

RULEMAKING ISSUE NOTATION VOTE

January 3, 2007

SECY-07-0001

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.

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

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

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

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

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