

August 1, 2003

## STATE LIAISON OFFICERS

SUBJECT: PROPOSED RULE - SECURITY REQUIREMENTS FOR PORTABLE GAUGES  
CONTAINING BYPRODUCT MATERIAL

The United States Nuclear Regulatory Commission (NRC) has sent to the Office of the Federal Register, for publication, the enclosed proposed amendment to the Commission's rules in 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material." This amendment is necessary to enhance security for portable gauges by reducing the opportunity for theft, because a stolen gauge can become a public health and safety concern, if it is abandoned in the environment, recycled in a steel mill, or used inappropriately in other ways.

The proposed rule would require a portable gauge licensee to provide a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal, whenever the portable gauges are not under the control and constant surveillance of the licensee. Specifically, the proposed rule would amend regulations in 10 CFR 30.34, "Terms and Conditions of Licenses." The proposed rule would impose specific security requirements for portable gauges to reduce the opportunity for theft.

Also enclosed is an Environmental Assessment (EA), prepared in support of the proposed rule. The conclusion of the EA is the Commission's finding that no significant environmental impact will result from the proposed rule. The EA and *Federal Register* notice are provided for your review and comment. If you have any comments on the rule and its environmental impact, please send them by **October 15, 2003**. Comments received after this date will be considered if it is practical to do so, but the Commission is able to assure consideration only for comments received on or before this date.

You can use the following methods to transmit your comments: (1) you can mail your written comments to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemakings and Adjudications Staff; (2) you can fax your comments to (301) 415-1672; or (3) you can also provide comments via NRC's interactive rulemaking website at <http://ruleforum.llnl.gov>. This site provides capability to upload comments as files (any format), if your web browser supports that function. For information about the interactive rulemaking website, contact Ms. Carol Gallagher, (301) 415-5905, e-mail: CAG@nrc.gov.

For additional information on this action, contact Ms. Lydia Chang, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 415-6319, e-mail LWC1@nrc.gov.

Sincerely,

*/RA/*

Paul H. Lohaus, Director  
Office of State and Tribal Programs

Enclosures:

1. Proposed Amendment to Commission's Rules in 10 CFR Part 30
2. Environmental Assessment

For additional information on this action, contact Ms. Lydia Chang, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 415-6319, e-mail LWC1@nrc.gov.

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NUCLEAR REGULATORY COMMISSION

10 CFR Part 30

RIN: 3150-AH06

Security Requirements for Portable Gauges Containing Byproduct Material

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Proposed rule.

**SUMMARY:** The Nuclear Regulatory Commission (NRC) is proposing to amend its regulations governing the use of byproduct material in specifically licensed portable gauges. The proposed rule would require a portable gauge licensee to provide a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal whenever the portable gauges are not under the control and constant surveillance of the licensee.

**DATES:** The comment period expires (insert date 75 days from date of 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-AH06) in the subject line of your comments.

Comments on rulemaking submitted in writing or in electronic form will be made available to the

public in their entirety on the NRC rulemaking website. Personal information will not be removed from your comments.

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 the NRC's rulemaking website at <http://ruleforum.llnl.gov>. Address questions about our rulemaking website to Carol Gallagher at (301) 415-5905; e-mail [cag@nrc.gov](mailto:cag@nrc.gov).

Hand deliver comments to 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m. 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 examined and copied for a fee at the NRC's Public Document Room (PDR), Public File Area O1F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. Selected documents, including comments, can be reviewed and downloaded electronically via the NRC rulemaking website at <http://ruleforum.llnl.gov>.

Publicly available documents created or received at the NRC after November 1, 1999, are available electronically at the NRC's Electronic Reading Room at <http://www.nrc.gov/NRC/ADAMS/index.html>. From this site, the public can gain entry into the 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's PDR Reference staff at 1-800-397-4209, 301-415-4737 or by e-mail to [pdr@nrc.gov](mailto:pdr@nrc.gov).

**FOR FURTHER INFORMATION CONTACT:** Lydia Chang, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-6319, e-mail [lwc1@nrc.gov](mailto:lwc1@nrc.gov).

