

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS  
WASHINGTON, D.C. 20555

August 3, 2005

**NRC REGULATORY ISSUE SUMMARY 2005-15:  
REPORTING REQUIREMENTS FOR DAMAGED INDUSTRIAL  
RADIOGRAPHIC EQUIPMENT**

**ADDRESSEES**

All material licensees possessing industrial radiographic equipment, regulated under 10 CFR Part 34.

**INTENT**

The U.S. Nuclear Regulatory Commission (NRC) is issuing this Regulatory Issue Summary (RIS) to inform addressees of the reporting requirements in 10 CFR Parts 30 and 34 regarding damage to industrial radiographic devices containing byproduct material and associated equipment. No specific action or written response is required.

**BACKGROUND**

During an inspection of an industrial radiography licensee in September 2004, an NRC inspector identified that a guide tube was damaged during radiographic operations, which resulted in the inability to retract and secure the radiation source assembly into its fully shielded position. The licensee appropriately followed its emergency procedures to retrieve the radiation source assembly, and submitted a 30 day written report of the incident in accordance with 10 CFR 34.101(a)(2), which requires reporting when there is an inability to retract and secure a source assembly. However, the licensee did not comply with the reporting requirements in 10 CFR 30.50(b)(2) which requires notification to the NRC within 24 hours of an event in which equipment is disabled, or fails to function as designed when certain circumstances exist. The licensee did not understand that the reporting requirements in 10 CFR 30.50(b)(2) applied to this type of event.

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## SUMMARY OF ISSUE

Some licensees are uncertain about when reporting is required under 10 CFR 30.50, "Reporting Requirements;" or when reporting is required under 10 CFR 34.101, "Notifications." Specifically, when faced with the need to report an event where the radiographic source cannot be retracted to a safe, shielded position, some licensees are uncertain if they must report the event in accordance with 10 CFR 30.50 or 10 CFR 34.101; or if they should report the event under both reporting requirements. Additionally, licensees are not reporting malfunctioning radiography guide tubes, in accordance with 10 CFR 30.50, because of apparent uncertainty as to how a radiography guide tube can prevent exposures to radiation and radioactive materials that would result in exceeding regulatory limits.

10 CFR 34.20(a)(6) states that guide tubes must be used when moving the source out of the device. Radiography guide tubes must be used because they help to increase safety and prevent exposures to workers and members of the public in the following ways: 1) guide tubes ensure that the source assembly will not be cranked out of the camera and fall to the ground; 2) guide tubes guard against loss of the source, and thereby, help to prevent exposures to unshielded sources of radiation; and 3) guide tubes help to reduce exposure by increasing the distance between the worker and the radiation source, while the source is moving out of the camera into position for exposing the target. For these reasons, the occurrence of a malfunctioning guide tube would require reporting under 10 CFR 30.50. Specifically, 10 CFR 30.50(b)(2) requires 24-hour telephonic reporting of an event in which equipment is disabled or fails to function as designed when the equipment is required to prevent releases exceeding regulatory limits or to prevent exposures to radiation and radioactive materials exceeding regulatory limits, and 10 CFR 30.50(c)(2) provides that for any report required by paragraph (a) or (b) of Section 30.50, the licensee must submit a written report within 30 days including certain specified information.

10 CFR 34.101(a) provides that, in addition to the reporting requirements of Section 30.50, written notification must be made to the NRC within 30 days of the occurrence of any event involving radiographic equipment meeting certain criteria, including an event in which the source assembly is unintentionally disconnected from the control cable, or the source cannot be retracted to its fully shielded position. That regulation also specifies the information that must be included in the report. Therefore, reporting under both 10 CFR 30.50 and 10 CFR 34.101 is required with respect to malfunctioning equipment, and licensees must comply with both requirements if there is damage to the guide tube such that the radiation source assembly cannot be retracted into its fully shielded position and secured in this position.

In addition to being aware that dual reporting under 10 CFR 34.101 and 10 CFR 30.50 is required, licensees should be mindful of the time constraint established in these regulations for reporting. The time constraint for reporting by telephone is 24 hours, in accordance with Section 30.50(b). This time constraint is intended to ensure NRC is promptly made aware of potentially ongoing events, and that the licensee has taken appropriate precautions to protect worker and public health and safety. Therefore, licensees must notify NRC within 24 hours by telephone after the discovery of an event in which equipment is disabled or fails to function as designed:

1. When, in accordance with 10 CFR 30.50(b)(2)(i), the equipment is required by regulation or license condition to prevent releases exceeding regulatory limits, to prevent exposures to radiation and radioactive materials exceeding regulatory limits, or to mitigate the consequences of an accident;
2. When, in accordance with 10 CFR 30.50(b)(2)(ii), the equipment is required to be available and operable when it is disabled or fails to function;
3. When, in accordance with 10 CFR 30.50(b)(2)(iii), no redundant<sup>1</sup> equipment is available and operable to perform the required safety function.

