



U.S. Department  
of Transportation

**Pipeline and  
Hazardous Materials Safety  
Administration**

OCT 28 2005

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

Mr. Jeff Sims  
TTMA Engineering Manger  
Truck Trailer Manufacturers Association  
1020 Princess Street  
Alexandria, VA 22314-2247

Ref. No. 05-0212

Dear Mr. Sims:

This is in response to your letter dated September 2, 2005 concerning a letter issued on, April 7, 2004 (Ref No.: 04-0055) that retracted a letter issued on, September 25, 2003 (Ref No.: 02-0287). The retracted letter permitted the vent on top of a cargo tank at the double bulkhead to be plugged, provided the drain was left open. Specifically, you request that we reinstate the September 25, 2003 letter, to permit vents to remain plugged.

The purpose of the vent in question is to allow vapors to escape to the atmosphere. The physical properties of gasoline vapors prohibit venting through the drain at the bottom of the tank because gasoline vapors, like most vapors, are lighter than air and will rise to the top of the tank. To provide adequate ventilation and drainage, the cargo tank must be vented to the atmosphere and the bottom drain must be kept open at all times (see § 178.345-1(i)(2)). Therefore, based on the requirement in § 178.345-1(i)(2), we are not reinstating the September 25, 2003 letter.

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

Sincerely,

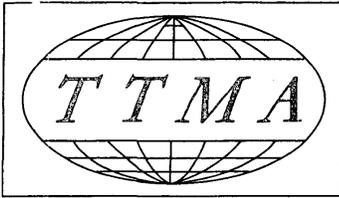


John A. Gale  
Chief, Standards Development  
Office of Hazardous Materials Standards



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178.345-1



# TANK CONFERENCE

Truck Trailer Manufacturers Association

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Richard P. Bowling  
President

September 2, 2005

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Chief, Standards Development  
Office of Hazardous Materials Standards DHM-10  
Pipeline and Hazardous Materials Safety Administration  
400 Seventh Street SW  
U.S. Department of Transportation  
Washington, DC 20590

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Cargo Tanks  
05-0212

Dear Mr. Gale;

TTMA is an international trade association comprised of truck trailer and tank trailer manufacturers, along with cargo container, cargo tanks for trucks and container chassis manufacturers. The associate membership represents material and component suppliers to the industry.

We are requesting reconsideration of an interpretation made by your department dated, April 7, 2004 with Ref. No. 04-0055 suggesting that, "both the top vent and bottom drain must be kept open." At issue is whether the top "Inspection/Maintenance Opening" on any MC-300 or DOT-400 series cargo tank must be open at all times because someone perceives this opening to be a "vent." The industry does not define these plugged nozzles as vents (obviously because they are plugged). They are a totally unregulated nozzle installed on the void to assist in pressure testing the void area to locate possible leaks in the bulkhead or failures in the connecting structure itself. There is actually a large quantity of cargo tanks that do not have a top opening in the cargo tank void at all. Instead, they have two openings near the bottom. There is nothing in the regulation that would indicate this practice is illegal.

49 CFR 178.345-1(i)(2) defines the vent and drain in between double bulkheads as follows:

"Any void within the connecting structure must be vented to the atmosphere and have a drain located on the bottom centerline. Each drain must be accessible and must be kept open at all times. The drain in any void within the connecting structure of a carbon steel, self-supporting cargo tank may be either a single drain of at least 1.0 inch diameter, or two or more drains of at least 0.5 inch diameter, 6.0 inches apart, one of which is located on the bottom centerline."

Reviewing this paragraph of the regulation;

- 1) **VENT SIZE** – The size of the vent is never defined. The vent could be a pinhole drilled through the connecting structure.
- 2) **VENT LOCATION** – The location of the vent is not defined. There is no mention in this paragraph that the vent must be located on top centerline.
- 3) **VENTED TO THE ATMOSPHERE** – The interpretation indicates that vents are "normally" located at top centerline of the tank and that they are required to communicate with the vapor space. We believe you are referring to the "Pressure Relief" requirements of

- 178.345-10. The connecting structure does not carry product and therefore any opening at any location would communicate with the vapor space.
- 4) **EACH DRAIN MUST BE KEPT OPEN AT ALL TIMES** – The interpretation indicates, “...if the bottom drain were closed or plugged ...” This would be a violation of the regulation.
  - 5) **MOISTURE IN THE VOID MAY BE A SOURCE FOR CORROSION** - The comment, “...moisture entering through the top vent will be trapped and become a source of corrosion,” is contradictory to the premise of the interpretation. If the opening at the top of the void is plugged as is the typical industry practice, it would be nearly impossible for moisture to enter the void.
  - 6) **VAPORS WILL HAVE NO MEANS TO ESCAPE IF THE VENT IS PLUGGED** – not venting vapors which may have accumulated in the void space does not cause some type of extremely dangerous situation. Cargo tanks are typically filled with vapors when empty unless they have been recently cleaned. This is a normal occurrence and is not considered an extreme hazard within the industry. Quite to the contrary, EPA tends to frown on venting vapors to the atmosphere.
  - 7) **DRAIN SIZE** – other than self supported cargo tanks constructed of carbon steel, there is no requirement for the size of a void drain.
  - 8) **COMBINED VENT and DRAIN** – Nowhere in the regulation does it indicate that the vent and drain can not be combined as one opening.
  - 9) **USE OF A HAT DEVICE IS PERMISSIBLE** – We can only imagine that the perception is that water and debris enter vertically as the trailer is at rest. Cargo tanks do not typically generate income at rest. Income is generated when they are transporting product 55-75 MPH down the highway. A hat shaped device will not prevent moisture from entering the void with these wind speeds. Depending on the orientation and design of a hat device, even more moisture and debris may be “directed” into the void with a hat device.
  - 10) **TRIP HAZARDS** – The proposed Hat Device or any other vented cap will create an additional risk of serious bodily injury if someone inadvertently trips on the device while on top of the tank.

Nearly all multi-compartment MC-300 series tank trailers manufactured for over 30 years and DOT-400 series tank trailers manufactured for over 10 years have been manufactured with the top inspection/maintenance opening plugged. In all of the years that these units have been manufactured, and with tens-of-thousands of these units on the highway, and with the hundreds-of-millions of miles that these units have traveled there is no evidence of a plugged top void opening known to be the cause of an accident. In the case of carbon steel tank's, allowing any moisture in the void space is going to increase corrosion and is more detrimental to the void space integrity than is being suggested in the interpretation, potentially decreasing the safety of these vessels. TTMA asks that DOT reconsider this interpretation and declare it void as there is not a defined DOT size or location requirement for this opening, the interpretation provides no additional safety to the industry and the addition of a hat device will cause a trip hazard which may cause serious injury.

Sincerely;



Jeff Sims  
TTMA Engineering Manager