

RULEMAKING ISSUE

(Notation Vote)

May 18, 2005

SECY-05-0092

FOR: The Commissioners

FROM: Luis A. Reyes
Executive Director for Operations /RA/

SUBJECT: PROPOSED RULE: NATIONAL SOURCE TRACKING OF SEALED
SOURCES (RIN 3150-AH48)

PURPOSE:

To request Commission approval to publish a proposed rule in the *Federal Register* that would amend Parts 20, 32, and 150 of Title 10 of the *Code of Federal Regulations*. The proposed amendments would establish the regulatory foundation for the National Source Tracking System. The proposed rule would require licensees to report transactions involving the manufacture, transfer, receipt, and disposal of nationally tracked sources. The proposed changes would apply to both the U.S. Nuclear Regulatory Commission (NRC) and Agreement State licensees.

SUMMARY:

In recent years, there has been increased interest in the security of radioactive material of greatest concern. An interagency working group on radiological dispersal devices (RDD) was formed to investigate the control of nuclear material. The International Atomic Energy Agency (IAEA) Board of Governors approved a major revision to the IAEA "Code of Conduct on the Safety and Security of Radioactive Sources" (hereafter Code of Conduct). To address recommendations from the RDD Working Group and in the Code of Conduct, NRC formed a

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National Source Tracking (NST) Working Group in November 2003 to develop a national source tracking system. A Steering Committee and an Interagency Coordinating Committee were also formed. The NST Working Group developed requirements for the National Source Tracking System. In July 2004, the National Source Tracking Rulemaking Working Group was formed to develop the proposed rule necessary to implement the National Source Tracking System. The proposed rule would require licensees to report transactions involving nationally tracked sources to the National Source Tracking System. The staff is requesting Commission approval to publish a proposed rule in the *Federal Register* that would amend 10 CFR 20, 32, and 150 to implement the requirements necessary to support the National Source Tracking System.

BACKGROUND:

As a result of the terrorist attacks in the United States on September 11, 2001, NRC has undertaken a comprehensive review of nuclear material security requirements, with particular focus on radioactive material of concern. In June 2002, NRC and the U.S. Department of Energy (DOE) established an interagency Working Group on RDDs to investigate how to improve the control of nuclear material. The RDD Working Group recommended that a National Source Tracking System be developed to better understand and monitor the location and movement of sources of concern. This recommendation is contained in the May 2003, report, entitled, "Radiological Dispersal Devices: An Initial Study to Identify Radioactive Materials of Greatest Concern and Approaches to Their Tracking, Tagging, and Disposition."

The Commission has also supported U.S. Government efforts to establish common international guidance for safety and security of radioactive materials of concern. This effort has resulted in a major revision to the Code of Conduct. The revised Code of Conduct was approved by the IAEA Board of Governors in September 2003. The U.S. Government has formally notified the Director General of the IAEA of its political commitment for the current Code of Conduct. The Code of Conduct contains a recommendation that each IAEA Member State should develop a national register of radioactive sources that should include Category 1 and Category 2 radioactive sources as described in Annex 1 of the Code of Conduct.

As part of the effort to improve the security of radioactive sources, NRC initiated development of a national tracking system for radioactive sources of concern. It formed the NST Working Group in November 2003, the SafeSource¹ Steering Committee in December 2003, and the Interagency Coordinating Committee (ICC) in February 2004, to aid in the development of the National Source Tracking System. Because this is intended to be a national system, both DOE and the Agreement States are represented with the NRC on the working group and the committees. The ICC also has representatives from other Federal agencies with an interest in source security. A list of agencies represented is provided in Attachment 1. The ICC's primary responsibility is to provide guidance regarding interagency issues associated with the development, coordination, and implementation of the National Source Tracking System, to prevent licensees from receiving similar requests from more than one agency. The ICC

¹SafeSource is the name for the overall project that includes the web-based licensing project, the interim database project, and the National Source Tracking project.

involvement also assured that the system meets the U.S. Government's international commitments.

