



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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PDR

MAY 12 1993

MEMORANDUM FOR: Mary L. Thomas
Radiation Protection and Health Effects Branch
Division of Regulatory Application
Office of Nuclear Regulatory Research

FROM: Michael T. Lesar, Chief
Rules Review Section
Rules Review and Directives Branch
Division of Freedom of Information
and Publications Services
Office of Administration

SUBJECT: REVIEW OF PROPOSED RULE ENTITLED "LICENSES FOR RADIOGRAPHY
AND RADIATION SAFETY REQUIREMENTS FOR RADIOGRAPHIC OPERATIONS"

The Rules Review Section has reviewed the proposed rule that would amend 10 CFR Part 34. We have attached a marked copy of the package that presents a number of editorial comments and format correction.

In the first draft of Part 34, the regulatory text was presented as a revision to the entire part. However, the current draft presents the changes to Part 34 as a series of piecemeal amendments to the part. Unfortunately, the piecemeal approach, as presented in this draft, would not be acceptable for publication. The Office of the Federal Register (OFR) requires that a provision, such as a section or subpart, be vacant before another provision may be redesignated into that space. Because of the sweeping nature of the contemplated amendments and the compression of provisions in the existing Part 34, the approach presented in this draft would not meet this requirement. Although we have provided you with the changes that would be necessary to make this piecemeal amendatory approach acceptable to the OFR for publication, we strongly suggest that you return to the approach used in the first draft and present the regulatory text as a complete revision of Part 34. The specific changes contemplated by the proposed rule are explained adequately in the Supplementary Information section of the proposed rule.

Because this proposed rule may have a significant economic impact on a substantial number of small entities, a regulatory flexibility analysis is required for this proposed action. The regulatory flexibility analysis must contain sufficient detail concerning the costs and benefits of the proposed rule to enable a small entity to determine how the proposed rule would affect it. The regulatory flexibility analysis, or a summary of the analysis, must be presented as an appendix to the document when it is submitted for publication in the Federal Register. For additional information on the content and requirements of a regulatory flexibility analysis, see Section 3.19 of the NRC Regulations Handbook, NUREG/BR-0053, Revision 2.

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Mary L. Thomas

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If you have any questions concerning this rule, please contact Alice Katoski (27928) or me (27758).



Michael T. Lesar, Chief
Rules Review Section
Rules Review and Directives Branch
Division of Freedom of Information
and Publications Services
Office of Administration

Attachment: As stated

[7950-01]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 34

RIN 3150-AE 07

Licenses for Radiography

and

Radiation Safety Requirements for Radiographic Operations

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is proposing to ^{agency} revise its regulations governing industrial radiography. The ^{proposed rule} revision would include additional safety requirements to enhance the level of protection of radiographers and the public and would clarify the regulations so that licensees may have a better understanding of what is expected in radiographic operations. ~~There has not been an overall revision of Part 34 in many years~~ while a number of Agreement States have updated their radiography regulations. ~~This revision incorporates certain of the provision of the updated regulation.~~ The format of the ~~proposed rule~~ ^{Radiography Regulation would be adjusted} has been revised to place requirements into ^{descriptive} categories which describe the type of requirements that are found in the ~~subpart~~.

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states

DATES: Submit comments by (75 days after publication). 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.

ADDRESSES: Mail written comments to: Secretary, U.S. Nuclear Regulatory Commission, Washington DC 20555, Attention: Docketing and Service Branch. Hand deliver comments to 11555 Rockville Pike, Rockville, Maryland between 7:45 am and 4:15 pm Federal workdays.

Examine comments received, the environmental impact, and the regulatory analysis at: The NRC Public Document Room at 2120 L Street NW. (Lower Level), Washington, DC.

FOR FURTHER INFORMATION CONTACT: Dr. Donald O. Nellis or Mary L. Thomas, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington DC 20555; Telephone: (301) 492-3628 or 492-3886.

SUPPLEMENTARY INFORMATION:

I. Background

10 CFR Part 34 was first published in 1965 as part of the recodification of Parts 30 and 31 for the purpose of simplifying and clarifying the format of the then current regulations so that persons subject to byproduct material licensing regulations could conveniently use and understand them. Numerous modifications to the original Part 34 have been made since 1965, many of which have been directed toward the safety aspects of field radiography, ~~such as the~~ *These*

Note: You speak in terms of an overall revision here and in the summary. However, the regulatory text is not being presented as a series of piecemeal amendments to the part. Confusing and misleading.

performance requirements on radiography equipment and additional reporting requirements on equipment malfunctions, both published in 1990.

There are approximately 200 NRC radiography licensees with an additional 500 Agreement State licensees. Radiography licensees often conduct business under both NRC and Agreement State jurisdiction.

There has not been an overall revision of Part 34 in many years while a number of Agreement States have updated their radiography regulations. The decision to develop an overall revision to 10 CFR Part 34 was made with the intent of establishing new safety requirements for radiography licensees and clarifying the regulation so that licensees may have a better understanding of what is expected in radiographic operations. The format of the proposed rule has been revised to place requirements into categories which better describe the type of requirements that are found in the subpart.

The NRC solicited recommendations on radiography issues at the 1991 Agreement States meeting in Sacramento, CA, as well as from NRC regional offices and radiography equipment manufacturers and radiography licensees. A workshop was held on November 18, 1992, in Dallas, Texas to discuss the recommendations received from the Agreement States and licensees on an overall revision of the radiography regulations. The transcript of the meeting, which is available for inspection and copying in the NRC Public Document Room, was reviewed in further developing the proposed revision.

Part E of the "Suggested State Regulations for Control of Radiation" developed by the Conference of Radiation Control Program Directors, Inc., Part 31 of the Texas Regulations for Control of Radiation, Chapter 5 of the Louisiana regulations and the Canadian "Atomic Energy Control Regulations,"

that apply to radiography were utilized in developing this proposed revision of Part 34.

A petition was received in October 1992⁵ from the International Union of Operating Engineers (IUOE), Local No. 2, requesting an amendment to the radiography regulations to require a minimum of two radiographic personnel when performing industrial radiography at temporary jobsites. The petition was published in the Federal Register on December 4, 1992⁶ (57 FR 57392). Thirty-eight comment letters were received, 35 were in favor of granting the petition. Resolution of this petition has been addressed in this proposed revision to Part 34.

II. Petition for Rulemaking

In October 1992, the International Union of Operating Engineers (IUOE), Local No. 2 petitioned the NRC to amend its regulations regarding radiography to require a minimum of two radiographic personnel when performing industrial radiography at temporary jobsites. The petition offered three options for the makeup of the two-person crew: (1) two radiographers; (2) one radiographer and one radiographer's assistant; and (3) one radiographer and one trainee, with the trainee having completed 40 hours of approved radiation safety training and passed an examination. The petitioners believe that the suggested change is necessary to ensure a safe working environment. The NRC published a notice of receipt of the petition and a request for comment in the Federal Register on December 4, 1992 (57 FR 57392). Thirty-eight comments were received, 35 were in favor of granting the petition, 3 were against. Some concerns were expressed regarding the combination of a radiographer and a

trainee as a two-man team. Many stated that the trainee is an unskilled individual that may or may not achieve radiographer status and spending the time and money for 40 hours training may not be financially feasible for some radiography companies. This proposed rulemaking constitutes a partial granting of the petition, in that it proposes to require a two-person crew whenever radiographic operations are being conducted outside of a permanent radiographic installation. The NRC has decided not to adopt the term "radiographer trainee," and is proposing that the second person be another qualified radiographer or an individual with, at least, the training of a radiographer's assistant. However, it is recognized that in some agreement states the training of those individuals designated as trainees would meet the training requirements for radiographer's assistants.

III. General Discussion of Proposed Rule Changes

The proposed amendments contain requirements which are intended to improve radiography safety. The first major change is a proposal to require two qualified individuals (two radiographers or a radiographer and an individual with training at least equivalent to a radiographer's assistant) to be present any time radiographic operations occur outside of a permanent radiographic installation. This issue has already been addressed under Section II. Petition for Rulemaking.

Another issue involves the definition of a permanent radiographic installation. In the past, there has been some confusion on what the NRC intended in requiring a permanent radiographic installation to have special

access control devices. The proposed rule changes the definition of a "permanent radiographic installation" to be an enclosed shielded room, cell, or vault in which radiography is performed. The terms "designed or intended for radiography" and "regularly performed" have been removed from the definition to reduce any ambiguity in what is intended. Under the existing rule, if a licensee has a room, cell, or vault that meets the definition of a "permanent radiographic installation", then it must meet the special safety requirements of § 34.33 and must be listed on the license. The proposed rule adds one additional requirement to perform a daily check of the visible and audible signals. Under the proposed rule, radiography can only be performed in one of two ways; (1) in a permanent radiographic installation with a qualified radiographer, or (2) at any other location with two qualified individuals.

The proposed rule includes requirements specifying the qualifications and duties of the Radiation Safety Officer (RSO). The RSO is the key licensee individual charged with the responsibility to ensure that the requirements in the license are followed. These requirements have previously been based on similar requirements included in specific license conditions on a case-by-case basis.

The format of the proposed rule has been revised to more appropriately group requirements within subparts of 10 CFR 34. This has been done to clarify and simplify the safety requirements of Part 34 in an effort to make the regulation a more easily understood document and to facilitate compliance.

There is no mandatory language presented that would accomplish these changes.