**SUPPLEMENTARY INFORMATION:**

**Background**

*Uses of Licensed Material in Portable Gauges*

Portable gauges are devices containing licensed material that are used to determine physical properties (such as density and moisture content of soil, concrete, and other materials) in a field setting. The most typical portable gauges in use today contain two encapsulated sources of radioactive materials. The first is a sealed gamma source containing 0.30 to 0.37 gigabecquerels (8 to 10 millicuries) of cesium-137 (Cs-137) used to measure density. The second source is a sealed neutron source containing 1.48 to 1.85 gigabecquerels (40 to 50 millicuries) of americium-241/beryllium (Am-241/Be) used to measure moisture content. Other radioactive materials have also been used in portable gauges. Under the Atomic Energy Act of 1954, as amended, NRC regulates byproduct, source, and special nuclear material used in portable gauges. NRC does not, however, regulate naturally occurring radioactive material such as radium-226 (Ra-226) used in portable gauges because it is not a byproduct, source, or special nuclear material. Gauges containing Ra-226 may be regulated by individual States.

Portable gauges are of many different designs based on their intended use. Two basic methods of measuring the property of materials with these gauges are direct transmission and backscatter. For the direct transmission method, the source is located on a source rod. When the gauge is in use, the rod is extended and inserted beneath the surface material through an

access hole. Radiation emitted by the source beneath the surface material is measured by a detector in the base of the gauge. For the backscatter method, both the source and the detector remain on top of the surface material to be tested. Radiation is directed into the surface and some is reflected back to the gauge detector by the surface material.

When not in use, portable gauges are generally stored in a permanent storage location within a licensed facility. However, portable gauges are often also stored at a temporary jobsite if the job requires more than one day. When transporting a portable gauge from a licensed facility to a temporary jobsite in a vehicle, the gauge is often placed in a transportation case, and then is secured in or onto the vehicle. Sometimes, portable gauges are stored at a temporary storage location or on a vehicle.

#### *NRC and Agreement States Licenses*

As authorized by section 274(b) of the Atomic Energy Act of 1954, as amended, 32 States have assumed responsibility for regulating certain activities related to radioactive material by entering into agreements with the NRC. The activities regulated by these "Agreement States" include the use of byproduct material in portable gauges. Each Agreement State issues licenses to persons who use radioactive material in portable gauges in that State. The NRC issues licenses to persons using radioactive material in portable gauges in non-Agreement States. Requirements that are specific to the safe use of portable gauges are included as license conditions.

NRC and Agreement States issue specific licenses and certain general licenses. General licenses do not include an individual license document, and usually authorize only small quantities of licensed material. The subject of this rulemaking is for portable gauges that are specifically licensed. There are approximately 1100 NRC portable gauge specific licensees

and an additional 4000 Agreement State specific licensees. Portable gauge licensees often possess multiple portable gauges under the same license, and may conduct business outside of their home States under the reciprocity provisions of 10 CFR 150.20 or equivalent Agreement State regulations. There are an estimated 22,000 to 25,000 portable gauges in use in the United States.

### *Current Regulatory Practices*

Specific licenses for portable gauges are governed by NRC regulations in 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material." However, other NRC requirements in 10 CFR Parts 2, 19, 20, 21, 71, 150, 170, and 171 also apply to a portable gauge licensee. In addition, all such portable gauge licensees must also comply with other applicable Federal, State, and local regulations (e.g., Department of Transportation (DOT) regulations, local zoning requirements for a storage location, etc.). At present, NRC reviews a licensee's program as described in the license application, and incorporates certain requirements into the license as license conditions. Equivalent State regulations apply to Agreement State portable gauge licensees. Agreement States follow a similar approach. In addition, certain Agreement States, such as Florida, have specific additional requirements in their regulations for the possession and use of sealed sources in portable gauges. Other States, including Texas and Washington, have issued orders imposing specific additional requirements for their portable gauge licensees.

