RULEMAKING ISSUE
AFFIRMATION

October 19, 2004 SECY-04-0190

FOR: The Commissioners

FROM: Luis A. Reyes
Executive Director for Operations

SUBJECT: FINAL RULE: SECURITY REQUIREMENTS FOR PORTABLE GAUGES CONTAINING BYPRODUCT MATERIAL (RIN 3150-AH06)

PURPOSE:

To request Commission approval for publication of the final rule in the Federal Register to amend 10 CFR 30.34, "Terms and conditions of licenses." The final rule requires a portable gauge licensee to use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal whenever portable gauges are not under the control and constant surveillance of the licensee.

SUMMARY:

As a matter of protecting public health and safety from potential radiation exposure and enhancing public confidence, the NRC is increasing the security controls for portable gauges. The number of incidents of stolen gauges reported per year is small when compared with the total number of gauges in use, and the amount of radioactive material used in a portable gauge is also relatively small. However, theft of portable gauges is still a concern due to the potential for an individual to receive a radiation dose in excess of regulatory limits as a result of close contact with the source. It also poses a concern if a stolen portable gauge is then abandoned

CONTACT: Lydia Chang, NMSS/IMNS
(301) 415-6319

in the environment or recycled in a steel mill. In addition, given the public's increased interest in, and sensitivity to, security and safety of radioactive material after the events of September 11, 2001, it is prudent to further improve the security of portable gauges to enhance public confidence.

BACKGROUND:

In August 2002, a working group was formed to explore various options and requirements for the rulemaking. Personnel from the Agreement States of Florida and Arkansas participated as working group members. During the rulemaking process, the staff also consulted the U.S. Department of Transportation (DOT) hazardous material transportation staff. A steering group was also formed to address issues and facilitate concurrences.

The working group developed the proposed rule (SECY-03-0092, June 5, 2003), which was approved for publication by the Commission in a Staff Requirements Memorandum dated July 14, 2003 (Attachment 1). The proposed rule was published in the Federal Register (68 FR 45172) on August 1, 2003 (Attachment 2). The comment period closed on October 15, 2003, and the U.S. Nuclear Regulatory Commission (NRC) received 11 comment letters on the proposed rule. The commenters included a member of the public, members of an industry advisory group, three licensees, one radiation service company, two manufacturers, and three States.

DISCUSSION:

Due to the events of September 11, 2001, there is an increased public interest and sensitivity regarding the frequency of stolen gauges. The number of incidents of stolen gauges (about 50 out of about 22,000 or less than a quarter of 1 percent) reported per year is small when compared with the total number of gauges in use. The amount of radioactive material used in a portable gauge is also relatively small. The most commonly used portable gauges contain two encapsulated sources: a sealed gamma source containing 0.30 to 0.37 gigabecquerels (8 to 10 millicuries) of cesium-137 (Cs-137) and a sealed neutron source containing 1.48 to 1.85 gigabecquerels (40 to 50 millicuries) of americium-241/beryllium (Am-241/Be).

There have not been any reported incidents of individuals suffering from a radiation injury or overexposure associated with stolen portable gauges, but the potential exists for an individual to receive a radiation exposure exceeding the regulatory limits as a result of close contact with the sealed source. The dose rate on the surface of the device for a typical portable gauge is about 0.2 millisievert per hour (mSv/hr) (20 millirem per hour (mrem/hr)); and the dose rate on the source is more than 10 mSv/hr (1,000 mrem/hr). It is also a concern if a portable gauge is abandoned in the environment or recycled in a steel mill. Many landfills and recycling facilities are now equipped with radiation monitors; therefore, radioactive sources are often detected and removed early in the process. The potential for radioactive material to enter a metal recycling plant is small, but the cost for cleanup is large if such an event occurs. In 2001, a radioactive source was melted in a steel mill in Florida. The metal recycling plant was shut down for more than a month, and the cost for cleanup was more than $10 million.

The staff believes that the existing control is insufficient to reduce the current rate of stolen gauges. NRC has issued several Information Notices to remind licensees of their responsibilities concerning the security of portable gauges, but the number of reported incidents

has not significantly decreased. In order to protect the public from the potential health and safety risks due to stolen gauges and to enhance public confidence, it is prudent to require additional controls to reduce the number of stolen portable gauges.

Based on the number of portable gauges in operation and the number of licensees that will be impacted by this rule, the staff believes that requiring two physical controls is the best option in achieving the goal of reducing the current number of stolen gauges and, at the same time, providing sufficient flexibility for the licensees in selecting controls that are most suitable to the licensee. There are approximately 1100 NRC licensees and 4000 Agreement State licensees that will be impacted by the final rule. As discussed in SECY-03-0092 for the proposed rule, the staff evaluated various control options, including: no action alternative; prohibiting unattended storage in vehicles with an annual cost impact of about $70 million; prohibiting unattended storage at locations other than licensed facilities (e.g., requiring daily return of gauges) with an annual cost impact of about $220 to $625 million; requiring use of a metal enclosure with a one-time cost impact of about $10 million and an annual cost of $400,000; and requiring two physical controls with a one-time cost of about $5 million and an annual cost of $200,000. The estimated benefit gained is about $170,000 per year from resources saved due to reducing the need to replace stolen gauges and to respond to events. A 50-percent reduction in the number of stolen gauges was assumed in the benefit analysis.

