



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

1200 New Jersey Avenue, SE  
Washington, DC 20590

NOV 24 2009

Mr. Rodney Johnson  
Manager Nuclear Licensing  
Fermi 2  
200 TAC  
6400 N. Dixie Hwy  
Newport, MI 48166

Ref. No.: 09-0231

Dear Mr. Johnson:

This is in response to your letter dated October 8, 2009 requesting clarification of the Hazardous Material Regulations (HMR; 49 CFR Parts 171-180) applicable to the hazard communication requirements for Class 7 (radioactive) material. In your letter you describe the material as “UN2913, Radioactive material, surface contaminated object (SCO-II), 7” transported as “exclusive use” in accordance with § 173.427(a)(6). The material is offered for transportation and transported in a bulk container that has a volumetric capacity of 96 cubic feet (2.7 cubic meters). Your questions are summarized and answered as follows:

Q1) Must the container be placarded on all 4 sides?

A1) No. A package with a volumetric capacity of less than 18 cubic meters (640 cubic feet) may be placarded on two opposing sides or, alternatively, may be labeled instead of placarded in accordance with Part 172, Subpart E. See § 172.514(c).

Q2) Can the container be labeled: Class 7, Radioactive White-I, Yellow-II or Yellow-III as appropriate, instead of placarded in accordance with § 172.514(c).

A2) Yes. See A1.

Q3) Can this package be marked “RADIOACTIVE-SCO” without being placarded or labeled?

A3) No. Packaged or unpackaged LSA or SCO containing less than an A<sub>2</sub> quantity of Class 7 (radioactive) material is excepted from marking and labeling requirements of the HMR provided the surface of each package or unpackaged Class 7 (radioactive) material is stenciled or otherwise marked “RADIOACTIVE-LSA” or “RADIOACTIVE-SCO” as appropriate. See § 173.427(a)(6)(vi). However, this exception does not provide relief

from the placarding requirements in Subpart F of Part 172. While labels may be displayed instead of placards in accordance with § 172.514(c), this is only an alternative method of satisfying the placarding requirements of Subpart F of Part 172. Thus, the package or unpackaged Class 7 (radioactive) material must display either the Class 7 (radioactive) placards or the appropriate labels to comply with the placarding requirements of Subpart F of Part 172.

I trust this satisfies your inquiry. If we can be of further assistance, please contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles E. Betts". The signature is written in a cursive style with a large, looping initial "C".

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

**Detroit Edison**



Eichenlaub  
§173.427  
§173.24  
RAM  
09-0231

October 8, 2009  
NANL-09-0078

U.S. DOT  
PHMSA Office of Hazardous Materials Standards  
Attn: PHH-10  
East Building  
1200 New Jersey Avenue, SE.  
Washington, DC 20590-0001

Subject: Requirements for Bulk Packages less than 18 cubic meters

The purpose of this letter is to request assistance in the interpretation of regulations for a radioactive material shipment.

During the preparation and planning for a shipment of radioactive material, questions arose on the requirement for marking, labeling and placarding of a bulk package less than 18 cubic meters (640 cubic feet) of material being shipped as "exclusive use" in accordance with the regulations. A description of the scenario is provided below.

There are three packages of varying sizes, specification and weights to be shipped. The first package is a 55-gallon drum (24" diameter x 33" height), weighing 450 lbs (204 Kg). The drum meets the requirements of 49CFR173.24, 49CFR173.24a, and 49CFR173.410. The second package is a 96 cubic foot metal box, with internal dimension of 88"(L) x 43"(W) x 44"(H), external dimensions of 93.5"(L) x 48.5"(W) x 52"(H), empty weight of 500 lbs (227 Kg), actual weight of 5,400 lbs (2,450 Kg), and a maximum gross weight of 6,750 lbs (3,062 Kg). The container has an approximate capacity of 620 gallons as a receptacle for a solid. There is no intermediate form of containment and the box meets the requirements of 49CFR173.24 and 49CFR173.410. The third package, is a 20' Intermodal container (Sea-Land) with, internal dimensions of 236"(L) x 93"(W) x 95"(H), external dimensions of 240"(L) x 96"(W) x 96"(H), empty weight of 4,980 lbs (2,259 Kg), actual weight of 18,300 lbs (8,301 Kg), and a maximum gross weight of 48,000 lbs (21,772 Kg). There is no intermediate form of containment. The container has an approximate capacity of 7,750 gallons as a receptacle for a solid and it meets the requirements of 49CFR173.24, and 49CFR173.410.

