



U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

March 18, 2015

The Honorable Christopher A. Hart
Chairman
National Transportation Safety Board
490 L'Enfant Plaza, SW
Washington, DC 20594

Dear Chairman Hart:

This letter provides an update regarding Safety Recommendations H-09-1 and H-09-2. These recommendations were issued to the Pipeline and Hazardous Materials Safety Administration (PHMSA) as a result of the National Transportation Safety Board's (NTSB) special investigation report of three accidents involving highway vehicles transporting bulk quantities of acetylene gas that occurred between July 25 and October 20, 2007, and the review of reports of a 2008 overturn accident of another acetylene gas transport vehicle.

H-09-1

Modify 49 Code of Federal Regulations 173.301 to clearly require (1) that cylinders be securely mounted on mobile acetylene trailers and other trailers with manifolded cylinders to reduce the likelihood of cylinders being ejected during an accident and (2) that the cylinder valves, piping, and fittings be protected from multidirectional impact forces that are likely to occur during highway accidents, including rollovers.

H-09-2

Require fail-safe equipment that ensures that operators of mobile acetylene trailers can perform unloading procedures only correctly and in sequence.

On January 23, 2015, PHMSA published a notice of proposed rulemaking (NPRM) in the *Federal Register* (80 FR 3787) proposing to incorporate by reference Compressed Gas Association (CGA) Pamphlet G-1.6, *Standards for Mobile Acetylene Trailer Systems* (7th ed.) (2011), and proposing to require under 49 CFR 173.301 that mobile acetylene trailers be maintained, operated, and transported in accordance with this document. Additionally, in the notice, PHMSA seeks comment on whether to include CGA Technical Bulletin (TB) TB-25 *Design Considerations for Tube Trailers* (3rd ed.) to address structural integrity requirements. The comment period for the NPRM closes March 24, 2015.

As a result of the highway accidents and the resulting recommendations, the CGA and the International Organization for Standardization (ISO) undertook review of standards applicable to the transportation of bulk quantities of acetylene in cylinders. The CGA convened an ad hoc committee to review and rewrite CGA Pamphlet G-1.6, *Standards for Mobile Acetylene Trailer Systems*, which contains the minimum requirements necessary for the design, construction, and operation of mobile acetylene trailer systems. The committee included a PHMSA technical representative and industry experts, including representatives from Praxair and Western International Gas & Cylinders, Inc. who operate mobile acetylene trailers. The seventh edition of CGA Pamphlet G-1.6 was completed and published in 2011 and addresses the recommendations and issues identified in the NTSB report. Specifically, CGA Pamphlet G-1.6 addresses:

- 1) reducing the likelihood of ejection of cylinders during a highway accident by instructing that cylinders must be transported vertically and secured together as a unit in accordance Federal Motor Carrier Safety Regulations (FMCSR; 49 CFR Parts 300-399) for cargo under 49 CFR § 393.102 (i.e., the minimum performance criteria for cargo securement devices and systems, including prevention of vertical movement of loads); and
- 2) protecting valves, piping, and fittings from impact forces that may occur during a highway accident by instructing that manifolded cylinder valves be provided with valve protection meeting the requirements of the Hazardous Materials Regulations (HMR: 49 CFR Parts 171-180), including retrofit of existing trailers, and if trailer piping and fittings are pressurized to greater than 15 psig (103 kPa) during transportation, instructing that the piping and fittings be protected from multi-directional forces that are likely to occur during highway accidents, including rollovers.

Additionally, CGA Pamphlet G-1.6 addresses assurance that unloading procedures are performed correctly and in sequence by instructing operators to implement standard operating procedures to perform loading or unloading in the specified sequence to minimize the risk of decomposition or flashback. This includes guidance on operations associated with the charging (loading), transportation, and discharging (unloading) that should be part of the standard operating procedures, as well as training that employees involved in acetylene operations should receive.

Concurrent with the CGA activity, a PHMSA technical representative and CGA members worked with the ISO in developing an ISO standard related to the design, construction, testing, and operation of a cylinder bundle.^a ISO 10961 “*Gas cylinders--Cylinder bundles--Design, manufacture and testing*” includes requirements for the design, construction, and operation of cylinder bundles which are applicable to the transportation of acetylene. CGA Pamphlet G-1.6 is consistent with ISO 10961.

The scope of the mobile acetylene trailer industry remains such that there are currently only two companies that we are aware of in acetylene service, as was noted in the NTSB special

^a A cylinder bundle is a portable assembly that is designed to be routinely lifted and which consists of a frame and two or more cylinders connected to a manifold by cylinder valves or fittings so that the cylinders can be filled, transported and emptied without disassembly.

investigation. Both companies were actively involved in the development of CGA Pamphlet G-1.6 and are already implementing the standard. We do not anticipate comments opposed to our proposed action and will update the NTSB upon publication of a final rule addressing Safety Recommendations H-09-1 and H-09-2.

If we can be of further assistance or answer any additional questions, please do not hesitate to Contact Stephen Domotor, Chief Safety Officer/Assistant Administrator at 202-366-7530 or at Stephen.Domotor@dot.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy P. Butters", with a long horizontal flourish extending to the right.

Timothy P. Butters
Acting Administrator