



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

OCT 28 2005

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

Mr. Robert R. Titcomb
Moulden Supply Company
3600 Hwy 80 West
Jackson, MI 39209

Ref. No. 05-0219

Dear Mr. Titcomb:

This is in response to your July 11, 2005 letter requesting clarification of the rear-end protection requirements for cargo tanks under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Below we provide a discussion of the phrase "Registered Inspector," paraphrase you specific questions, and provided answers to those questions.

Any person performing or witnessing the inspections or tests specified in 180.407(c) must meet the minimum qualifications for inspectors and testers in § 180.409. The person must be: (1) registered with the Federal Motor Carrier Safety Administration in accordance with 49 CFR Part 107; (2) familiar with DOT specification cargo tanks; (3) trained and experienced in the use of the necessary inspection and testing equipment; and (4) have the training and experience required to meet the definition of a "Registered Inspector" provided in § 171.8. The phrase "Registered Inspector" is defined as a person registered with the DOT in accordance with Subpart F of 49 CFR Part 107 who has the knowledge and ability to determine whether a cargo tank conforms to the applicable DOT specification. A Registered Inspector may meet the knowledge and ability requirements of this section through any one of the following requirements:

1. An engineering degree and one year of work experience relating to the testing and inspection of cargo tanks;
2. An associate degree in engineering and two years of work experience relating to the testing and inspection of cargo tanks;
3. A high school diploma (or General Equivalency Diploma) and three years of work experience relating to the testing and inspection of cargo tanks; or
4. At least three years' experience performing the duties of a Registered Inspector prior to September 1, 1991.

Requirements for accident damage protection devices installed on specification cargo tanks are established in Part 178 of the HMR. In accordance with the definition of a Registered Inspector, the person inspecting the cargo tank for compliance with the HMR must determine if the cargo tank motor vehicle, including accident damage protection, conforms to the applicable DOT specification. In addition, § 178.320(b) clearly states that accident damage protection devices must be certified to conform to the specification requirements by a Design Certifying Engineering (DCE).

Q1. Must the rear-end protection be examined and given a certificate of compliance under the external visual inspection requirements in § 180.407(d) or in accordance with the pressure test requirements in § 180.407(g)?



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180.413

A1. The Registered Inspector must perform the external visual inspection in accordance with the requirements found in § 180.407(d). Accident damage protection devices are part of the tank specification and must be inspected for corroded or abraded areas, dents, distortions, defects in welds and any other conditions that might render the tank unsafe for transportation service. In addition, all major appurtenances and structural attachments must be inspected for any corrosion and damage that might prevent safe operation. Any missing nuts and bolts must be replaced, and all nuts and bolts must be tightened. In addition, § 180.407(d)(7) requires the inspector to record the results of the external visual inspection in accordance with § 180.417(b). No certificate is required to be issued by the Registered Inspector for rear-end protection devices.

The pressure test requirements in § 180.407(g) apply to the cargo tank wall, not to structural attachments or appurtenances. Therefore, the HMR do not require rear-end protection analysis to be conducted as part of the pressure test.


Rear-end protection devices are part of the specification and must be examined and evaluated in accordance with the specification in effect at the time of construction to determine compliance. This would include the methods and means of attachment of the rear-end protection device to the chassis to transmit the required loads directly to the chassis of the cargo tank motor vehicle. Simply observing the rear-end protection device and saying that it does not comply with the specification is not sufficient to support an assertion that the rear-end protection device does not meet the specification requirements. If a determination is made that the rear-end protection does not comply, then a Design Certifying Engineer (DCE) should perform structural analysis on the rear-end protection device and its attachment to the frame to determine compliance with the specification in effect at the time of construction.

Q2. Who is responsible for ensuring that the rear-end protection meets the requirements in Parts 178 and 180?

A2. It is the tank owner's responsibility to ensure that the rear end protection device and corresponding certification documents conform with Part 178. The certification documents may be reviewed by a Registered Inspector to determine if the rear-end protection device installed on the tank conforms to the original design. If the rear-end protection device installed on the tank does not conform to the original design, the owner must provide documentation certified by a Design Certifying Engineering that the rear-end protection device installed on the cargo tank motor vehicle complies with the specification requirements in effect at the time the rear-end protection device was modified.

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

Sincerely,


John A. Gale
Chief, Standards Development
Office of Hazardous Materials Standards

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Gorsky, Susan <PHMSA>

From: Shelton, Danny <FMCSA>
Sent: Monday, July 11, 2005 11:12 PM
To: Gorsky, Susan <PHMSA>; Mitchell, Hattie <PHMSA>
Cc: Hochman, Charles <PHMSA>; Staniszewski, Stanley <PHMSA>; Simmons, James <FMCSA>
Subject: Request for interpretation

Cargo Tanks
05-0219

Please see the following e-mail from Moulden Supply Company requesting guidance regarding the evaluation of rear end protection devices as part of the external visual and pressure tests. My standard response has been as follows: The Registered Inspector must have the ability to determine whether a cargo tank conforms to the applicable DOT specification. The rear end protection devices are part of the specification and must be evaluated to determine compliance. Simply looking at the rear end protection device and saying that it does not comply with the specification is not sufficient documentation to support your position that the rear end protection device does not meet the specification requirements. If, based on your level of expertise, you believe the rear end protection device does not comply, a Design Certifying Engineer (DCE) should perform structural analysis on the rear end protection device and its attachment to the frame to determine compliance.

We are getting a lot more of these questions lately because more and more inspection facilities are reading the definition of a Registered Inspector the same way that I am. This is going to be big because in the past we have said that an RI is not required to perform structural analysis to determine compliance yet we required the RI to have the ability to determine whether a cargo tank conforms to the specification. Well, you cannot do one without doing the other.

We need to decide one and for all what we are going to require from a Registered Inspector. We need to either change the definition of an RI to not require and structural analysis (I do not recommend that position) or clarify the definition to make sure that defects in the accident damage protection devices are repaired prior to passing the tank.

Thanks in advance for your help.

From: MOULDENJAC@aol.com [mailto:MOULDENJAC@aol.com]
Sent: Monday, July 11, 2005 9:54 PM
To: Shelton, Danny
Subject: Pictures you requested. (1 of 6)

Mr. Danny Shelton:

These are the pics you were promised. I would like an answer to the following questions: When asked to perform a pressure test as required every 5 years or a visual inspection as required yearly on a CTMV for Liquefied Petroleum Gas (propane), do the minimum requirements for conducting a pressure test or visual inspection include a rear-end protection analysis or a certificate of compliance concerning the rear-end protection of the CTMV as described in CFR 49, section 180 for a registered inspector to properly decal the CTMV? Who is responsible for insuring that a CTMV rear-end protection meets current regulations as stated in CFR 49 section 178, 180? It has been our practice to bring a CTMV into full DOT compliance during a 5 year pressure test inspection. My customers complain that I am requiring more than the minimum requirements and taking their business to traveling inspectors that do not look at rear end protection.

Robert R. Titcomb, President
Moulden Supply Company
601-922-4611
601-922-4666 (fax)

9/6/2005

