



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

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

AUG 03 2016

Ronald B. Swegheimer
Division Chief
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, OH 43215

Ref. No. 16-0048

Dear Mr. Swegheimer:

This responds to your March 18, 2016 email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the requalification and maintenance of cargo tanks. In your email, you describe a Specification DOT 407 cargo tank equipped with vapor recovery equipment that is transporting "UN3295, Hydrocarbons, liquid, n.o.s." Your questions are paraphrased and answered as follows:

- Q1. Are all specification cargo tanks equipped with vapor recovery equipment allowed to use the EPA Method 27 leak test?
- A1. No. Only cargo tanks used to transport petroleum distillate fuels (defined in the test as a petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater which is used as a fuel for internal combustion engines) that are equipped with vapor collection equipment may be leak tested in accordance with the Environmental Protection Agency (EPA) "Method 27—Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure-Vacuum Test," as set forth in Appendix A to 40 CFR part 60.
- Q2. If a cargo tank with vapor collection equipment that has been tested in accordance with EPA Method 27 transports gasoline one time, is it authorized to carry other hazardous materials without being retested in accordance with § 180.407(h)(1)?
- A2. No. The authorization to perform the leak test in accordance with EPA Method 27 is only for cargo tanks that are in dedicated service for the transportation of petroleum distillate fuel.
- Q3. If a cargo tank is not operated in petroleum distillate fuel service but is equipped with vapor recovery equipment, is the vapor recovery equipment subject to the requirements in Part 180, Subpart E of the HMR?

A3. The qualification and maintenance requirements in Part 180, Subpart E of the HMR apply to all specification cargo tanks. To be considered an authorized specification packaging, all applicable requirements in Part 180, Subpart E must be met for the particular cargo tank in question. However, there are no specific qualification and maintenance requirements or retesting requirements specific to vapor collection equipment, as it is not included in any cargo tank specification.

I trust this satisfies your inquiry. Please contact us if we can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Dirk Der Kinderen". The signature is fluid and cursive, with a large initial "D".

Dirk Der Kinderen
Chief, Standards Development Branch
Standards and Rulemaking Division

Ciccarone
\$173,201
Packaging Spec
16-0048

Dodd, Alice (PHMSA)

From: Betts, Charles (PHMSA)
Sent: Friday, March 18, 2016 11:49 AM
To: Hazmat Interps
Subject: FW: Guidance request

Importance: High

Please log and assign to a specialist for response.

From: ronald.swegheimer@puc.state.oh.us [mailto:ronald.swegheimer@puc.state.oh.us]
Sent: Friday, March 18, 2016 11:11 AM
To: Betts, Charles (PHMSA)
Subject: Guidance request

March 18, 2016

Mr. Charles Betts, PHH-10
Office of Standards and Rulemaking
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: Transportation of UN 3295, Hydrocarbons liquid n.o.s, 3, PG I in a DOT-407 cargo tank equipped with vapor recovery

Dear Mr. Betts:

I am requesting a written interpretation on the transportation requirements under the Hazardous Materials Regulations (HMR 49 CFR Parts 171-180). Specifically, clarification on the acceptability of using an Environmental Protection Agency Method 27 alternative leak test on a DOT 407 cargo tank equipped with vapor collection equipment.

A carrier using a DOT 407 cargo tank for the transportation of, UN3295, Hydrocarbons, liquid, NOS, 3, PGI, RQ (Hexane) has indicated to our Agency that the EPA Method 27 leakage test is acceptable since the cargo tank is equipped with a vapor recovery system. This was in response to a roadside vehicle inspection on January 14, 2016 citing the carrier for an improper leakage test.

The carrier contends to our agency that this test is acceptable for the above material because "the Method 27 K-EPA leakage test supersedes the K test based on the fact Method 27 K-EPA leakage test is required for vapor recovery system trailers. They are both the same leakage test but Method 27 K-EPA requires more."

In considering this, I reviewed the EPA Method 27 test procedures and the leakage test procedures in 49 CFR Part 180.407(h). According to my findings the EPA Method 27 test is performed at a much lower pressure and allows leakage versus the pressure of 80% of the tanks MAWP and no leakage allowed for a "standard" leakage test.

The nature of the materials transported in the cargo tank—petroleum distillate fuels—governs the use of the EPA Method 27 alternative leakage test. The DOT 407 cargo tank itself is approved for use in transporting many materials with a wide range of vapor pressures, not just low vapor pressure petroleum distillate fuels. Additionally many

companies have added vapor recovery systems to cargo tanks in an effort to reduce emissions or in some cases to protect the lading from contamination.

Guidance issued by PHMSA in July of 2011 indicated that "*Petroleum distillate fuel*" is not specifically defined in the HMR (49 CFR Parts 171-180). However, the common definition of a petroleum distillate fuel is a hydrocarbon mixture extracted from crude oil through the distillation process and used to power vehicles or machinery. Further, EPA Method 27, Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure Vacuum Test applies to a "gasoline delivery tank which is equipped with vapor collection equipment" (EPA Method 27, Section 1.0 - Scope and Application). The term "gasoline" is defined in EPA Method 27, Section 3.6 to mean "a petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater which is used as a fuel for internal combustion engines." It is PHMSA's opinion that EPA Method 27 may be used to satisfy the leakage test specified in § 180.407(h)(2) if a cargo tank is equipped with vapor collection equipment and has been used to transport "gasoline" as defined by EPA Method 27, Section 3.6". Additionally the guidance indicates if a "mixture meets the definition of "gasoline" in EPA Method 27, section 3.6, then it is also considered a petroleum distillate fuel for the purpose of § 180.407(h)(2)."

The carrier was transporting the material to an ethanol plant and has, as of yet, to contend that the material "is used as a fuel for internal combustion engines" just that the unit has a vapor recovery system and the "Method 27 K-EPA requires more."

The questions and answers as we see them regarding this issue are as follows;

Q1) Are all specification cargo tanks equipped with a vapor recovery system allowed to use the EPA Method 27 leak test?

A1) No, only cargo tanks equipped with a vapor recovery system transporting a mixture that meets the definition of "gasoline" in EPA Method 27, section 3.6, (petroleum distillate or petroleum distillate/alcohol blend which is used as a fuel for internal combustion engines) may utilize the test in 49 CFR§180.407(h)(2).

Q2) Previous PHMSA guidance has indicated that "if a cargo tank" ... equipped with vapor recovery system... "is used to transport gasoline one day and the next day ethanol with 5% gasoline the EPA method 27 test suffices for the leakage test required by the USDOT. Based on this if a cargo tank equipped with a vapor recovery system transports gasoline one time the rest of the time the cargo tank is in service it may utilize the EPA Method 27 test. Is this correct?

A2) No, the utilization of the EPA Method 27 was intended as a relief to cargo tanks operated in petroleum distillate fuel service. These cargo tanks were already required by the EPA to be subjected to a "leakage" test if transporting petroleum distillate fuels and the exception provided relief from dual testing. The guidance issued in 2011 was to address the use of alternative forms of distilled fuels for internal combustion engines.

Q3) If a cargo tank is not operated in petroleum distillate fuel service but is equipped with vapor recovery system, is the vapor recovery system subject to the requirements in Subpart E, Part 180, Qualification and Maintenance of Cargo Tanks?

A3) No, vapor recovery systems are not currently an equipment requirement for cargo tanks in Part 178 Specifications for Packages.

Thank you for your assistance in this matter.

Sincerely,
Ron Swegheimer

Ronald B. Swegheimer

Division Chief

Public Utilities Commission of Ohio

Transportation - Enforcement

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