IV. Discussion of the Proposed Amendments

Table of Contents

The new Table of Contents contains eight subparts. The organization is as follows:

- Subpart A-General Provisions
- Subpart B-Specific Licensing Provisions
- Subpart C-Equipment
- Subpart D-Radiation Safety Requirements
- Subpart E-Recordkeeping Requirements
- Subpart F-Notification of Incidents
- Subpart G-Exemptions
- Subpart H-Enforcement

This organization follows the same general format used in 10 CFR Part 39, which addresses radiation safety requirements for well logging. Each subpart will be discussed separately.

Subpart A-General Provisions

This subpart covers items of a general nature, such as listing definitions, and OMB approvals. It also describes the purpose and scope of the rule.

Section 34.1, Purpose and scope, is basically unchanged from the existing regulation. Other NRC regulations which apply to radiography licenses are referenced in this section.

Section 34.3, Definitions, contains the following new terms: "ALARA,"
"Becquerel," "Collimator," "Field station," "Radiation Safety Officer,"
"Sievert," and "Temporary jobsite". These definitions were added to define
terms used in requirements not previously addressed in Part 34. The term
"ALARA," which means as low as reasonably achievable, has been added to
include procedures now explicitly required in Part 20. Previously ^{these procedures} ~~this was~~ ^{were}
only addressed in regulatory guides. The terms "Becquerel" and "Sievert" were
added to reflect the Commission's policy on use of metric units in all new or
revised regulations. The term "Collimator" was added to the proposed rule
^{because} since it is a piece of equipment that is often used in conducting radiography
operations and must be included when conducting a radiation survey. The terms
"Field station" and "Temporary jobsite" were added to the proposed rule ^{since} ~~because~~
the use of radioactive material frequently occurs at sites that may not be
listed on the license and there has been some confusion on whether special
requirements must be met at these locations. The term "field station" is
being used to designate those locations where radiography equipment is stored
and from which equipment is dispatched to "temporary jobsites" where
radiography is to be conducted. The term "Radiation Safety Officer," ^(RSO) was added
to clearly specify the duties and qualifications of this individual. While
the role of the RSO has long been recognized by the NRC as a vital function in
the safe use of radioactive material, the current Part 34 does not address the
duties and qualifications of this individual.

The terms "Associated equipment," "Control device," "Control Tube,"
"Exposure head," "Field examination," "Periodic training," "Projection
sheath," "Shielded position," and "Source assembly," while used in the
existing regulation, were not previously defined. Both licensees and

Agreement State representatives requested clarification of these terms.

~~Discussion of~~ changing the definition of "radiographer's assistant" occurred ^{was discussed} at the November 1992 workshop in Dallas, Texas. Some Agreement States use the term, "trainee" to refer to a "radiographer's assistant" and require training similar to that required of a radiographer. The NRC has decided to retain the term "radiographer's assistant" and has proposed upgrading the training requirements to provide additional assurance that radiographer's assistants are sufficiently knowledgeable of NRC regulations. Although the NRC is not adopting the term "trainee," the proposed rule has been written to provide the flexibility for the second person to have training beyond that of a radiographer's assistant. This position could then equally be filled by a "trainee."

The definition of a "Permanent radiographic installation" was modified to define what is meant by permanent, ^{since} ^{Dec 15 C} some licensee's ^{WERD} ~~have been~~ confused ^{as to} on when a facility was required to meet the requirements of a permanent radiographic installation. The definitions of "storage area" and "storage container" were modified to remove references to transportation. Specific transportation requirements are addressed in § 34.35.

Section 34.5, Interpretations, is standard regulatory language to state that only the General Counsel of the NRC has the authority to provide interpretations of the regulations which will be binding on the Commission.

Section 34.8, Information collection requirements: OMB approval, is unchanged from the current regulation, except for changing the section numbers which apply to the new format of the proposed rule and any new requirements. The Commission has submitted the proposed rule for OMB clearance. Final OMB clearance will be obtained prior to publication of a final rule.

Subpart B-Specific Licensing Provisions

This proposed subpart provides the basic requirements for submittal of a license application. This ^{sections in this} proposed subpart ~~contains sections~~ ^{are} basically unchanged from ^{those in} the ~~existing~~ ^{current} Subpart A of Part 34.

Section 34.11, Application for a specific license, is worded the same as ~~Section~~ §34.3 in the current Part 34.

Section 34.13, Specific license for radiography, is basically worded the same as ~~Section~~ §34.11 in the current Part 34, except for the following: ~~Section~~ §34.13(e), ^s proposes a reduction in the frequency of field inspections of radiographers and radiographer's assistants from quarterly to semiannually. The NRC is proposing to reduce the frequency of the inspections of job performance to semiannual inspections for individuals regularly conducting radiographic operations. For individuals who have not performed radiographic operations for more than three months, an inspection of job performance would be required as in the existing rule prior to their participation in a radiographic operation. This reduction was done primarily in response to comments made at the Radiography Workshop conducted in November, 1992. The basic requirements for conducting the field inspections have been relocated to § 34.43(d) to more accurately reflect its role in the training program. In addition, a new requirement for conducting annual safety reviews has also been added in § 34.43(c) to provide additional assurance that radiographers will be knowledgeable of current procedures and requirements. Section 34.13(g) is proposed which requires the licensee to designate an individual on the license to fulfill the duties of the RSO. The qualifications and duties of this individual are specified in § 34.41.

PARAGRAPH

Section 34.13(i) is a new ~~section~~ which, as proposed, would require a list and description of all permanent radiographic installations and all permanent storage locations to be included in the license application. A permanent storage location is described as one where radioactive material is stored for more than 180 days in a calendar year. The time under which an area could be used temporarily for storage was chosen to agree with the length of time an Agreement State licensee may operate in NRC jurisdiction under reciprocity.

Subpart C-Equipment

This proposed subpart describes the requirements for radiographic equipment performance and use. Some of the requirements in this proposed subpart are changed from the current Part 34 as described below.

Section 34.20 Performance requirements for radiography equipment, is slightly changed from ~~Section~~ §34.20 of the current rule. Section 34.20(b)(2) has been revised to specify that radiographic exposure devices used as Type B transport containers must meet the QA program requirements outlined in §71.105. While this always has been true, many licensees have been unaware of this requirement. Section 34.20(b)(3) is revised to prohibit modification of any exposure device. Many licensees have expressed confusion over what the current rule intended in permitting modification. Modification of any safety component was never intended. The proposed rule removes this ambiguity. Modification of any non-safety equipment would still be permitted under the proposed rule. The term "Source Assembly" was added to §§ 34.20(c) and (e) so that it would be included as a piece of equipment that must meet the requirements of § 34.20. Section 34.20(f) is added to require labeling of

all associated equipment acquired after January 10, 1996^v to identify that the components have met the requirements of this section.

Section 34.21^v Limits on levels of radiation for radiographic exposure devices, storage containers, and source changers, is basically unchanged from ~~Section~~ §34.21 of the current rule, with the following exceptions. Metric equivalents to the values previously cited have been included. While it is recognized that radiation exposure instruments currently use units of roentgens to measure radioactivity, the rule has been modified to use the terms millisieverts and millirems. Rather than making the transition from roentgens to coulombs per kilogram (in air), the terms millisieverts and millirems were chosen ~~since~~^{because} a quality factor of 1 is appropriate in dealing with gamma-ray emitting radiography sources. Measurements taken in roentgens may be recorded in terms of millisieverts or millirems for purposes of demonstrating compliance with the rule.

Section 34.23^v Locking and relocation of radiographic exposure devices, storage containers, and source changers, is slightly changed from ~~section~~ §34.22 of the current rule, ~~as described below~~. Section 34.23(a) describes locking of radiographic exposure devices. A requirement to remove the key of any keyed lock is proposed. Should the key remain in the camera there is an increased likelihood of the accidental or intentional removal of the sealed source when the radiographic camera is unattended. The term "manually" is added to clarify what is meant by securing the source assembly for radiographic exposure devices manufactured prior to January 10, 1992. Section 34.23(b) is added which specifies requirements for ensuring that the sealed source is in the shielded position prior to movement of the device and

associated equipment, ^{because} since a number of overexposures have occurred while radiographic devices were being moved from one location to another.

Section 34.25, [✓] Radiation survey instruments, that replaces § 34.24 in the current rule, has been updated to reflect current calibration standards for different types of survey meters. This is to provide appropriate guidance to address the variety of survey instruments currently available. An additional requirement to perform an operability check prior to use is proposed. While this is routinely part of all survey instrument specifications, a failure to determine whether an instrument was operable prior to use has been a contributing factor in overexposures during radiographic operations.

~~Section~~ ^{In §} 34.27, [✓] Leak testing and replacement of sealed sources, [✓] The words "repair, tagging, opening, and modification" of sealed sources have been removed ^{because} since these activities are only approved for individuals specifically licensed to do so, ^{and} ^{They} are not considered routine activities that should be performed by anyone holding a radiography license. The language in the current rule is confusing as written, ^{since} ~~It~~ ^{It} was never intended that radiographers would be permitted to perform these activities without special authorization from the Commission or an Agreement State. Most of the language in the proposed rule is the same as ~~section~~ [§] 34.25 of the existing rule, ^{but} ~~However~~, the language has been reformatted to clarify the requirements. The requirement that performance of a source exchange or a leak test must be done by persons approved by the Commission has been modified to include Agreement States. Recordkeeping requirements have been moved to § 34.67.

Section 34.27(f) is proposed ^{to} which requires surveys for depleted uranium (DU) contamination in the "S" tube of radiographic devices at least once every

12 months. The depleted uranium ^{which} is used as a shielding material in most radiographic devices, replacing ^{yes} the lead shielding that was used in older models. The presence of DU contamination in the "S" tube, (a hard metal tube, such as titanium, through which the radioactive source travels) ^{is} is an indication that the control cable has worn a groove through the "S" tube into the uranium shielding. This condition could cause binding of the control cable in the groove with the resultant inability to retract the source, and could result in unwarranted exposures. Recordkeeping requirements have been moved to § 34.67.

