



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

JAN 17 2006

400 Seventh Street, S.W.
Washington, D.C. 20590

Mr. Dennis Ashworth
Director
Office of Transportation
Office of Environmental Management
United States Department of Energy
1000 Independence Ave S.W.
Washington, DC 20585

Ref. No. 05-0254

Dear Mr. Ashworth:

This is in response to your September 23, 2005 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) regarding the applicability of fissile material exceptions. Specifically, you request clarification of the fissile material exception provisions in § 173.453 (f) of the HMR. You cite the existing language of the exception and the wording proposed by the U.S. delegation at the recent International Atomic Energy Agency's (IAEA) Transport Safety Standards Committee (TRANSSC) meeting for inclusion in the international regulations as follows:

- 49 CFR 173.453(f): "Packages containing, individually, a total plutonium mass of not more than 1000 grams, of which not more than 20 percent by mass may consist of plutonium-239, plutonium-241, or any combination of these radionuclides."
- Proposed IAEA wording: "Packages containing no more than 20% of fissile nuclides by mass up to a maximum of 1 kg of plutonium per consignment"

The intent of § 173.453(f) is to allow shipments of plutonium (not uranium) as fissile-excepted, provided the total mass of plutonium is less than 1 kg and no more than 20% of the plutonium nuclides are fissile (i.e., Pu-239 and/or Pu-241). The practical need for such an exception is related to the intrinsic safety of this mixture of plutonium nuclides (in a total mass less than 1 kg) and the large number of Pu-238 sources being shipped.

The new wording was proposed at the recent TRANSSC meeting to clarify that, as long as the total quantity of fissile nuclides (plutonium or uranium) is less than 20% of the total plutonium mass, the shipment can be excepted. Note, however, that this exception is still intended for shipments of plutonium with certain characteristics (limited quantity



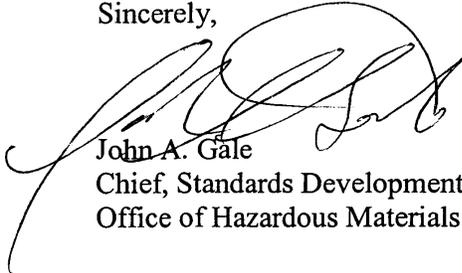
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of fissile nuclides); this exception is NOT intended to allow shipment of large quantities of uranium with “some” plutonium included.

I hope this information is helpful. Please contact us if you require additional assistance

Sincerely,

A handwritten signature in black ink, appearing to read 'John A. Gale', with a large, stylized flourish extending to the left.

John A. Gale
Chief, Standards Development
Office of Hazardous Materials Standards



Department of Energy
Washington, DC 20585

September 23, 2005

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Mr. Edward T. Mazzullo, PHH-10
Director, Office of Hazardous Materials Standards
Pipeline and Hazardous Materials Safety Administration
U.S. Department of Transportation
Attention: DHM-10
400 7th Street SW,
Washington, D.C. 20590-0001

Dear Mr. Mazzullo:

The purpose of this letter is to request an interpretation of the Department of Transportation (DOT) Fissile Materials Exceptions requirements as mentioned in the Title 49, Part 173.453.

49 CFR Part 173:

Fissile materials meeting the requirements of at least one of the paragraphs (a) through (f) of this section are excepted from the requirements of this subpart for fissile materials, including the requirements of 173.457 and 173.459, but are subject to all other requirements of this subpart, except as noted.

(a)...(e)..

(f) *Packages containing, individually, a total plutonium mass of not more than 1000 grams, of which not more than 20 percent by mass may consist of plutonium-239, plutonium-241, or any combination of these radionuclides.*

We seek clarification of the language in the subsection (f) to prevent misclassification of packages containing plutonium and other fissile nuclides.

Recently, the Department of Energy's (DOE) Office of Transportation along with DOT and the Nuclear Regulatory Commission (NRC) participated in the International Atomic Energy Agency's Transport Safety Standards Committee (TRANSSC) meeting held in Vienna, Austria, from September 5-9, 2005. The TRANSSC accepted the following revised language by the United States Delegation on fissile exceptions related to packages containing a total plutonium mass of 1 kilogram.

(f) *Plutonium containing no more than 20% of fissile nuclides by mass up to a maximum of 1 kg of plutonium per consignment.*

By changing to "fissile nuclide", the presence of fissile uranium is adequately considered regardless of whether it is present as a separate isotope or decay

product of uranium. Since DOE is a major shipper of radioactive materials, your early consideration of the proposed language change would be greatly appreciated by DOE.

If you need additional information, please contact me at (202) 586-8548, or Mr. Ashok Kapoor of my staff at (202) 586-8307, (e-mail: ashok.kapoor@hq.doe.gov).

Sincerely,



Dennis Ashworth
Director
Office of Transportation
Office of Environmental Management

cc: Frank Marcinowski, EM-10
Ashok Kapoor, EM-11