This rule was developed on the basis of public health and safety and not on the basis of common defense and security. As stated in the International Atomic Energy Agency (IAEA) Categorization of Radioactive Source (TECDOC-1344), a portable gauge is a Category 4 source. Since the IAEA Code of Conduct on the Safety and Security of Radioactive Sources only covers Categories 1, 2 and 3 sources, the Code of Conduct does not apply to portable gauges. Under the IAEA interim guidance on the Security of Radioactive Sources (TECDOC-1355), the designated security grouping for a portable gauge is Group C, which requires access control at the source location and one technical measure separating the source from unauthorized personnel. Currently, the United States has not adopted IAEA interim guidance TECDOC-1355.

Public Comments

Among the 11 comment letters, six indicate that they support the goal to reduce the loss or theft of portable gauges, but some believe that NRC has not effectively addressed the root cause; two state that current requirements are adequate; one indicates that the rule is well-intended; one expresses the view that a double-lock requirement may be excessive; and one believes that the current practice of using a chain to secure a gauge in an open-bed pickup truck is not adequate security. These comments and the NRC responses are discussed in detail in the Federal Register notice (Attachment 3).

Three States submitted comments on the published proposed rule. The State of Washington indicates that NRC security measures do not go far enough, noting that State requirements exceed NRC's proposed rule requirements regarding visibility and daily return of portable gauges to an approved storage location. The State of North Carolina believes that current regulations are sufficient to ensure the protection of the occupational worker, members of the public, and the environment with regard to the hazards associated with the safe use of portable gauges. It also does not believe that the NRC rule would effectively address the root cause of unauthorized removal or theft of portable gauges. In the State of North Carolina's view, the

visibility of the transportation cases or the easy access to the portable gauges are the root causes. The Commonwealth of Virginia supports the goal of the rule, but believes the proposed rule to be impractical to implement.

The staff is concerned about the continual theft of portable gauges. The staff does not believe the current practice of having one physical control is sufficient to reduce the current rate of these incidents, and believes that additional requirements are needed to improve the control of portable gauges.

Although requiring that portable gauges be returned daily to an approved storage location might be a more effective regulatory measure, the staff does not believe the significant cost impact to licensees would be commensurate with the potential benefit gained from those measures. The staff believes that requiring a minimum of two independent physical controls is the best approach to reduce the unauthorized removal or theft of portable gauges and, at the same time, to provide sufficient flexibility for licensees. The State comments and the NRC responses are discussed in detail in the Federal Register notice (Attachment 3).

Visibility Issue

Several commenters suggested that the rule should address the visibility of the gauge (e.g., a thief sees it, thinks it's valuable, and steals it). The working group agreed that portable gauges are often stolen because it is the thief's perception that the transportation case contains valuable commercial equipment. Similarly, the working group considered that there are benefits from keeping the portable gauge and its transportation case out-of-sight or covered.

When evaluating different ways to keep gauges out-of-sight, the working group concluded that in various methods (such as keeping the gauge in dark corners, inside a van, inside a van with tinted glass windows, etc.) of keeping a gauge from being visible would be subject to differing interpretations, resulting in questionable effectiveness and enforceability. The working group considered requiring licensees to cover the portable gauge to address the visibility problem, but DOT staff was concerned that covering the portable gauge containing radioactive materials during transportation would be inconsistent with DOT regulations. Specifically, covering the gauge would defeat the intent of DOT requirements for labels and markings (i.e., communicating to first responders of the presence of radioactive material in an emergency). Therefore, requiring to cover the portable gauge and its transportation case would potentially place NRC licensees in noncompliance with DOT requirements. The working group also considered requiring the licensees to use an "enclosure" as a means to address the visibility problem. However, requiring the use of an enclosure would have a significant cost impact on the licensees that might not be commensurate with the potential benefit gained from reducing the number of unauthorized removals or thefts of portable gauges. The working group concluded that these approaches to address the visibility problem would not be practical or effective and might be inconsistent with other regulatory requirements.

Working Group Recommendation

After considering public comments and discussions with the DOT staff, the working group recommended that no changes should be made to the proposed rule for enhancing the security requirements for portable gauges. Therefore, the final rule contains the exact same requirements as the proposed rule. The final rule would require that each portable gauge

licensee use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal, whenever portable gauges are not under the control and constant surveillance of the licensee.

