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~~PROPOSED RULE~~ 71
(67FR 21390)

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Attorney General

DIVISION OF PUBLIC ADVOCACY
ENVIRONMENTAL PROTECTION BUREAU

July 26, 2002

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

Re: Proposed amendments to 10 CFR Part 71, and
Draft Environmental Assessment of Major Revision of 10 CFR Part 71

Dear Sir or Madam:

On behalf of the New York State Attorney General's Office, we submit the following comments on the proposed revisions of 10 CFR Part 71. These comments are submitted in relation to both the proposed regulatory revisions and the associated Draft Environmental Assessment, NUREG/CR-6711.

This office has long been concerned with radionuclide transportation safety. We are concerned that the proposed revisions, proposed to be consistent with international standards, will (1) exempt numerous radionuclide shipments from any regulation, (2) increase worker exposure and the difficulty of enforcement, (3) create an inconsistency with other federal radionuclide standards, and (4) otherwise reduce the protections afforded the public during radionuclide transportation. The purported rationale for the rule does not justify these weakenings. We urge you to reconsider.

Background

The Nuclear Regulatory Commission (NRC) proposes major revisions to 10 CFR Part 71, based largely on an effort to make U.S. regulations for radioactive material transportation consistent with standards recently adopted by the International Atomic Energy Agency (IAEA). The U.S. Department of Transportation (DOT) is proposing similar changes in 49 CFR Parts 171-178. NRC acknowledges that the development of the IAEA standards "did not directly involve the public or include a cost-benefit analysis." (67 FR 21394, April 30, 2002) The proposed revisions include a shift from a radioactivity-based determination of exempt concentrations of radioactive materials (expressed as Becquerels per gram [Bq/g] or Curies per gram [Ci/g]) to a dose-based determination (expressed as microsieverts [μ Sv], millisieverts [mSv], or millirems [mrem]).

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SECY-02

Increased Exemptions from Regulation

New §71.14 (redesignated from current §71.10) would modify the concentration levels below which radioactive substances are exempt from regulation during transportation. For many radionuclides, the revised exempt concentrations would be higher than the existing exempt concentrations (e.g., 14 times higher for plutonium-237; 14,000 times higher for tritium; 142,000 times higher for argon-39). These higher exempt concentrations would create a higher risk of harm from radiation exposure from a transportation accident and also create new and inadequately analyzed uncertainties about deregulated radioactive materials in commerce.

NRC's Environmental Assessment lists 69 radionuclides whose exemption limits would be raised by a factor of 14 or more under the proposed revision (i.e., whose new exemption limits would be 1000 Bq/g or greater). However, this list improperly omits 33 other radionuclides whose exemption limits would be similarly raised by a factor of 14 or more. (See Draft Environmental Assessment of Major Revision of 10 CFR Part 71, NUREG/CR-6711, page 48, and cf. 67 FR 21472-84, April 30, 2002, Table A-2.) Among the 33 radionuclides omitted from the list are iodine-125, plutonium-237, tritium, and technetium-99. The impacts of raising the exemption limits for these radionuclides have apparently not been considered in the Environmental Assessment.

This broader exemption is troubling. Exempt radioactive materials are invisible to regulators during transportation. Such materials thus become untraceable in commerce and are not readily recognizable in accident situations. Three types of impacts associated with exempt shipments of radioactive materials should be, but have not been, adequately addressed by NRC:

a) *Doses to transportation workers and the general public during normal operations.* NRC has relied primarily on analyses done by the International Atomic Energy Agency (IAEA) which showed that the average annual modeled dose of this type, based on 20 representative radionuclides, was about 0.50 mSv (50 mrem) for the current exemption values in 10 CFR Part 71 and about 0.25 mSv (25 mrem) for the proposed revision of the exemption values. (67 FR 21396, April 30, 2002) Although the proposed revision cuts the average modeled dose in half, the dose is still much too high. One of IAEA's own exemption criteria is that the effective annual dose to a member of the public from a radioactive source or practice should be unlikely to exceed 10 μ Sv (1 mrem). (*Ibid*) Thus, the average modeled dose would still exceed IAEA's exemption criterion by a factor of 25. If a major regulatory revision is being carried out, thereby offering an opportunity to remedy an existing section of 10 CFR Part 71 that allowed a 50-fold exceedance of a recommended dose, then the major regulatory revision should ensure a 50-fold dose reduction. In this case, the 2-fold dose reduction offered by the proposed revision is grossly inadequate.

b) *Doses to transportation workers, emergency response personnel, and the general public as a result of transportation accidents involving exempt shipments of radioactive materials.* Doses from transportation accidents have not been analyzed adequately.

c) *Credible doses to the general public from exempt shipments of radioactive materials that are deliberately dispersed by terrorists or others who intend to do harm.* As noted, exempt

shipments become untraceable in commerce. Before raising the exemption value on any radionuclide, NRC should demonstrate that the maximum credible harm that can be done with exempt shipments of that radionuclide is within acceptable limits. We see no evidence that this type of dose has been addressed.

