U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

DEC 0 2019

Daniel Shelton
President
HazMat Resources, Inc.
141 Wendover Drive
Kingsport, TN 37660

Reference No. 18-0118

Dear Mr. Shelton:

This letter is in response to your August 27, 2018, letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the pressure relief device (PRD) requirements for MC 300 series cargo tank motor vehicles (CTMV).

We have paraphrased and answered your questions as follows:

Q1. You ask what the terms "modify" and "replacement" mean as they pertain to §§ 173.33(d) and 180.405(h).

A1. The terms "modify" and "replacement" are used in the same context regarding the PRD requirements for CTMVs—i.e., "modify" meaning change from a current specification to an authorized alternative specification and "replacement" meaning substituting the old specification PRD with the authorized alternative specification PRD. For example, you may modify an MC 307 PRD by replacing it with a DOT 407 PRD. Furthermore, in accordance with § 180.405(h)(1), until August 31, 1998, the owner of a cargo tank could replace a reclosing PRD with a device which complied with the specification requirements for PRDs in effect at the time the cargo tank specification became superseded (e.g., a new or refurbished MC 300 series PRD). After that date, if the PRD on a MC 300 series CTMV is no longer properly functioning, it must be replaced with a PRD that meets the requirements of § 178.345-10.

Q2. You ask whether the original specification requirements no longer apply to MC 306, 307 and 312 CTMVs currently in-service given that new CTMVs cannot be constructed in accordance with those specifications.

A2. The original specification requirements still apply to in-service MC 306, MC 307 and MC 312 CTMVs. However, a newly constructed CTMV or its components, such as PRDs, are not authorized to be constructed in accordance with the MC 300 series specifications. A newly manufactured PRD must be constructed in accordance with § 178.345-10.

With respect to your comments about the preamble text of final rule, "Hazardous Materials: Miscellaneous Amendments; Response to Appeals; Corrections" (HM-218H), we recognize that this language has caused some confusion. We hope that the responses in this letter can provide further clarity. Moreover, we affirm that the response in Interpretation Letter Ref. No. 16-0183 is accurate.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,

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

Ciccarone
18-0119

January, Ikeya CTR (PHMSA)

From: Kelley, Shane (PHMSA)
Sent: Monday, August 27, 2018 9:39 AM
To: January, Ikeya CTR (PHMSA)
Cc: DerKinderen, Dirk (PHMSA); Foster, Glenn (PHMSA)
Subject: Fwd: Request for Interpretation
Attachments: Pressure Relief Devices - 180.407(j)+.pdf

Good morning Ikeya

Please log this and ensure Glenn and Dirk are in the chain for response. We have a conflict between an interp and a rule preamble we need to resolve.

Thanks

Shane

From: Daniel Shelton <dshelton@hazmatresources.com>

Sent: Monday, August 27, 2018 9:24 AM

To: Kelley, Shane (PHMSA)

Subject: Request for Interpretation

Attached are my comments and request for clarification regarding venting. I know that you were not part of this debacle, this is what your predecessor left you with and it is ugly to say the least. The reason TTMA called you was because the comments in HM218 published on June 18, 2018 did not fit their narrative that venting capacity calculated in accordance with the original specification does not matter and it not a safety issue. I will call you later today or you can set aside a time to call me.

Thanks for your willingness to address the issue. I will be in touch

Q7	Questionable	If one could modify the set pressure of a 407 vent from 42 to 35 this would also change the operating range of the vent and the reseat pressure of the vent. It would not pass a bench test as modified. This scenario is unlikely to ever happen and the response makes no sense.

Scenario 2

With the new operating ranges of the MC306 vent there is no justifiable reason why a person would want to put a DOT 406 vent on a MC306 cargo tank. The MC306 vent has a wider operating range (3 psi – 4.4 psi to open – 1.4 psi) and can reseat as low as 2.7 psi. While a DOT 406 vent installed on a DOT 406 with a MAWP of 3.3 must have an open range (3.63 to 4.55 .92 psi) and must reseat no less than the MAWP (3.3 in this case). When performing a bench test of these vents the MC306 vent has a wider target to hit and less chance of the vent failing a bench test. The choice for a MC306 cargo tank is a MC306 vent.

Scenario 3

No comments on Scenario 3. The following questions are respectfully submitted for response from the competent authority on the safe transportation of hazardous materials.

