



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CR - 02-01

SSR/10 CFR 34.20 COMPATIBILITY RESOLUTION
REQUIREMENT TO USE COLLIMATORS IN INDUSTRIAL RADIOGRAPHY

ISSUE:

The Mississippi Regulations and Suggested State Regulations (SSR) for industrial radiography require, in part, that "except when physically impossible, collimators shall be used in industrial radiographic operations that use radiographic exposure devices that allow the source to be moved out of the device." There is no comparable requirement in 10 CFR 34, "Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations."

DISCUSSION:

The requirement to use collimators, whenever possible, in the SSR and State regulations dates back 15, or more, years. Many States, principally those who have large numbers of radiography licensees and significant regulatory experience with radiography operations, have adopted this requirement either by regulation or by license condition.

The rationale used by State regulatory authorities to require the use of collimators is based on, in part, the concept of decreasing worker exposure by limiting the projected beam's direction and area. Although NRC has known of the State's use of this ALARA requirement for many years, NRC has not adopted an equivalent requirement. During the major revision of 10 CFR Part 34 in the mid-1990's, NRC considered, but decided not to include use of collimators in Part 34, and it appears no comments were received to include this requirement in Part 34. NRC understands that use of collimators is "good" practice and did not see a health and safety need to add such usage as a prescriptive requirement.

At issue is the difference between the State of Mississippi's requirement to use collimators when performing radiography and NRC's radiography regulations which do not. There is no NRC equivalent to the Mississippi requirement. Mississippi's requirement is a use condition found in Section 801E15(c), "Conducting Industrial Radiographic Operations." The NRC equivalent for Section 801E15(c) is 10 CFR 34.41 with a Compatibility Category "B," indicating a program element with significant direct transboundary implications. The State's program element should be essentially identical to that of NRC. Also, the Mississippi regulations are based on the SSR for radiography.

No undue burden is placed on licensees as a result of the SSR or Mississippi requirement. There is no undue "transboundary" impact on Mississippi licensees who operate under reciprocity in NRC or other jurisdictions, or for licensees from NRC or other jurisdictions operating in Mississippi. The low cost of collimators, about \$150, hardly presents an undue or un-necessary operating cost to a licensee.

OBSERVATIONS/CONCLUSION:

1. The use of collimators, either voluntary or required, is a good ALARA practice. The use of collimators reduces worker exposure.
2. The use of collimators permits radiography operations in smaller areas.
3. The use of collimators is not cost prohibitive. A small tungsten collimator costs between \$100 to \$200. It is not an undue burden to purchase one, or several, and use them.
4. Today, the use of collimators is generally accepted as "good" practice in radiography operations. The use of collimators is an integral part of safe operations and is routinely used in industry. As part of the license application process, NRC licensees address the use of collimators in training and operating procedures as part of the effort to maintain worker and public exposure ALARA.
5. The staff notes that the requirement for collimators does not result in a regulation which is less restrictive than NRC's regulation and does not result in any significant transboundary impact.

Because of the above, especially the wide spread use of collimators in industry, we find that there is no compatibility issue associated with the difference between NRC's regulations, the State of Mississippi's requirement and the current version of the SSR on use of collimators.

4/4/02
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SSR/10 CFR 34.13 (h) COMPATIBILITY RESOLUTION
QUALIFICATIONS OF INDIVIDUALS PERFORMING LEAK TESTING

ISSUE:

The Mississippi Regulations and Suggested State Regulations (SSR) for industrial radiography require, in part, that an applicant describe the procedures for performing leak testing of sealed sources or exposure devices containing depleted uranium (DU) shielding, and requires that the description include the qualifications of the individual who analyzes the samples. In the comparable requirement in 10 CFR 34, "Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations" there is a requirement to describe the qualifications of the person authorized to do the leak testing, in addition to the qualifications of the person who analyzes the wipe samples.

DISCUSSION:

The compatibility of SSR Part E Section E.5(h) with 10 CFR 34.13(h) was raised due to the difference in wording between the two documents. These sections deal with the requirements for contamination surveys of radiographic sources.

Mississippi's requirement is a condition found in Section 801.E.5, "Licensing and Registration Requirements for Industrial Radiography Operations." The Mississippi regulations are based on the SSR for radiography. The NRC equivalent for Section 801.E.5(h) is 10 CFR 34.13(h) with a Compatibility Category "C," indicating a program element, the essential objectives of which should be adopted by a State to avoid conflicts, duplications, or gaps.

The objective of 10 CFR 34.13(h) is to establish the procedures and qualifications required for testing to determine whether there is any radioactive leakage from the radiographic source or from devices containing DU. NRC's implementation guidance of that regulation is provided in NUREG-1556, Volume 2, "Consolidated Guidance About Materials Licenses - Program-Specific Guidance About Industrial Radiography Licenses" (Volume 2).

The Mississippi requirement, the SSR and NRC's implementation of its regulation (as described by NUREG-1556, Volume 2) do not explicitly address the level of knowledge that a person must understand in order to maintain safety while collecting leak test samples from a radiographic exposure device. However, to maintain safety, a person taking the swipes must be knowledgeable of appropriate radiation safety precautions (e.g., time, distance, shielding, and contamination control) to prevent unnecessary radiation exposures. A person doing leak testing uses authorized leak testing kits from the device manufacturer or other licensed service provider which contain procedures approved by either NRC or an Agreement State. Alternatively the license application describes detailed procedures. Given the specificity of these approved procedures, the person doing the leak testing with these procedures is presumed to be knowledgeable, based on that person's following the step-by-step procedures.

OBSERVATIONS/CONCLUSION:

1. The staff notes that the SSR or Mississippi requirement for leak testing does not result in a regulation which is less restrictive than the implementation of NRC's regulation via NUREG-1556, Volume 2, and does not result in any conflicts, duplications, or gaps in light of the specificity of the approved procedures.
2. No undue burden is placed on licensees as a result of the SSR or Mississippi requirement. There is no undue impact on Mississippi licensees who operate under reciprocity in NRC or other jurisdictions, or for licensees from NRC or other jurisdictions operating in Mississippi.

Because of the above, we do not believe that there is a compatibility issue associated with the difference between NRC's implementation of its regulations, the State of Mississippi's requirement and the current version of the SSR.

For further compatibility assessments, the differences between 10 CFR 34.13(h), the SSR Part E Section E.5(h), or any State rule modeled after this SSR section will be considered not significant and the State's rules will be judged compatible in regards to this issue. However, to avoid future misunderstandings, the NRC will clarify this issue in the next revision of 10 CFR Part 34 and NUREG-1556, Volume 2. Compatibility of the SSR and other State regulations will be ensured through the Office of State and Tribal Programs regulations review process.

8/9/02
Date

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