### *Storage and Control of Licensed Material*

NRC regulations in 10 CFR Part 20, "Standards for Protection Against Radiation," contain requirements applicable to activities conducted under licenses issued by the NRC. Subpart I of Part 20 addresses storage and control of licensed material. Specifically, § 20.1801,



“Security of stored material,” requires licensees to secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas. Section 20.1802, “Control of material not in storage,” requires licensees to control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. Despite these requirements, theft of portable gauges, as described below, continues.

### *Theft of Portable Gauges*

Reports in the NRC’s Nuclear Materials Events Database (NMED) reveal that there have been approximately 450 gauges stolen since 1990. More than two-thirds of these stolen gauges were taken from vehicles while parked at locations other than the licensees’ storage facilities or temporary jobsites. In most of these incidents, the gauge was in a DOT “Type A” transportation case, which was then secured with a metal chain to the open bed of a pickup truck. Frequently, the chain was cut and the gauge was stolen along with its transportation case. The remaining one-third of the gauges were stolen from a licensed facility or a temporary jobsite, stolen along with a vehicle, or taken by a disgruntled employee.

It is true that the number of incidents reported per year is small when compared to the total number of gauges in use, that the amount of radioactive material used in a portable gauge is relatively small, and that the radioactive material is encapsulated in stainless steel.

Nevertheless, the theft of portable gauges still poses a concern if the gauge is abandoned in the environment, is recycled in a steel mill, or is used inappropriately.

In light of these concerns, NRC has issued several “Information Notices” (IN-2001-11, IN-98-01, IN-93-18, IN-88-02, IN-87-55, and IN-86-67) to remind licensees of their responsibilities concerning the security of portable gauges. However, the yearly number of

reported incidents has not significantly decreased in response to these notices and the potential still exists for public health and safety risks. In addition, given the heightened sensitivity following the events of September 11, 2001, it is necessary to enhance security for portable gauges by reducing the opportunity for theft. Therefore, NRC is proposing additional security requirements for specifically licensed portable gauges in addition to the general requirements for security and control of licensed material in 10 CFR 20.1801 and 20.1802. A working group was formed in August 2002 to explore various options and requirements for the rulemaking. Personnel from the Agreement States of Florida and Arkansas represented the Organization of Agreement States and participated as members of the working group along with NRC staff in formulating this proposed rule. The proposed rule language was coordinated with DOT hazardous material transportation staff due to the intrinsic portability (i.e., transportation) of the portable gauge during the course of its utilization by licensees.

### **Discussion of Proposed Amendment**

NRC is proposing to amend its regulations in § 30.34, Terms and conditions of licenses, to impose specific security requirements for portable gauges to reduce the opportunity for theft. Specifically, NRC proposes revising this section by adding § 30.34(i) to the list of terms and conditions of licenses issued pursuant to 10 CFR Part 30, "Rules of General Applicability To Domestic Licensing Of Byproduct Material." This paragraph would require persons using portable gauges under specific licenses 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.

This rule would apply to a licensee with a portable gauge regardless of the location, situation, and activities involving the portable gauge. At all times, the licensee would be required

to either maintain control and constant surveillance of the portable gauge or use a minimum of two independent physical controls to secure the portable gauge. The NRC staff expects that the physical controls would be designed and constructed of material suitable for securing the gauges from unauthorized removal. In addition, the NRC staff's expectation is that both of these controls must be defeated for the portable gauge to be removed to deter a theft by requiring a more determined effort to remove the gauge.

#### *Securing a Portable Gauge at a Licensed Facility*

Long term storage of a portable gauge is usually at a permanent facility listed in the license or license application. Routine storage of a portable gauge in a vehicle or at temporary or permanent residential quarters is usually reviewed and may be authorized by NRC or the applicable Agreement State during the licensing process. Under the proposed regulation, when a portable gauge is stored at a licensed facility, the licensee would be specifically required to use a minimum of two independent physical controls to secure the gauge. Examples of two independent physical controls to secure a portable gauge when stored at a licensed facility are--

1. The portable gauge or transportation case containing the portable gauge is stored inside a locked storage shed within a secured outdoor area, such as a fenced parking area with a locked gate;
2. The portable gauge or transportation case containing the portable gauge is stored in a room with a locked door within a secured building for which the licensee controls access by lock and key or by a security guard;

3. The portable gauge or transportation case containing the portable gauge is stored inside a locked, non-portable cabinet inside a room with a locked door if the building is not secured;
4. The portable gauge or transportation case containing the portable gauge is stored in a separate secured area inside a secured mini-warehouse or storage facility; or
5. The portable gauge or transportation case containing the portable gauge is physically secured to the inside structure of a secured mini-warehouse or storage facility.