Please respond to the following questions:

Question 1 – What does PHMSA mean when the term "modify" is used when discussing pressure relief devices. Please limit the response to 180.405(h) and 173.33(d)

Question 2 – What does PHMSA mean when the term "replacement" is used when discussing pressure relief devices. Please limit the response to 180.405(h) and 173.33(d).

Question 3 – If PHMSA cannot attribute a HM Incident to a regulation, is that sufficient justification to turn a blind eye and not enforce the regulations as written.

Question 4 – Is it the position of PHMSA to conclude that because MC306, 307 and 312 cargo tanks are no longer authorized for construction that the original construction and manufacturing specification requirements no longer apply to those MC306, 307 and 312 cargo tanks still in service?

Question 5 – A key function performed by cargo tank test and inspection facilities is to verify the cargo tank is equipped with the minimum venting capacity as required by the specification. An essential variable in this determination is the surface area in square feet. This provides the facility the venting capacity requirement that needs to be confirmed by inspecting the pressure relief devices. For a MC307 cargo tank with a design pressure/MAWP of 25, the pressure relief device must provide the minimum venting capacity at no more than 130% of the design

pressure/MAWP. When a 400 series vent is installed on a MC307 cargo tank with a MAWP of 25, the vent will not provide the flow rating stamped on the vent until the pressure in the cargo tank reaches 40 psi. This does not meet the specification requirements identified in §§ 178.342-4(c) or the requirements for replacement devices identified in §§ 180.405(h)(3). It is a violation for a Registered Inspector to sign a test report stating the cargo tank identified in this report meets the qualification of the specification when, in fact, it does not. So the question is this; Does a cargo tank meet the requirements of the specification when it is not equipped with a vent that meets the minimum venting capacity requirements of the specification as designed and constructed in §§ 178.342-4, 180.405(h)(3) and 173.33(d)?

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Question 6 – It is important for the competent authority (PHMSA) to reach out to the regulated community to develop and implement regulations that effectively improve the transportation of hazardous materials. Why is it acceptable for the competent authority to knowingly publish regulations that conflict with other parts of the regulations and specifically the publication of §§ 180.407(j) which does allow for a vent to be replaced on a MC307 cargo tank and that vent does not comply with 180.405(h)(3) nor 173.33(d)?

Question 7 – How does the response from PHMSA which allow a cargo tank to be operated not in accordance with the regulations in effect support the mission statement of PHMSA.

The solution to this problem is to require operators to install pressure relief devices on cargo tanks that comply with all the requirements as written, not what TTMA thinks the regulations should say for the benefit of their members. One vent manufacturer has developed a pressure relief device for MC307 cargo tanks that does comply with the set pressure and venting capacity requirements of the original specification and eliminates the need for fusible devices. There was never a need for PHMSA to roll over and succumb to the wants and the needs of TTMA and by PHMSA's own actions adversely effect the safety of hazardous materials in transportation.

Regards

Daniel G. Shelton

Daniel G. Shelton
President, HazMat Resources, Inc.

Attachments: Interpretation 16-0183 dated September 5, 2017
Guidance issued by PHMSA on November 18, 2005

141 WENDOVER DRIVE ◆ KINGSPORT, TN ◆ 37660 ◆ DSHELTON@HAZMATRESOURCES.COM ◆ 423-863-2252

HazMat Resources, Inc.

August 27, 2018

Mr. Shane Kelley
Director, Standards and Rulemaking Division
U.S. DOT/PHMSA (PHH-10)
1200 New Jersey Avenue, SE East Building, 2nd Floor
Washington, DC 20590

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Mr. Kelley,

Please accept this letter as an official request for an interpretation and clarification of the Department's interpretation 16-0183 dated September 5, 2017. When it comes to issuing interpretations, the original history and intent of the rule is very important and should be given great weight when issuing any regulatory guidance to the public. The Pipeline and Hazardous Materials Safety Administration (PHMSA) has developed a long history regarding the replacement of pressure relief devices on cargo tanks. The Federal Motor Carrier Safety Administration (FMCSA), Hazardous Materials Division worked closely with the leadership of PHMSA to develop consistent guidance to the field staff to ensure the guidance was consistent with the regulations as written and specifically this issue regarding vents and venting devices.

I believe I have a clear understanding of what the intent of the rule was because of the relationship developed between the HM Division of FMCSA and PHMSA's Standards and rule making Division. A copy of the guidance issued by Susan Gorksy at the direction of Ed Mazzullo with concurrence by FMCSA on November 18, 2005 is attached for your reference.