Section 34.29 [✓] Quarterly inventory, is basically unchanged from the existing regulation, with the exception of moving all recordkeeping requirements to ~~Section~~ [§] 34.69.

Section 34.31 [✓] Inspection and maintenance of radiographic exposure devices, storage containers, associated equipment, and source changers, includes several proposed changes from § 34.28 in the current rule, ~~which are described below~~. A listing of associated equipment has been added to the proposed rule. This listing ~~ing~~ would include various items used for specific tasks which may not be supplied with the radiographic device. Experience has shown that defects in associated equipment can have an effect on safety. Section 34.31 (a) has been revised to clarify the intent of the daily visual check, and the required actions if defects are found. In ~~Section~~ [§] 34.31(b) [✓], the term "routine maintenance" is now used to clarify that licensees are not required to perform all maintenance. Many equipment repairs may require returning the device to the manufacturer. Language has been added to specify that defective equipment is to be removed from service until repaired and that a record of the defect, as well as corrective actions taken, is to be made.

While this seems to be obvious, there have been numerous instances where the use of defective equipment continued and overexposures of personnel occurred as a direct result of the defects. Recordkeeping requirements have been moved to § 34.73. The records required to be kept are now specified in the rule, and include: date of check, individual performing check, equipment involved, any defects found, and repairs made.

Section 34.33^v Permanent radiographic installations, is basically unchanged from the existing requirements in Part 34, with the exceptions noted below. Section 34.33 (c) is revised to require an alarm system check at the beginning of each day of use. This is to be performed by checking the warning light and audible alarm with the source exposed, and is to be performed prior to use of the room each day. A defective alarm would require repair before radiographic operations could resume. This requirement is included because there have been instances where failures in alarm systems have resulted in personnel overexposures upon entry into a high radiation area.

Section 34.35^v Labels, storage, and transportation precautions, is a new section proposed to place requirements into Part 34 ^{to be added} which specify labeling and security precautions for radioactive material storage and transportation. Section 34.23 of the current rule describes storage precautions for exposure devices and storage containers but ~~did~~ ^{does} not address transportation or labeling requirements. In § 34.35 of the proposed rule, ~~there are~~ ^{all specified} labeling requirements for source changers and storage containers. The proposed rule ^{contains} has specific requirements to lock and physically secure transport packages. The ^{proposed} rule also requires ^{would} licensees to store licensed material in a manner to minimize the danger from explosions or fire. The requirement for a QA

program, as described in § 71.105, has been added to the proposed rule. While radiography licensees have always had to comply with § 71.105, there have been numerous cases where radiography licensees were unaware of this requirement; and ^{therefore,} failed to comply. The addition of ~~these~~ ^{these} requirements addressing labeling and transportation ~~are~~ ^{is} necessary because in the past personnel and public exposures have occurred from the failure to properly safeguard radioactive material during storage and transportation.

Subpart D-Radiation Safety Requirements

This subpart describes basic radiation safety requirements for radiographic operations and includes training, safety procedures, personnel monitoring and surveys. New requirements describing the duties of the radiation safety officer are proposed.

Section 34.41 ^(RSO) Radiation Safety Officer, ~~is proposed which~~ ^{would be} lists the qualifications and duties of the RSO. This section ~~is~~ ^{is} added to place the requirements for this key individual into the regulations, ~~which were~~ ^{these requirements were} previously ~~only~~ ^{only} referenced in regulatory guides and included as license conditions on a case-by-case basis. ^{but not specified in the regulations} The NRC believes that the RSO is the key individual for ensuring safe operations. While this function has not previously been a requirement, it has been general practice to name an individual on the license to be the RSO. The qualifications listed for the RSO in the proposed rule include: (1) completion of the training required for a radiographer as described in Part 34; and (2) 2 years of documented experience in industrial radiography with at least 40 hours of formal classroom training with respect to oversight of radiation protection programs. The duties of the RSO in the proposed rule include overseeing procedure

implementation and employee training, and monitoring radiation surveys, leak tests, and personnel monitoring results. A key duty of the RSO is to ensure the safe conduct of operations and to stop unsafe operations and institute corrective actions.

Section 34.43[✓] Training, contains several new requirements which are discussed below. Section 34.43(a) has been revised to include training in 10 CFR Parts 30.7, 30.9, and 30.10, applicable sections of 10 CFR Part 71, and in 49 CFR 171-173, in addition to other parts of NRC regulations. Section 34.43(b), which lists training requirements for radiographer's assistants, has been revised to require training in §§ 30.7, 30.9, 30.10, and Parts 19, 20, 34, 71, and 49 CFR 171-173 in addition to the licensee's operating and emergency procedures. These changes are to ensure that radiographers and radiographer's assistants are knowledgeable of the safety requirements applicable to handling radioactive material in the conduct of radiography. Section 34.43(c) describes a proposed requirement to conduct periodic training of radiographers and radiographer's assistants. In the current rule, periodic training is required although there are no requirements on topics to be addressed. A number of violations involving personnel overexposures have resulted from licensee's failure to provide adequate training. The proposed requirement includes training on revised operating and emergency procedures, new equipment, and safety issues. This review can be combined with the semiannual inspection of job performance required by § 34.43(d).

Section 34.43(d) has been relocated from § 34.13(d), and describes the requirements for routine inspections of job performance for radiographers and radiographer's assistants. The proposed rule reduces the frequency of these inspections from quarterly to semiannually. The NRC is proposing to reduce

the frequency of inspections of job performance for individuals regularly conducting radiographic operations. For individuals who have not performed radiographic operations for more than three months, an inspection of their job performance would be required prior to their participation in a radiographic operation. With several of the other requirements proposed in this rulemaking, such as ⁶specifying requirements for periodic training and having two individuals at a temporary jobsite, the Commission believes that the need for a quarterly review can be modified to semiannual.

Proposed § 34.43(e) specifies that recordkeeping requirements can be found in § 34.79. The requirements for records are unchanged from the current Part 34. Proposed § 34.43(f) contains the subjects currently listed in Appendix A of Part 34. Several proposed additional requirements are included. These include: pictures or models of source assemblies; training in storage, control, and disposal of licensed materials; and pertinent Federal regulations, i.e., Dept. of Transportation, and Occupational Safety and Health Administration.

^{In} Section 34.45, ^yOperating and emergency procedures, ^yMinor changes were made to the existing Part 34 requirements to include: procedures for source recovery if the licensee intends to perform emergency source recovery. This is added ^{because} since many of the steps in a source recovery would be the same in any circumstance and, in the past, a number of personnel overexposures have occurred during emergency source recovery operations because basic radiation protection precautions were overlooked. Additional requirements are proposed for transportation procedures to include placarding of vehicles, and reference to the DOT regulations in 49 CFR Parts 171-173. A number of violations have resulted from licensees failing to follow DOT regulations in the

transportation of radioactive material. Section 34.45(b) is proposed which specifies that the recordkeeping requirements can be found in § 34.81. Sections 34.89 and 34.91 specify that copies of current operating and emergency procedures are to be maintained at field stations and temporary jobsites, to ensure that adequate documents are available where radiographic operations occur.

^{In §} Section 34.47, Personnel monitoring, Several changes are proposed, as follows. The existing requirement specifies that pocket dosimeters have a range from zero to at least 200 milliroentgens. The proposed rule has dropped the term "at least." This is to prevent the use of pocket dosimeters with very high ranges where the users would be unable to properly determine their exposure. Use of pocket dosimeters with a range higher than 200 milliroentgens will be approved on a case by case basis. Additional requirements are proposed on the replacement frequency for film and TLDs. In the existing regulation no replacement frequency is specified. A monthly frequency is proposed because the high intensity sources used in radiography can lead to significant exposures, so that monthly monitoring is necessary to maintain an adequate knowledge of the individuals exposure to date and to prevent overexposures.

Section 34.47(b) addresses the use of pocket dosimeters. A requirement is proposed to read dosimeters at the beginning and end of each shift. This is added to ensure that the dose is correctly estimated. The existing regulation only specifies a daily reading which does not provide sufficient instruction on how licensees should handle any readings which remain on the pocket dosimeter after recharging. ^{Since} Since it is nearly impossible to recharge a pocket dosimeter to zero, licensees must take a reading before and after use

and subtract the difference to accurately determine the dose. Section 34.47(d) addresses an off-scale pocket dosimeter. The proposed rule requires that in the case of a pocket dosimeter being off-scale the individual will not be permitted to work with licensed material until a determination of the worker's radiation exposure by the RSO or a designee of the RSO is made. The current rule requires sending the film badge or TLD for processing but did not specify when the individual could return to work. The proposed revision provides the criteria that must be met to permit the individual to return to work.

Section 34.47(e) is proposed which requires a worker to cease work whenever a film badge or TLD is lost or damaged, until a replacement is available. This is added to ensure that there is a means to accurately determine the worker's radiation dose.

^{This} Section 34.49, Radiation surveys, There are several proposed changes, from the existing regulation. The existing regulation requires a survey of the camera circumference and the guide tube. A number of violations have occurred because of failure to follow this requirement. In reviewing the regulation, the NRC has decided to revise the survey requirements to remove the current requirements and specify a requirement to turn on the survey instrument on approaching the guide tube. A requirement has been added to survey the camera to determine that the sealed source has returned to the shielded position. The rule places the responsibility for conducting an adequate survey with the licensee. In the majority of cases, a survey of the camera ports should be adequate to make this determination.

Section 34.51, Security, This section is unchanged from § 34.41 of the current rule.