#### *Securing a Portable Gauge in a Vehicle*

Licensees commonly use a chain and a padlock to secure a portable gauge in its transportation case to the open bed of a pickup truck while using the vehicle for storage. Because the transportation case is portable, a theft could occur if the chain is cut and the transportation case with the portable gauge in it is taken. If the licensee simply loops the chain through the handles of the transportation case, a thief could open the transportation case and take the portable gauge without removing the chain or the case. Because the transportation case is also portable, it must be protected by two independent physical controls if the portable gauge is inside. A lock on the transportation case or a lock on the portable gauge source rod handle would not be sufficient under the proposed requirements because the case and the gauge are portable.

A vehicle should be used for storage only for a short period of time when a gauge is in transit. A portable gauge should only be kept in a vehicle overnight if it is not practicable to provide temporary storage in a permanent structure. Under the proposed regulation, when a portable gauge is being stored in a vehicle, the licensee would be specifically required to use a

minimum of two independent physical controls to secure the gauge. Examples of two such independent physical controls to secure portable gauges in these situations are--

1. The locked transportation case containing the portable gauge is physically secured to a vehicle with brackets, and a chain or steel cable (attached to the vehicle) is wrapped around the transportation case such that the case can not be opened unless the chain or cable is removed. In this example, the locked transportation case would count as one control because the brackets would prevent easy removal of the case. The chain or cable looped only through the transportation case handle is not acceptable;

2. The portable gauge or transportation case containing the portable gauge is stored in a box physically attached to a vehicle, and the box is secured with (1) two independent locks; (2) two separate chains or steel cables attached independently to the vehicle in such a manner that the box cannot be opened without the removal of the chains or cables; or (3) one lock and one chain or steel cable is attached to the vehicle in such a manner that the box cannot be opened without the removal of the chain or cable; or

3. The portable gauge or transportation case containing the portable gauge is stored in a locked trunk, camper shell, van, or other similar enclosure and is physically secured to the vehicle by a chain or steel cable in such a manner that one would not be able to open the case or remove the portable gauge without removal of the chain or cable. In this example, the transportation case would not count as one control because it could be easily removed.

## *Securing a Portable Gauge at a Temporary Jobsite or at Locations other than a Licensed Facility*

When a job requires storage of a portable gauge at a temporary jobsite or at a location other than a licensed facility, the licensee should use a permanent structure for storage if practicable to do so. When storing a portable gauge in temporary or permanent residential quarters, the licensee should limit access by storing the gauge in a separate room away from residents and other members of the public. The licensee must also meet the radiation exposure limits specified in 10 CFR Part 20.

Under the proposed regulation, when a portable gauge is stored at a temporary jobsite or at a location other than an authorized facility, the licensee would also be required to use a minimum of two independent physical controls to secure the gauge. Examples of two independent physical controls to secure portable gauges at these locations are--

1. At a temporary job site, the portable gauge or transportation case containing the portable gauge is stored inside a locked building or in a locked non-portable structure (e.g., construction trailer, sea container, etc.), and is physically secured by a chain or steel cable to a non-portable structure in such a manner that an individual would not be able to open the transportation case or remove the portable gauge without removing the chain or cable. A lock on the transportation case or a lock on the portable gauge source rod handle would not be sufficient because the case and the gauge are portable;

2. The portable gauge or transportation case containing the portable gauge is stored inside a locked room within temporary or permanent residential quarters, and is physically secured by a chain or steel cable to a permanent or non-portable structure (e.g., large metal drain pipe, support column, etc.) such that an individual would not be able to open the transportation case or remove the portable gauge without removing the chain or cable;

3. The portable gauge or transportation case containing the portable gauge is stored in a locked garage, and is within a locked vehicle or is physically secured by a chain or steel cable

to the vehicle in such a manner that an individual would not be able to open the transportation case or remove the portable gauge without removing the chain or cable; or

4. The portable gauge or transportation case containing the portable gauge is stored in a locked garage, and is within a locked enclosure or is physically secured by a chain or steel cable to a permanent or non-portable structure in such a manner that an individual would not be able to open the transportation case or remove the portable gauge without removing the chain or cable.