The non-concurrence of FMCSA to this initial rulemaking speaks volumes to the coordination of two Agency's within the same Department who have agreed to a memorandum of understanding to delegate the oversight of cargo tank facilities to FMCSA and then create a rule that effectively eliminates FMCSA from taking effective action to ensure the continued safety of cargo tank motor vehicles.[1] To add to the confusion of an ill-conceived rule is the publication of PHMSA–2013–0225 (HM–218H) which states the following:

> **"PHMSA has received some inquiries regarding the new provisions of § 180.407(j) and how they relate to other sections pertaining to CTMVs. Therefore, PHMSA seeks to clarify that while § 180.407(j) permits DOT 400 series pressure relief devices to be installed on MC 300 series CTMVs, the pressure relief devices must still meet the venting capacity and set pressure requirements of the original specification, in accordance with §§ 173.33(d)(3) and 180.407(h)(2)"**

[1] A great analogy would be like the Romans requiring the Hebrews to make bricks without straw.

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The original guidance published jointly by FMCSA and PHMSA addressed venting capacity and set pressure requirements for the installation of modified vents on MC307 cargo tanks. Hazmat Resources, Inc. would respectfully request that you also consider the specification requirements for the construction of MC307 cargo tanks. Although some 300 series tanks are no longer authorized for construction one cannot say these construction requirements have been superseded and no longer apply to a cargo tank was designed and constructed in accordance with these requirements 23 plus years ago and is still in service today. When the cargo tank was constructed it was required to be manufactured in accordance with the specification requirements in effect at the time of construction. Carefully consider the following specification requirement in effect at the time of construction of MC307 cargo tanks and specifically §§ 178.342-4(b) which states the following:

> Total capacity. Every cargo tank compartment shall be provided with one or more devices with sufficient capacity to limit the tank internal pressure to a maximum of 130 percent of the tank design pressure. This total venting capacity shall be not less than that determined from Table III, using the external surface of the cargo tank or tank compartment as the exposed area.

I would respectfully request that you also consider the requirements in §§ 180.405(h) and specifically (h)(3) which are still in effect and applicable today, August 24, 2018. It states the following:

> (h) Pressure relief system. Properly functioning reclosing pressure relief valves and frangible or fusible vents need not be replaced. However, **replacement** of reclosing pressure relief valves on MC-specification cargo tanks **is authorized subject to the following requirements**:
>
> (h)(1) Until August 31, 1998, the owner of a cargo tank may replace a reclosing pressure relief device with a device which is in compliance with the requirements for pressure relief devices in effect at the time the cargo tank specification became superseded. If the pressure relief device is installed as an integral part of a manhole cover assembly, the manhole cover must comply with the requirements of paragraph (g) of this section.
>
> (h)(2) After August 31, 1998, **replacement** for any reclosing pressure relief valve must be capable of reseating to a leak-tight condition after a pressure surge, and the volume of lading released may not exceed 1 L. Specific performance requirements for these pressure relief valves are set forth in §178.345-10(b)(3) of this subchapter.

> (h)(3) As provided in paragraph (c)(2) of this section, the owner of a cargo tank may elect to **modify** reclosing pressure relief devices to more recent cargo tank specifications. **However,** replacement devices constructed to the requirements of §178.345-10 of this subchapter must provide the **minimum venting capacity** required by the **original specification to which the cargo tank was designed and constructed.**

I would respectfully request that you also consider the requirements in §§ 173.33(d)(3) which are still in effect and applicable today, August 24, 2018. It states the following:

> A cargo tank motor vehicle made to a specification listed in column 1 may have pressure relief devices or outlets conforming to the applicable specification to which the tank was constructed, or the pressure relief devices or outlets may be **modified** to meet the applicable requirement for the specification listed in column 2 without changing the markings on the tank specification plate. The venting **capacity requirements of the original DOT cargo tank specification must be met whenever a pressure relief valve is modified.**

PHMSA published a rule sponsored by The Truck Trailer Manufactures Association (TTMA) which is direct conflict with existing regulations and the regulations in effect when the cargo tank was originally constructed, and this has created a conundrum[2]. If the competent authority had listened to their Stakeholders, especially FMCSA, there would not be this conundrum today.