Section 34.53[✓] Posting^c This section^g is unchanged from § 34.42 of the current rule.

Section 34.55[✓] Supervision of radiographer's assistants. This section^g is unchanged from § 34.44 of the current rule.

Section 34.57[✓] Requirements for conducting radiographic operations outside of a permanent radiographic installation, ^{would be} ~~are~~ added to address the practice of conducting radiography at sites where the special safety features of a shielded facility are not available. The proposed requirement specifies that either two radiographers or a radiographer and an individual with training at least equivalent to a radiographer's assistant must be present to observe the operations and to provide assistance and control of the area against unauthorized entry. The basis for this requirement is to ensure that in the absence of the safety features outlined in ~~Section~~^S 34.33, there will be sufficient qualified personnel available to ensure safe radiographic operations. In October 1992, the International Union of Operating Engineers (IUOE), Local No. 2[✓] petitioned the NRC to amend its regulations regarding radiography to require a minimum of two radiographic personnel when performing industrial radiography at temporary jobsites. The petitioners identified a number of problems associated with the use of licensed material by one radiographer at temporary jobsites. Some of these included: (1) difficulty keeping the area under constant surveillance while radiographic operations are ongoing; (2) difficulty in maintaining surveillance when working in trenches; and (3) difficulty in obtaining assistance in the event of an emergency if there is only one individual. The petitioners believe that the suggested change is necessary to ensure a safe working environment. The proposed rule, ^{if adopted} constitutes a partial granting of the petition, ^{in that} The NRC is not

that part of the petition that would permit
adopting the use of trainee. *as one of the two radiographic personnel*
For Agreement States, which use the term "trainee," the proposed rule specifies that the second person have training at least equal to that of a radiographer's assistant. A "trainee" normally has additional training beyond that required for a radiographer's assistant.

Subpart E-Recordkeeping Requirements

This subpart does not appear in the current Part 34. It is proposed to place all recordkeeping and notification requirements in one location. Most of the recordkeeping requirements are unchanged from the existing Part 34. Proposed changes are discussed below.

Section 34.61, *Specific license for radiography.* ~~This section~~ requires the licensee to maintain a copy of the license until it is terminated by the Commission.

Section 34.63, *Records of receipt and transfer of sealed sources.* ~~This~~ ~~new section~~ is added to provide a record showing the disposition of sources to verify source location in the event of loss or theft.

Section 34.65, *Records of radiation survey instruments.* This section is proposed as currently written in Section 34.24. Licensees would be required to maintain calibration records for radiation survey instruments for 3 years after the record is made.

Section 34.67, *Records of leak testing, repair, tagging, opening, modification and replacement of sealed sources.* This section is proposed as currently written in § 34.25(c), and requires licensees to maintain records of leak tests for 3 years after the record is made.

Section 34.69, Records of quarterly inventory. ~~This section~~ is proposed as currently written § 34.26, and requires licensees to maintain records of quarterly inventories for 3 years after the record is made.

Section 34.71, Utilization logs. ~~This section~~ is proposed much as currently written in § 34.27, ~~and~~ ^{This section} would require licensees to maintain utilization logs for 3 years after the record is made. The proposed rule ~~has~~ ^{would} added several additional pieces of information to the logs including the serial number of device in which the sealed source is located, the radiographer's signature, and the dates the device is removed and returned to storage. This information is necessary in order to locate sources in the case of theft or loss.

Section 34.73, Records of inspection and maintenance of radiographic exposure devices, storage containers, associated equipment, and source changers. ~~This section~~ is proposed much as currently written in § 34.28(b) ^{and} requires licensees to maintain inspection and maintenance records for 3 ^{This section} years after the record is made. The proposed rule ~~has added what~~ ^{would specify the} information ~~that~~ must be included in the inspection records: date of check, name of inspector, equipment inspected, any defects found and repairs made.

Section 34.75, Records of permanent radiographic installations. ~~This section~~ is proposed as currently written in § 34.29(c) and requires licensees to maintain records of alarm system checks for 3 years after the record is made.

Section 34.79, Records of training. ~~This section~~ is proposed as currently written in § 34.31(c), with the additional requirement for maintaining records of periodic training, and requires licensees to maintain records of initial and periodic training, and field examinations, including

copies of tests, dates administered, and topics covered in the periodic retraining.

Section 34.81[✓] Copies of operating and emergency procedures. ~~This section~~ is proposed as currently written in § 34.32 and requires licensees to maintain copies of emergency and operating procedures until the Commission terminates the license.

Section 34.83[✓] Records of personnel monitoring. ~~This section~~ is proposed as currently written in § 34.33(b), and requires licensees to maintain records of pocket dosimeter readings and operability checks for 3 years from the date the record was made, and to maintain records of film badge or TLD reports until the Commission terminates the license.

Section 34.85[✓] Records of radiation surveys. ~~This section~~ is proposed as currently written in § 34.43(d), and requires records of the exposure device surveys for 3 years from the date the record was made.

Section 34.87[✓] Form of records. ~~This section~~ is proposed as currently written in § 34.4, and specifies how records must be maintained, including permitting records to be stored in electronic media.

Section 34.89[✓] Documents and records required at field stations. This ~~new proposed section~~, which ^{would be added to} list documents and records required at field stations, ^{This section is necessary} was added to ensure that licensees have available sufficient records to demonstrate compliance with NRC regulations. The field station is often far removed from the home office, therefore records necessary to maintain safe operation should be readily available. The records listed are only a subset of the records required at a licensee's normal place of business. These records include copies of pertinent regulations, copies of operating and emergency procedures, instrument calibration records, leak test results,

inventory records, utilization logs, training and survey records. These records are those required for licensees to safely handle radioactive material.

Section 34.91, Documents and records required at temporary jobsites.

~~This proposed section~~, which list documents and records required at temporary jobsites, was added to ensure that licensees have available sufficient records to demonstrate compliance with NRC regulations and to have the records necessary to maintain safe operations. The records listed are a smaller subset of the records required for a field station. These records include copies of pertinent regulations, evidence of latest instrument calibrations, latest survey records, shipping papers, and Agreement State licensee if operating under reciprocity. These records are those required for licensees to safely handle radioactive material.

Subpart F - Notification of Incidents

This subpart is basically unchanged from § 34.30 with the exception of minor wording changes.

Subpart G - Exemptions

This subpart addresses exemptions and is basically the same as § 34.51 with the exception of minor wording changes.

Subpart H - Enforcement

This subpart addresses enforcement and is not in the current Part 34. The language used in this subpart is the same as appears in all newer NRC

*Note: Sections 34.61 + 34.63 under a cententative
entitled "Violations" were added 11-24-92; 57
FK 55073*

regulations and describes what legal action the NRC may take for any failure to comply with applicable regulations.

Agreement State Compatibility

The rule will be a matter of compatibility between the NRC and the Agreement States, thereby providing consistency between Federal and State safety requirements. With regard to basic radiation standards and definitions, identified as a matters of Division One level of compatibility, the Agreement States will be expected to adopt, essentially verbatim, the proposed Part 34 standards and definitions into their equivalent regulations. The remainder of the rule will be a Division Two level of compatibility allowing the Agreement State co-regulators the flexibility to adopt additional requirements based on their radiation protection experience, professional judgments and community values.

Finding of No Significant Environmental: Availability

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in Subpart A of 10 CFR Part 51, that the rule, if adopted, would not be a major Federal action, therefore an impact statement is not required. The revision of 10 CFR Part 34 should have no environmentally significant impact since radiography only involves the use of seal sources, and no environmental impact will be involved. The environmental assessment and finding of no significant impact

on which this determination is based are available for inspections at the NRC Public Document Room at 2120 L Street, N.W. (Lower Level), Washington DC.

Paperwork Reduction Act Statement

This proposed rule amends information collection requirements that are subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). This rule has been submitted to the Office of Management and Budget for review and approval of these requirements.

Public reporting burden for this collection of information is estimated to average 2,400 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information including suggestions for reducing this burden, to the Information and Records Management Branch (MNBB-7714), U.S. Nuclear Regulatory Commission, Washington, DC 20555; and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-3019, (3150-0007), Management and Budget, Washington, DC 20503.

Regulatory Analysis

The Commission has prepared a draft regulatory analysis on this proposed regulation. The analysis examines the costs and benefits of the alternatives considered by the Commission. The draft analysis is available for inspection

in the NRC Public Document Room at 2120 L Street NW. (Lower Level),
Washington, DC.

Regulatory Flexibility ~~Certification~~

Analysis

In accordance with the Regulatory Flexibility Act of 1980 (5 U.S.C. 605 (b)), the Commission ^{*believes*} ~~certifies~~ that this rule may, if promulgated, have a significant economic impact on a substantial number of small entities.

The radiography industry consists of approximately 700 firms that perform radioisotope radiography either at fixed locations or at multiple temporary job sites. This industry employs about 3,500 radiographers, radiographer's assistants, and an additional 3,500 radiography supervisors on a full time basis. Of these firms approximately 200 are NRC licensees and the remainder are licensees of the Agreement States. Roughly one quarter of the firms conduct their radiography at a single location and the other three quarters work at multiple locations generally referred to as temporary job sites. Approximately 90 percent are considered to be "small entities" under the criterion established in Section 605(b) of the Regulatory Flexibility Act of 1980. The industry uses an estimated 3,500 radiographic exposure devices that employ either cobalt-60 or iridium-192 radioisotope sources. Most of the radiography licensees are in the business of non-destructive testing in which radiography represents only a part of their total income. A few small firms work only in radiography. Much of the work in the field involves the inspection of welds in bridges, oil, gas, and other pipelines and in the steel framework of commercial buildings under construction so that the success and

viability of the industry is closely tied to the economic health of the country.