The NST Working Group's primary function was to develop the requirements for a National Source Tracking System for radioactive sources of concern. The Working Group will also be involved in developing and providing training for the new system. The Steering Committee was formed to provide guidance on critical issues related to the development, coordination, and implementation of the National Source Tracking System.

A second working group, the NST Rulemaking Working Group, was formed in July 2004 to translate the requirements for the system into rule language. This Working Group has an Agreement State member, but no DOE representation. The attached proposed rule is the result of this working group's efforts. The substantive provisions of the proposed rule are consistent with the requirements developed by the NST Working Group, as well as the recommendations to develop a National Source Tracking System from the RDD report and a source registry from the Code of Conduct.

NST is only one aspect of NRC's efforts to enhance the control of radioactive material of greatest concern. NST does not ensure the physical protection of sources; it provides greater source accountability. The National Source Tracking System in conjunction with controls imposed by Order on irradiator licensees, manufacturer and distributor licensees, and other material licensees will result in better control of sources. In addition, the final rule on import/export of radioactive material is currently before the Commission (SECY-05-0043). The Commission Paper on the Orders on transportation of radioactive materials in quantities of concern is due to the Commission this spring. All of these activities, along with current regulations, form NRC's foundation for control of radioactive material. All of these activities are integrated and complement each other. For example, the advance notifications that will be required by the import/export final rule will be recorded in the National Source Tracking System database. The Orders to materials licensees include provisions on shipments and transfers of radioactive material. The staff plans to conduct future rulemakings to codify the requirements currently being imposed by the Orders. This rulemaking addresses the National Source Tracking System and only includes those requirements necessary to directly support the system. The rulemaking does not address other control measures, and the scope of this rulemaking does not include source transportation. This rulemaking also does not address reporting of lost/stolen sources.

DISCUSSION:

Currently, NRC and Agreement State regulations do not require a licensee to report its inventory of licensed material. Until recently, there was no information on what is actually possessed by licensees versus what licensees are authorized to possess. To address this lack of information on actual possessed material, NRC, with the cooperation of the Agreement States, began working on an interim database of sealed sources. In November 2003, both NRC and Agreement State licensees were contacted and requested to voluntarily provide some basic information on the Category 1 and Category 2 sealed sources located at their facilities. There were over 1300 licensees that reported possessing sealed sources at the Category 1 and Category 2 levels. These facilities will be requested to update the information each year until the National Source Tracking System is operational. While the interim database provides a

snapshot in time of information regarding sealed sources, the National Source Tracking System will provide information on an ongoing basis.

The proposed rule would establish the regulatory framework for the National Source Tracking System for both NRC and Agreement State licensees. The National Source Tracking System is being developed and would be implemented under the Commission's statutory authority to promote the common defense and security. The proposed rule would require licensees to report to the National Source Tracking System the manufacture, transfer, receipt, and disposal of nationally tracked sources. Basic information to be collected would include the manufacturer, model number, serial number, radioactive material, activity, and manufacture date for each source. In addition, information on the facilities involved in the transaction (facility name, license number, and individual preparing the report) would be collected, as well as the transaction date. For transfers, the estimated arrival date would also be reported. Actual transportation of the sources will not be tracked in the National Source Tracking System. For transactions that involve the source as part of a waste shipment or disposal, the licensee would need to provide the waste manifest number and the container identification for the container with the source. Waste brokers and disposal facilities would not be expected to open the container to verify that the source is included. To have timely information, the proposed rule would require that licensees report transaction information by the close of the next business day after the transaction occurs. The data in the National Source Tracking System will be considered Official Use Only. The Information will not be considered to be either Safeguards Information or Safeguards Information - Modified Handling.

To ease the reporting burden on licensees, a secure Internet-based interface to the National Source Tracking System is planned. This interface would enable licensees to access the system using an Internet browser, log on to the system, and provide the required information on-line. On-line access should be faster, more accurate, and less labor-intensive than having licensees complete forms to be mailed and entered into the system centrally. A licensee would only be able to view the information on its own facility. Licensees would also be able to provide information by electronic batch file or by mail, fax, or telephone. The company that receives the contract for the National Source Tracking System will write the guidance document that will provide instruction on how to report the transactions; consequently, the guidance document will not be available until the final rule is effective.

