



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

OCT 1 2004

Mr. R. J. McGrath
Technical Manager
Compressed Gas Association, Inc.
4221 Walney Road, 5th Floor
Chantilly, VA 20151-2923

Reference No. 04-0221

Dear Mr. McGrath:

This responds to your August 23, 2004 letter regarding the requirements for inspection and testing of insulated MC-331 cargo tank motor vehicles (CTMVs) containing carbon dioxide, refrigerated liquid under § 180.407 of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). You expressed concern about your members having to perform annual internal visual inspections on their MC 331 CTMVs based on amendments to the HMR adopted in final rules published under Docket No. RSPA 98-3554 (HM-213) on April 18 and September 3, 2003.

As shown in the table in § 180.407(c) of the HMR, insulated MC 331 CTMVs are excepted from the requirement to have an annual internal visual inspection. This exception granted for MC 330, MC 331, and MC 338 cargo tanks was not removed under the HM-213 final rule. Insulated MC 331 CTMVs are required to have an internal visual inspection at least once every five years. Because the insulation prevents a complete external visual inspection, those items able to be externally inspected must be inspected annually in accordance with 180.407(d) and noted in the inspection report. The annual, partial external visual inspection and a leakage test performed in accordance with § 180.407 (h) fulfill the annual inspection and test requirements applicable to MC 331 CTMVs in carbon dioxide, refrigerated liquid service.

The HM-213 final rule amended the HMR to clarify the external visual inspection requirements for insulated cargo tanks other than the insulated MC 330, MC 331, and MC 338s. As amended, the HMR allows insulated cargo tanks equipped with manholes or inspection openings to have either an internal visual inspection in conjunction with a partial external visual inspection or a hydrostatic or pneumatic pressure test. See note 4 following the table in § 180.407(c) and paragraph (d)(1).

I hope this information is helpful. If we can be of further assistance, please contact us.

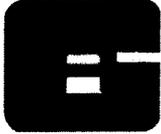
Sincerely,

for Edward T. Mazzullo
Director, Office of Hazardous
Materials Standards



040221

180.407(c)



COMPRESSED GAS ASSOCIATION, INC.

4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923

(703) 788-2700 ■ Fax: (703) 961-1831 ■ E-mail: cga@cganet.com ■ Web Site: www.cganet.com

August 23, 2004

Mr. Frits Wybenga
Research and Special Programs Administration
U. S. Department of Transportation
400 Seventh Street SW
Washington, DC 20590-0001

Mitchell
§180.407 (c)
Cargo Tanks
04-0221

Subject: 49 CFR 180.407
Gentlemen:

The Compressed Gas Association (CGA) seeks an opportunity to discuss with the DOT an alternative to the requirements for internal and external visual inspections of MC 331 trailers which deliver carbon dioxide refrigerated liquid (CO₂) found at 180.407 (C) of 49 CFR specifically with regard to subsection (d) as revised by HM213. CGA believes regulatory changes to visual internal requirements promulgated in DOT Docket HM-213, which includes CO₂ trailers with all other MC331 trailers, places an undue burden on the industry and is unnecessary that due to the unique physical characteristics of CO₂.

MC-331 cargo tanks are required to undergo periodic testing and requalification in accordance with 180.407 (C). Pressure testing is required every 5 years and may be done either pneumatically or hydrostatically at 1.5 times the design pressure of the vessel. Prior to any pressure testing the inner vessel is required to undergo a visual inspection. Annual visual internal inspections are required for "All insulated cargo tanks except MC331". CO₂ trailers are MC331 and, thus, a yearly internal inspection is required. Docket HM-213 inserted the words "see note 4" to the table. Regrettably, the CGA did not have the opportunity to comment on the wording inserting note 4 into the table, as this was not in the notice of proposed rule making.

The CGA is concerned that the additional inspections required by having a yearly internal inspection causes risk to personnel without an additional level of safety. Additionally, internal inspections on a yearly basis do not provide any higher level of safety as the product is non-corrosive and the tank is outwardly protected by insulation. Personnel exposure to risk will increase by a factor of five throughout the industry with the number of entries into a confined space. Also, trailer purity and cleanliness is lost as opening the unit exposes the internal surfaces to moisture, which adversely affects the food grade quality of the product. Trailers returning to

service must be certified pure before filling. Internal inspections breed impurities into a sealed system subjecting the carrier and customer to expensive gas chromatograph testing. In lieu of performing this visual internal inspection, a shipper may choose to conduct pneumatic or hydraulic pressure testing on a yearly basis. Yearly exposure of testing personnel to extremely high energy levels created during pneumatic pressurization (necessary to protect product purity) is dangerous. A typical CO₂ vessel pressurized to 1.5 the MAWP has approximately 170 million ft-lbs of potential energy.

The CGA operates a fleet of 3500 trailers within the CO₂ industry. Through the years the industry has taken hundreds of trailers apart restoring the foam insulation and replacing the outer skin. We have examined bare vessels both inside and outside and have seen little or no appreciable deterioration. By imposing yearly testing a cost of \$2000 per trailer per year will be seen by all carriers. Lost product and purging cost will be \$1000 per trailer. In addition a trailer must be taken out of service for a minimum of three days during the year. For an average fleet of 400 trailers, an additional \$1,200,000 of maintenance would be required along with \$240,000 for rental to make up lost equipment.

In conclusion, the CGA wishes to discuss with DOT personnel an exclusion from the annual visual internal inspection requirements. We feel reviewing the product properties with industry experts and construction details with engineering and repair specialists would provide a better understanding of the CO₂ industry in general. This we hope will lead to an informed decision about an alternative to annual internal visual inspection that provides an equivalent level of safety for the CO₂ industry.

Very Truly Yours,
COMPRESSED GAS ASSOCIATION

A handwritten signature in black ink, appearing to read 'R.J. McGrath', with a long horizontal flourish extending to the right.

R.J. McGrath
Technical Manager