Therefore, the NRC has prepared an initial regulatory flexibility analysis of the potential impact of this proposed rule on small entities. The initial regulatory flexibility analysis appears as Appendix A to

Backfit Analysis

The NRC has determined that the backfit rule, 10 CFR 50.109, does not *this downward* apply to this proposed rule and, therefore, that a backfit analysis is not required for this proposed rule. The proposed rule does not involve any provisions that would impose backfits as defined in 10 CFR 50.109(a)(1).

List of Subjects in 10 CFR Part 34

10 CFR Part 34

Byproduct material, Criminal Penalty, Nuclear material, Packaging and containers, Radiation Protection, Radiography, Reporting and recordkeeping requirements, Scientific equipment, Security measures.

For 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 34.

The previous draft of Pt. 34 regulatory text presented Part 34 as a revised part. That approach is far preferable to the placement amendment approach presented here. We strongly suggest that the regulatory text be presented as a complete revision of Part 34 with the specific changes

**PART 34 - LICENSES FOR RADIOGRAPHY AND RADIATION SAFETY
REQUIREMENTS FOR RADIOGRAPHIC OPERATIONS**

1. The authority citation for Part 34 is revised to read as follows:

AUTHORITY: Secs. 81, 161, 182, 183, 68 Stat. 935, 948, 953, 954, as amended (42 U.S.C. 2111, 2201, 2232, 2233); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841).

Section 34.45 also issued under sec. 206, 88 Stat. 1246 (42 U.S.C. 5846).

2. The existing headings for Subparts A and B and each of the existing undesignated center headings are removed.
3. A new heading for Subpart A (§§ 34.1-34.8) is added to read as follows:
4) —2. Section 34.1 is revised to read as follows: *Subpart A - General Provisions*

§ 34.1 Purpose and scope.

This part prescribes requirements for the issuance of licenses for the use of sealed sources containing byproduct material and radiation safety requirements for persons using such sealed sources in industrial radiography (this rule is not to be applied to medical uses of byproduct material). The provisions and requirements of this part are in addition to, and not in substitution for, other requirements of this chapter. In particular, the requirements and provisions of Parts 19, 20, 21, 30, 71, 150, 170 and 171 of this chapter apply to applications and licenses subject to this part.

~~§ 34.3 [Removed]~~

5. Section 34.3 is removed

6) —3. Section 34.2 is redesignated as § 34.3, and ^{the new § 34.3} is revised to include the following: *read as follows?*

§ 34.3 Definitions.

ALARA (acronym for as low as reasonably achievable) means making every reasonable effort to maintain exposures to radiation as far below the

dose limits specified in Part 20 as is practical consistent with the purpose for which the licensed activity is undertaken.

Associated Equipment means equipment that is used in conjunction with a radiographic exposure device to make radiographic exposures that drives, guides or comes in contact with the source, (i.e., guide tube, control tube, crank, removable source stop, "J" tube).

Becquerel (Bq) means one disintegration per second.

Collimator means a device used to limit the size, shape, and direction of the primary radiation beam.

Control (crank-out) device means the control cable, the protective sheath and control drive mechanism used to move the sealed source from its shielded position in the radiographic device or camera to an unshielded position outside the device for the purpose of making a radiographic exposure.

Control tube means protective sheath for guiding the control cable. The control tube connects the control drive mechanism to the radiographic exposure device.

Exposure head means a device that locates the gamma radiography sealed source in the selected working position. (An exposure head is also known as a source stop.)

Field examination means a demonstration of practical application of the principles learned in the classroom that should include use of all appropriate equipment and procedures.

Field station means a facility where licensed material may be stored or used and from which equipment is dispatched.

Periodic training means a periodic review conducted or provided by the licensee for its employees on radiation safety aspects of radiography. The review may include, as appropriate, the results of internal inspections, new procedures or equipment, accidents or errors that have been observed, and opportunities for employees to ask safety questions.

Permanent radiographic installation means an enclosed shielded room, cell, or vault in which radiography is performed.

Projection sheath (guide tube) means a flexible or rigid tube (i.e., "J" tube) for guiding the source assembly and the attached control cable from the exposure device to the exposure head or working position.

Radiation Safety Officer means an individual named by the licensee who has knowledge of, responsibility for, and authority to ensure compliance with appropriate radiation protection rules, standards, and practices on behalf of the licensee and who meets the requirements of ⁵34.41.

Shielded position means the location within the radiographic exposure device or source changer where the sealed source is secured and restricted from movement. (In this position the radiation exposure will be at a minimum. This position incorporates maximum shielding for the radioactive source.)

Sievert means the SI unit of any of the quantities expressed as dose equivalent. The dose equivalent in rems is equal to the absorbed dose in rads multiplied by the quality factor (1 Sv = 100 rems).

Source assembly means an assembly that consists of the sealed source and a connector that attaches the source to the control cable. The source assembly may also include a stop ball used to secure the source in the shielded position.

Storage container means a device in which sealed sources are stored.

Temporary jobsite means a place where licensed materials are present for the purpose of performing radiography other than any permanent radiographic installation.

7) 4. Section 34.5 is added to read as follows:

§ 34.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission, other than a written interpretation by the General Counsel, will be recognized to be binding upon the Commission.

8) 5. ^{In sub} Section 34.8 ^{paragraphs (b) and (c) are} revised to read as follows:

§ 34.7 ³ Information collection requirements: OMB approval.

~~(a)~~ * * * * *

(b) The approved information collection requirements contained in this part appear in ^{§§} Section 34.13, 34.20, 34.25, 34.27, 34.29, 34.31, 34.33, 34.43, 34.45, 34.47, 34.49, 34.61, 34.63, 34.65, 34.67, 34.69, 34.71, 34.73, 34.75, 34.79, 34.81, 34.85, 34.89, 34.91, 34.101, and 34.111.

(c) This part contains information collection requirements in addition to those approved under the control number specified in paragraph (a) of this section. The additional information collection requirements in § 34.11, Form NRC 313 are approved under control number 3150-0120.

10) 6. Section 34.11 is revised to read as follows:

9. A new heading for Subpart B (§§ 34.11 - 34.13) is added to read as follows: 33
Subpart B - Specific Licensing Permits

§ 34.11 Application for a specific license.

A person may file an application for specific license for use of sealed sources in radiography in duplicate on NRC Form 313, "Application for Material License," in accordance with the provisions of § 30.32 of this chapter.

11) → 7. Section 34.13 is added to read as follows:

§ 34.13 Specific license for radiography.

The Commission will approve an application for a specific license for the use of licensed material in radiography if the applicant meets the following requirements:

(a) The applicant shall satisfy the general requirements specified in § 30.33 of this chapter for byproduct material, as appropriate, and any special requirements contained in this part.

(b) The applicant shall develop a program for training radiographers and radiographer's assistants and submit to the Commission a description of this program which specifies the --

(1) Initial and periodic training;

(2) On-the-job training;

(3) Means the applicant will use to demonstrate the radiographer's knowledge and understanding of and ability to comply with the Commission's regulations and licensing requirements and the applicant's operating and emergency procedures; and

(4) Means the applicant will use to determine the radiographer's assistant's knowledge and understanding of and ability to comply with the applicant's operating and emergency procedures.

Safety Officer shall meet the qualifications and duties described in § 34.41.

(h) If an applicant intends to perform leak testing of sealed sources, the applicant shall identify the manufacturers and the model numbers of the leak test kits to be used. If the applicant wants to analyze its own wipe samples, the applicant shall establish procedures to be followed and submit a description of these procedures to the Commission. The description must include the --

- (1) Instruments to be used;
- (2) Methods of performing the analysis; and
- (3) Pertinent experience of the person who will analyze the wipe samples.

(i) The applicant shall submit to the Commission a list and description of permanent radiographic installations which are at their place of business and all storage locations where radioactive material is stored for more than 180 days in a calendar year.

In § paragraphs (b)(2) and (b)(3) are
 B-8. Section 34.20 is revised to read as follows: *and paragraph (f) is added*
§ 34.20 Performance requirements for radiography equipment.

* * * * *

(b) * * *

(2) Radiographic exposure devices intended for use as Type B transport containers must meet the applicable requirements of 10 CFR Part 71, including documentation of the QA program requirements outlined in § 71.105.

(3) Modification of any exposure devices and associated equipment is prohibited.

~~(d)~~ * * * * *

12. A new heading for 36 Subpart C (§§ 34.20 - 34.35) is added to read as follows:
 Subpart C - Equipment

close space

(f) All associated equipment acquired after January 10, 1996, must be labelled to identify that the components have met the requirements of this section.

In § 34.21 the heading and paragraph (a) are
14) 9. Section 34.21 is revised to read as follows:

§ 34.21 Limits on levels of radiation for radiographic exposure devices, storage containers, and source changers.

(a) Radiographic exposure devices measuring less than 10 centimeters (4 inches) from the sealed source storage position to any exterior surface of the device must not have a radiation level in excess of 0.5 millisieverts (50 millirems) per hour at 15 centimeters (6 inches) from any exterior surface of the device. Radiographic exposure devices measuring a minimum of 10 centimeters (4 inches) from the sealed source storage position to any exterior surface of the device, and all storage containers for sealed sources or for radiographic exposure devices, must not have a radiation level in excess of 2 millisieverts (200 millirems) per hour at any exterior surface, and 0.1 millisieverts (10 millirems) per hour at one meter from any exterior surface. The radiation levels specified are with the sealed source in the shielded (i.e., "off") position.

