U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, D.C. 20590

JUN 05 2014

Mr. David Ford
200 Hardy Ivy Way
Holly Springs, NC 27540

Ref. No. 14-0072

Dear Mr. Ford:

This responds to your letter dated March 25, 2014 requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) regarding cargo tanks. Specifically, you seek clarification on venting, purging and inspection requirements for cargo tank motor vehicles. Your questions are paraphrased and answered as follows:

Q1. Since § 178.345-1(i)(2) was revised in a final rule under Docket No. PHMSA-2009-0151 (HM-218F; 76 FR 43532) to permit the top vents on Specification DOT 406, 407 and 412 cargo tank motor vehicles to be plugged, and § 180.405(c)(2)(ii) authorizes Specification MC 306 cargo tank pressure relief devices and outlets to conform to those authorized for a Specification DOT 406 cargo tank, may the top void vent on an MC 306 cargo tank be plugged and capped, as long as the bottom void vent is open?

A1. The answer to your question is yes. On July 20, 2011, § 178.345-1(i)(2) was revised in final rule HM-218F because it was determined that requiring an opening on top of a cargo tank to vent vapors that accumulate in the void space may be unsafe. The preamble of HM-218F states:

> "In many instances, such as with gasoline, the vapors are heavier than air and it is not necessary to require cargo tanks to be vented to the atmosphere through a vent located near the top centerline. In addition, venting voids through the top of a cargo tank may cause premature corrosion of the void space as a result of water penetration. Allowing the vent to be plugged will also make it easier to identify when there is actually a leak in the bulkhead. Hazardous materials leaking from the drain will cause an obvious stain/dirt buildup that, with the top vent plugged, cannot be a result of water draining from the top vent and must be a leaking bulkhead."

For this reason, PHMSA revised § 178.345-1 to clearly indicate that any void area within the connecting structure of a cargo tank between double bulk heads must be vented to the atmosphere through the required drain or through a separate vent. Therefore, like Specification DOT 406, 407 and 412 cargo tank motor vehicles, the top void vent on an MC 306 cargo tank may be plugged and capped, provided that the bottom void vent is open.

Q2. Would a cargo tank be considered to be "cleaned and purged" if the dome lids are left open to allow the tank to air out?

A2. For the purposes of the HMR, "cleaned and purged" means no residual material and no residual vapor remaining in the interior of a packaging. Section 180.413(a)(2) requires that "prior to each repair, modification, stretching, rebarrelling, or mounting, the cargo tank motor vehicle must be emptied of any hazardous material lading." In addition, cargo tank motor vehicles used to transport flammable or toxic lading must be sufficiently cleaned of residue and purged of vapors so any potential hazard is removed, including void spaces between double bulkheads, piping and vapor recovery systems."

Further, as stated in § 173.29, a packaging would be empty when is it sufficiently cleaned of residue and purged of vapors to remove any potential hazard. The HMR do not define a specific method of cleaning and purging because methods vary depending on the nature of the hazardous material and the type of packaging. It should be noted that ultimately, under § 173.22, it is the shipper's responsibility to properly classify a hazardous material and this would include classification of a residue of hazardous material.

Q3. For vacuum loaded cargo tanks with full opening rear heads, § 180.407(c) requires a pressure test every two years and an internal inspection every five years; however, § 180.407(g) requires an external visual inspection and an internal visual inspection to be conducted at the same time as the pressure test. Does this mean that the internal visual inspection is required every two years in conjunction with the pressure test?

A3. The answer to your question is yes. In the scenario you describe, internal inspection would be required every two years in conjunction with the pressure test.

I hope this information is helpful. If you have further questions, please contact this office.

Sincerely,

Robert Benedict
Chief, Standards Development Branch
Standards and Rulemaking Division

O'Donnell
§180.407
Cargo Tanks
14-0072

U.S. DOT
PHMSA Office of Hazardous Materials Standards
Attn: PHH-10
East Building
1200 New Jersey Avenue, SE
Washington, DC 20590-0001

March 25, 2014

REQUEST FOR INTERPRETATION

I am writing with questions on various issues related to cargo tanks.

MC306 double bulkhead drains

Over the years, there have been varying interpretations regarding the legality of a plugged bulkhead drain on the top of the MC306. Since it is allowed for the DOT400 series now (HM-215-F), can the top void vent on a MC306 be plugged or capped, as long as the bottom void vent is open?

Air drying of cargo tanks

There is no definition of "cleaned and purged" in the HMR. Is the practice of opening the dome lids and allowing the cargo tank to "air out" to the atmosphere sufficient to meet the definition of "cleaned and purged" for purposes of the HMR?

Part 180 Tests/Inspections for Cargo Tanks with Full Opening Rear Heads

For cargo tanks designed to be loaded by vacuum with full opening rear heads, Section 180.407(c) requires an external visual inspection every 6 months; a leakage test every year; a pressure test every 2 years; and an internal visual inspection every 5 years. However, Section 180.407(g) requires an external visual inspection and an internal visual inspection to be conducted at the same time as the pressure test. Therefore, the internal visual inspection is effectively required every 2 years in conjunction with the pressure test, correct?

I appreciate your attention to this matter.

Sincerely,

David Ford

200 Hardy Ivy Way

Holly Springs, NC 27540

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