 to require licensees involved in enrichment services, downblending material initially enriched in U<sup>235</sup> 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 would 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, MOX fuel fabrication, and uranium enrichment cycle. This type of facility reporting would 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. Further, this will allow for more accuracy in the NMMSS database.

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

#### A. Special Nuclear Material Transaction Reports

Currently, licensees are required by 10 CFR 74.15(a) to report to the NMMSS whenever they transfer or receive one gram or more of SNM. The proposed revision would add a requirement that licensees 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. Domestic MC&A safeguards would be enhanced by this change because the NRC inspection staff would be aware of possible inventory anomalies sooner and NMMSS generated inventories would more accurately reflect actual facility inventory values between reconciliation periods. Thus, required reporting of these adjustments as they are generated would improve the accuracy of the NMMSS database.

Additionally, 10 CFR 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 business days of receipt, for the receipt of source material. Therefore, for consistency with those provisions, §§ 72.78 and 74.15 would be 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 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, Part 150 would be 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 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 would be unambiguous.

A revision would also be made to the titles 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 titles of §§ 72.78 and 74.15 would be “Nuclear material transaction reports.” § 150.16 would be entitled “Submission to Commission of nuclear material transaction reports.” The amended titles would correctly reflect the requirements contained in these sections for both receipt and transfer of nuclear material, and would be consistent with the name of the submission 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 proposed amendment would 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 would

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. This approach was rejected because this 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, 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 international entities with whom the U.S. has treaty agreements in place. Also, the licensee community would have potentially 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 we have treaties) recognize one gram as the basic measuring unit for SNM; (2) one gram is a threshold value accepted by DOE and would meet their reporting expectations for licensees possessing government-owned material; (3) a one gram threshold would address the NRC OIG concern about ensuring we have 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), 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 10 CFR 74.19(c), are different and more encompassing than those associated with preparing and submitting a material status report required in 10 CFR 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 would be 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 proposed rule would require the submission of material balance reports no later than March 31 of each year. The NRC finds that this schedule would eliminate any reporting problems related to inconsistencies in reporting quantities that would persist between §§ 74.13 and 74.19, but maintains 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 proposed revision would amend the rule to require reporting when a licensee utilizes one kilogram or more of

source material in enrichment services, downblend material initially enriched in the U<sup>235</sup> isotope to 10 percent or more, or mixed-oxide 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, mixed-oxide (MOX) fuel fabrication, and uranium enrichment cycle. This amendment to NMMSS reporting would 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 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 proposed revision would lower this value to one kilogram or more of foreign obligated source material. A lowered reporting threshold would provide the NRC with better knowledge of the location and presence of foreign obligated source material possessed by the licensees. The proposed revision would also require the licensees to report annual source material inventory when a licensee utilizes one kilogram or more of any source material in enrichment services, downblend material initially enriched in the U<sup>235</sup> isotope to 10 percent or more, or mixed-oxide 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 material, the staff believes the information maintained in the NMMSS database would be more current and reliable.

#### E. Reconciliation of Submitted Inventories

Facilities that presently report inventory and material balance information also voluntarily participate in a periodic reconciliation process with the NMMSS to address any differences between NMMSS generated inventory values and the facility reported inventory values. Although, the reconciliation process is not explicitly required by regulations, it is an integral part of routine NMMSS operations. To address this issue, the proposed amendments to §§ 40.64(b), 72.76(a), 74.13(a), 150.17(a) and 150.17(b) would 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 proposed amendments to §§ 40.4, 72.3, 74.4 and 150.3, a new definition, “reconciliation,” would be 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 would help in maintaining the accuracy of information in the NMMSS database.

#### F. Reporting Identification Symbol (RIS) and Holding Accounts

NRC currently assigns a reporting account number called Reporting Identification Symbol (RIS) to each licensee to submit information to the NMMSS. The proposed revisions to §§ 40.64(b) and 74.13(a) would 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 some licensees to

identify the material that the licensee was not actively using. Currently, licensees are not required to acknowledge shipments and receipts, or report inventory information pertaining to the holding accounts to the NMMSS. MC&A safeguards would be enhanced by this change 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 is not necessary to meet international reporting requirements. Consequently, this requirement can be eliminated to reduce burden without adverse effects on safety or security. This change would be reflected in the revised NUREG/BR-0006 and in the proposed amendments to §§ 40.64, 74.15 and 150.16.