(b) * * * * *

16) 10. Section 34.22 ³redesignated as § 34.23, ¹⁵and revised to read as follows:

§ 34.23 Locking and relocation of radiographic exposure devices, storage containers and source changers.

(a) Locked radiographic exposure devices and storage containers must be physically secured to prevent tampering.

§ 34.22 [Removed]

15. Section 34.22 is removed.

(1) Each radiographic exposure device must have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The exposure device or its container must be kept locked (and if a keyed lock, with the key removed at all times) when not under the direct surveillance of a radiographer or a radiographer's assistant or as otherwise may be authorized in § 34.51. In addition, during radiographic operations the sealed source assembly must be manually secured in the shielded position each time the source is returned to that position, in those exposure devices manufactured prior to January 10, 1992.

(2) Each sealed source storage container and source changer must have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. Storage containers and source changers must be kept locked when containing sealed sources except when under the direct surveillance of a radiographer or a radiographer's assistant.

(b) Radiographic exposure devices, source changers, and storage containers, prior to being moved from one location to another, must be disassembled, safety plugs or covers applied, locked and physically secured to prevent accidental loss, tampering or removal of licensed material, and must be surveyed to assure that the sealed source is in the shielded position.

18) 11. Section 34.24⁵ redesignated as § 34.25, and revised to read as follows:

§ 34.25 Radiation survey instruments.

(a) The licensee shall keep sufficient calibrated and operable radiation survey instruments at each location where radioactive material is present to

§ 34.24 [Removed]

17. Section 34.24 is removed.

make the radiation surveys required by this part and by Part 20 of this chapter. Instrumentation required by this section must be capable of measuring a range from 0.02 millisieverts (2 millirems) per hour through 0.01 Sievert (1 rem) per hour. Survey instruments must be checked for operability prior to use. This may be accomplished by evaluating the instrument response to the previously measured fields at the projection sheath port or the control cable sheath port on a radiographic exposure device.

(b) The licensee shall have each radiation survey instrument required under paragraph (a) of this section calibrated --

(1) At intervals not to exceed 6 months and after instrument servicing, except for battery changes;

(2) For linear scale instruments, at two points located approximately 1/3 and 2/3 of full-scale on each scale; for logarithmic scale instruments, at midrange of each decade, and at two points of at least one decade; and for digital instruments, at appropriate points; and

(3) So that an accuracy within plus or minus 20 percent of the calibration standard can be demonstrated on each scale.

(c) The licensee shall maintain records of the results of the instrument calibrations in accordance with § 34.65.

20) 12. Section 34.25 ⁷ ~~redesignated as § 34.27, and~~ is revised to read as follows:

← § 34.27 Leak testing and replacement of sealed sources.

(a) The replacement of any sealed source fastened to or contained in a radiographic exposure device and leak testing of any sealed source must be

§ 34.26 [Removed]

19. Section 34.26 is removed.

performed only by persons specifically authorized by the Commission or an Agreement State to do so.

(b) Testing and recordkeeping requirements.

(1) Each licensee who uses a sealed source shall have the source tested for leakage at intervals not to exceed 6 months.

(2) The licensee shall maintain records of the leak tests in accordance with § 34.67.

(3) In the absence of a certificate from the transferor that a test has been made within the 6 months before the transfer, the sealed source may not be used until tested.

(c) Method of testing. The wipe of a sealed source must be performed using a leak test kit or method approved by the Commission or an Agreement State. The wipe sample must be taken from the nearest accessible point to the sealed source where contamination might accumulate. The wipe sample must be analyzed for radioactive contamination. The analysis must be capable of detecting the presence of 185 Bq (0.005 microcuries) of radioactive material on the test sample and must be performed by a person approved by the Commission or an Agreement State to perform the analysis.

(d) Any test conducted pursuant to paragraphs (b) and (c) of this section which reveals the presence of 185 Bq (0.005 microcuries) or more of removable radioactive material must be considered evidence that the sealed source is leaking. The licensee shall immediately withdraw the equipment involved from use and shall cause it to be decontaminated and repaired or to be disposed of, in accordance with Commission regulations. A report must be filed, within 5 days of the test, with the Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, describing the

equipment involved, the test results, and the corrective action taken. A copy of such report must be sent to the Administrator of the appropriate Nuclear Regulatory Commission's Regional Office listed in Appendix D of Part 20 of this chapter "Standards for Protection Against Radiation."

(e) A sealed source which is not fastened to or contained in a radiographic exposure device must have permanently attached to it a durable tag at least one (1) inch square bearing the prescribed radiation caution symbol in conventional colors, magenta, purple or black on a yellow background, and at least the instructions: "Danger -- Radioactive Material -- Do Not Handle -- Notify Civil Authorities if Found."

(f) Each exposure device using DU shielding and an "S" tube configuration must be periodically tested for depleted Uranium contamination. This test could be performed by the licensee using available test kits or the exposure device could be returned to the manufacturer for such testing. This test must be undertaken at intervals not to exceed 12 months and should such testing reveal the presence of DU contamination, the exposure device must be removed from use and arrangements for proper disposal in accordance with 10 CFR part 61 must be made. A record of the DU leak-test must be made in accordance with § 34.67.

32-13. Section ~~34.26~~ redesignated as § 34.29, and is revised to read as follows:

§ 34.29 Quarterly inventory.

(a) Each licensee shall conduct a quarterly physical inventory to account for all sealed sources received and possessed under this license.

(b) The licensee shall maintain records of the quarterly inventory in accordance with § 34.69.

§ 34.28 [Removed]

21. Section 34.28 is removed.

§ 34.30 [Removed]
23. Section 34.30 is removed.

24) 14. Section ~~34.28~~ redesignated as § 34.31, and is revised to read as follows:

§ 34.31 Inspection and maintenance of radiographic exposure devices, storage containers, associated equipment, and source changers.

(a) The licensee shall visually check for obvious defects in radiographic exposure devices, storage containers, associated equipment, and source changers prior to use each day the equipment is used to ensure that the equipment is in good working condition and that required labeling is present. If defects are found, the equipment must be removed from service until repaired, and a record must be made in accordance with § 34.73.

(b) Each licensee shall have a program for inspection and routine maintenance of radiographic exposure devices, source changers, associated equipment and storage containers at intervals not to exceed 3 months and prior to the first use thereafter to ensure the proper functioning of components important to safety. Records of these inspections and maintenance performed must be made in accordance with § 34.73. If defects are found, the equipment must be removed from service until repaired, and a record must be made in accordance with § 34.73.

§ 34.32 [Removed]
25. Section 34.32 is removed.

26) 15. Section ~~34.29~~ redesignated as § 34.33, and is revised to read as follows:

§ 34.33 Permanent radiographic installations.

(a) Permanent radiographic installations must have high radiation area entrance controls of the types described in § 20.1601(a)(2), (a)(3), or (b) of this chapter and must also meet the following special requirements.

(b) * * * * *

insert full text of (b)

(c) The alarm system must be tested for proper operation at intervals not to exceed 3 months and the beginning of each day of equipment use. The equipment use test must include a check of the visible and audible signals by a crank out of the exposure device prior to use of the room. If a control device or alarm is operating improperly, it must be immediately labeled as defective and repaired before industrial radiographic operations are resumed. Test records must be maintained in accordance with § 34.75.

27) 16. Section 34.35 is added to read as follows:

§ 34.35. Labels, storage, and transportation precautions.

(a) Labels.

(1) The licensee may not use a source changer or container to store licensed material unless the source changer or the container has securely attached to it a durable, legible, and clearly visible label. The label must contain the radiation symbol specified in § 20.1904 of this chapter and the wording

CAUTION (OR DANGER)

RADIOACTIVE MATERIAL--DO NOT HANDLE

NOTIFY CIVIL AUTHORITIES (OR NAME OF COMPANY)

(2) The licensee may not transport licensed material unless the material is packaged, labeled, marked, and accompanied with appropriate shipping papers in accordance with regulations set out in 10 CFR Part 71, including documentation of the QA program requirements outlined in § 71.105.

(b) Security precautions during storage and transportation.

(1) Locked radiographic exposure devices and storage containers must be physically secured to prevent tampering or removal by unauthorized personnel.

38. A new heading for subpart D (§§ 34.41 - 34.57) is added to read as follows:

Subpart D - Radiation Safety Requirements

The licensee shall store licensed material in a manner which will minimize danger from explosion or fire.

(2) The licensee shall lock and physically secure the transport package containing licensed material in the transporting vehicle to prevent accidental loss, tampering, or unauthorized removal of the licensed material from the vehicle.

39) - 17. Section 34.41 is ~~added~~ ^{revised} to read as follows:

§ 34.41 Radiation Safety Officer.

The Radiation Safety Officer ^(RSO) shall ensure that radiation safety activities are being performed in accordance with approved procedures and regulatory requirements in the daily operation of the licensee's program.

(a) The RSO's qualifications must include:

(1) completion of the training and testing requirements of § 34.43(a);
and

(2) Two years of documented experience in industrial radiographic operations, with at least 40 hours of formal classroom training with respect to the oversight of radiation protection programs.

(b) The specific duties of the RSO include, but are not limited to, the following:

(1) to establish and oversee operating, emergency, and ALARA procedures, and to review them regularly to ensure that the procedures are current and conform with these rules;

(2) to oversee and approve all phases of the training program for radiographic personnel so that appropriate and effective radiation protection practices are taught;

*[§ 34.42 [Removed]
30. Section 34.42 is removed.*

(3) to ensure that required radiation surveys and leak tests are performed and documented in accordance with these rules, including any corrective measures when levels of radiation exceed established limits;

(4) to ensure that personnel monitoring devices are calibrated and used properly by occupationally-exposed personnel, that records are kept of the monitoring results, and that timely notifications are made as required by § 20.2203; and

(5) to ensure that operations are conducted safely and to assume control and have the authority to institute corrective actions including stopping of operations when necessary in emergency situations or unsafe conditions.