Each package contains tooling that is used at a nuclear facility. The tooling has surface contamination and would meet all the requirements for Surface Contaminated Object (SCO-II) in accordance with 49CFR173.403. Each package contains less than an A2 Quantity of Radioactive Material. The unshielded dose rate of the material is less than 1 R/hr. None of the packages contain a Reportable Quantity of radionuclides. The exterior of the packages meet the radiation and contamination levels specified in 49CFR173.441 and 49CFR173.443. None of the packages contain special nuclear material or fissile radionuclides.

All three packages are loaded onto a tractor trailer and will be shipped under the proper shipping name "UN2913, Radioactive material, surface contaminated object (SCO-II), 7." The shipment will be "exclusive use" under the provisions of 49CFR173.427(a)(6). The shipment will be within the USA (domestic). Shipment will be loaded by the consignor and unloaded by the consignee from the conveyance in which originally loaded (reference 49CFR173.427(a)(6)(i)). There will be no loose radioactive material in the conveyance (reference 49CFR173.427(a)(6)(ii)). Packages will be braced so as to prevent shifting of lading under conditions normally incident to transportation (reference 49CFR173.427(a)(6)(iii)). Specific instructions for maintenance of exclusive use shipment controls are provided to the carrier on the shipping papers (reference 49CFR173.427(a)(6)(iv)). For this shipment, the VEHICLE is placarded with 4 RADIOACTIVE placards (one on each end and side of the vehicle) (reference 49CFR173.427(a)(6)(v)). Each package is marked with the word "RADIOACTIVE-SCO" in accordance with 49CFR173.427(a)(6)(vi).

The drum is not a bulk package, thus will only have the "RADIOACTIVE-SCO" marking in accordance with 49CFR173.427(a)(6)(vi). Two of the packages met the definition of a "bulk packaging" as defined in 49CFR171.8. Bulk packages are required to be placarded in accordance with 49CFR172.514. The intermodal container will have four placards applied (one to each side) in accordance with 49CFR172.514.

Since the second bulk container is only 96 cubic feet (2.7 cubic meters) the following questions arise:

1. Does the container have to be placarded on all 4 sides?

This package does not have to be placarded on all 4 sides. 49CFR172.514(c) provides an exemption to placarding packaging less than 18 cubic meters. This section states that packages may be placarded on only two opposite sides or, alternatively, may be labeled instead of placarded in accordance with subpart E.

2. Can the container be labeled: Class 7, Radioactive White -I, Yellow-II or Yellow-III as appropriate, instead of placarded in accordance with 49CFR172.514(c)?

This package may be labeled, as stated above, with two "Radioactive" labels based on the radiation levels.

3. Can this package be just marked "RADIOACTIVE-SCO" and be excepted from labels and placards?

Since this package is being shipped as "exclusive use", SCO as stated above in accordance with 49CFR173.427, and is exempt from placarding if labeled: Reference 49CFR172.514(c), and is exempt from labeling if marked "RADIOACTIVE-SCO" in accordance with 49CFR173.427(a)(6)(vi) and 49CFR172.400a(a)(7), it would only require the marking RADIOACTIVE-SCO; therefore it does not require labels or placards as long as all the conditions of 49CFR173.427 are met.

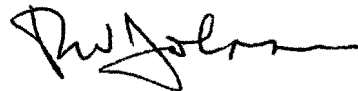
I greatly appreciate your assistance by concurring or providing other comments on the positions stated above.

Please respond to:

Mr. Rodney Johnson, Manager Nuclear Licensing  
Fermi 2  
200 TAC  
6400 N. Dixie Hwy  
Newport, Mi. 48166

Should you have any additional questions, please contact Bryan Weber at 734-586-4926.

Sincerely,



Manager, Nuclear Licensing