



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety Administration**

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

AUG - 8 2006

Mr. Steve Browne  
Troxler Electronic Laboratories, Inc.  
12057 Research Triangle Park  
North Carolina, 27709

Ref. No.: 06-0158

Dear Mr. Browne:

This is in response to your July 18, 2006 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to Class 7 (radioactive) materials. Specifically, you ask if the radiation level on the external surface of a package containing a portable nuclear gauge is required to be measured prior to each shipment.

The answer is no. In accordance with § 173.475, before each shipment of any Class 7 (radioactive) material package, the offeror must ensure that external radiation and contamination levels are within the allowable limits specified by the HMR. Section 173.475 does not specifically require the radiation level to be measured prior to each shipment; however, each offeror of a Class 7 (radioactive) material must perform appropriate examinations or tests to ensure that the external radiation and contamination levels are within the allowable limits. It is the offeror's responsibility to select an appropriate examination or test method. Alternative examinations and test methods are authorized to the extent they ensure compliance with the external radiation and contamination limits authorized by the HMR.

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



060158

173.475

Eichenlaub  
§173.475  
RAM

Williams, James <PHMSA>

**From:** Steve Browne [sbrowne@troxlerlabs.com]  
**Sent:** Tuesday, July 18, 2006 2:22 PM  
**To:** Williams, James <PHMSA>  
**Subject:** Fw: Interpretation of 173.475

06-0158

----- Original Message -----

**From:** Steve Browne  
**To:** Williams, James  
**Sent:** July 05, 2006 11:29 AM  
**Subject:** Interpretation of 173.475

Jim,

Recently an FAA inspector (Louis Fernandez) told a Troxler portable nuclear gauge user that they must perform a radiation survey to ascertain the TI value prior to each and every shipment. I would like to get U.S.DOT's interpretation of section 173.475 which states:

*Before each shipment of any Class 7 (radioactive) materials package, the offeror must ensure, by examination or appropriate tests, that external radiation and contamination levels are within the allowable limits specified in this subchapter.*

Troxler ships thousands of portable gauges containing sealed sources per year. However, we do not make a radiation measurement on each gauge package before shipment. Instead, the Transport Index is determined once for each model gauge. That value is documented in the NRC certificate of registration for the gauge and also in the Troxler gauge operation and instruction manual. That value is then marked on the radioactive label on the package and entered on the shipping papers. Because all units of a given model contain the same type of sources producing the same radiation levels, there is no need to remeasure the radiation level unless the source housing, shielding, or shutter malfunction or have been damaged. This can be ascertained through a visual examination of the gauge prior to shipment, which I believe satisfies 173.475. If this interpretation is not correct, it will have far reaching ramifications.

I related my interpretation of 173.475 as explained above to the customer who had been inspected by FAA. He relayed my interpretation to the FAA inspector, however, the inspector did not agree and stated that they have to survey the Troxler gauge to measure the radiation levels and report the TI each time prior to shipping. He went on to qualify his position by saying that it is not required on a day-to-day basis before transporting the gauge to and from job sites and the office, but it is required for shipping the gauge via air or ground. The inspector seemed to make a distinction between private carrier shipments (to and from job sites) and common carrier shipments (via air or ground).

I would appreciate getting U.S.DOT's interpretation of section 173.475. It is very important for Troxler to know the answer both from the standpoint of being a nuclear gauge shipper and of being a nuclear gauge manufacturer to whom customers turn to for correct hazmat shipping advice. Please let me know if you have any questions.

Regards,

Steve Browne  
Corporate Radiation Safety Officer  
Troxler Electronic Laboratories, Inc.  
(919) 485-2228 voice  
(919) 485-2250 fax

7/18/2006