U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

July 10, 2025

John B. Woodbury
Packaging Management Council Coordinator
Catawba Corps
3533 15th Street E
Lewiston, ID 83501

Reference No. 24-0124

Dear Mr. Woodbury:

This letter is in response to your December 2, 2024, letter and subsequent email correspondence requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to fissile exceptions for radioactive materials. Specifically, you ask whether the exceptions for fissile materials specified in § 173.453(b) allow for the packaging mass to be included as part of the non-fissile material mass, when calculating the 200:1 solid non-fissile to fissile mass ratio for compliance with this section.

Yes. The packaging mass can be counted towards the solid non-fissile mass in the 200:1 ratio for fissile exceptions as found in § 173.453(b), provided that the mass of any lead, beryllium, graphite, and hydrogenous material enriched in deuterium are not included in the calculation of the 200:1 ratio.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,

T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division

December 2, 2024

Standards and Rulemaking Division
Pipeline and Hazardous Materials Safety Administration (PHMSA)
U.S. Department of Transportation (DOT)
East Building
1200 New Jersey Avenue, SE
Washington, DC 20590-0001

Request for Clarification of 49 CFR 173.453(b)

Dear Sir/Madam:

The offsite transport of a radioactive liquid stream in large quantities for treatment and disposal is being evaluated. This waste stream is planned to be managed over 11 years and have a volume of approximately 24 million gallons. Each shipment will consist of 5,000 gallons in a steel tank. The waste stream in question is a liquid with a small amount (~0.3 ppm by weight) of fine suspended solids. This stream meets the requirements for LSA II based on the A_2/g concentration and contains 15 grams or less of fissile material.

The Department of Transportation incorporated the requirements for fissile material exceptions into 49 CFR 173.453 on January 26, 2004, (HM-230) based on the requirements contained in 10 CFR 71.15. In the Federal Register dated January 26, 2004, "Compatibility With IAEA Transportation Safety Standards (TS-R-1) and Other Transportation Safety Requirements," clarification was added that the mass of the container could be used in the calculation of the solid mass required by 10 CFR 71.15(b). The discussion in the Federal Register does not preclude liquids in §71.15(b).

Because 10 CFR 71.15(b) and 49 CFR 173.453(b) have the same language, in reviewing 49 CFR 173.453(b), "An individual or bulk packaging containing 15 grams or less of fissile material provided the package has at least 200 grams of solid nonfissile material for every gram of fissile material. Lead, beryllium, graphite, and hydrogenous material enriched in deuterium may be present in the package but must not be included in determining the required mass for solid nonfissile material." Each shipment will contain greater than 3,000 grams of solids based on the solids in the liquid and the mass of the steel tank. Lead, beryllium, graphite was not factored into the mass of the solids. Deuterium is not present in the waste stream. Does this meet the requirements of 49 CFR 173.453(b) to be fissile excepted?

Your clarification of this issue will be appreciated.

Respectfully,

John Woodbury

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