



U.S. Department  
of Transportation

Pipeline and Hazardous  
Materials Safety  
Administration

1200 New Jersey Avenue, SE  
Washington, DC 20590

APR 12 2017

Mr. Tony Garcia  
Director of DOT Compliance  
Propetro  
P.O. Box 10688  
Midland, TX 79702

Reference No. 16-0188

Dear Mr. Garcia:

This letter is in response to your November 15, 2016, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to Class 7 radioactive material. In your email, you explain that your company uses a density gauge containing a radioactive source of Cesium-137 that is then installed on a "Blender" unit that acts as a semi-trailer when in transportation. Specifically, you ask if your radioactive density gauge is considered an integral part of the means of transportation when installed on the "Blender" unit and therefore excepted under § 173.401(b)(3). You provide photographs for further clarification.

A final rule titled, "Hazardous Materials Regulations; Compatibility With the Regulations of the International Atomic Energy Agency" published January 26, 2004 [69 FR 3631] under Docket No. RSPA-99-6283 (HM-230), states that the purpose of § 173.401(b)(3) is to "except from the HMR such items as thoriated metallic engine parts, depleted uranium counterweights, tritium exit signs, and similar items containing radioactive material which are an integral part of, and are routinely used in the normal operation of a transport vehicle." In the scenario you provided, the density gauge would not be considered an integral part of the means of transportation and therefore would not meet the exception in § 173.401(b)(3). While this gauge may be integral to the "Blender" performing its functions as a Blender, the gauge does not perform a function necessary for the "Blender" to act as a transport vehicle.

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

Sincerely,

T. Glenn Foster  
Chief, Regulatory Review and Reinvention Branch  
Standards and Rulemaking Division

Wolcott  
173.401(b)(3)  
Applicability  
16-0188

**Dodd, Alice (PHMSA)**

**From:** INFOCNTR (PHMSA)  
**Sent:** Wednesday, November 16, 2016 4:26 PM  
**To:** Hazmat Interps  
**Subject:** FW: HMR applicability to Densitometers containing a Radioactive Source  
**Attachments:** Denso uninstalled.pdf; Denso Installed.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hi Shante/Alice,

Please submit this as a letter of interpretation. Mr. Garcia spoke with Eamonn.

Please let me know if you have any questions.

Thanks,  
Jordan

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**From:** Tony Garcia [<mailto:tony.garcia@propetroservices.com>]  
**Sent:** Tuesday, November 15, 2016 6:43 PM  
**To:** PHMSA HM InfoCenter  
**Subject:** HMR applicability to Densitometers containing a Radioactive Source

To whom it may concern:

Our company is in the oilfield services and utilizes densitometers that contain a radioactive source of Cesium-137 that require yellow II labels. The Cs-137 comes in a special form A1 package that is a "USA DOT 7A Type A". These sources are used to measure the density of fluids that are being pumped downhole while performing the fracking or cementing process. Our sources are shipped to us by the manufacturer under full compliance of the HMRs. Once received by our facility, we install each of these sources on a Blender, which is a large oilfield piece of machinery that is used to blend chemicals with sand as they are pumped downhole. Once the radioactive source is installed on the equipment, it basically becomes part of the equipment. It is not easily removed as it is attached to the piping of the equipment. This vehicle is a non-divisible load and basically the entire machine becomes the semitrailer. As this vehicle rolls down the road, the shutter is in the closed position and secured with a lock. I also attached photos to better clarify my explanation. The first set of pictures is to illustrate how they come shipped from the manufacturer, the second set illustrates after the source is installed on the blender. The source also comes with a detector on the opposite side that contains a small qty of xenon gas which is a 2.2. Currently we operate under full compliance of the HMRs, we provide a shipping paper, markings, labels, ERI, etc... but my question is:

Does the exception of Part 173.401(b)(3) apply in our case? Does our radioactive source become an integral part of the means of transport? Please clarify...

**Tony Garcia**  
(Director of DOT Compliance)

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