Furthermore, each licensee would be required to report its initial inventory of nationally tracked sources. Licensees must report all inventories of Category 1 nationally tracked sources by December 31, 2006, and all inventories of Category 2 nationally tracked sources by March 31, 2007. To ease the burden on licensees, the initial loading of information will be from the interim database. Each licensee that has reported source information to the interim database would be provided a copy of that source information and be allowed to update it so that the inventory information is accurate by these dates. Transaction reporting for Category 1 and Category 2 sources would begin on December 31, 2006, and March 31, 2007, respectively.

Licensees would be required to correct any error(s) in previously filed reports or submit missing reports within five business days of the discovery of the error(s) or missed report. Each licensee would also be required to annually reconcile the information in the National Source Tracking System against its actual inventory and verify that the information is correct. These steps promote the accuracy and reliability of the information in the system. In addition, the staff

plans to invite comment on the inclusion of a quality assurance provision that would require licensees have a second person double check the data before submission to the National Source Tracking System. We are seeking information on the appropriateness of the provision and the added burden.

The proposed rule would define the term “nationally tracked source as a sealed source” containing a quantity of radioactive material equal to or greater than the Category 2 levels listed in the new Appendix F to 10 CFR Part 20. For the purpose of this rulemaking, the term “nationally tracked source” does not include material encapsulated solely for disposal, or nuclear material contained in any fuel assembly, subassembly, fuel rod, or fuel pellet. This definition is based on the IAEA Code of Conduct and is consistent with the definition of sealed sources elsewhere in NRC regulations and with definitions contained in Agreement State regulations.

As directed by the Commission in the August 21, 2003, Staff Requirements Memorandum (SRM) M030716, “Discussion of Intergovernmental Issues,” the radioactive materials to be included in the National Source Tracking System are the 16 radionuclides from the IAEA Code of Conduct and the additional seven radionuclides listed in the SRM. The staff has not included radium (Ra)-226 on the list of radionuclides because NRC does not regulate Ra-226. However, the National Source Tracking System will allow licensees to voluntarily enter transactions for Ra-226 sealed sources. Additionally, States may decide to develop regulations that require licensees to report Ra-226 transactions to the National Source Tracking System.

The staff notes that the list of 22 radionuclides is currently considered Official Use Only because of the addition of the seven radionuclides that come from the DOE/NRC RDD report. In order to include these seven radionuclides in the rulemaking, the list, with the thresholds, must be made publicly available. In addition, the staff notes the inconsistency between this proposed rule and the import/export final rule, which only includes the 15 radionuclides from the IAEA Code of Conduct. The Orders to materials licensees included the full list of 22 radionuclides. The interim database included the full list of radionuclides. Based on information from the interim database, NRC and Agreement State licensees do not possess large numbers of nationally tracked sources containing these radionuclides. However, this is a national system and will include information from DOE facilities. DOE facilities are more likely to possess these radionuclides and DOE has indicated that the additional radionuclides should be included in the National Source Tracking System. The staff supports the inclusion of the additional radionuclides in the National Source Tracking System. The tracking system is for domestic purposes and should include the same radionuclides as the Orders to materials licensees.

Some members of the Working Groups have expressed concern over aggregation. They are concerned that licensees may possess enough Category 3 sources to cause security concerns. There have also been indications that licensees are requesting manufacturers to make sources just below the Category 2 threshold. Aggregation cannot be addressed in an item-level tracking system because the sources would move in and out of the system with changes in ownership; the information would quickly become unreliable. The best way to address the issue is to lower the reporting threshold. Although Category 3 sources are not included in this proposed rulemaking, the staff does plan to invite comment on inclusion of Category 3 sources so that we can reconsider this issue at a later date. We are seeking information on the number of additional licensees that would be impacted, the number of Category 3 sources possessed by

licensees, and how often those sources change hands. This information will enable NRC to make a more informed decision, in the future, on the inclusion of Category 3 sources in the National Source Tracking System.

