



U.S. Department  
of Transportation

Pipeline and Hazardous  
Materials Safety  
Administration

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

FEB 26 2016

Mr. Joe Connelly  
Specialty Transportation and Regulatory Services  
P.O. Box 231  
Elkton, MD 21922

Ref. No. 15-0031

Dear Mr. Connelly:

This is a response to your February 5, 2015 email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you ask whether under 49 CFR 173.31(d)(1), tank car bottom outlet valve caps must be removed and manway covers opened when an external visual inspection is performed prior to a tank car being offered for transportation.

The HMR do not explicitly state that bottom outlet valve caps must be removed to inspect the valve or manway covers opened to inspect the gasket of the covers. However, the HMR contain both minimum inspection requirements for a pre-trip inspection and a performance standard. The minimum inspection requirements provided in § 173.31(d)(1)(ii) require that the piping, valves, fittings, and gaskets must be visually inspected for corrosion, damage, or any other condition that make a tank car unsafe for transportation. The performance standard is found in § 173.31(d)(2) and requires closures to be designed and closed so that under conditions normally incident to transportation there will be no identifiable release of hazardous material. See also 49 CFR 173.24.

Specific to bottom outlet valves, in 2009, FRA issued Safety Advisory 2009-02 addressing the inspection of tank car bottom outlet valves and assemblies. 74 FR 53321 (Oct. 16, 2009). In that Advisory, FRA specifically noted that although the then-current version of the HMR did not include explicit language requiring the removal of bottom outlet caps during the loading process, the performance standard of 49 CFR 173.24 required that packages be “designed, constructed, maintained, filled . . . [and the] contents so limited, and closed, so that under conditions normally incident to transportation . . . there will be no . . . release of hazardous materials to the environment.”<sup>1</sup> Accordingly, in order to ensure compliance with this standard, in the Advisory, FRA recommended that bottom outlet caps be removed during the tank car loading process. If the cap is not removed, there is no way to determine whether

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<sup>1</sup> The performance standard of §173.24 is a general performance standard applicable to all packages designed to transport hazardous materials. The performance standard of § 173.31(d)(2) is substantively the same as that in § 173.24 but written specific to railroad tank cars.

the valve is in a condition safe for transportation because an internal defect in the valve may go undetected. In other words, if the bottom outlet cap is not removed, there is no way to ensure the car complies with the performance standard of either § 173.31(d)(2) or § 173.24.

Similarly, without opening a hinged and bolted manway and observing the condition of the manway's gasket, there is no way an offeror can reasonably perform a visual inspection of the gasket and meet the minimum inspection requirement of § 173.31(d)(1)(ii) or know that the gasket meets the performance requirements of either § 173.31(d)(2) or § 173.24. This rationale applies generally to other tank car fittings designed to be opened/removed for the purposes of loading or unloading and serve as primary or secondary closures<sup>2</sup> (including, for example, plugs or caps on top valves, etc.). In order to ensure compliance with these requirements, an offeror must remove the bottom outlet cap and open the manway cover and inspect the condition of the gasket, regardless of whether the offeror used the fitting during a particular loading/unloading event.

Compliance with the performance standards of §§ 173.24 and 173.31(d)(2) and the minimum inspection requirements of § 173.31(d)(1)(ii), is aided by the establishment of specific rejection criteria against which the external visual inspections are to be performed (e.g., inspections for corrosion, damage, or any other conditions that make a tank car unsafe for transportation). We expect that inspection procedures take into account all the information required in §§ 173.24(f)(2) and 178.2(c)(1)(i)(B) which includes "closure instructions...to effectively assemble and close the packaging for the purpose of preventing leakage in transportation." This information should include gasket type, gasket dimensions, fastener specification, and other information relevant to the gasket's expected performance. Additionally, the inspection procedures should include specific rejection criteria that define the condemnable extent corrosion, the type and magnitude of damage (e.g. cracks, dents, scores, etc.), or a clear definition of other conditions identified by an offeror that makes a tank car unsafe for transportation.

I hope this information is helpful. If you have any more questions, please do not hesitate to contact this office.

Sincerely,



Dirk Der Kinderen  
Chief, Standards Development  
Standards and Rulemaking Division

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<sup>2</sup> In the requirements for a pressure leakage test in § 180.509, the regulations clearly distinguish between "permanently" affixed valves and fittings and those fittings removed for loading and unloading of the tank car thus acknowledging the difference in in-service performance requirements. In this section, facilities that remove closure for the sole purpose of loading/unloading a tank car are exempted from the requirements to perform a leakage pressure test following replacement of these features.

Suchak  
§ 173.31(d)(1)(ii)  
Load/Unload  
15-0031

**Dodd, Alice (PHMSA)**

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**From:** Goodall, Shante CTR (PHMSA)  
**Sent:** Thursday, February 05, 2015 11:48 AM  
**To:** Dodd, Alice (PHMSA)  
**Subject:** FW: Manway Gaskets

**Importance:** High

FYI...

-----Original Message-----

**From:** Betts, Charles (PHMSA)  
**Sent:** Thursday, February 05, 2015 11:42 AM  
**To:** Goodall, Shante CTR (PHMSA)  
**Cc:** Supko, Ben (PHMSA); Alexy, Karl (FRA); [joeconnelly@starsconsulting.org](mailto:joeconnelly@starsconsulting.org)  
**Subject:** FW: Manway Gaskets  
**Importance:** High

Shante -

Please log and assign to a specialist for response. Please inform the assigned specialist that PHMSA's response must be coordinated with FRA.

Thanks,  
Charles

-----Original Message-----

**From:** [joeconnelly@starsconsulting.org](mailto:joeconnelly@starsconsulting.org) [<mailto:joeconnelly@starsconsulting.org>]  
**Sent:** Thursday, February 05, 2015 10:45 AM  
**To:** HMASSIST (FRA); Blackwell, Kevin (FRA); Matsinger, Lisa (FRA); Strouse, Larry (FRA); "[Lucinda. Henriksen](mailto:Lucinda.Henriksen@dot.gov)"@dot.gov  
**Cc:** Alexy, Karl (FRA)  
**Subject:** Manway Gaskets

To whom it may concern:

I am requesting clarification on a tank car loading and unloading regulation, specifically 173.31(d)(1)(ii) which requires an external visual inspection...of piping, valves, fittings and gaskets for corrosion or damage... Does this mean that I have to remove the bottom outlet valve or open the manway cover to assess the condition of the gasket? Can I leave these opening closed and observe for leakage and make the case that no leakage means that the gaskets are serviceable.

This has become an issue for some of the loaders that I am working with as the company struggles with different answers from different FRA personnel at their various locations. If you prefer, I can request a letter of opinion from PHMSA. Please let me know either way.

Thank You for your attention to this matter

Joe Connelly

Safety First, No Excuses

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Safety First...No Excuses