



U.S. Department  
of Transportation  
**Pipeline and Hazardous  
Materials Safety  
Administration**

1200 New Jersey Avenue, SE  
Washington, DC 20590

June 16, 2026

Mr. Bradley Scott  
Atkins Réalis Nuclear Secured  
2801 George Washington Way  
Richland, WA 99354

Reference No. 25-0135

Dear Mr. Scott:

This letter is in response to your October 7, 2025 email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) as they apply to the definition of “fissile material.” Specifically, you request clarification on the scope of exclusions for irradiated natural or depleted uranium as specified in § 173.403.

We have paraphrased and answered your questions as follows:

- Q1. In the definition of fissile material under § 173.403, is the exclusion of “natural uranium or depleted uranium that has been irradiated in thermal reactors only” intended to exclude only the U-235 component that may have become slightly enriched during irradiation?
- A1. Yes. The definition of fissile material means plutonium-239, plutonium-241, uranium-233, uranium-235, or any combination of these radionuclides. The exclusion of natural or depleted uranium that has been irradiated in a thermal reactor is limited solely to the U-235 component.
- Q2. Does this exclusion also apply to fissile isotopes, such as plutonium-239 or plutonium-241, that are created because of the irradiation of natural or depleted uranium in a thermal reactor?
- A2. No. See answer A1.

Q3. Does the Department of Transportation (DOT) consider U-233, produced from the irradiation of natural thorium within a thermal reactor, to be excluded from the definition of fissile material?

A3. No. See answer A1

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Dirk Der Kinderen".

Dirk Der Kinderen  
Chief, Standards Development Branch  
Standards and Rulemaking Division

**From:** [INFOCNTR \(PHMSA\)](#)  
**To:** [Baker, Yul \(PHMSA\)](#)  
**Cc:** [Hazmat Interps](#)  
**Subject:** FW: Request for Letter of Interpretation  
**Date:** Tuesday, October 7, 2025 15:00:44  
**Attachments:** [image001.png](#)

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Good afternoon,

Please see the following interpretation request. Let us know if you need anything else.

Best,

Aminah

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**From:** Brad Scott <[brad.scott@atkinsrealisusn.com](mailto:brad.scott@atkinsrealisusn.com)>  
**Sent:** Tuesday, October 7, 2025 11:44 AM  
**To:** INFOCNTR (PHMSA) <[INFOCNTR.INFOCNTR@dot.gov](mailto:INFOCNTR.INFOCNTR@dot.gov)>  
**Subject:** Request for Letter of Interpretation

You don't often get email from [brad.scott@atkinsrealisusn.com](mailto:brad.scott@atkinsrealisusn.com). [Learn why this is important](#)

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Mr. Shane Kelley  
Director, Standards and Rulemaking Division  
U.S. DOT/PHMSA (PHH-10)  
1200 New Jersey Avenue, SE East Building, 2nd Floor  
Washington, DC 20590

Regarding the definition of Fissile Material in 173.403:

Is the DOT's exclusion of "*any natural or depleted uranium that has only been irradiated in a thermal reactor*" from the definition of fissile material in 49 CFR 173.403 intended to exclude only the U-235 component of that natural or depleted uranium that could become slightly enriched due to the conversion of U-238 to some other isotope, thereby increasing the U-235 enrichment? Or is the intent of DOT to also exclude from that definition of fissile material any fissile *plutonium-239 or plutonium-241* that could be created because of the irradiation of natural or depleted uranium in a thermal reactor?

Follow up question, if DOT did intend to also exclude from that fissile material definition

any fissile *plutonium-239* or *plutonium-241* that could be created because of the irradiation of natural or depleted uranium in a thermal reactor, does DOT have an opinion on whether U-233 that could be produced from the irradiation of natural thorium within a thermal reactor would also be excluded from the definition of fissile material?

Thank you,

**Bradley Scott**  
**Transportation Training Manager**  
**T&FS Business Unit**  
**AtkinsRéalis Nuclear Secured**  
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