The proposed rule would also require manufacturers of nationally tracked sources to assign a unique serial number to each nationally tracked source that it makes. This change is necessary because sources would be tracked within the National Source Tracking System by a combination of the manufacturer, model, and serial number. The staff believes that manufacturers already use a unique number for each source they make; however, the proposed amendment would ensure that this occurs.

Licensees are currently required to report lost or stolen sources to the NRC Operations Center or to their Agreement State. Information on lost or stolen sources is currently placed in the Nuclear Material Events Database (NMED); this practice will continue. Agency staff will obtain the information on lost or stolen nationally tracked sources from the event reports and/or NMED and then enter the information into the National Source Tracking System. This approach avoids a duplication in reporting by licensees to both the Operations Center or Agreement State and the National Source Tracking System. The Working Group was concerned that licensees might report the information to the National Source Tracking System, believe that they had made all the necessary reports and fail to report to the Operations Center. The information needed for the National Source Tracking System would not satisfy the information needs of an event report. Information on destroyed sources (for example, a source destroyed in a fire or while being retrieved by a well-logging rig) would also be obtained from the event reports or NMED.

The proposed rule would impose a new reporting requirement on licensees. The staff has evaluated other information collections to see if there are any similar reporting requirements. One area of potential duplicate reporting exists: current regulations require licensees to report transfers, receipts, and inventory to the Nuclear Materials Management Safeguards System (NMMSS,) a classified database, for 1 gram or more of plutonium and any thorium that has foreign obligations. However, because the NMMSS does not collect information at the individual source level, information such as the make, model, and serial number of a sealed source is not available from the NMMSS database. The National Source Tracking System would only have information on sealed sources and so would not collect information on sources that are not considered sealed, or on any bulk material that a licensee may possess. Although the NMMSS and the National Source Tracking System would include information on the same plutonium and thorium isotopes, the information would be in different formats and with different levels of detail, as required by each system.

Furthermore, staff review of the interim database showed there were only 21 plutonium sealed sources above the Category 2 threshold and no thorium sources reported. In practice, the staff finds that these sources, compared to other sealed sources, are typically held by licensees for longer time periods and are not routinely transferred. Consequently, incidences of double-reporting are expected to be rare. The staff does not believe that the limited number of licensees and transactions likely to be affected by the dual reporting requirement would impose an unnecessary burden.

The staff considered adding a provision to require licensees to report to the National Source Tracking System when a source was placed in storage and no longer being actively used. The information on source storage could have been used for planning purposes for source recovery. After due consideration, the staff decided not to include a storage reporting provision in the rule. A question related to source storage could be included in the "Smart audit" questionnaires that may be sent to licensees to help prioritize the security inspection process.

The proposed rule is consistent with NRC's strategic objective and performance goals. The proposed rule would continue to ensure the secure use and management of radioactive materials. While the proposed rule does not change the physical protection requirements for nationally tracked sources, the proposed changes are part of a comprehensive radioactive source control program for sources. The National Source Tracking System will provide greater source accountability, and in conjunction with other activities will result in improved security for nationally tracked sources. Information from the National Source Tracking System will enable NRC to better risk-inform inspection and security efforts for byproduct material licensees by helping NRC to focus on those licensees that actually possess nationally tracked sources, thus making our actions more effective and efficient. The rulemaking will be conducted in an open process. The draft proposed rule was provided to the Agreement States for preliminary review. The proposed rule will be published in the *Federal Register* for a 75-day public comment period. We also plan to hold two to four public meetings during the public comment period to obtain stakeholder input. The exact dates, times, and locations will be determined after the Commission provides direction on the proposed rule.

AGREEMENT STATE ISSUES:

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. The National Source Tracking System, including the proposed rule, was also discussed at the Organization of Agreement States' (OAS) annual meeting in September 2004.

