



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

JAN 19 2018

1200 New Jersey Avenue, SE  
Washington, DC 20590

Aris Antoniou  
Gold Tank Inspection Service Inc.  
P.O. Box 5638  
Kingwood, TX 77325

Reference No. 17-0083

Dear Mr. Antoniou:

This letter is in response to your July 14, 2017, letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to United Nations (UN) portable tanks. Specifically, you ask whether it was the Pipeline and Hazardous Materials Safety Administration's (PHMSA) intent to reduce the design margin (safety factor) for UN portable tanks when it incorporated by reference (IBR) the 2015 Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) into the HMR on May 31, 2016, in the final rule titled "Incorporation by Reference Edition Update for the American Society of Mechanical Engineers Boiler and Pressure Vessel Code and Transportation Systems for Liquids and Slurries: Pressure Piping Code" [Docket No. PHMSA-2015-0271 (HM-261)]. You cite a letter of interpretation issued by this Office to Mr. Mike Pitts on July 1, 2016, that acknowledges the reduced design margin allowed in the 2015 ASME Code (3.5:1) was not applicable to U.S. Department of Transportation (DOT) specification cargo tanks unless under the terms of a special permit.

As prescribed in § 178.273 of the HMR, UN portable tanks must be designed, constructed, certified, and stamped in accordance with the requirements in Division I, Section VIII, of the ASME Code IBR in § 171.7. Further, the reduced design margin prescribed in Division I, Section VIII, of the 2015 ASME Code (3.5:1) is authorized for UN portable tanks. Thus, the reduced design margin restriction applicable to DOT specification cargo tanks does not apply to UN portable tanks manufactured in accordance with Division I, Section VIII, of the 2015 ASME Code. The IBR, however, does not include changes to currently adopted ASME Boiler and Pressure Vessel Code rules (i.e., code cases). Any variation from the HMR would require a special permit from PHMSA.

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

Sincerely,

T. Glenn Foster  
Chief, Regulatory Review and Reinvention Branch  
Standards and Rulemaking Division

**Dodd, Alice (PHMSA)**

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Stevens  
§ 178.273(d)  
Cargo Tanks  
17-0083

**From:** Kelley, Shane (PHMSA)  
**Sent:** Monday, August 07, 2017 12:30 PM  
**To:** Dodd, Alice (PHMSA)  
**Cc:** DerKinderen, Dirk (PHMSA); Nickels, Matthew (PHMSA)  
**Subject:** FW: Docket PHMSA -2015-0271 (HM -216)  
**Attachments:** LetterCharlesBetts14-July-2017reASME.pdf

Good afternoon Alice

Please process as a request for interpretation.

Thank you,

Shane

**From:** DerKinderen, Dirk (PHMSA)  
**Sent:** Monday, August 07, 2017 12:25 PM  
**To:** Kelley, Shane (PHMSA) <shane.kelley@dot.gov>  
**Cc:** Nickels, Matthew (PHMSA) <Matthew.Nickels@dot.gov>  
**Subject:** FW: Docket PHMSA -2015-0271 (HM -216)

With the missing attachment.

**From:** Cassidy, Duane (PHMSA)  
**Sent:** Monday, August 07, 2017 12:11 PM  
**To:** DerKinderen, Dirk (PHMSA) <[Dirk.DerKinderen@dot.gov](mailto:Dirk.DerKinderen@dot.gov)>; Foster, Glenn (PHMSA) <[Glenn.Foster@dot.gov](mailto:Glenn.Foster@dot.gov)>  
**Cc:** Benninghoven, Neil (PHMSA) <[james.benninghoven@dot.gov](mailto:james.benninghoven@dot.gov)>  
**Subject:** FW: Docket PHMSA -2015-0271 (HM -216)

Can someone give me a status on this, and to verify whether you received this as Aris states below? The letter is attached for your review.

