



U.S. Department  
of Transportation

Pipeline and Hazardous Materials  
Safety Administration

1200 New Jersey Ave., SE  
Washington, DC 20590

JAN 29 2009

Mr. Joseph D. Biss  
Environmental Quality Management, Inc.  
Stone Point Landing  
500 Market Street, Suite 302  
Bridgewater, PA 15009

Ref. No. 08-0024

Dear Mr. Biss:

This responds to your January 23, 2008 letter and follow-up telephone conversations with a member of my staff requesting clarification of the hazard communication requirements for the transport of equipment with a radioactive component under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180).

You indicate that a nuclear density gauge will be permanently affixed to a pipe saddle mounted to the exterior of a concrete pumping truck. The gauge will be used to monitor and collect data on the density of cement being pumped. You provide the following details about the gauge: (1) it incorporates a component housing that contains a sealed-source of Cesium-137 (Cs-137); (2) the housing is manufactured to DOT Specification 7A Type A packaging; (3) the Cs-137 has an activity of 0.2 Curie (Ci) (0.0074 terabecquerel (TBq)); and (4) the Transport Index (TI) for the exterior surface of the gauge is 0.2 and the maximum surface radiation level is 0.13 mrem per hour. Additionally, you note that the gauge will be covered by a metal box that will also be mounted to the truck; the metal box will not be marked or labeled because you do not believe it functions as an overpack. Based on this information, you ask whether the package marking, hazard communication (marking and labeling), and shipping paper information as described in your letter is in compliance with the requirements of the HMR. Your questions are paraphrased and answered as follows:

Q1. What package marking is required?

A1. In addition to the "USA DOT 7A Type A" marking, the gauge must be marked as prescribed by § 178.3 (e.g., marked with the name and address or symbol of the packaging manufacturer) in accordance with § 178.350.

Q2. What hazard communication marking is required?

A2. The gauge must be marked in accordance with § 172.301 to include the proper shipping name (i.e., Radioactive Material, Type A Package) and identification number (i.e., UN2915). Words in italics in Column (2) of the § 172.101 Hazardous Materials Table (HMT) as part of the hazardous materials description may be used in addition to the proper shipping name. Because your material is non-fissile, you may include the phrase, “non-special form, non-fissile” with the proper shipping name. You may not include the words “fissile excepted.” Additionally, radioactive material is not assigned a packing group, therefore, PG II must not be included with the marking.

Q3. What hazard communication labeling is required?

A3. Based on a TI of 0.2 for the exterior surface of the gauge and a maximum surface radiation level is 0.13 mrem per hour, the category of label and information entered on the label as described in your letter is correct.

Q4. What information is required on the shipping paper?

A4. In accordance with § 172.202, the basic description for your material must be in the following sequence: identification number, proper shipping name, hazard class. [Radioactive materials are not assigned a packaging group; therefore, you are not required to include a packaging group with the basic description.] Alternatively, until January 1, 2013, you may list the proper shipping name first, followed by the hazard class and the identification number. Again, because your material is non-fissile, you may include the phrase, “non-special form, non-fissile” with the proper shipping name. The shipping description you propose must also include the number and type of package and a description of the physical or chemical form of the material if not already included with the basic description (i.e., non-special form). In addition, including a copy of the Emergency Response Guidebook (ERG) with the shipping paper complies with the emergency response information requirements under § 172.602. Finally, please note that the shipping paper must be kept in the motor vehicle in conformance with § 177.817(e).

Q5. Is the metal box covering the gauge considered an overpack?

A5. No. It is the opinion of this Office that the metal box covering the gauge is not an overpack as defined in § 171.8 and therefore, is not required to be marked and labeled.

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

Sincerely,



Charles E. Betts  
Chief, Standards Development  
Office of Hazardous Materials Standards

Der Kinderen Page 1 of 2  
§ 171.1  
§ 172.101

**Drakeford, Carolyn <PHMSA>**

Applicability  
08-0024

**From:** INFOCNTR <PHMSA>  
**Sent:** Wednesday, January 23, 2008 2:12 PM  
**To:** Drakeford, Carolyn <PHMSA>  
**Subject:** FW: Request for Interpretation

**From:** Joseph D. Biss [mailto:jbiss@eqm.com]  
**Sent:** Wednesday, January 23, 2008 1:59 PM  
**To:** INFOCNTR <PHMSA>  
**Subject:** Request for Interpretation

A company is considering mounting a nuclear density gauge to the exterior of a concrete pumping truck. The gauge will be used to monitor and collect quality assurance data related to the density of cement pump to client structure. I am looking for confirmation of what is proposed (see below), is acceptable and meets the DOT hazardous material regulation (HMR) criteria for compliance for interstate travel on highways. All drivers have completed required hazmat employee training and have a hazmat endorsement on their CDL.

The gauge is permanently affixed to a pipe saddle which is mounted (by threaded flanges) to the discharge outlet of a pump. The pump is mounted onto the rear or side of a mobile unit (truck), over 10 feet from driver or other passengers. The gauge is manufactured by Thermo Fischer Scientific it uses a sealed-source, isotope Cesium-137 (200 milliCuries). The sealed-sourced is housed inside the instrument (gauge) and the instrument housing meets the Type A packaging specifications.

The gauge housing is marked with:  
U.S.A. DOT 7A Type A

Radioactive Material, Type A Package, non-special form, non-fissile or fissile excepted, UN2915, 7, PG II

Radioactive Yellow Label II w/ Contents: Cs-137, Activity: 7.4 GBq, T.I. 0.2

Of note the gauge will not be visible from the exterior of the truck, it will be covered by integrated metal box with a locking door (box is bolted to truck), no plans to label or mark the exterior of box, as we believe it does not meet the definition of a overpack and functions much like "car trunk" would.

Shipping papers will be supplied with each movement of the truck (to job site and back to plant). The shipping papers will be kept in the cab with the following information on the shipping papers:  
Radioactive Material, Type A Package, non-special form, non-fissile or fissile excepted, UN2915, 7, PG II

Radioactive Yellow Label II w/ Contents: Cs-137, Activity: 7.4 GBq, T.I. 0.2

Including a certification statement from shipper, 24-hr emergency notification number, emergency response information (copy of North America ERG).

Each shipment will be surveyed prior to leaving site to correctly label the transport index (T.I.).

Thank you for your time.

Kind Regards,

Joseph D. Biss, CHMM

Environmental Quality Management, Inc.

Stone Point Landing  
Suite 302  
500 Market Street  
Bridgewater, PA 15009  
(724) 775-2910 phone  
(724) 775-2912 fax  
(724) 544-4874 mobile  
[jbiss@eqm.com](mailto:jbiss@eqm.com)  
[www.eqm.com](http://www.eqm.com)

Cincinnati - Chicago - Denver - Durham - Las Vegas - New Orleans - **Pittsburgh** - Roanoke - Sacramento - San Antonio - Seattle

The information contained in this electronic message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, you are informed that any dissemination, copying or disclosure of the material contained herein, to include any attachments, in whole or in part, is strictly prohibited. If you have received this transmission in error, please notify the sender and purge this message.