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Ms. Annette L. Vietti-Cook
Secretary
U.S. Nuclear Regulatory Commission
Attn: Rulemakings and Adjudications Staff
Washington, DC 20555-001

Reference: **Comments** on RIN 3150-AJ41 (NRC-2014-0118), "*Rulemaking for Enhanced Security at Fuel Cycle Facilities; Special Nuclear Material Transportations; Security Force Fatigue at Nuclear Facilities*"

Ms. Turner:

I would like to formally comment on the draft Regulatory Basis Document on Rulemaking for Enhanced Security at Fuel Cycle Facilities; Special Nuclear Material Transportations; Security Force Fatigue at Nuclear Facilities. My comments are largely directed at the information provided on page 35. These comments include:

- The definition of special nuclear material found on page 35 is inconsistent with the definition of special nuclear material found elsewhere in regulation. Specifically, the proposed wording on page 35 implies that special nuclear material is U-235 mass. It is also described or implied to be this way previously in the document. However, as an example, 10 CFR 20.1003 defines special nuclear material as, "Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material that the Commission..." The implication of this definition is that special nuclear material is defined by the element uranium not the isotope U-235. To be consistent, and I believe meet the intent of what is described in the document, the proposed definitions found on page 35 should identify U-235 mass and U-235 enrichment for the element uranium when applicable and not call it special nuclear material. Uranium not just U-235, depending on the enrichment, may be special nuclear material.
- The defined terms for moderately-dilute special nuclear material and high-dilute special nuclear material found on page 35 refer to "...special nuclear material concentration..." having units of weight percent. This in-and-of-itself is fine; however, if the meaning of special nuclear material is really U-235 mass (see previous bulleted comment) then this should refer to enrichment not weight percent. As an example, the technical specifications for the Oregon State TRIGA Reactor define the reactor fuel as, "Uranium content: nominal 30 wt% enriched to less than 20% in U-235." This example definition is consistent with the definition of special nuclear material found elsewhere in the regulations, clearly identifying the element content (i.e., uranium) as having units of weight percent while the term enrichment applies to the isotope (i.e., U-235).

- The identified mass per liquid volume definitions found on page 35 for moderately-dilute and highly-dilute special nuclear material appear to be inconsistent. As an example, moderately-dilute is "...< 1 gram per liter for solutions." while highly dilute is "...≥1 gram per liter and <25 gram per liter for solutions." This would seem to be reversed.
- In the definitions for highly- and moderately-dilute materials, the amounts identified for liquid solutions seems inconsistent with the amounts identified for solids. Solids would appear to be at bigger risk for theft and diversion than liquids yet the suggest limits for solids seem much higher than liquids. As an example, for moderately-dilute materials (assuming that the liquid limits were reverse; see previous bullet) a solution containing 20% enriched uranium would be limited to 125 grams of uranium in one liter (assuming that wt% in these definitions really means enrichment; see previous bulleted comments) but any solid less than 20 wt% would meet the definition regardless of the quantity.

These points have been articulated in one form or another in public meetings on the subject. On this manner, I would like to compliment the NRC and their effort to receive feedback and input on the draft basis document. It is truly appreciated.

Sincerely,



Steve Reese
Director