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PROPOSED RULE PR 71
(67FR 21390)

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STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY

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July 2, 2002

DOCKETED
USNRC

Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Attention: Rulemaking and Adjudications Staff

July 11, 2002 (1:36PM)
OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Re: Proposed Rule: 10 CFR Part 71, "Packaging and Transportation of Radioactive Material." Compatibility with IAEA Transportation Safety Standards (TS-R-1) and Other Transportation Safety Amendments, RIN: 3150 – AG71.

Dear Madam Secretary:

The Illinois Department of Nuclear Safety hereby submits the following comments on the above-identified proposed rulemaking. NRC is amending Part 71 to achieve greater conformance with IAEA's revision of its transportation regulations published in June 2000 as TS-R-1. The rulemaking would also update Part 71 to streamline and simplify the regulation, relax unnecessary restrictions, and conform to newly encountered situations and assessments.

The Department of Nuclear Safety generally supports NRC's effort to update Part 71. Conformance to the IAEA changes would improve compatibility with DOT standards and enhance safe and uninterrupted transportation of radioactive material internationally. Furthermore, the additional changes proposed by NRC would create a more risk-informed and progressive regulation. Some of these changes would also improve the organization and usefulness of the regulation, thereby tending to contain costs and reduce errors.

Radionuclide Exemption Values (Issue 2).

The proposed rule would provide radionuclide-specific activity concentration values to define materials as radioactive for transportation purposes. The new values would replace the existing activity concentration threshold of 2000 picocuries per gram



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applied collectively to all radionuclides present in a material. Appendix A, Table A-2 of the proposed rule would provide activity concentration values for many radionuclides.

Where adequate information about a material is unavailable, NRC proposes a new general activity concentration value to define the material as radioactive. This threshold of 2.7 picocuries per gram would be provided in Table A-3 of Appendix A.

The Department of Nuclear Safety believes that an activity concentration threshold of 2.7 picocuries per gram is overly restrictive for samples acquired for laboratory analysis. In our experience, it is not unusual to acquire samples for which relevant data are unavailable. Samples of this type would have to be shipped as radioactive material under the proposed rule. This is because typical field instruments cannot measure concentrations in the range of 2.7 picocuries per gram.

We recommend that NRC provide a separate activity concentration threshold for samples collected for laboratory analysis in situations where relevant data are unavailable. A threshold of 2000 picocuries per gram would seem appropriate for this limited application.

Revision of A1 and A2 Quantities (Issue 3).

Revised values for A₁ quantities are provided in Appendix A, Table A-2 of the proposed rule. When relevant data about a discrete source are unavailable, Table A-3 of Appendix A would provide a general A₁ quantity of 27 millicuries. This proposed value is one per cent of the current value of 2.7 curies.

The Department of Nuclear Safety has experienced situations where a lower value for the general A₁ quantity would have an adverse effect on retrieval of solid sources from public areas. We often transport encountered sources as excepted packages for limited quantities under 49 CFR 173.421. A limited quantity package containing a solid source is constrained by 49 CFR 173.421 to 1/1000 of the A₁ quantity.

If we were to transport an incompletely characterized sealed source as a limited quantity by applying the proposed general A₁ quantity in Part 71, the source could not exceed 27 microcuries (1/1000 of the general A₁ quantity). We believe that this is an impractical limit for sources encountered in public areas. In fact, it appears that the proposed value for the A₁ quantity would effectively require any solid source to be shipped in a Type A package if the source could not be completely and quickly characterized in the field.

We transport encountered sources as limited quantities to minimize the time required for characterization of sources and preparation of Type A packages in the field. This allows us to remove sources expeditiously from public areas such as roadways. In situations where the proposed value for the A_1 quantity would require transportation in a Type A package, the amount of time and expertise needed to prepare the package and associated paperwork would increase. This would compromise our ability to remove encountered sources quickly from the public domain.

We believe that NRC should provide for expeditious transportation of discrete solid sources encountered in public areas. Part 71 currently permits a source of up to 2.7 millicuries to be transported as a limited quantity, even if no relevant data about the source are available. This arrangement has proved useful and should be retained for sources encountered in public areas.

Change Authority for Dual-Purpose Package Certificate Holders (Issue 15).