In the proposed amendment, licensees would be required to file only the shipper's information form unless 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 quantity for additional reporting. This proposed change to the reporting requirement would reduce the licensees 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 would 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 would also apply to licensees that perform uranium enrichment services, downblend material initially enriched in the  $U^{235}$  isotope to 10 percent or more, and mixed-oxide fuel fabrication. However, the actual impact on these licensees would 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 would impact approximately 17 NRC and Agreement State licensees that export such materials. This change to the current reporting requirements as specified in NUREG/BR-0006 would result in a reduction of about 1,700 reports per year, from the current number of 3400 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 proposed § 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 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. 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 Proposed Amendments by Section

#### Section 40.4 Definitions.

Section 40.4 would be amended to add a definition of “reconciliation.” Reconciliation would be defined to mean the process by which licensee inventory submittals are compared to values projected by the NMMSS, and that 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) would be 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 U<sup>235</sup> isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels, complete and submit a Nuclear Material Transaction Report; and (2) to require licensees who export source material 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) would be 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

U<sup>235</sup> 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; (3) resolve any inventory discrepancies identified by the NRC within 30 calendar days of submission of the information; (4) require inventory reporting not only in the (RIS) account but include material held in all associated holding accounts; and (5) correct the NRC address to obtain the reporting instructions.

#### Section 72.3, Definitions.

Section 72.3 would be amended to add a definition of “reconciliation.” Reconciliation would be defined to mean the process by which licensee submittals are compared to projected values developed by the NMMSS, and that 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) would be 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) would 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) would be amended (1) to require reports on source material as specified in § 40.64; (2) require licensees to resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of submission of the information; and (3) correct the NRC address to obtain the reporting instructions.

Section 72.78, Nuclear material transfer reports.

The section heading would be 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) would be amended (1) to 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) to correct the NRC address or obtaining the reporting instructions.

Section 74.2, Scope.

Section 74.2(a) would be amended to lower the applicability of general reporting and record keeping requirements of subpart B of Part 74 to each person who possesses one gram or more of SNM.

Section 74.4, Definitions.

Section 74.4 would be amended to add a definition of “reconciliation.” Reconciliation would be defined to mean the process by which licensee submittals are compared to projected values developed by NMMSS, and that 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) would be 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 SNM in any associated holding accounts; (3) to 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) to 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) to correct the NRC address to obtain the reporting instructions.

Section 74.15, Nuclear material transfer reports.

The section heading would be 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) would be 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 to submit a Nuclear Material Transaction Report no later than the close of business the next working day, and each licensee who receives the material to submit a Nuclear Material Transaction Report within ten (10) days after the material is received; and (3) make a revision to correct the NRC address to obtain the reporting instructions.

The current paragraph (c) would be redesignated as a new paragraph (d). A new paragraph (c) would be 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 would be amended to add a definition of “reconciliation.” Reconciliation would be defined to mean the process by which licensee submittals are compared to projected values developed by the NMMSS and that 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) would be revised, paragraph (c)(2) would be redesignated as a new paragraph (c)(3), and a new paragraph (c)(2) would be added to describe that 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.

Section 150.16, Submission to Commission of nuclear material transfer reports.

The section heading would be 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) would be revised to add a new paragraph (a)(1) that would generally retain the requirements of current paragraph (a), but would be 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) would 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 to obtain the reporting instructions.

The new paragraph (a)(2) in §150.16 would describe 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, would help licensees locate

the material transaction reporting requirements for both SNM and source material in §150.16.

The new §150.16(a)(2) would also (1) require 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 U<sup>235</sup> isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels, to submit source material transaction reports; (2) require 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) of this chapter, in which case both the receiver's and shipper's portion of the form must be completed; (3) require the shipper's portion of the form to be completed for imports; and (4) correct the NRC address to obtain the reporting instructions.