#### *Controlling and Maintaining Constant Surveillance of a Portable Gauge*

Under the proposed regulation, when a portable gauge is not secured with a minimum of two independent physical controls, the licensee would be required to control and maintain constant surveillance of the gauge. This proposed rule would more specifically address the current requirements in 10 CFR 20.1801 for security, and satisfy the requirements of 10 CFR 20.1802, which states that the licensee shall control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. Control and constant surveillance is required when the gauge is not in storage, e.g., is in use or undergoing maintenance. The NRC staff interprets “control and maintain constant surveillance” of portable gauges to mean being immediately present or remaining in close proximity to the portable gauge so as to be able to prevent unauthorized removal of the gauge.

#### **Criminal Penalties**

For the purpose of Section 223 of the Atomic Energy Act (AEA), the Commission is proposing to amend 10 CFR Part 30 under one or more of Sections 161b, 161i, or 161o of the AEA. Willful violations of the rule would be subject to criminal enforcement.

## **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 a matter of compatibility between the NRC and the Agreement States, thereby providing consistency among the Agreement State and NRC requirements. The NRC staff analyzed the proposed rule in accordance with the procedure established within Part III, “Categorization Process for NRC Program Elements,” of Handbook 5.9 to Management Directive 5.9, “Adequacy and Compatibility of Agreement State Programs” (a copy of which may be viewed at <http://www.hsr.d.ornl.gov/nrc/home.html>). The NRC staff has determined that proposed 10 CFR 30.34(i) is 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 the conditions that would jeopardize an orderly pattern in the regulation of agreement material on a nationwide basis.

The NRC determined that the essential objective of proposed 10 CFR 30.34(i) is to reduce the opportunity for theft of a portable gauge by requiring a portable gauge licensee 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.

The NRC believes that the proposed rule does not conflict with any existing State regulatory requirement. Personnel from Agreement States of Florida and Arkansas represented the Organization of Agreement States and participated as members of a working group along with NRC staff in the development of this proposed rule.



### **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. This memorandum was published June 10, 1998 (63 FR 31883). The 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" above.

### **Voluntary Consensus Standards**

The National Technology Transfer 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 revise 10 CFR Part 30 to add certain requirements for the security of portable gauges containing byproduct material. This action does not constitute the establishment of a standard that contains generally applicable requirements.

### **Environmental Assessment and Finding of No Significant Environmental Impact**

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the NRC's regulations in Subpart A of 10 CFR Part 51, that this proposed rule,

if adopted, would not be a major Federal action significantly affecting the quality of the human environment; therefore, an environmental impact statement is not required. The Commission has concluded on the basis of an environmental assessment that these requirements would not have any effects on the environment in which portable gauges are currently regulated under 10 CFR Part 30. The proposed rule would increase requirements to prevent the theft of portable gauges containing byproduct material.

The determination of this environmental assessment is that there will be no significant impact on the public from this action. However, the general public should note that the NRC is seeking public participation. Comments on any aspect of this environmental assessment may be submitted to the NRC as indicated under the **ADDRESSES** heading.

The NRC has sent a copy of the environmental assessment and this proposed rule to every State Liaison Officer and requested their comments on the environmental assessment. The environmental assessment may also be examined at the NRC Public Document Room, Public File Area O1F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. Single copies of the environmental assessment are available from Lydia Chang, Office of Nuclear Material Safety and Safeguards, telephone (301) 415-6319, e-mail [lwc1@nrc.gov](mailto:lwc1@nrc.gov).

### **Paperwork Reduction Act Statement**

This proposed rule does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing requirements were approved by the Office of Management and Budget, approval number 3150-0017.