Written reports must be submitted within 30 days, under both 10 CFR 30.50 and 10 CFR 34.101, and licensees should be aware of this time constraint as well.

However, 10 CFR 30.50(c)(2) provides that written reports prepared pursuant to other regulations may be submitted to fulfill this requirement if the reports contain all of the necessary information required by that regulation. Therefore, to meet the requirement for the timely filing of reports of damaged radiography equipment, licensees may select one of the two methods briefly described below:

#### Method #1

- Make a telephone report, within 24 hours, in accordance with Section 30.50(b).
- Prepare a written report in accordance with Section 30.50(c)(2). Include in the report all information specified in Section 34.101(a). Send the report to NRC Headquarters, along with a copy to the appropriate Regional office, within 30 days.

#### Method #2

- Make a telephone report, within 24 hours, in accordance with Section 30.50(b).
- Prepare and submit a written report in accordance with Section 30.50(c)(2).
- Prepare and submit a written report in accordance with Section 34.101(a).

Personnel from NRC Regional and Headquarters Offices are available to assist licensees who have questions about the reporting requirements associated with events where a source, under normal circumstances, cannot be retracted into its safe, shielded position. Licensees who are uncertain about the reporting requirements should refer to NRC Form 3 for the telephone number for contacting the appropriate Regional or Headquarters Office. NRC Form 3 may be downloaded from the NRC public website at <http://www.nrc.gov/reading-rm/doc-collections/forms/nrc3info.html>.

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<sup>1</sup>In this context, “redundant” means similar equipment with safety features equivalent to the safety features of the disabled equipment.



**FEDERAL REGISTER NOTIFICATION**

A notice of opportunity for public comment on this RIS was not published in the *Federal Register* because this RIS is informational, and does not represent a departure from current regulatory requirements.

**SMALL BUSINESS REGULATORY ENFORCEMENT FAIRNESS ACT**

NRC has determined that this action is not subject to the Small Business Regulatory Enforcement Fairness Act of 1996.

**PAPERWORK REDUCTION ACT STATEMENT**

This RIS does not contain information collections and, therefore, is not subject to the requirements of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, et seq.).

This RIS requires no specific action nor written response.

**CONTACT**

Please direct any questions about this matter to the technical contact or the appropriate regional office.

**/RA/**

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Attachment: "List of Recently Issued NMSS Generic Communications"

Note: NRC generic communications may be found on the NRC public Web site, <http://www.nrc.gov>, under Electronic Reading Room/Document Collections.

\* See previous concurrence

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**Recently Issued NMSS Generic Communications**

Date	GC No.	Subject	Addressees
07/13/05	RIS-05-13	NRC Incident Response and the National Response Plan	All licensees and certificate holders.
07/11/05	RIS-05-11	Requirements for Power Reactor Licensees in Possession of Devices Subject to the General License Requirements of 10 CFR 31.5	All holders of operating licenses for nuclear power reactors and generally licensed device vendors.
06/10/05	RIS-05-10	Performance-Based Approach for Associated Equipment in 10 CFR 34.20	All industrial radiography licensees and manufacturers and distributors of industrial radiography equipment.
04/18/05	RIS-05-06	Reporting Requirements for Gauges Damaged at Temporary Job Sites	All material licensees possessing portable gauges, regulated under 10 CFR Part 30.
6/23/05	IN-05-17	Manual Brachytherapy Source Jamming	All medical licensees authorized to possess a Mick applicator.
05/17/05	IN-05-013	Potential Non-conservative Error in Modeling Geometric Regions in the Keno-v.a Criticality Code	All licensees using the Keno-V.a criticality code module in Standardized Computer Analyses for Licensing Evaluation (SCALE) software developed by Oak Ridge National Laboratory (ORNL)
05/17/05	IN-05-012	Excessively Large Criticality Safety Limits Fail to Provide Double Contingency at Fuel Cycle Facility	All licensees authorized to possess a critical mass of special nuclear material.

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