Regards and thanks,

Duane M. Cassidy  
Chief, Pressure Vessels Branch  
Approvals and Permits Division – PHH-30  
OHMS, PHMSA, U.S. DOT  
(202)-366-5794

East Building, E21-301  
1200 New Jersey Ave., SE  
Washington, D.C. 20590-0001

**From:** [Goldserviceusa@aol.com](mailto:Goldserviceusa@aol.com) [mailto:Goldserviceusa@aol.com]  
**Sent:** Monday, August 07, 2017 11:47 AM  
**To:** Benninghoven, Neil (PHMSA) <[james.benninghoven@dot.gov](mailto:james.benninghoven@dot.gov)>  
**Cc:** Cassidy, Duane (PHMSA) <[Duane.Cassidy@dot.gov](mailto:Duane.Cassidy@dot.gov)>  
**Subject:** Docket PHMSA -2015-0271 (HM -216)

Dear Neil,

The attached letter was sent to Mr. Betts on 14-July-2017. It concerns the above docket and whether PHMSA intended to reduce the design margin (safety factor) in ASME Code (Section VIII-Div. 1) from 4:1 to 3.5:1 for UN portable tanks. As a DAA, we have been asked to approve a series of UN T21 tanks about to be manufactured here in Houston starting in the very near future. It is near impossible for us to do our job as a DAA without some guidance from PHMSA. Is there any way you can expedite a reply or at least give us some guidance?

Rgds, Aris, Gold Tank Inspection Service Inc.



July 14<sup>th</sup>, 2017

Mr. Charles E. Betts  
Director, Standards and Rulemaking Division,  
US Dept. of Transportation  
Pipeline and Hazardous Material Administration  
Office of Hazardous Material Safety  
East Building, PHH-10  
1200 New Jersey Avenue SE  
Washington, DC 20590-0001

Dear Sir,

I refer to (1) Docket PHMSA-2015-0271-(HM-216) and (2) your letter of 1-July-2016 to Mr. M. Pitts of Mississippi Tank (copy attached for your easy reference).

Essentially, I have the same question for UN portable tanks. When incorporating by reference the 2015 Edition of the ASME Code, did PHMSA intend to accept the reduction of the safety factor (design margin) from 4:1 (1998 ASME) to 3.5:1 (2015 ASME). Further, does PHMSA automatically accept ASME Code Cases when issued by ASME?

For cargo tanks, based upon your letter to Mr. Pitts, the answer was apparently "no". For portable tanks, PHMSA's past policy was to require a Special Permit to allow a 3.5:1 design margin and to allow a Code Case. As only one example, I refer you to SP 16133 issued to Cryovat. This Special Permit authorizes a design margin of 3.5:1 and therefore the use of Code Case 2596 concerning the cold stretching of austenitic stainless steels.

The presumption has always been that portable tanks see significant external loads due to transportation in addition to pressure loads. The ASME Code addresses them vaguely or generally, while DOT addresses them specifically in 49CFR178.273(c). There is also the issue of existing (already-approved) designs and whether the pressure vessel wall can be thinned (based upon 3.5:1) without re-analyses or re-approval.

As for Code Cases, some jurisdictions accept them automatically, some do not. The issue here is that ASME, when issuing a Code Case, has in no way taken into consideration that UN portable tanks are used in transportation and that they are used in hazardous material service.

We look forward to your reply to the above.

Sincerely,

.....  
Aris Antoniou  
Gold Tank Inspection Service Inc.  
PO Box 5638, Kingwood, TX 77325  
Tel: 281 913 8382; Fax: 281 913 8384; email: [goldserviceusa@aol.com](mailto:goldserviceusa@aol.com)



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

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

JUL 01 2016

Mike Pitts  
Mississippi Tank Company  
Post Office Drawer 1391  
Hattiesburg, Mississippi 39403-1391

RE: Docket No. PHMSA-2015-0271 (HM-261)

Dear Mr. Pitts:

Thank you for your comment to the direct final rule for the incorporation by reference (IBR) of the 2015 Edition of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), which was filed in the aforementioned docket on May 31, 2016. Thank you as well for your subsequent email correspondence and phone conversation with Joseph Solomey, our Senior Assistant Chief Counsel for Hazardous Materials Safety. Your comments were submitted timely and we do not view them as adverse for the reasons discussed below.