We received comments from the States of Illinois and Washington. Both States were opposed to the inclusion of Category 3 sources in the National Source Tracking System. Reasons included additional burden imposed on licensees, prohibitive cost of adding Category 3 sources, and the belief that there would be no notable security benefit because these sources are well below a reasonable health and safety concern for use in an RDD. Illinois also voiced concern over the need to have physical verification of at least some portion of the information by an inspection. Illinois recommended that NRC consider entering into additional agreements under section 274i of the Atomic Energy Act of 1954, as amended with Agreement States so that physical verification of information could be performed during routine safety inspections. NRC staff plans to pursue the option of entering into additional 274i agreements, although other options may be considered, if identified.

Illinois does not believe that transactions need to be reported within 1 business day and suggests the standard of 5 business days. Illinois does not believe that reporting within 1 business day provides any additional security benefits. The 1 business day reporting timeframe is being retained because the interagency community has identified 1 day as the necessary minimum for providing the transaction information. Illinois also expressed concern with the requirement regarding notification of loss or theft within 1 hour of discovery and the

harmonization of that requirement with the policy set in the President's Homeland Security Directive number 5. Illinois points out that Illinois licensees are instructed to immediately contact the local law enforcement authority and the Illinois Emergency Management Agency for an emergency related to theft of radioactive material. The State fears that multiple and varying reporting requirements would confuse licensees and notes that this is particularly troublesome because NRC does not have emergency response capability to put resources into the field. The staff has not retained the provision which would have modified the requirements to report lost, stolen, or missing material, including the 1-hour reporting provision. The existing requirements to report lost, stolen, or missing material immediately after its occurrence becomes known to the licensee remains in place. Changes to the reporting provisions for lost, stolen, or missing material would be considered in a future rulemaking.

NRC 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." 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 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 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.

Because the provisions of the National Source Tracking System are classified as Compatibility Category "NRC," NRC will be responsible for inspection and enforcement. An Agreement State may not inspect and enforce the provisions unless the Agreement State enters into a 274i agreement. Some Agreement States may choose this approach, others may not. The OAS representative on the Steering Committee has suggested that the Commission allow Agreement States to adopt the source-tracking requirements and be recognized as the regulatory authority in that State for the enforcement and inspection of the National Source Tracking System reporting requirements. Agreement State licensees accustomed to dealing with their State agency might find NRC inspection and enforcement of the reporting requirements confusing. Under the OAS suggestion, Agreement States that adopt the proposed rule would include the reporting requirements as part of their routine inspection program, but NRC would maintain control of the National Source Tracking System and the reported data. This approach would place Agreement States outside the 274i agreement process and would use the viable working relationship Agreement States currently have with their licensees to further the NRC mission of tracking Category 1 and Category 2 sources. The staff is not taking a position on this option and is only providing it to the Commission for information at this time. The options for inspection and enforcement of this rule and the Orders will be addressed at a later date, under a separate effort.

RESOURCES:

To complete the rulemaking, 1.2 full-time equivalent positions will be required of which the majority will be required in FY 06. Contract support will be used to develop the regulatory analysis and OMB supporting statement (approximately \$100,000 half of which was spent in FY 05 and half of which will be used in FY 06). These resources are included in the current budget.

COMMITMENTS:

Listed below are the actions or activities committed to by the staff in this paper.

1. The staff has committed to holding two public meetings during the public comment period on the rule.

RECOMMENDATIONS:

That the Commission:

1. Approve for publication in the *Federal Register* the proposed amendments to Parts 20, 32, and 150 of 10 CFR (Attachment 2).
2. Note:
 - a. The *Federal Register* notice will provide 75 days for public comment.
 - b. 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. A draft Regulatory Analysis has been prepared for this rulemaking (Attachment 3).
 - d. Appropriate Congressional committees will be informed of this action.
 - e. 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. 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.

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. The rule suggests changes in information collection requirements that must be submitted to OMB no later than the date the proposed rule is forwarded to the *Federal Register* for publication.

The Commissioners

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/RA/

Luis A. Reyes,
Executive Director
for Operations

Attachments:

1. List of ICC Member Agencies
2. Federal Register Notice
3. Draft Regulatory Analysis

The Commissioners

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Department of Energy
Department of Homeland Security - Infrastructure Protection
Department of Homeland Security - Transportation Security Administration
Department of Homeland Security - Customs and Border Protection
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