Section 150.17, Submission to Commission of source material reports.

The section heading would be revised to read, "Submission to Commission of nuclear material status reports." This amendment would 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) would be 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 would also 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.

Section 150.17 (b) would be 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, downblend material initially enriched in the U<sup>235</sup> isotope to 10 percent or more, or mixed-oxide fuel fabrication would be 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 to obtain the reporting instructions.

#### IV. Criminal Penalties

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

#### V. 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 proposed rule would be 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, 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" are 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.

## VI. Plain Language

The Presidential Memorandum dated June 1, 1998, entitled, "Plain Language in Government Writing" directed that the Government's writing be in plain language. NRC requests comments on this proposed rule specifically with respect to the clarity and effectiveness of the language used. Comments should be sent to the address listed under the heading "ADDRESSES" of this document.

## 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 proposed rule, the NRC would modify current reporting requirements for source material and special nuclear material to the Nuclear Materials Management and Safeguards System (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 proposed rule is the type of action described in categorical exclusion 10 CFR 51.22(c)(1) for the proposed changes to Part 150 and as described in 10 CFR 51.22(c)(3)(iii) for the changes to Parts 40, 72, and 74. Therefore, neither an environmental impact statement nor an environmental assessment has been prepared for this proposed rule.

## IX. Paperwork Reduction Act Statement

This proposed 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). This rule has

been submitted to the Office of Management and Budget for review and approval of the information collection requirements.

*Type of submission, new or revision:* Revision.

*The title of the information collection:* 10 CFR Parts 40, 72, 74, and 150, "Regulatory Improvements to Nuclear Materials Management and Safeguards System," Proposed Rule.

*The form number if applicable:* DOE/NRC Form 741 "Nuclear Material Transaction Report," DOE/NRC Form 742, "Material Balance Report," and DOE/NRC Form 742C, "Physical Inventory Listing."

How often the collection is required: Annually, or when a transaction is made.

*Who will be required or asked to report:* Licensees who possess one gram or more of special nuclear material, one kilogram or more of foreign obligated source material and licensees who possess one kilogram or more of source material used in uranium enrichment, downblending of uranium enriched to 10 percent or more in U-235 and mixed-oxide fuel fabrication activities.

*An estimate of the number of annual responses:* 33,060 (currently 33,860 total responses for Forms 741, 742 and 742C per year. Proposed rule would decrease the responses to 33,060 per year because of a reduction in the information collection for export of special nuclear material and source material).

*The estimated number of annual respondents:* 380 (currently, 180 licensees report information on Forms 741, 742 and 742C. 200 additional respondents for each of the Forms 742 and 742C are expected in the proposed rule).

*An estimate of the total number of hours needed annually to complete the requirement*

*or request:* 400 hours total, for the 200 additional licensees that would be required to report under the proposed rule making. For the 180 licensees subject to current reporting requirements, there would be a reduction of approximately 1,700 hours in licensee reporting due to a reduction in the transactions forms to be submitted for exports, in the proposed rule making. Overall, there is a projected reduction of approximately 1,300 hours of licensee effort from the proposed rule making.

*Abstract:* NRC is proposing to amend its regulations related to current reporting requirements for source material and special nuclear material to the NMMSS. The proposed amendments would require that all licensees possessing one gram or more of special nuclear material (SNM) or one kilogram or more of source material with foreign treaty obligations to report and reconcile material balance and inventory information at least annually. Additionally, inventory adjustments would have to be reported. The proposed amendments would also reduce the current reporting requirements associated with the export of source material or SNM. Another proposed change would require licensees who engage in certain activities (i.e., enrichment, downblending, mixed-oxide fuel) to report information on all source materials used for those activities. This information collection is mandatory.

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

1. Is the proposed information collection necessary for the proper performance of the functions of NRC, including whether the information will have practical utility?
2. Is the estimate of burden accurate?
3. Is there a way to enhance the quality, utility, and clarity of the information to be collected?