NRC proposes a new "dual purpose" Type B container for storage and domestic transfer of spent fuel and other highly radioactive items. The new container would be called a Type B(DP) package. NRC would allow the holder of a certificate of compliance for such a cask to make changes determined by the certificate holder to have only "minimal" potential safety consequences (section 71.175). This provision would parallel 10 CFR 72.48 as applied to casks for storage only. Certificate holders would be required to submit and periodically update an FSAR describing cask design.

The Department of Nuclear Safety is concerned about the limits of the change authority granted to certificate holders. For example, we believe that some of the change restrictions in section 71.175 are unclear because they apply only when "minimal" negative safety consequences would ensue. Unless defined more clearly, the term "minimal" could mean one thing to a certificate holder and something else to the NRC staff.

We recommend that NRC expand section 71.175 to clarify what is meant by "minimal changes" (with potential safety consequences). This clarification should include examples. We further recommend that NRC request and consider input from state regulatory agencies when amending certificates of compliance.

The Department of Nuclear Safety is also concerned about the additional complexities introduced by the duality of the new Type B(DP) package. NRC apparently intends to issue two certificates of compliance for the same cask, for example. Furthermore, a change in design or procedure for one function might have unintended consequences for the other.

To address these new complexities, we recommend that NRC establish guidance for determining when a design or procedural change that enhances one cask function might compromise the effectiveness of the other. NRC should review its organization and procedures to ensure that the interrelationship between the storage and transportation effects of cask changes are considered during review of certificate amendment requests. Since it appears that the same people in the Spent Fuel Project Office would review and approve both the storage and transportation aspects of dual-purpose casks, NRC should consider issuing a single certificate of compliance instead of two.

Desirable Features of the Proposed Rulemaking.

The changes initiated by NRC in this proposal are intended to streamline and simplify Part 71, relax unnecessary restrictions, and conform to newly encountered situations and assessments. We agree that several of these are particularly desirable:

- Expansion of Part 71 Quality Assurance Requirements to Certificate of Compliance Holders (Issue 13). NRC documents approval of type B and fissile material packages by issuing certificates of compliance. Because holders of these certificates are not necessarily licensees, NRC has lacked a clear basis for citing violations of Part 71.

NRC proposes to subject certificate holders and applicants for certificates to the quality assurance requirements of Part 71, Subpart H. This would enable NRC to apply its regular enforcement tools (notices of violation, orders, and civil penalties) to certificate holders and applicants who violate Part 71.

- Fissile Material Exemptions and General License Provisions (Issue 16). NRC proposes to simplify, reorganize, and update Part 71 as it applies to shipments of fissile materials. The current fissile exempt and general license provisions have become cumbersome and outdated. NRC intends this rulemaking to address newly considered plausible transportation and packaging situations while relaxing restrictions that are unjustified.

Three of these changes appear especially useful:

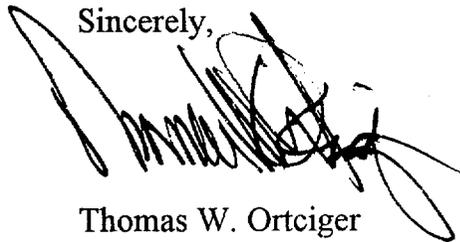
- Graduated exemptions for fissile material shipments. These would allow increasing quantities in shipments provided that packages contained a corresponding increase in the ratio of non-fissile to fissile material.

- Consolidation of the existing four fissile material general licenses into one. The new general license would require a Type A package with determination of a criticality safety index. It would also adjust mass limits to conform to newly considered plausible transportation and packaging situations.
- Consolidation of existing general license requirements for PuBe sources into one section and updating mass limits.
- Contamination Limits as Applied to Spent Fuel and High Level Waste Packages (Issue 18). NRC plans no change from current standards at this time. This is because there appears to be no public objection to the current standards and because a significantly improved approach has not been identified.

NRC has informed IAEA, however, that it will participate in a planned IAEA review of surface contamination standards. This review would consider contamination models, methods of reducing cask contamination, and strategies to address cask weeping. The IAEA review could result in new recommended contamination standards based on risks, costs, and practical experience.

Thank you for the opportunity to comment on this proposed rulemaking. If you have questions, please contact Joe Klinger at 217-785-9948.

Sincerely,



Thomas W. Ortziger
Director

JME:kjg

cc: James Lynch, NRC Region III