## **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.

## **Regulatory Analysis**

The Commission has prepared a draft regulatory analysis on this proposed regulation. The analysis examines the costs and benefits of various alternatives. In addition to the proposed regulation, the NRC staff also considered alternatives such as: prohibiting unattended storage of portable gauges in or on vehicles; prohibiting unattended storage at locations other than licensed facilities; or requiring use of a metal enclosure and a lock with a shielded/protected shackle. However, these alternatives were found to be overly prescriptive and excessively burdensome for most NRC licensees. The option selected is requiring a minimum of two independent physical controls whenever the portable gauge is not under the control and constant surveillance of the licensee. This proposed rule would enhance the current level of security and control (e.g., the requirements in 10 CFR 20.1801 and 20.1802) of portable gauges while providing sufficient flexibility for licensees to implement the requirements without an unreasonable burden.

The Commission requests public comment on the draft regulatory analysis specifically on the costs to licensees. Comments on the draft analysis may be submitted to the NRC as indicated under the **ADDRESSES** heading. The draft regulatory analysis is available for inspection in the NRC Public Document Room, Public File Area O1F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. Single copies of the draft regulatory analysis are

available from Lydia Chang, Office of Nuclear Material Safety and Safeguards, telephone (301) 415-6319, e-mail [lwc1@nrc.gov](mailto:lwc1@nrc.gov).

### **Regulatory Flexibility Act Certification**

As required by the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission certifies that this rule, if adopted, will not have a significant economic impact upon a substantial number of small entities. The proposed rule would affect about 1100 portable gauge specific licensees and an additional 4000 Agreement State specific licensees. These licenses are issued principally to companies involved in road constructions and maintenance. Many portable gauge licensees would qualify as small business entities as defined by 10 CFR 2.810. However, the proposed rule is not expected to have a significant economic impact on these licensees. Based on the draft regulatory analysis conducted for this action, the costs of the proposed amendments for affected licensees are estimated at \$200 per gauge. The 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. The draft regulatory analysis also notes that the proposed requirements would result in potential cost savings for portable gauge licensees, particularly for the replacement of stolen gauges. These savings would offset the implementation costs for portable gauge licensees. The NRC staff also notes that several Agreement States have imposed similar or more stringent requirements on their portable gauge licensees either by rule, order, or license condition.

Because of the widely differing conditions under which portable gauge users operate, the NRC is specifically requesting public comment from licensees concerning the impact of the proposed regulation. The NRC particularly desires comment from such licensees, who qualify as small businesses, as to how the proposed regulation will affect them and how the regulation may be tiered or otherwise modified to impose less stringent requirements on small entities

while still adequately protecting the public health and safety. Comments on how the regulation could be modified to take into account the differing needs of small entities should specifically discuss--

(a) The size of the business and how the proposed regulation would result in a significant economic burden upon it as compared to a larger organization in the same business community;

(b) How the proposed regulation could be further modified to take into account the business's differing needs or capabilities;

(c) The benefits that would accrue, or the detriments that would be avoided, if the proposed regulation was modified as suggested by the commenter;

(d) How the proposed regulation, as modified, would more closely equalize the impact of NRC regulations as opposed to providing special advantages to any individuals or groups; and

(e) How the proposed regulation, as modified, would still adequately protect the public health and safety.

Comments should be submitted as indicated under the **ADDRESSEES** heading.

### **Backfit Analysis**

The NRC has determined that the backfit rules (§§ 50.109, 70.76, 72.62, or 76.76) do not apply to this proposed rule because this amendment would not involve any provisions that would impose backfits as defined in 10 CFR Chapter 1. Therefore, a backfit analysis is not required.

## **List of Subject Terms for Part 30**

Byproduct material, Criminal penalties, Government contracts, Intergovernmental relations, Isotopes, Nuclear materials, Radiation protection, Reporting and recordkeeping requirements.

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 Part 30.