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

A copy of the OMB clearance package may be viewed free of charge at the NRC Public Document Room, One White Flint North, 11555 Rockville Pike, Room O-1 F21, Rockville, MD 20852. The OMB clearance package and rule are available at the NRC worldwide Web site: <http://www.nrc.gov/public-involve/doc-comment/omb/index.html> for 60 days after the signature date of this notice and are also available at the rule forum site, <http://ruleforum.llnl.gov>.

Send comments on any aspect of these proposed information collections, including suggestions for reducing the burden and on the above issues, by (INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER) 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 [INFOCOLLECTS@NRC.GOV](mailto:INFOCOLLECTS@NRC.GOV) and to the Desk Officer, John A. Asalone, 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. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given to comments received after this date. You may also e-mail comments to [John\\_A.\\_Asalone@omb.eop.gov](mailto:John_A._Asalone@omb.eop.gov) or comment by telephone at (202) 395-4650.

#### 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 draft regulatory analysis on this proposed regulation. The analysis examines the costs and benefits of the alternatives considered by the Commission. The Commission requests public comment on the draft regulatory analysis. Comments on the draft analysis may be submitted to the NRC as indicated under the ADDRESSES heading of this document. 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](mailto: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 would not, if promulgated, have a significant economic impact on a substantial number of small entities. The proposed 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 proposed rule would result in annual savings for the 17 licensees subject to current reporting requirements because there would be 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 would be an additional cost from the proposed 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 proposed reporting and reconciliation for these 200 licensees would be 400 hours. Based on the draft regulatory analysis conducted for this action, the annual costs of the proposed amendments for affected licensees are estimated to be \$34,800 total or on average about \$174 per affected licensee. NRC believes that the selected alternative reflected in the proposed amendment is the least burdensome, most flexible alternative that would accomplish 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 proposed rule because this amendment would not involve any provisions that would impose backfits as defined in the backfit rule. Therefore, a backfit analysis is not required.

## XIV. 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 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 proposing to adopt the following amendments to 10 CFR Parts 40, 72, 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 U<sup>235</sup> 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 NMSS 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 [RidsNmssFcass@nrc.gov](mailto:RidsNmssFcass@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 parts 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  $U^{235}$  isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels shall complete and submit, in computer-readable format, Material Balance and Physical Inventory Listing Reports concerning all source material that the licensee has received, produced, possessed, transferred, consumed, disposed of, or lost. Reports must be submitted for each Reporting Identification Symbol (RIS) account including all holding accounts. Each licensee shall prepare and submit these reports as

specified in the instructions in NUREG/BR-0007 and NMMSS Report D-24, "Personal Computer Data Input for NRC Licensees." These reports must document holdings as of September 30 of each year and must be submitted to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee's material status reports on special nuclear material filed under 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©, (d), Pub. L. 100-203, 101 Stat. 1330-232, 1330-236 (42 U.S.C. 10162(b), 10168©, (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 record 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) 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 [RidsNmssFcoss@nrc.gov](mailto:RidsNmssFcoss@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) of this chapter. 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 74 - MATERIAL CONTROL AND ACCOUNTING OF SPECIAL NUCLEAR MATERIAL**

9. 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).

10. 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.

\* \* \* \* \*

11. 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.

\* \* \* \* \*

12. 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 *RidsNmssFcsc@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.

\* \* \* \* \*

13. 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, receives, or adjusts the inventory in any manner of 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. 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 *RidsNmssFcass@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 of this part, as applicable, is identified.

\* \* \* \* \*

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

14. 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).

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).

15. 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.

\* \* \* \* \*

16. 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.

\* \* \* \* \*

17. 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, receives, or adjusts the inventory in any manner of 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." 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 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 *RidsNmssFcass@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 U<sup>235</sup> 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.

\* \* \* \* \*

18. 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 *RidsNmssFcass@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 parts 72 or 74 of this chapter.