21 } 18. Section ~~34.31~~ redesignated as § 34.43, and revised to read as follows:

§ 34.43 Training.

(a) * * *

(1) Has been instructed in the subjects outlined in § 34.43(f) of this part;

(2) Has received copies of and instruction in NRC regulations contained in this part; in §§ 30.7, 30.9, and 30.10; and in the applicable sections of Parts 19, 20, and 71 of this chapter, in 49 CFR Parts 171-173, in the NRC license(s) under which the radiographer will perform radiography, and the licensee's operating and emergency procedures;

(3) * * * * *

(4) Has demonstrated understanding of the instructions in this paragraph (a) by successful completion of a written test and a field examination on the subjects covered in § 34.43(f).

Insert complete text.

CLM

Insert complete text

(b)

* * *

(1) Has received copies of and instruction in NRC regulations contained in this part; in §§ 30.7, 30.9, and 30.10; and in the applicable sections of Parts 19, 20, and 71 of this chapter, in 49 CFR Parts 171-173, in the NRC license(s) under which the radiographer's assistant will perform radiography, and the licensee's operating and emergency procedures;

(2)

* * *

(3)

* * *

(c) The licensee shall provide periodic training for radiographers and radiographer's assistants at least once during each calendar year.

(d) The licensee shall conduct a semiannual inspection program of the job performance of each radiographer and radiographer's assistant to ensure that the Commission's regulations, license requirements, and the applicant's operating and emergency procedures are followed. The inspection program must:

(1) Include observation of the performance of each radiographer and radiographer's assistant during an actual radiographic operation at intervals not to exceed 6 months; and

(2) Provide that, if a radiographer or a radiographer's assistant has not participated in a radiographic operation for more than 3 months since the last inspection, that individual's performance must be observed and recorded the next time the individual participates in a radiographic operation.

(e) The licensee shall maintain records of the above training to include written, oral and field examinations, periodic training, and semiannual inspections of job performance in accordance with § 34.79.

(f) The licensee shall include the following subjects in the training required in paragraph (a)(1) of this section:

*(§ 34.44 [Removed
32. Section 34.44 is removed.*

- (1) Fundamentals of radiation safety including --
 - (i) Characteristics of gamma radiation;
 - (ii) Units of radiation dose and quantity of radioactivity;
 - (iii) Hazards of exposure to radiation;
 - (iv) Levels of radiation from licensed material; and
 - (v) Methods of controlling radiation dose (time, distance, and shielding);
- (2) Radiation detection instruments including --
 - (i) Use, operation, calibration, and limitations of radiation survey instruments;
 - (ii) Survey techniques; and
 - (iii) Use of personnel monitoring equipment;
- (3) Equipment to be used including --
 - (i) Operation and control of radiographic exposure equipment, remote handling equipment, and storage containers, including pictures or models of source assemblies (pigtailed).
 - (ii) Storage, control, and disposal of licensed material; and
 - (iii) Maintenance of equipment.
- (4) The requirements of pertinent Federal regulations; and
- (5) Case histories of accidents in radiography.

23) 19. Section ~~34.32~~ ^{is added} redesignated as § 34.45, and revised to read as follows:

§ 34.45 Operating and emergency procedures.

(a) Operating and emergency procedures must include instructions in at least the following:

(1) The handling and use of licensed sealed sources and radiographic exposure devices to be employed such that no person is likely to be exposed to radiation doses in excess of the limits established in Part 20 of this chapter "Standards for Protection Against Radiation";

(2) Methods and occasions for conducting radiation surveys;

(3) Methods for controlling access to radiographic areas;

(4) Methods and occasions for locking and securing radiographic exposure devices, storage containers and sealed sources;

(5) Personnel monitoring and the use of personnel monitoring equipment;

(6) Transporting sealed sources to field locations, including packing of radiographic exposure devices and storage containers in the vehicles, placarding of vehicles, when needed, and control of the sealed sources during transportation, (refer to 49 CFR Parts 171-173);

(7) The inspection and maintenance of radiographic exposure devices and storage containers;

(8) Steps that must be taken immediately by radiography personnel in the event a pocket dosimeter is found to be off-scale;

(9) The procedure(s) for identifying and reporting defects and noncompliance, as required by Part 21 of this chapter;

(10) The procedure for notifying proper persons in the event of an accident;

(11) Minimizing exposure of persons in the event of an accident;

(12) Source recovery procedure if licensee will perform source recovery;

and

(13) Form of records.

(b) The licensee shall maintain copies of current operating and emergency procedures in accordance with § 34.81.

34) 20. Section 34.33 redesignated as § 34.47, and is revised to read as follows:

← § 34.47 Personnel monitoring.

(a) The licensee shall not permit any individual to act as a radiographer or a radiographer's assistant unless, at all times during radiographic operations, each such individual wears a direct reading pocket dosimeter, an alarm ratemeter, and either a film badge or a thermoluminescent dosimeter (TLD) except that for permanent radiography facilities where other appropriate alarming or warning devices are in routine use, the wearing of an alarming ratemeter is not required. Pocket dosimeters must have a range from zero to 2 millisieverts (200 millirems) and must be recharged at the start of each shift. In cases where the exposure will be greater than 2 millisieverts (200 millirems) an exemption must be applied for to use a pocket dosimeter with a higher endpoint. Each film badge and TLD must be assigned to and worn by only one individual. Film badges and TLDs must be replaced at least monthly. After replacement, each film badge or TLD must be promptly processed.

(b) Pocket dosimeters must be read and the exposures recorded at the beginning and end of each shift, and records must be maintained in accordance with § 34.83.

(c) Pocket dosimeters must be checked at periods not to exceed 12 months for correct response to radiation, and records must be maintained in

accordance with § 34.83. Acceptable dosimeters must read within plus or minus 30 percent of the true radiation exposure.

(d) If an individual's pocket dosimeter is found to be off-scale, and the possibility of radiation exposure cannot be ruled out as the cause, the individual's film badge or TLD must be immediately sent for processing. In addition, the individual shall not work with licensed material until a determination of the individual's radiation exposure has been made. This determination must be made by the RSO or designee. The results of this determination must be included in the records maintained in accordance with § 34.83.

(e) If a film badge or TLD is lost or damaged, the worker shall cease work immediately until a replacement film badge or TLD is provided and the exposure is calculated for the time period from issuance to loss or damage of the film badge or TLD. The results of the calculated exposure and the time period for which the film badge or TLD was lost or damaged must be included in the records maintained in accordance with § 34.83.

(f) Reports received from the film badge or TLD processor must be retained in accordance with § 34.83.

(g) Each alarm ratemeter must --

(1) Be checked to ensure that the alarm functions properly (sounds) prior to use at the start of each shift;

(2) Be set to give an alarm signal at a preset dose rate of 5 mSv/hr (500 mrem/hr); with an accuracy of plus or minus 20 percent of the true radiation dose rate.

(3) Require special means to change the preset alarm function; and

(4) Be calibrated at periods not to exceed 12 months for correct response to radiation. The licensee shall maintain records of alarm ratemeter calibrations in accordance with § 34.83.

35] 21. Section 34.43 redesignated as § 34.49, and is revised to read as follows:

§ 34.49 Radiation surveys.

The licensee shall:

(a) Maintain at least one calibrated and operable radiation survey instrument that meets the requirements of § 34.25 at each location of its radiographic operations whenever radiographic operations are being performed, including a source exchange, and at the storage area, (as defined in § 34.3), whenever a radiographic exposure device, a storage container, or source is being placed in storage.

(b) Conduct a survey of the camera with a radiation survey instrument after each exposure to determine that the sealed source has been returned to its shielded position.

(c) Conduct a survey as you approach the guide tube prior to exchanging films, repositioning the collimator, or dismantling equipment.

(d) Conduct a survey with a radiation survey instrument any time the source is exchanged and whenever a radiographic exposure device is placed in a storage area, (as defined in § 34.3), to determine that the sealed source is in its shielded position.

(e) For recordkeeping requirements see § 34.85.

36) 22. Section 34.41 redesignated as § 34.51 and is revised to read as follows: *added*

§ 34.51 Security.

During each radiographic operation the radiographer or radiographer's assistant shall maintain a continuous direct visual surveillance of the operation to protect against unauthorized entry into a high radiation area, as defined in Part 20 of this chapter, except (a) where the high radiation area is equipped with a control device or an alarm system as described in § 20.1601(a)(1), (a)(2), or (a)(3) of this chapter, or (b) where the high radiation area is locked to protect against unauthorized or accidental entry.

37) 23. Section 34.42 redesignated as § 34.53, and is revised to read as follows: *added*

§ 34.53 Posting.

Notwithstanding any provisions in § 20.1903 of this chapter, areas in which radiography is being performed must be conspicuously posted as required by § 20.1902(a) and (b) of this chapter.

24. Section 34.44 redesignated as § 34.55, and is revised to read as follows: *added*

§ 34.55 Supervision of radiographers' assistants.

Whenever a radiographer's assistant uses radiographic exposure devices, uses sealed sources or related source handling tools, or conducts radiation surveys required by § 34.49(b) to determine that the sealed source has returned to the shielded position after an exposure, the assistant shall be under the personal supervision of a radiographer. The personal supervision

must include: (a) the radiographer's personal presence at the site where the sealed sources are being used, (b) the ability of the radiographer to give immediate assistance if required, and (c) the radiographer's watching the assistant's performance of the operations referred to in this section.