### **PART 30-RULES OF GENERAL APPLICABILITY TO DOMESTIC LICENSING OF BYPRODUCT MATERIAL**

1. The authority citation for Part 30 continues to read as follows:

**AUTHORITY:** Secs. 81, 82, 161, 182, 183, 186, 68 Stat. 935, 948, 953, 954, 955, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2111, 2112, 2201, 2232, 2233, 2236, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 30.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 as amended by Pub. L. 102-486, sec. 2902, 106 Stat. 3123 (42 U.S.C. 5851). Section 30.34(b) also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 30.61 also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

2. In § 30.34, paragraph (i) is added to read as follows:

#### **§ 30.34 Terms and conditions of licenses.**

\* \* \* \* \*



**ENVIRONMENTAL ASSESSMENT AND  
FINDING OF NO SIGNIFICANT IMPACT  
FOR THE PROPOSED RULE  
AMENDING 10 CFR PART 30  
Rules of General Applicability to Domestic Licensing of Byproduct Material**

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

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is planning to publish in the Federal Register a proposed rule amending its regulations that govern the use of byproduct material in specifically licensed portable gauges. The proposed rule would require a licensee to provide a minimum of two independent physical controls that form tangible barriers to secure the gauges from unauthorized removal whenever the portable gauges are not under the control and constant surveillance of the licensee. NRC has prepared an environmental assessment to support this action.

## **I. INTRODUCTION**

Portable gauges are devices containing licensed material that are used to determine physical properties such as density and moisture content of soil, concrete, and other materials in a field setting. The most typical portable gauges in use today contain two encapsulated sources of radioactive materials. The first is a sealed gamma source containing 0.30 to 0.37 gigabecquerels (8 to 10 millicuries) of cesium-137 (Cs-137). This source is used for density measurement based on the attenuation of gamma radiation due to Compton scattering and photoelectric absorption, which is directly related to the electron density of materials. The second is a sealed neutron source containing 1.48 to 1.85 gigabecquerels (40 to 50 millicuries) of americium-241/beryllium (Am-241/Be). This source is used for moisture content measurement based on the thermalization or slowing down of fast neutron radiation, which is a



function of the hydrogen content of the material. Other radioactive materials besides Cs-137 and Am-241/Be have also been used in portable gauges.

When not in use, portable gauges are generally stored in a permanent storage location within a licensed facility. Portable gauges are often stored at a temporary jobsite if a job requires more than one day. A portable gauge being transported from a licensed facility to a temporary jobsite in a vehicle is first placed in a transportation case, and then is secured in or onto the vehicle. Sometimes, portable gauges are stored at a temporary storage location or on a vehicle.

Specific licenses for portable gauges are governed by NRC regulations in 10 Code of Federal Regulations (CFR) Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material." However, other NRC requirements in 10 CFR Parts 2, 19, 20, 21, 71, 150, 170, and 171 also apply to a portable gauge licensee. At present, NRC reviews a licensee's program as described in the license application, and incorporates certain requirements into the license as license conditions. Equivalent State regulations apply to Agreement State portable gauge licensees. In addition, all such portable gauge licensees must also comply with other applicable Federal, State, and local regulations (e.g., Department of Transportation regulations, zoning requirements for a storage location, etc.). Agreement States follow a similar approach as NRC. In addition, certain Agreement States, such as Florida, have specific additional requirements in their regulations for the possession and use of sealed sources in portable gauges. Other States, including Texas and Washington, have issued orders imposing specific additional requirements for their portable gauge licensees.

Reports in the NRC's Nuclear Materials Events Database reveal that there have been approximately 450 cases of stolen gauges since 1990. Although the amount of radioactive materials used in a portable gauge is relatively small and is encapsulated in stainless steel, the

gauge still poses a concern for public health and safety and/or environment whenever it is stolen.

## **II. PROPOSED ACTION**

Under the proposed action, NRC would amend its regulations to include specific security requirements for handling portable gauges in order to reduce the opportunity for theft. The proposed rule would require 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. This rule would apply to a licensee with a portable gauge regardless of the location, situation, and activities involving the portable gauge. At all times, the licensee would be required to either maintain control and constant surveillance of the portable gauge or use a minimum of two independent physical controls to secure the portable gauge.