The final rule is expected to reduce the frequency of unauthorized removal or theft of portable gauges, consistent with the NRC Security Goal to "Ensure the secure use and management of radioactive materials." Fewer incidents of unauthorized removal or theft of portable gauges should result in a lower potential for public exposure, and a lower probability of events such as inadvertent steel smelting of gauges, consistent with the NRC Safety Goal to "Ensure protection of public health and safety and the environment." It is expected that the final rule would also be consistent with the NRC Effectiveness Goal to "Ensure that NRC actions are effective, efficient, realistic, and timely," because the new requirement should increase control of licensed material, without undue burden on the regulated community. Finally, consistent with the NRC Openness Goal to "Ensure openness in our regulatory process," the staff has developed the rule through a rulemaking process involving a working group with non-NRC members (e.g., Agreement States); consulted with another cognizant Federal agency; and received stakeholder and public input in the development of the rule through posting in the NRC rulemaking forum website and publication in the Federal Register of the proposed rule. In addition, the Federal Register notice of the final rule will address public and State comments on the proposed rule and NRC's responses. The staff plans to incorporate implementing guidelines through future routine updates of the consolidated guidance document, NUREG-1556, Vol. 1, "Program-Specific Guidance About Portable Gauge Licenses."

AGREEMENT STATE ISSUES:

A copy of the draft Federal Register notice for the final rule was posted on the NRC's Technical Conference Forum for the Agreement States to have an early opportunity for review. Input was received from the States of Washington, Iowa, Arkansas, California, and Wisconsin. The State of Washington supports the rulemaking and reiterated the need for addressing visibility problems and for daily return of portable gauges to an approved storage location. The State of Iowa suggests that it might be a good idea to issue an Information Notice to assist the licensees in implementing the final rule. The State of Arkansas agrees that loss of control of portable gauges is a serious concern, but states that the final rule does not effectively address the root cause of the thefts of portable gauges and that current regulations are adequate. The State of Arkansas also feels that removing the visibility of a portable gauge would be the most effective deterrent to theft and unauthorized removal. The State of California states that the examples included in the Statements of Consideration for the proposed rule may need clarification and should be included in a guidance document. The State of Wisconsin indicates that it has no comments on the final rule. No changes were made as a result of these comments. In lieu of issuing an Information Notice, NRC staff will prepare an article for the "NMSS Licensee Newsletter" once the rule is published.

NRC staff has analyzed the final rule in accordance with the procedures established in Part III of Handbook 5.9 to Management Directive 5.9, "Categorization Process for NRC Program Elements." Staff has determined that the amendment, 10 CFR 30.34(i), should be classified as Compatibility Category "C." An Agreement State should adopt the essential objectives of the Compatibility Category "C" program elements to avoid conflict, duplication, gaps, or conditions that would jeopardize an orderly pattern in the regulation of Agreement material on a nationwide basis. The staff has determined that the essential objective of the amendment, 10 CFR

30.34(i), is to reduce the frequency of unauthorized removal or theft of portable gauges by requiring licensees to provide a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal whenever portable gauges are not under the control and constant surveillance of the licensee.

RECOMMENDATIONS:

That the Commission:

1. Approve for publication in the Federal Register the attached notice of final rule (Attachment 3).

2. Satisfy the requirement of the Regulatory Flexibility Act, 5 U.S.C. 605 (b), certify that this rule does not have significant impact on a substantial number of small entities. This certification is included in the attached 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 (Attachment 4);

    c. That a final Environmental Assessment has been prepared for this rulemaking (Attachment 5);

    d. The staff has determined that this action is not a “major rule,” as defined in the Small Business Regulatory Enforcement Fairness 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 (Attachment 6);

    e. The appropriate Congressional committees will be informed;

    f. 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

    g. OMB review is not necessary for this rulemaking.

COORDINATION:

The Office of the General Counsel has no legal objection to the final rulemaking. Resources needed to complete this rulemaking action are minimal and within existing budget allocation. The Office of the Chief Financial Officer has reviewed this Commission Paper for resource implications and has no objections. The final rule would make no changes to information

collection requirements in 10 CFR Part 30. This final rule was coordinated with DOT hazardous material transportation staff to ensure that the regulatory text is not in conflict with DOT regulations and the existing DOT/NRC Memorandum of Understanding. A copy of the draft Federal Register notice for the final rule was posted on the NRC's Technical Conference Forum for the Agreement States to have an early opportunity for review.

/RA/

Luis A. Reyes
Executive Director
for Operations

Attachments:
1. SRM Dated July 14, 2003
2. Proposed Rule, 68 FR 45172
3. Federal Register Notice
4. Final Regulatory Analysis
5. Final Environmental Assessment
6. SBREFA forms

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ML040780976 *See previous concurrence

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NAME:	JFunches *	STreby* ENJ for	JStrosnider	MVirgilio
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OFFICE:	EDO			
NAME:	LReyes			
DATE:	10/19/04			

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ATTACHMENT 1

SRM Dated July 14, 2003

ATTACHMENT 2

Federal Register for Proposed Rule
(68 FR 45172; August 1, 2003)

ATTACHMENT 3

Federal Register Notice

ATTACHMENT 4

Final Regulatory Analysis

ATTACHMENT 5

Final Environmental Assessment

ATTACHMENT 6

SBREFA Forms