One would expect to find a meaningful analysis of the above technical issues in NRC's Environmental Assessment, but the relevant sections (§§3.1.2 and 4.2.2) indicate that "The nature of the potential change makes it difficult to quantify the values or impacts" and that "The nature of the proposed change makes it difficult to quantify the safety impacts or benefits." (Draft Environmental Assessment of Major Revision of 10 CFR Part 71, NUREG/CR-6711, pp. 14 and 47.) This lack of analysis does not satisfy NEPA.

Increased Worker Exposure and Difficulty of Implementation and Enforcement

The proposed revisions would also create a more complex scheme for determining whether shipments are exempt, such that "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 such that "[a]dditional 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).

The proposed revisions also introduce new and inadequately analyzed uncertainties about deregulated radioactive materials in commerce. For example, an inspector could not determine compliance with the law simply by measuring the amount of radioactivity from the shipped material. A far more complicated test would be required. Given that most enforcement staff are overburdened, this increased complexity will inevitably lead to less enforcement and, ultimately, less compliance.

Inconsistency with Other Federal Standards

The proposed regulatory revisions, while they would make the NRC and DOT standards compatible with each other and with the IAEA standards, would also create an inconsistency with U.S. Environmental Protection Agency (EPA) standards under the Resource Conservation and Recovery Act (RCRA). The current exemption threshold used by both DOT and NRC for transportation (all radioactive materials below 70 Bq/g are exempt) is consistent with EPA's 70 Bq/g acceptance limit for disposal of radioactively contaminated waste at RCRA-regulated waste disposal sites. "Presently, only the NRC and DOT are proposing to adopt the [new] exemption values, which may result insituations where shipment of materials with residual radioactivity would be allowed for transportation under the new exemption values but would not be allowed for disposal in RCRA sites." (67 FR 21394, April 30, 2002) This inconsistency is likely to sow confusion among the regulated industry, lower compliance with EPA regulations, and reduce trust in federal standards.

Other Reductions in Protection

Section 71.55 of the proposed revisions would modify the packaging requirements for uranium hexafluoride (UF₆) and would relax the current requirement in §71.55(b) that “a fissile material package must be designed, or the contents limited, so that a single package would be critically safe if water were to leak into the containment vessel.” (67 FR 21400, April 30, 2002) NRC provides no critical evaluation of the proposed relaxation of this requirement other than a claim that it is “consistent with the worldwide practice in shipping fissile UF₆” and is consistent with various standards and regulations. (*Ibid*) Given the potentially serious consequences of a criticality accident, this proposed revision should not be considered or adopted in the absence of better justification and analysis. NRC’s Environmental Assessment fails to address any impacts associated with the proposed relaxation of the single-package criticality requirement. (See Draft Environmental Assessment of Major Revision of 10 CFR Part 71, NUREG/CR-6711, pp. 50-51).

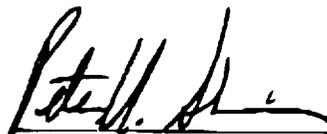
Similarly, §71.63 of the proposed revisions would eliminate the double containment requirement for plutonium. (67 FR 21421-25, April 30, 2002.) Double containment (a separate inner containment) is currently required by §71.63(b) for shipments of plutonium in excess of 20 curies, and NRC now proposes to eliminate this plutonium-specific requirement. Given the public health and safety consequences of an accidental release of plutonium, and likewise given the degree of public concern about the hazards of plutonium, we oppose the elimination of the double containment requirement.

The Offered Rationale for the Change is Inadequate

There has been no demonstration that the inconsistency with IAEA standards has caused any difficulty. Thus, that alone cannot justify these changes. NRC argues that, although the existing regulations “have provided adequate protection of the public health and safety,” the proposed revisions would reduce modeled exposures by a factor of two. However, given the inadequacies of this model (e.g., its dependence on the specific radionuclides modeled), this justification is dubious. More important, the modeled exposures remain 25 times over IAEA’s target level. Given the magnitude of a regulatory change, NRC should consider more appropriate revisions to 10 CFR Part 71 wherein substantial improvements to public health and safety are the primary goal.

Thank you for taking these concerns into consideration. Please feel free to call me at 518-474-2432 if you have any questions.

Sincerely,



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