



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

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

APR 11 2006

Mr. Ed Mansell
P.O. Box 310
4825 E. Kearney
Springfield, MO 65801

Ref. No. 05-0200

Dear Mr. Mansell:

This responds to your August 18, 2005 letter requesting clarification on accident damage protection requirements for MC 331 cargo tanks under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180).

Section 178.337-10(a) requires all valves, fittings, pressure relief devices, and other accessories to the tank proper to be protected against such damage as could be caused by collision with other vehicles or objects, jack-knifing and overturning. In addition, pressure relief vales must be protected so that in the event of overturn of the vehicle onto a hard surface, the valve will continue to function.

Section 178.337-10(b) requires protective devices or housing to be designed to withstand static loading in any direction equal to twice the weight of the tank and attachments when filled with the lading, using a safety factor or not less than four, based on the ultimate strength of the material to be used, without damage to the fittings protected, and must be made of metal at least 3/16-inch thick.

Your questions are paraphrased and answered as follows:

Q1. If there is a shear section in the valves on an MC-331 tank, is accident damage protection required per §178.337-10(b)?

A1. Yes.

Q2. If shear sections are provided for the valving and piping, must the accident damage protection conform to §178.337-10(b)?

A2. Yes.



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Q3. If shear sections are not provided for the valving and piping, is accident damage protection required per §178.337-10(b)?

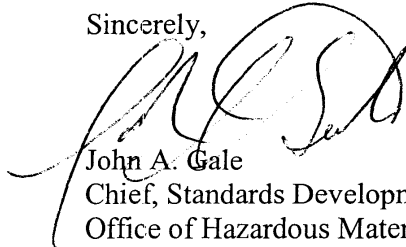
A3. Yes.

Q4. Are the accident damage protection requirements for MC 331 cargo tanks being evaluated for consistency with the requirements for DOT-406, DOT-407, and DOT-412 cargo tanks?

A4. At this time, we are not considering modification to the accident damage protection requirements for MC 331 cargo tanks. You may petition for a rule change if you believe that modification should be considered. Procedures for submitting a petition for rulemaking are in 49 CFR 106.95.

I hope this answers your inquiry.

Sincerely,

A handwritten signature in black ink, appearing to read 'John A. Gale', is written over the typed name and title.

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

From: Ed Mansell
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Springfield, MO 65801

To: Office of Hazardous Materials
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Attn: DHM-10

Boothie
§ 178.337-10
Accident Damage Protection
Cargo Tanks
05-0200

Thursday, August 18, 2005
Ref: 178337-10ADP

Sec. 178.337-10 Accident damage protection.

- (a) All valves, fittings, pressure relief devices, and other accessories to the tank proper shall be protected in accordance with paragraph (b) of this section against such damage as could be caused by collision with other vehicles or objects, jack-knifing and overturning. In addition, pressure relief valves shall be so protected that in the event of overturn of the vehicle onto a hard surface, their opening will not be prevented and their discharge will not be restricted.
- (b) The protective devices or housing must be designed to withstand static loading in any direction equal to twice the weight of the tank and attachments when filled with the lading, using a safety factor of not less than four, based on the ultimate strength of the material to be used, without damage to the fittings protected, and must be made of metal at least $\frac{3}{16}$ -inch thick.

Paragraph (a) requires accident damage protection whether a shear section is installed or not since there is nothing in the regulations that exempt the "damage protection" device if shear sections are provided.

- Question 1: If there is a shear section in the valves on MC-331 tank, is accident damage protection required per 178.337-10(b)? (Yes or No)
- Question 2: If shear sections are provided for the valving and piping then accident damage can be installed, but does not have to comply with 178.337-10(b)? (Yes or No)
- Question 3: If shear sections are not provided for the valving and piping then accident damage protection must be provided per 178.337-10(b)? (Yes or No)
- Question 4: 178.337-10(b) is most likely not feasible and most likely results in a very stiff structure that just transfers the peak stresses into the vessel wall or vessel pads. Is this section of the regulation being evaluated to make it similar to the requirements of DOT-406, DOT-407, and DOT-412 Cargo Tanks?

Sincerely,

Ed Mansell