(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 U<sup>235</sup> 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 parts 72 or 74 of this chapter. Copies of the reporting instructions may be obtained by writing the to U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555-0001, or by e-mail to [RidsNmssFcss@nrc.gov](mailto:RidsNmssFcss@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 \_\_\_\_\_, 2006.

For the Nuclear Regulatory Commission.

\_\_\_\_\_  
Annette Vietti-Cook,  
Secretary of the Commission.

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

**Draft Report for Comment**

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**U.S. Nuclear Regulatory Commission  
Office of Nuclear Materials Safety and Safeguards**

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# **Draft Regulatory Analysis for Proposed 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 proposing to amend 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 proposed rule under consideration by the Commission. The proposed rule would amend 10 CFR Parts 40, 72, 74, and 150. This document presents background material, rulemaking objectives, rulemaking alternatives, and analysis results for each alternative in terms of constant 2005 dollars. Public comments are requested for the proposed rule text and this regulatory analysis.

### **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, 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.<sup>1</sup> 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.<sup>2</sup>

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." The bulletin was sent to all 1,337 NRC and Agreement State licensees then holding NMMSS accounts and requested them to provide

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<sup>1</sup> 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/pdf/ig-0529.pdf>.

<sup>2</sup> 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>.

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 Proposed Rule**

The objectives of the proposed 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 proposed 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 proposed action is also consistent with NRC's goal that its actions are effective, efficient, realistic and timely. The proposed 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. However, this alternative provides a baseline condition from which the other alternative will be assessed.

### **2.2 Proposed Rule Alternative: Alternative 2 (preferred alternative)**

Under the proposed rule alternative, NRC would amend 10 CFR Parts 40, 72, 74, and 150 related to the material reporting requirements in the NMMSS database. The proposed 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 proposed 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 proposed 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 proposed 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 proposed rule.

### **3. Analysis of Values and Impacts**

This section examines the values (benefits) and impacts (costs) expected to result from NRC's proposed rule. The benefits and costs are analyzed for implementation of the proposed 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 2005 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 \$716,977 and \$969,850 at 7 percent and 3 percent discount rate, respectively.

#### **3.1 Identification of Affected Attributes**

The attributes that the proposed 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 perform and 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 proposed 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 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 the proposed rule, and following publication in the *Federal Register*, through publication of the final rule. NRC will also need to prepare guidance documentation during this implementation time period.
- ***NRC Operation.*** Although the number of licensees required to make annual reports would increase from 180 to 380, the proposed 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 IAEA. The information maintained in the NMMSS, enables NRC to submit the data to IAEA to fulfill its reporting responsibilities, to satisfy the terms of the US/IAEA Safeguards Agreement, and for the domestic inspection program. More accurate data in NMMSS would support NRC to fulfill its responsibilities for IAEA safeguards and in the protection of common defense and security.
- ***Other Government.*** The proposed alternative would not result in cost 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 alternative under consideration would result in decreasing burden on the licensees by making changes to the requirements related to the export of certain materials. Also, the proposed 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 proposed 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 the alternative method to implement 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. These attributes have quantifiable values and impacts due to implementing the rule:

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

Costs are calculated for Alternative 2 (proposed rule) to implement the rule. This requires 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 proposed rule was estimated using NRC information on existing licensees, NRC staff best professional judgement, 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: \$87.00/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: \$87.00/hour.
- No incremental costs are expected to occur for this rule for amending the definitions sections of the regulations in 10 CFR Parts 40, 72, 74 and 150, although there are rule text changes in these sections resulting from introducing the definition of "reconciliation."
- 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 (proposed rulemaking) would not be realized.

### 3.2.3 Specific Assumptions for Alternative 2

The specific assumptions are shown below for Alternative 2, the proposed rulechange for each affected Part. Appendix A shows the line item assumptions for the implementation and annual operating expense for Alternative 2.

