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PROPOSED RULE **PR 71**
(67FR 21390)

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Rulemaking and Adjudications Staff
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

July 25, 2002

Re: Proposed amendments to 10 CFR Part 71 and Draft Environmental Assessment of Major Revision of 10 CFR Part 71 (NUREG/CR-6711)

Dear Rulemaking and Adjudications Staff:

As a NY statewide environmental organization, we are very concerned about the proposed amendments to 10 CFR Part 71 and the Draft Environmental Assessment of Major Revision of 10 CFR Part 71.

1. The rationale for the proposed revisions is poor. The stated purpose is to make NRC and DOT transportation regulations consistent with standards recently adopted by an international atomic energy organization. International standardization has benefits to those who engage in international commerce, but those benefits are minimal compared to the various disadvantages of the proposed NRC-DOT revisions and/or the various advantages of retaining the current regulations:

a) According to NRC, the current regulations in 10 CFR Part 71 "have provided adequate protection of the public health and safety." (67 FR 21394, April 30, 2002) There does not appear to be any good reason to revise the current NRC-DOT regulations other than compatibility with the International Atomic Energy Agency (IAEA) TS-R-1 standards.

b) "Technical" benefits are also claimed for the proposed revisions, but these are poorly defined, lack social context, and are not supported in the NRC Draft Environmental Assessment, as discussed in more detail below.

c) The exemption threshold that is currently used by both DOT and NRC (where all radioactive materials that exceed a specific activity of 70 Bq/g are regulated in



"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed it is the only thing that ever has." - Margaret Mead

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transportation and all materials below this threshold are exempt) is comparatively easy to verify. Under the proposed revision (where different materials would have different activity thresholds), "industry would expend resources to identify the radionuclides in a material, measure the activity concentration of each radionuclide, and apply the 'mixture rule' to ensure that a material is exempt" (67 FR 21398, April 30, 2002) and "Additional effort to characterize the material being shipped would increase occupational exposure" (Draft Environmental Assessment of Major Revision of 10 CFR Part 71, NUREG/CR-6711, page 49). Thus, both the regulatory burden and worker exposure would increase.

2. The International Atomic Energy Agency (IAEA) apparently believes there are "technical" benefits associated with the proposed revisions. NRC characterizes the "technical" arguments as follows: "During the development of TS-R-1, it was recognized that there was no technical justification for the use of a single activity-based exemption 70-Bq/g (0.002 μ Ci/g) value for all radionuclides. It was concluded that a more rigorous technical approach would be to base radionuclide exemptions on a uniform dose basis, rather than a uniform specific activity (also known as activity concentration) basis." (67 FR 21396, April 30, 2002) However, judging from NRC's description, the IAEA followed a haphazard and *ad hoc* approach rather than a "rigorous technical approach" in developing transportation exemption values. The following problems exist:

a) The exemption values in IAEA's TS-R-1 standard were not derived directly but were adapted from another set of IAEA standards known as Safety Series 115 or SS-115. As described in NRC's Environmental Assessment, the SS-115 values had been derived "using scenarios that did not explicitly address the transport of radioactive material. Additional derivations were performed by IAEA for transport-specific scenarios, and the results were found to be similar to those in SS-115. Therefore, the exemption levels of SS-115 were adopted in TS-R-1." (Draft Environmental Assessment of Major Revision of 10 CFR Part 71, NUREG/CR-6711, page 14.) Note that "Development of the IAEA TS-R-1 did not directly involve the public or include a cost-benefit analysis." (67 FR 21394, April 30, 2002).

b) The above-quoted statement that "results were found to be similar" would presumably indicate that the exemption values adapted from SS-115 to TS-R-1 were found to be protective for transportation scenarios, but this is not the case. According to NRC's *Federal Register* notice, the safe exemption values that IAEA calculated for transportation scenarios were lower than those found in SS-115, "but not by more than a factor of 100. IAEA did not believe the differences warranted a second set of exemption values, and therefore adopted the Safety Series No. 115 [SS-115] values in TS-R-1." (67 FR 21396, April 30, 2002) In other words, the statement that "results were found to be similar" is misleading; it improperly conceals the fact that the IAEA transportation exemption values for some radionuclides are too high (by up to a factor of one hundred) to meet IAEA's own safety goals and that IAEA "did not believe the differences warranted a second set of exemption values"!

c) NRC further indicates that a consequence of using the IAEA SS-115 and TS-R-1

exemption values for transportation is that “the estimated average annual dose under the transportation scenarios exceeds the 10 μSv (1 mrem) per year criterion for some radionuclides.” (67 FR 21396, April 30, 2002) The exceedance is not trivial; NRC staff finds that the average annual dose for a representative list of 20 radionuclides is 0.25 μSv (25 mrem) per year! (*Ibid.*) On the other hand, NRC staff also finds that “the corresponding dose for the current 70 Bq/g (0.002 $\mu\text{Ci/g}$) exemption value, using the same transportation scenarios and radionuclides, is approximately 0.50 μSv (50 mrem) per year,” i.e., about twice as high. (*Ibid.*)

3. The claimed “technical” benefits of the proposed revisions are thus extremely marginal and highly overstated. To say that they are based on “a rigorous technical approach” is misleading. Assuming (as indicated in the preceding paragraph) that the current regulations produce a 50-fold modeled exceedance of the 1 mrem/year criterion for transportation scenarios, and that the proposed NRC-DOT revision merely cuts this in half (creating a 25-fold modeled exceedance), we find that the effort and associated cost of the proposed revision greatly outweigh the benefit.

Thank you very much for your attention to this matter. We look forward to your response.

Sincerely,

Roberta Chase
Co Executive Director

Mike Schade
Western New York Director

CC: Hillary Clinton, US Senator
Chuck Schumer, US Senator
John J. LaFalce, Congressman
Jack Quinn, Congressman
Louise Slaughter, Congresswoman