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

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

APR 13 2005

Ms. Kathryn Pacha
Training Services Manager
Duratek Training Services
140 Stoneridge Drive, Suite 500
Columbia, South Carolina 29210

Ref. No. 05-0052

Dear Ms. Pacha:

This is in response to your letter dated March 2, 2005 regarding the overpacking of packages of Class 7 (radioactive) material under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180).

In your letter you describe a scenario where multiple drums have been placed onto a pallet. Specifically, you state that two packages of limited quantity Class 7 (radioactive) material and two packages of Class 7 (radioactive) material that are appropriately labeled RADIOACTIVE YELLOW-II have been place onto a pallet. Based on your scenario you ask the following questions, which are paraphrased and answered below:

Q1) For the above described scenario, would multiple drums placed on a pallet for shipment be considered an overpack?

A1) The answer is yes. An overpack, as defined in § 171.8, means an enclosure used by a single consignor to provide protection or convenience in handling of a package or to consolidate two or more packages. Each inner packaging must be marked and labeled in accordance with the HMR. In addition, when an overpack is used, it must be marked with the proper shipping name and identification number, and labeled for each hazardous material it contains unless the markings and labels representative of each hazardous material in the overpack are visible. When the markings and labels representative of each hazardous material in the overpack are not visible, and the overpack contains one or more packages of Class 7 (radioactive) material, then in addition to the labels for any other hazard classes present, a single radioactive label is required to be placed on the overpack in accordance with the requirements of § 172.403(h). The overpack must also be marked with the word "OVERPACK" when specification packagings are required, unless specification markings on the inside packages are visible. Alternatively, until October 1, 2007, the overpack may be marked with a statement indicating that the "inside (inner) packages comply with prescribed specifications."

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Q2) If the answer to question Q1 is yes, would the dose rate apply to the individual drums?

A2) The answer is yes, with the caveat that if a radioactive label is needed for the overpack, the category of the overpack radioactive label may depend on individual package dose rates as well. Paragraphs 172.203(d)(4) and (d)(5) require both the category of radioactive label and the transport index (TI) to be listed in the shipping description for each individual package on the shipping paper. Package dose rates are used to determine the (TI) and category of radioactive label for individual packages. (The TI is the dimensionless number equivalent in numerical value to the maximum dose rate in mrem/hour at one meter from the package.) The category of label for an individual package is determined from a combination of its maximum surface dose rate and its TI. Note that for the example in the above scenario, you must identify the presence of the two RADIOACTIVE YELLOW – II labeled packages on the shipping paper, but are not required to do so for the two limited quantity packages, unless these contain a hazardous substance or a hazardous waste.

In addition, when the markings and labels representative of each hazardous material in the overpack are not visible, and the overpack contains one or more packages of Class 7 (radioactive) material, a single radioactive label must be placed on the outside of the overpack. In accordance with § 172.403(h), the category of label for the overpack is determined on the basis of the maximum surface dose rate of the overpack and either the sum of the individual package TIs or, in the case of a rigid overpack, one has the option of measuring the TI of the overpack. Therefore, if the choice is made to measure the TI of the overpack, one need not know any individual package dose rates in order to determine the category of radioactive label for the overpack.

Q3) When a rigid overpack is used, would the issue of what label to apply become applicable?

A3) The answer is yes. Section 172.403 requires that the category of the Class 7 label for the overpack must be determined from the table in § 172.403(c) using the TI derived according to the maximum radiation at the surface and the following:

- The TI must be determined by adding together the transport indices of the Class 7 (radioactive) materials packages contained therein (see Q2 above), except

- For a **rigid overpack**, the TI may alternatively be determined by direct measurement as prescribed in § 173.403 under the definition for "transport index," taken by the person initially offering the packages contained within the overpack for shipment.

Q4) If a non-rigid overpack is used, would the option of applying a label and determining a new dose rate be non-applicable, as long as the markings and labels are visible?

A4) The answer is yes.

I hope this information is helpful.

Sincerely,

Susan Gorsky
Acting Director Hazardous Materials Standards
Office of Hazardous Materials Standards

Bells
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Overpacks
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Gale, John <PHMSA>

From: Kathryn Pacha [kwpacha@duratekinc.com]
Sent: Wednesday, March 02, 2005 4:47 PM
To: Ferate, Fred <PHMSA>
Subject: Request for Clarification

Hope this finds you well. I would like a clarification on the use of overpacks and TIs, if you would be so kind.

Definition of Overpack in 49CFR171.8 states that an overpack is "one or more packages that are placed or stacked onto a load board such as a pallet and secured by strapping, shrink wrapping, stretch wrapping, or other suitable means"

Question: If I have multiple drums and place them on a pallet for shipment would this be an overpack? By defintion it would. So, the drums are the individual packages and the dose rates still still apply to individual containers if I use a non-rigid overpack? Is this a correct interpretation?

In the scenerio above lets say I have 2 LQ's and 2 Yellow II's and put them on a pallet for shipment and this is now an overpacked shipment. The dose rates for the overpack for the LQ's would be affected by the presence of the Yellow II's on the pallet and since this is an overpack would it change my DOT characterization for shipment?

Again, if I use a non-rigid overpack then the option of applying a label and determinig a new dose rate is non-applicable. Each package remains a separate package as long as the markings and labels are visible through the method/material used for overpacking.

If I use a rigid overpack, then the issue of what label to apply becomes applicable. Do I then need to re-evaluate my characterization or do I apply labels in conformance with the packages that are labeled and include the required statement "All in packages comply...."

I would appreciate any guidance. Thank you.

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