U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

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

OCT 26 2006

Mr. Jim Pitts
3755 Bethel Church Road
Kevil, Kentucky 42053

Ref. No.: 06-0204

Dear Mr. Pitts:

This is in response to your September 7, 2006 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). You ask two questions relative to the requirements for transporting Class 7 (radioactive) material. You also include sample data describing the contents and activity of material taken from a remediation site near Tonowanda, NY. Your questions are summarized and answered as follows:

Q1. Based on a determination made by the Nuclear Regulatory Commission (NRC), radioactive material taken from the remediation site may be categorized as "alternative feed." May the same "alternative feed" material be considered "ore" to meet the "LSA-I" definition in § 173.403?

A1. The answer is no. The definition of "LSA-I" in § 173.403 includes uranium and thorium ores, concentrates of uranium and thorium ores, and other ores containing naturally occurring radionuclides which are intended to be processed for the use of these radionuclides. The determination by the NRC that the material is "alternative feed" material does not, in itself, mean the material is considered an ore. The term ore is not specifically defined in the HMR. However, a uranium or thorium ore that has been physically or chemically processed for use of radionuclides may no longer be considered an ore. You do not provide a sufficient history of the processing performed on the material to accurately determine if it is an ore.

Q2. Despite the analytical data that indicates the presence of enriched and depleted uranium in the soil samples from Tonowanda, NY, if it is known that the material only contains natural uranium, is it permissible to use the RQ value for "uranium, natural," listed in § 172.101, the exemption values for "U (nat)" listed in the table in § 173.436, and the A_2 value for "U (nat)" in the table in § 173.435 to determine the proper classification of the material?

A2. The answer is no. "Uranium – natural" is defined in § 173.403 as chemically separated uranium containing the naturally occurring distribution of uranium isotopes (approximately 99.28% uranium-238 and 0.72% uranium-235 by mass). The analytical data you provided indicates that the material may contain enriched or depleted uranium. It is not appropriate to use the RQ value, exemption values, and A_2 values for "Uranium –

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173.403

natural" to determine the proper classification of the material if analytical data suggests the material contains enriched or depleted uranium.

I hope this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,

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

Williams, James <PHMSA>

From: newclearson@comcast.net
Sent: Thursday, September 07, 2006 8:55 AM
To: Williams, James <PHMSA>
Cc: William Lorenz
Subject: FW: The question

Eichenlaub
§ 172.101 Table 2
§ 173.403
Hazardous Substances
06-0204


The question


Linde_EA_F_EA_M_ Data.xls (84 K...

Jim,

Here is the question and some data that I promised you I would send last week. I am forwarding the attached question from Linde personnel and adding some of my own. I want to sum up the questions concisely if I can:

1. The attached question from Tonawanda. I think what they mean by this is can the Linde material be shipped as ore in the USDOT using the LSA-I (i) definition in 403 as well as using the ore placarding exemption? There is a letter from the NRC to International Uranium (The Mill in Utah) that all of the linde radioactive contaminated materials was acceptable as "alternate feed" and thus "ore" to the mill back in 2000. My question with this one is this: Since all of the Linde material was deemed "alternate feed" (ore) by the NRC, then could this material still be "ore" even if shipping to another disposition outlet somewhere else in the country?

2. The attached xl file has some actual data from one of the digs. The question on this one is this: Given the levels of uranium (U-238, 234, 235) and daughters (Ra-226, Th-230) can the A2 for "natural uranium" be used which is unlimited? Can the RQ for natural uranium (**) be used when determining hazardous substance status? Can the Table 436 exemption level for natural uranium (b) be used so that everything is consistent? Notice that the last two data sets in the attached file have Th-230 with really high levels, however when the whole set is averaged Uranium 238 levels are the highest.

An interesting point to take into consideration here when looking at these analytical numbers is this: We know this Uranium is "natural" in its' U-235 content (0.71%), however when you take the data for U-238 and U-235 and compare you will calculate out that this uranium is either enriched or depleted by a fair margin. The numbers are that far off and they can also be assumed to be off by 50% or more for the other nuclides in the list as well.

Thank you,
Jim Pitts
270-210-7455

Address
3755 Bethel Church Rd.
Kevil, Kentucky 42053

---------- Forwarded Message: ----------
From: "Lorenz, William" <William.Lorenz@shawgrp.com>
To: <newclearson@comcast.net>
Subject: The question
Date: Thu, 31 Aug 2006 17:46:40 +0000
> Jim,
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>
>
> Please have your contact provide an answer to this question:
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