In your comment you express concerns that the Pipeline and Hazardous Materials Safety Administration (PHMSA) is allowing the higher allowable stresses in the newer editions of the ASME Code for specification cargo tanks. You rightfully point out that the current (2015) Edition of the ASME Code, Section VIII allows higher allowable stresses, resulting in a design margin of 3.5:1, compared to a design margin of 4:1 in the 1998 edition. You have highlighted three sections of the Hazardous Materials Regulations, 49 C.F.R. §§178.337-3(a)(1), 178.345-3(a)(1) and 178.338-3(a)(1), all of which contain similar, but not exact verbiage. Although the verbiage is not identical, it is PHMSA's position that all three of these sections require the manufacturer to build a specification cargo tank to the 4:1 design margin.

This direct final rule maintains the design margin of 4:1 for DOT specification cargo tanks manufactured to ASME Code Section VIII. PHMSA may revisit the verbiage in 49 C.F.R. §§178.337-3(a)(1), 178.345-3(a)(1) and 178.338-3(a)(1) in a future rulemaking to clarify any confusion outlined within your comments surrounding allowable stresses. We sincerely appreciate your support for this rulemaking and for PHMSA's efforts in updating the ASME Code in the Hazardous Materials Regulations.

Sincerely,

Mr. Charles E. Betts  
Director  
Standards and Rulemaking Division

November 02, 2016



U.S. Department  
of Transportation

East Building, PHH-30  
1200 New Jersey Avenue S.E.  
Washington, D.C. 20590

Pipeline and Hazardous  
Materials Safety Administration

DOT-SP 16133  
(FIRST REVISION)

EXPIRATION DATE: 2020-09-30

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Cryovat International BV (The Rootselaar Group)  
NIJKERK, Netherlands

US AGENT: Chlorine Service Company, Kingwood, TX)

2. PURPOSE AND LIMITATIONS:

a. This special permit authorizes the manufacture, mark, sale and use of non-DOT specification UN portable tanks conforming to portable tank code T75 that have been designed, constructed and stamped in accordance with the latest edition of Section VIII, Division 1 of the ASME Code with a design margin of 3.5:1, except as specified herein, for the transportation in commerce of the materials authorized by this special permit. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.

b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 178.274(b) and 178.277(b) (1) in that alternative packaging is authorized.

November 02, 2016

5. BASIS: This special permit is based on the application of Cryovat International BV (The Rootselaar Group) dated October 24, 2016, submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Division 2.1 and 2.2 materials authorized for UN Portable Tanks (see Portable Tank Code T75)	2.1 or 2.2	As appropriate	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING -

1. Packaging prescribed is a UN portable tank conforming to the requirements of § 172.102(c) (7) PORTABLE TANK CODE T75 which are designed, constructed, certified and stamped in accordance with Section VIII, Division 1 of the ASME Code (latest edition), with a design margin of 3.5:1, including all applicable ASME Code Cases. The portable tank is vacuum insulated and is enclosed in an ISO frame. Each portable tank must be constructed in accordance with the manufacturer's drawings, specifications and calculations on file with the Office of Hazardous Materials Special Permits and Approvals (OHMSPA).

2. Tank capacity and pressure: The design criteria for the inner tank are as follows:

Design pressure (See Note 1)	10 bar (145 psig) min.; 24 bar (348 psig) max.
Water capacity	21000 litres (5548 USWG) min.; 46000 litres (12152 USWG) max.

Note 1: The design pressure means the "Maximum Allowable Working Pressure" as used in the ASME Code.