Although some TTMA members have asserted that MC307 cargo tanks manufactured by member companies are designed to withstand higher pressures but that does not mean that all MC307 manufactured by every manufacture was built to withstand these higher pressures because it was not a requirement and those original construction requirements did not change with the publication of 180.407(j). TTMA thru its engineering committee convinced the Department that MC307 cargo tanks with a marked MAWP of 25 psig are really designed to operate at much higher pressures continually and those operating parameters will not impose or increase the probability of a failure. Even though these cargo tanks will be subject to operating parameters 23% to 38% (40 to 45 psi) higher than the cargo tanks design specification to achieve the minimum venting capacity required by the table PHMSA believes this will not have any adverse impact on safety. TTMA used the HM Data from PHMSA to prove the point that no HM Incidents have been attributable to improper venting. This does not even pass the laugh test. GIGO – Garbage In/Garbage out.

[2] A question or problem having only a conjectural answer

As a reminder here is PHMSA's mission statement:

> **"PHMSA's mission is to protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives."**

How do these actions support your mission statement? Nowhere in this mission statement do I see where it says to work with lobbing groups to give them what they want. It is difficult to understand how any government regulatory Agency or Department, especially a Department whose mission it is to ensure the safe transportation of hazardous materials conclude it is acceptable for a cargo tank to continuously be subjected to pressures 38% higher than what it was originally designed simply because there have been no recorded HM Incidents (that assumes the HM Data is correct and all incidents have been reported – bad assumption) is reason enough to not enforce the regulations as written. Is it the position of PHMSA to use inaccurate and incomplete HM Incident data as the primary justification for not enforcing a regulation?

Thousands of examples can be provided where this is not the case, but in this case regarding venting on old cargo tanks it appears from what the Department has published, that is the case. Just three examples for one to consider;

1. How many HM Incidents have been attributed to the shipping description being in the wrong order;
2. How many HM Incidents have been attributable to the shipping paper not being tabbed;
3. HM Incidents have been attributable to lightweight appurtenances being attached to a cargo tank without the means of a pad.

Both PHMSA and the Federal Motor Carrier Safety Administration (FMCSA) in association with their State Partners, routinely document roadside violations that have never caused a single HM Incident. Do you think it is possible the reason why these HM Incidents are not occurring is because of the regulatory requirements? One can only wonder.

The basis for Hazmat Resources, Inc. concerns rise from the actions taken by the Department (PHMSA and FMCSA) versus what the interpretation letter, 16-0183 dated September 5, 2017 communicates or fails to communicate. The following questions and responses from PHMSA are identified in the attached interpretation and the concerns and recommendations for each reply are stated for each item.

Scenario 1

Question Identifier	Correct Questionable	Recommendations and Comments
Q1	Correct	None
Q2	Correct	This is the way 407 vents were designed to operate.
Q3	Questionable	The justification in A3 uses the following: 1) FMCSA states there are less than 300 of these tanks in service. I personally know of three companies and the total number of MC307's is over 3,000. Industry experts say there are up to 20,000 of these cargo tanks still in service. 2) You quote the same violations that say the vent must limit the tanks internal pressure to no more than 130% of the design pressure or MAWP. The 407 vent will not even be open at 130% of the design pressure and will not provide adequate venting capacity until the pressure in the tank reaches 52.5 psig, 50% higher than the MAWP so it would be like the cargo tank having pressure test every time the vent would be able to provide the minimum venting capacity or put another way it would be 15% higher than the specification requirement for calculating the minimum venting capacity (35 x 1.3 = 45.5 psi not 52.5 psi). Why does the Department state in §§ 180.407(g) that safe guards must be in place when performing a pressure test? 3) The Department states there is no HM Incident data regarding the upgrading of these vents. So that means it is OK. That is a very slippery slope for a regulatory Agency to go down and I cannot believe this would actually be in writing that regulations would not be enforced if one's lack of compliance with the regulations did not result in a HM Incident.
Q4	Questionable	It is in violation of 173.33(d)(3). Read what it says: "…the pressure relief devices or outlets may be **modified** to meet the applicable requirement for the specification listed in column 2 without changing the markings on the tank specification plate. The venting **capacity requirements of the original DOT cargo tank specification must be met whenever a pressure relief valve is modified.** What is the meaning of modified versus replace?
Q5	Questionable	It is acceptable from a bench testing perspective because the vent operates as it was designed to operate but it still will not provide the minimum venting capacity that is required at 130% of the design pressure or MAWP.
Q6	Questionable	Not worthy of a comment. Cargo tank facilities do not have the expertise to modify vents to operate at different settings.