## **III. NEED FOR THE PROPOSED ACTION**

The theft of portable gauges poses a potential health and safety concern if the gauge is abandoned in the environment, is recycled in a steel mill, or is used inappropriately. The yearly number of reported incidents has not significantly decreased in response to NRC guidance reminding licensees of their responsibilities concerning the security of portable gauges. In addition, given the heightened sensitivity following the events of September 11, 2001, it is necessary to enhance security for portable gauges by reducing the opportunities for theft. Therefore, the NRC is proposing security requirements for specifically licensed portable gauges in addition to the general requirements in for security and control of licensed material in 10 CFR 20.1801 and 20.1802.

#### **IV. ALTERNATIVES TO THE PROPOSED ACTION**

The NRC considered alternatives to the proposed action including the no rulemaking alternative, and an alternative to adopt more stringent requirements than those proposed. Under the no rulemaking alternative, the NRC would rely on the current regulations in 10 CFR 20.1801 and 20.1802 for security and control of licensed materials and may consider revising existing guidance on portable gauge licenses. The no rulemaking alternative is not preferable because it may not help to reduce the potential risk to public health and safety and the environment due to the theft of portable gauges containing radioactive sources. Under the alternative to adopt more stringent requirements, the NRC would require a licensee to use, for example, a metal enclosure and a lock with a shielded/protected shackle for storage of a portable gauge in a vehicle, or NRC would prohibit a licensee from unattended storage of portable gauges in vehicles. Adoption of these more stringent requirements is not preferable because the NRC desires to allow licensees the maximum flexibility possible in achieving a reduction in the theft of portable gauges. The preferred alternative is to undertake a rulemaking to amend 10 CFR Part 30 regulations to require 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 preferred alternative would enhance the current level of security and control of portable gauges while providing sufficient flexibility for licensees to implement the requirements.

#### **V. ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES**

This proposed rulemaking would not have a significant environmental impact. This action would reduce opportunities for the theft of portable gauges and, therefore, reduce the number of stolen sources. Therefore, potential health and safety hazard to the public may be reduced due to unintentional exposure to the stolen sources. Although most stolen gauges are

abandoned on the roadside or in woods, the potential release of radioactive materials into the environment is still small because the rate of recovery is high and because radioactive sources used in portable gauges are relatively small and robustly encapsulated. However, reducing the number of stolen gauges could further reduce the potential impact to the environment. The no rulemaking alternative would not change the potential risk to public health and safety or the potential impact to the environment due to the continued risk of theft. Adoption of a more stringent requirement is expected to have similar environmental impacts to those of the preferred alternative.

## **VI. AGENCIES AND PERSONS CONSULTED, AND SOURCES USED**

Two representatives from the Agreement States of Florida and Arkansas represented the Organization of Agreement States (OAS) and participated in the development of the proposed rule and drafting of the environmental assessment. The OAS is an organization of Agreement States providing support for its members and communication among Agreement States, NRC, and others. In addition, the staff provided a copy of the proposed rule to the U.S. Department of Transportation hazardous material transportation staff for consultation. The NRC has sent a copy of the draft environmental assessment along with the proposed rule to every State Liaison Officer and has requested their comments on the environmental assessment.

## **VII. FINDING OF NO SIGNIFICANT IMPACT**

Based on its review, the Commission has determined under the National Environmental Policy Act of 1969, as amended, and the NRC's regulations in Subpart A of 10 CFR Part 51, that the proposed amendment is not a major Federal action significantly affecting the quality of the human environment, and therefore, an environmental impact statement is not required. The Commission believes that the proposed action would not have a significant environmental

impact. The Commission has determined that the proposed action of requiring specific controls for the security of licensed materials in portable gauges is the appropriate alternative to select.

The determination of this environmental assessment is that there will be no significant impact to the public from this action. However, the general public should note that the NRC welcomes public participation. Comments on any aspect of the environmental assessment may be submitted to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attn: Rulemakings and Adjudications Staff. For further information on the proposed rule for portable gauge or this environmental assessment, contact: Lydia Chang, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-6319, e-mail [lwc1@nrc.gov](mailto:lwc1@nrc.gov).