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3. Tanks must conform to all the requirements for UN portable tanks in §§ 178.274 and 178.277 and with PORTABLE TANK CODE T75 in all respects except for the design code. This special permit authorizes the use of Section VIII, Division 1, latest edition of the ASME Code with a design margin of 3.5:1, including all applicable Code Cases and a hydrostatic test pressure of 1.3 MAWP.

4. Maximum Gross Weight: 36,000 Kg (79,366 lbs.)

5. G-Loadings: Vertical down - 2; Vertical up - 2; Longitudinal - 2; Transverse - 2.

6. Insulation: The tanks must be insulated with super insulation in a vacuum, protected by a steel outer jacket

7. Baffles: Optional.

b. TESTING -

(1) Hydrostatic test certificates for each tank must be maintained by the owner and made available upon request to any representative of DOT.

(2) A test report documenting a satisfactory ISO prototype test for each tank design must be on file with OHMSPA prior to the first shipment.

(3) Each tank must be inspected and tested as specified in § 180.605(c) (1) for UN portable tanks, except the hydrostatic test pressure shall be no less than 1.3 MAWP.

c. OPERATIONAL CONTROLS -

(1) Each portable tank must be filled by weight.

(2) Each tank must be visually inspected prior to shipment to ensure that it has not been damaged during loading.

d. MARKING -

(1) Each portable tank must be marked "AA" Alternative Arrangement as required by §§ 178.274(a)(2) and 178.274(i).



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(2) In addition to markings specified in § 178.274(i), each portable tank must be plainly marked on both sides near the middle, in letters and numerals at least two inches high on a contrasting background, "DOT-SP 16133".

(3) Prior to use of any portable tank under the terms of this special permit in Offshore service, additional information must be submitted to and acknowledged in writing by the AAHMS that the tanks have been designed, constructed and tested to the Guidelines for the Approval of Containers Handled in Open Seas specified in the IMDG Code. Tanks meeting this additional criteria shall be marked "OFFSHORE portable tanks" as required by § 178.274(i)(3).

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this special permit.

b. A person who is not a holder of this special permit, but receives a packaging covered by this special permit, may reoffer it for transportation provided no modification or change is made to the packaging and it is offered for transportation in conformance with this special permit and the HMR.

c. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

d. Each packaging manufactured under the authority of this special permit must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Special Permits and Approvals for a specific manufacturing facility.

e. A current copy of this special permit must be maintained at each facility where the packaging is manufactured under this special permit. It must be made available to a DOT representative upon request.

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f. The following documentation must be submitted to and acknowledged in writing by OHMSPA prior to the first shipment in any portable tank design:

- (1) Design drawings for each new portable tank design.
  - (2) ASME certificate of authorization indicating the current/valid ASME certification mark and designator.
  - (3) The designated approval agency must verify compliance with all requirements of §§ 178.274 and 178.277 and PORTABLE TANK CODE T75 as modified by this special permit.
  - (4) Suitable calculations to show that the actual venting capacity of the pressure relief devices provided on each tank exceeds the capacity required for each gas listed on the product plate as calculated in accordance with § 178.277(e)(4).
  - (5) Portable tanks that will be used in offshore service are required to be stamped "Offshore Portable Tank" and require additional information to be submitted and acknowledged by the Associate Administrator for Hazardous Materials Safety justifying use in such service.
9. MODES OF TRANSPORTATION AUTHORIZED: Motor Vehicle, Cargo Vessel, Rail Freight.
  10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel or motor vehicle used to transport packages covered by this special permit.
  11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
    - o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
    - o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.

**November 02, 2016**

- o Registration required by § 107.601 et seq., when applicable.


Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—"The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 Immediate notice of certain hazardous materials incidents, and 171.16 Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:

  
for William Schoonover  
Acting Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-30, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

**November 02, 2016**

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at [http://hazmat.dot.gov/sp\\_app/special\\_permits/spec\\_perm\\_index.htm](http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm)  
Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PTO: Staniszewski/SGrey