



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: March 5, 2009

In reply refer to: H-09-3

Mr. Marc Meteyer
President
Compressed Gas Association
4221 Walney Road, 5th Floor
Chantilly, Virginia 20151

The opening sentences identify the organization sending the letter.

The National Transportation Safety Board is an independent Federal agency charged by Congress with investigating transportation accidents, determining their probable cause, and making recommendations to prevent similar accidents from occurring. We are providing the following information to urge your organization to take action on the safety recommendation in this letter. The Safety Board is vitally interested in the recommendation because it is designed to prevent accidents and save lives.

The following sentences identify the purpose of the letter.

This recommendation addresses the adequacy of fire suppression systems at mobile acetylene trailer loading and unloading facilities. The recommendation is derived from the Safety Board's special investigation of mobile acetylene trailers and is consistent with the evidence we found and the analysis we performed. As a result of this study, the Safety Board has issued three safety recommendations, one of which is addressed to the Compressed Gas Association (CGA). Information supporting this recommendation is discussed below. The Safety Board would appreciate a response from you within 90 days addressing the actions you have taken or intend to take to implement our recommendation.

The second paragraph explains and supports the purpose of the letter.

How would you describe the tone of this letter? What phrases, word choices, and language convey the tone?

The Safety Board investigated three accidents that involved highway vehicles transporting bulk quantities of acetylene gas that occurred between July 25 and October 20, 2007, and reviewed reports of a 2008 overturn accident of another vehicle. The vehicles, called mobile acetylene trailers, carried up to 225 cylinders that were connected by a manifold system¹ and filled with acetylene. Two of the accidents occurred as the vehicles overturned on public highways, and two of the accidents occurred while the vehicles were being prepared for unloading, in Dallas, Texas, on July 25, 2007, and in The Woodlands, Texas, on August 7, 2007. In one unloading accident, the fire on the initial trailer spread to cylinders on an adjacent trailer; in the other, the fire spread to cylinders on adjacent trailers and to nearby buildings and vehicles. The failures of the cylinders on these mobile acetylene trailers and the resultant damage raised concerns about the accident protection provided by these vehicles, the adequacy of the minimum safety standards and procedures applicable to unloading these vehicles, and the adequacy of fire suppression systems at loading and unloading facilities. To

The third paragraph provides detailed information on the accidents that led to the letter.

¹ A *manifold system* collects the acetylene gas from multiple cylinders into one pipe or chamber; when the cylinders are filled, the acetylene gas is dispersed from one pipe to multiple cylinders.

address these concerns, the Safety Board conducted a special investigation of mobile acetylene trailers.²

The two unloading accidents in the investigation occurred when the mobile acetylene trailers were connected to piping at loading/unloading plants while the operators were preparing the trailers to be unloaded. The trailers in both accidents were operated by Western International Gas & Cylinders, Inc. (Western).

There was no automated water deluge system at either The Woodlands or Dallas. Western installed automated water deluge systems at many of its facilities after the April 10, 2001, mobile acetylene trailer fire at its Bellville, Texas, facility. According to Western, the effectiveness of such systems at controlling the spread of fire to other cylinders on the same trailer and from one trailer to the next was proven at the June 8, 2005, decomposition reaction that also occurred at Bellville. The actuation of the water deluge system limited the spread of the fire to other cylinders on the same trailer. In the Dallas accident, attempts to extinguish the fire using a fire hose were ineffective. Had the unloading facilities at The Woodlands and Dallas had automated water deluge systems, the fires also may have been controlled and the spread of fire between the cylinders and to the nearby mobile acetylene trailers may have been reduced or eliminated. After these accidents, Western completed installation of water deluge systems at all Western-owned and customer unloading sites, including The Woodlands. However, the CGA standards require only conspicuously located and easily accessible fire hoses or fixed spray systems and dry chemical fire extinguishers. Automated water deluge systems, which appear to be effective on acetylene cylinder fires, are not required by the CGA standards.

Therefore, the National Transportation Safety Board makes the following recommendation to the Compressed Gas Association:

Revise the recommended practices in Compressed Gas Association standard G-1.6, section 7, *General Provisions*, to require automated water deluge systems at all mobile acetylene trailer loading and unloading locations to control the spread of fire to other cylinders on a trailer and to nearby mobile acetylene trailers. (H-09-3)

The Safety Board also issued safety recommendations to the Pipeline and Hazardous Materials Safety Administration.

In your response to the recommendation in this letter, please refer to Safety Recommendation H-09-3. If you would like to submit your response electronically rather than in hard copy, you may send it to the following e-mail address: correspondence@ntsb.gov. If your response includes attachments that exceed 5 megabytes, please e-mail us asking for instructions on how to use our Tumbleweed secure mailbox procedures. To avoid confusion, please use only

² For additional information, see National Transportation Safety Board, *Mobile Acetylene Trailer Accidents: Fire During Unloading in Dallas, Texas, July 25, 2007; Fire During Unloading in The Woodlands, Texas, August 7, 2007; and Overturn and Fire in East New Orleans, Louisiana, October 20, 2007*, Hazardous Materials Special Investigation Report NTSB/SIR-09/01 (Washington, DC: NTSB, 2009), which is available on the Safety Board's website at <http://www.nts.gov/publictn/2009/SIR0901.pdf>.

These paragraphs identify safety oversights. Each paragraph covers a single idea.

The recommendation does not come until the end of the letter. Why do you think the NTSB placed the recommendation so late in the letter?

This paragraph clearly states what the writers want the reader to do, send a "response." The exact nature of the response is not identified.

one method of submission (that is, do not submit both an electronic copy and a hard copy of the same response letter).

Acting Chairman ROSENKER and Members HERSMAN, HIGGINS, SUMWALT, and CHEALANDER concurred in this recommendation. Member HIGGINS filed a concurring statement, which is attached to the hazardous materials special investigation report.

The final paragraph lists the officials who concurred on the recommendation. What message is being sent with this conclusion? Is it appropriate?

Original Signed

By: Mark V. Rosenker
Acting Chairman