

RULEMAKING ISSUE AFFIRMATION

December 29, 2007

SECY-07-0224

FOR: The Commissioners

FROM: Luis A. Reyes
Executive Director for Operations

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

PURPOSE:

To request Commission approval for publication of the final rule.

SUMMARY:

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

BACKGROUND:

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

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

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

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

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

DISCUSSION:

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

¹ This report entitled, "Accounting for Government-Owned Nuclear Materials Provided to Non-Department Domestic Facilities," dated October 26, 2001, is available at <http://www.ig.doe.gov/documents/calendar/year2001/ig-0529.pdf>.

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

NMMSS Inventories

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

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

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

Transaction Reports

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

Current regulations require submission of material transaction reports for the transfer and receipt of SNM, but do not specify the time frames in which the reports must be made.

However, the reporting time frames are specified in NUREG- BR/0006, "Instructions for the Preparation and Distribution of Material Transaction Reports." In contrast, for source material transactions, transaction reports are currently required to be submitted by the close of business the next working day, for the transfer of source material, and within 10 days of receipt, for the receipt of source material. Therefore, for consistency and clarity, the reporting timeframes for the transfer and receipt of SNM are being added to the regulations to specify that material transfer reports be submitted by the close of business the next working day for the transfer of SNM, and within 10 days of receipt for the receipt of SNM. One commenter requested that the reporting period be changed to 10 business days instead of 10 days to be consistent with DOE's reporting requirements. The commenter felt that the 10-day rule conflicted with the 10 business days allowed by DOE. The staff is retaining the 10 days for reporting of receipts to ensure more prompt access to this information and avoid prolonged delays associated with facility closure during holiday periods. Staff does not view the difference in the NRC's 10-day rule and the 10 business days allowed by DOE as a conflict because by meeting the 10-day reporting, the 10 business day reporting would also be met. In addition, the NRC regulations do not apply to DOE facilities.

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

Reporting Identification Symbol and Holding Accounts

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

safeguards have been terminated and that operations would be adversely impacted if it had to return these drums to the accountability program through the use of holding accounts instead of "V" accounts. The commenter noted that DOE allows the use of "V" RIS' for waste containers for which safeguards have been terminated and this allowance for waste containers should be allowed by the rule. NRC uses "V" accounts for those licensees that are authorized for land disposal of SNM. The waste containers should be properly accounted for in a licensee's inventory. Lack of knowledge as to the contents of containers is both a safety and security concern. The staff did not change the rule language in response to this comment.

Reporting Requirements for Export of Material Shipments

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

Implementation Date

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

Strategic Objective and Performance Goals

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

Agreement State Issues

NRC staff has analyzed the final rule in accordance with the procedures established within Part III of the Handbook to Management Directive 5.9, "Adequacy and Compatibility of Agreement State Programs." Staff has determined that the proposed rule is classified as

Compatibility Category “NRC.” The NRC program elements in this category are those that relate directly to areas of regulation reserved to the NRC by the Atomic Energy Act of 1954, as amended, as implemented in the provisions of Title 10 of the *Code of Federal Regulations*. Although an Agreement State may not adopt program elements reserved to the NRC, it may wish to inform its licensees of certain requirements via a mechanism that is consistent with the particular State’s administrative procedure laws but does not confer regulatory authority on the State.

COMMITMENTS:

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

RECOMMENDATIONS:

That the Commission:

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

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

RESOURCES:

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

COORDINATION:

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

/RA Martin J. Virgilio for/

Luis A. Reyes
Executive Director
for Operations

Enclosures:

1. *Federal Register* Notice
2. Regulatory Analysis

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