#### 10 CFR Part 40, Domestic Licensing of Source Material

- We assume there are 130 existing licensees under 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 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 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 2.0 FTE (Appendix A) will be needed to complete this proposed rulemaking and revise the Guides, NUREG/BR-0006 and NUREG/ BR-0007. Assuming a labor rate of \$87 per staff-hour, the associated cost to NRC is \$254,040 (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 proposed 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

\$87 per staff hour, the annual saving will be \$5829.00 (Appendix A) and will be considered in 10 year analysis. Other costs are attributed to operating the Nuclear Materials Management and Safeguards System (NMMSS).<sup>3</sup> 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 proposed 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, 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 2005 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 2005 dollars.

#### 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 (2005\$)	10-Year Total 3% discount rate (2005\$)
1. No-Action (Alternative 1)	0	0
2. Proposed amendments to Parts 40, 72, 74 and 150 (Alternative 2)	924,798	1,177,678

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<sup>3</sup> NRC and DOE share the cost of operating the Nuclear Materials Management and Safeguards System (NMMSS). Current NRC cost of the system for FY05 is \$1,530,000. 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).

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 proposed rulemaking. NRC implementation costs are all one-time expenses, in 2005 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 (2005\$)	
	7 percent discount	3 percent discount
Industry Implementation	0.00	0.00
Industry Operation	1,137,904	1,381,995
NRC Implementation	(254,040)	(254,040)
NRC Operation	40,934	49,723
<b>Total</b>	924,798	1,177,678

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 rulechange. A saving in operational cost to NRC is expected from the rulechange 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, by affected 10 CFR Parts. A reduction in cost (i.e. benefit) is shown as a positive number. Cost is shown in parentheses.

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

10 CFR Part	Alternative 2	
	One-time Cost (\$)	Annual Cost (\$)
40	0	48,285
72	0	0
74	0	141,375
150	0	(27,648)
NRC Operation	0	5,829
NRC Implementation	(254,040)	0
<b>Total</b>	(254,040)	167,841

## 5. Decision Rationale

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

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

## 6. Implementation

After the publication of the proposed rule in the *Federal Register* and the consideration and resolution of public comments, a final rule will be published, which will become effective 30 days after its publication in the *Federal Register*. No impediments to the implementation of the recommended alternative have been identified.

## 7. Effect on Small Entities

The proposed 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. 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 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 SNM are estimated to be \$174 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 proposed rulemaking. The following pages show input and results for 10 CFR Parts 40, 72, 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	\$ 39,585	\$ 48,285
40.64(b)	130	20	-5	-100	\$ 8,700	

Notes:

1. There are 130 licensees subject to reporting requirements under Part 40.
2. Proposed rulechange 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 rulechange. Cost is shown in parenthesis; saving(benefit) is shown as a positive number.

Proposed 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 U<sup>235</sup> 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 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 ; 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 U<sup>235</sup> 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; resolve any inventory discrepancies identified by the NRC and requires inventory reporting not only in the (RIS) account but include material held 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 perform these reportings now with no additional requirements in the proposed rule. Rule change would formalize the licensees reporting actions by creating a link to Part 40.

Proposed 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 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	(\$8,700)	\$141,375
74.15(a)	230	0	2	0	0	
74.15(c)	230	230	-7.5	-1725	\$150,075	

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 rulechange 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.

Proposed 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 to require 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	(\$1,653)	(\$27,648)
150.16(a)(2)	4	-1.25	-5	\$435	
150.17(a)	150	2.0	300	(\$26,100)	
150.17(b)(1)	2	2	4	(\$348)	
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.

Proposed 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, to require 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 U<sup>235</sup> isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels, to 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. It would also require licensees to resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of submission of the information.

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, downblend material initially enriched in  $U^{235}$  isotope to 10 percent or more, or 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 submission of the information.

## NRC Costs

### Implementation Costs

proposed rule to final rule (2.0 FTE, 1460 hours/FTE=2920 hours includes 1400 hours for revising guidance documents)	2920 hours
assumed wage rate	\$ 87 per hour
labor expense	\$ 254,040
other direct cost	\$ 0.00
Total one-time implementation cost	\$ 254,040

### 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	\$ 87 per hour
Annual saving (87x67)	\$ 5,829