28

25. Section 34.57 is added to read as follows:

§ 34.57 Requirements for conducting radiographic operations outside of a permanent radiographic installation.

Whenever radiography will be performed outside a permanent radiographic installation, the radiographer must be accompanied by another qualified radiographer or an individual with, at least, the qualifications of a radiographer's assistant, who is observing the operations and is capable of providing immediate assistance to prevent unauthorized entry. Radiography may not be performed if only one qualified individual is present.

26. A new heading "RECORDS" is added and new ~~§§ 34.61-85, 89 and 91~~ were added under that heading to read as follows:

§ 34.61 Records of specific license for radiography.

(a) Each licensee shall maintain a copy of their license until the Commission terminates the license.

40. Section 34.61 is revised to read as follows:

41. Section 34.62 is revised to read as follows:

§ 34.63 Records of receipt and transfer of sealed sources.

Each licensee shall maintain records showing the receipts and transfers of sealed sources:

39. A new heading for Subpart E (§§ 34.61 - 34.91) is added to read as follows:

Subpart E - Recordkeeping Requirements

(b) These records must include the date, the individual making the record, the radionuclide, number of curies, and make, model, and serial number of each sealed source and device, as appropriate.

~~(c) The licensee shall retain the records required by paragraph (a) of this section for 3 years after the record is made.~~

§ 34.65 Records of radiation survey instruments.

~~(a) Each licensee shall maintain records of the calibrations of their radiation survey instruments.~~

~~(b) The licensee shall retain the records required by paragraph (a) of this section for 3 years after the record is made.~~

§ 34.67 Records of leak testing, and replacement of sealed sources.

~~(a) Each licensee shall maintain records of leak test results in units of Becquerels (curies).~~

~~(b) The licensee shall retain the records required by paragraph (a) of this section for 3 years after the record is made.~~

§ 34.69 Records of quarterly inventory.

~~(a) Each licensee shall maintain records of the quarterly inventory.~~

~~(b) The record must include the quantities and kinds of byproduct material (including the model number, the serial number and manufacturer), location of sealed sources, the name of the individual conducting the inventory, and the date of the inventory.~~

~~(c) The licensee shall retain the records required by paragraph (a) of this section for 3 years after the record is made.~~

Insert 54A

(a) records must include the date, the individual making the record, the radionuclide, number of curies, and make, model, and serial number of each sealed source and device, as appropriate.

(b) records must be retained for 3 years after the record is made.

42. Sections 34.65 - 34.91 are added to Subpart E to read as follows:

§ 34.65 Records of radiation survey instruments.

Each licensee shall maintain records of the calibrations of their radiation survey instruments. The record must be retained for 3 years after the record is made.

§ 34.67 Records of leak testing, and replacement of sealed sources.

Each licensee shall maintain records of leak test results in units of Becquerels (curies). The records must be retained for 3 years after the record is made.

§ 34.69 Records of quarterly inventory.

Each licensee shall maintain records of the quarterly inventory.

(a) The record must include the quantities and kinds of byproduct material (including the model number, the serial number and manufacturer), location of sealed sources, the name of the individual conducting the inventory, and the date of the inventory.

(b) The records must be retained for 3 years after the record is made.

INSERT 54A

- 34.65 Records of radiation survey instruments.
- 34.67 Records of leak testing and replacement of sealed sources.
- 34.69 Records of quarterly inventory.
- 34.71 Utilization logs.
- 34.73 Records of inspection and maintenance of radiographic exposure devices, storage containers, associated equipment, and source changers.
- 34.75 Records of permanent radiographic installations.
- 34.79 Records of training.

- 34.81 Copies of operating and emergency procedures.
- 34.83 Records of personnel monitoring.
- 34.85 Records of radiation surveys.
- 34.87 Form of records.
- 34.89 Documents and records required at field stations.
- 34.91 Documents and records required at temporary jobsites.

§ 34.71 Utilization logs.

(a) Each licensee shall maintain current utilization logs at the address specified in the license, showing for each sealed source the following information:

(1) A description, including the make, model number, and serial number of the radiographic exposure device or storage container in which the sealed source is located;

(2) The identity and signature of the radiographer to whom assigned; and

(3) The plant or site where used and dates of use, including the dates removed and returned to storage.

(b) The logs must be retained for 3 years after the log is made.

§ 34.73 Records of inspection and maintenance of radiographic exposure devices, storage containers, associated equipment, and source changers.

(a) Each licensee shall maintain records of inspection and maintenance of radiographic exposure devices, storage containers, associated equipment, and source changers.

(b) The record must include the date of check, name of inspector, equipment involved, any defects found, and repairs made.

(c) The record must be retained for 3 years after the record is made.

§ 34.75 Records of permanent radiographic installations.

(a) Each licensee shall maintain records of alarm system tests.

(b) The records must be retained for 3 years after the record is made.

⌞ No 34.77 ?

§ 34.79 Records of training.

Each licensee shall maintain the following records of training:

(a) records of training of each radiographer and each radiographer's assistant, to include copies of written tests, dates of oral tests, and field examinations, *and*

(b) records of periodic training for each radiographer and each radiographer's assistant. The records must list the topics discussed, the dates of the reviews, and the attendees.

(c) records must be retained for 3 years after the record is made.

§ 34.81 Copies of operating and emergency procedures.

Each licensee shall maintain a copy of current operating and emergency procedures and retain the procedures until the Commission terminates the license. Superseded material must be retained for 3 years after each change.

§ 34.83 Records of personnel monitoring.

Each licensee shall maintain the following exposure records:

(a) daily pocket dosimeter readings and yearly operability checks for 3 years after the record is made.

(b) records of reports received from the film badge or TLD processor until the Commission terminates the license.

(c) records of estimates of exposures as a result of off-scale pocket dosimeters or lost or damaged film badges or TLDs until the Commission terminates the license.

← § 34.85 Records of radiation surveys.

(a) Each licensee shall maintain records of exposure device surveys when it is the last one performed in the work day and prior to placing the device in storage.

(b) The licensee shall retain the records required by paragraph (a) of this section for 3 years after the record is made.

mist 34.87 here →
← § 34.89 Documents and records required at field stations.

Each licensee shall maintain copies of the following documents and records at the field station:

- (a) A copy of Parts 19, 20, and 34 of NRC regulations;
- (b) The license authorizing the use of licensed material;
- (c) Operating and emergency procedures required by § 34.45;
- (d) The record of radiation survey instrument calibrations required by § 34.65;
- (e) The record of leak test results required by § 34.67;
- (f) Physical inventory records required by § 34.69;
- (g) Utilization records required by § 34.71;
- (h) Records of inspection and maintenance required by § 34.73;
- (i) Training records required by § 34.79; and
- (j) Survey records required by § 34.85.

← § 34.91 Documents and records required at temporary jobsites.

Each licensee conducting operations at a temporary jobsite shall maintain copies of the following documents and records at the temporary jobsite until the radiographic operation is completed:

- (a) Operating and emergency procedures required by § 34.45.
- (b) Evidence of latest calibration of the radiation survey instruments in use at the site required by § 34.65.
- (c) Latest survey records required by § 34.85.
- (d) The shipping papers for the transportation of radioactive materials required by § 71.5 of this chapter; and
- (e) When operating under reciprocity pursuant to § 150.20 of this chapter, a copy of the Agreement State license authorizing use of licensed materials.

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~~27. Section 34.4 is redesignated as § 34.87.~~

§ 34.87 Form of records.

insert complete text of section

28. A new heading "NOTIFICATION OF INCIDENTS" is added and § 34.30 was redesignated as 34.101 and is added under that heading to read as follows:

insert 38A

§ 34.101 Notification of incidents.

- (a) * * * * *
- (b) The licensee shall include the following information in each report submitted under paragraph (a) of this section, and in each report of overexposure submitted under 10 CFR 20.2203 which involve failure of safety components of radiography equipment:

insert complete text

Subpart G - Exemptions

29. Section 34.51 is redesignated as § 34.111, and is revised to read as follows:

§ 34.111 Applications for exemptions.

INSERT 58A

43. Subparts F, G, and H are added to Part 34 to read as follows:

Subpart F- Notification of Incidents

34.101 Notification of incidents.

Subpart G - Exemptions

34.111 Applications for exemptions.

Subpart H - Enforcement

34.121 Violations.

34.123 Criminal penalties.

Subpart F - Notification of Incidents

The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest.

30. A new heading "ENFORCEMENT" is added and a new § 34.121 is added under that heading to read as follows:

Subpart H -- Enforcement

§ 34.121 Violations.

(a) An injunction or other court order may be obtained to prohibit a violation of any provision of this part.

(b) A court order may be obtained for the payment of a civil penalty imposed for violation of this part.

(c) Any person who willfully violates any provision of this part issued under section 161 b., i., or o. of the Atomic Energy Act of 1954, as amended, or the provisions cited in the authority citation at the beginning of this part may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment, or both, as provided by law.

§ 34.123 Criminal penalties.

(a) Section 223 of the Atomic Energy Act of 1954, as amended, provides for criminal sanctions for willful violation of, or conspiracy to violate, any regulation issued under sections 161b, 161i, or 161o of the Act. For purposes of section 223, all the regulations in part 34 are issued under one or more of

section 161b, 161i, or 161o, except for the sections listed in paragraph (b) of this section.

(b) The regulations of part 34 that are not issued under sections 161b, 161i, or 161o for the purposes of section 223 are as follows: § § 34.1, 34.2, 34.3, 34.4, 34.8, 34.11, 34.51, 34.61, and 34.63.

Dated at Rockville, Maryland, this ____ day of _____ 1993.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,
Secretary of the Commission.