



U.S. Department
of Transportation

**Research and
Special Programs
Administration**



157

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

FEB 13 2001

The Honorable Carol Carmody
Acting Chairman
National Transportation Safety Board
Washington, DC 20594

Dear Madam Chairman:

This letter addresses the National Transportation Safety Board safety recommendations I-90-8, I-90-9, I-92-1, I-93-1 and I-93-2 issued to the Research and Special Programs Administration (RSPA).

Safety Recommendations I-90-8 and I-90-9 were issued as the result of the Safety Board's investigation of a November 30, 1988 vehicle accident in Collier County, Florida. The accident involved a tractor semitrailer that was transporting cylinders filled with a mixture of methyl bromide and chloropicrin (a toxic gas). During the accident, the vehicle overturned and several cylinders were ejected from the flatbed area. This resulted in the puncture of one cylinder and the release of its contents.

Safety Recommendation I-92-1 was issued as a result of the Safety Board's investigation of a December 11, 1990 multi-vehicle chain-reaction accident and a subsequent fire on I-75 near Calhoun, Tennessee. One vehicle was a tractor semitrailer that was transporting ten DOT 57 portable tanks filled with dicumyl peroxide (an organic peroxide). During the accident, one portable tank was punctured resulting in the release of its contents.

Safety Recommendation I-90-8. Require hazardous materials cargo to be secured in transportation with adequate cargo restraint systems to prevent ejection of cargo from vehicles.

Safety Recommendation I-92-1. Require that attachments to all U.S. Department of Transportation authorized hazardous materials packagings be designed to minimize the risk of puncturing other hazardous materials packagings during an accident situation.

RSPA Comments. On October 30, 1998, RSPA published a notice of proposed rulemaking in the Federal Register under Docket No. RSPA-98-3684 (HM-220). A copy is enclosed. Among numerous other changes, we proposed to revise the Hazardous Materials Regulations (HMR), at § 177.840(a)(1), to require cylinders containing hazardous materials in motor vehicles to be securely lashed to prevent them from shifting, overturning or being ejected from the vehicle. The comment period on the proposed rule closed September 30, 1999. Commenters strongly objected to the costs and operational impacts of a requirement that restraints must prevent cylinders from being ejected in accident and overturn situations. They argued that the standards for cylinder construction and RSPA's incident records do not justify the burden of the requirement.

The Safety Board's accident report states the cylinder puncture was most likely caused by the corner of a saddle-type foot on another cylinder. Attachments with sharp points are rarely used on cylinders. We proposed in HM-220, at § 173.301(m), to prohibit the use of sharp metal attachments on cylinders to reduce the likelihood of puncturing other packages. We believe this corrective measure directly addresses the suspected problem and will impose minimal costs on cylinder owners and users. This proposal also responds to Safety Recommendation I-92-1 that urges RSPA to require that attachments to DOT hazardous materials packagings be designed to minimize the risk of puncturing other hazardous materials packagings.

After reviewing the HM-220 comments and considering that a wide range of packagings with different configurations and sizes may be loaded on a vehicle, we find it neither practicable nor cost-beneficial to require carriers to secure each hazardous material package on a vehicle in a manner that will withstand every conceivable accident or overturn situation. The current regulations require hazardous materials packages containing Class 2 (gases), Class 3 (flammable liquid), Division 6.1 (toxic), Class 7 (radioactive) or Class 8 (corrosive) materials to be secured against movement within the vehicle under conditions normally incident to transportation. We believe this standard provides an acceptable level of safety. However, we recognize that the requirement probably should be broadened to include all hazardous materials packages instead of hazardous materials of certain hazard classes. We will propose these changes in a future rulemaking. Also, having determined that a final rule to prohibit the use of sharp-pointed attachments on cylinders appears to be cost-beneficial, we will propose a sharp-pointed attachment prohibition for other types of hazardous materials packagings.

In view of the high costs and operational impacts of a requirement for restraints to prevent each hazardous material package in a vehicle from being ejected in an accident or overturn situation, we believe that implementing measures to ensure that sharp-pointed attachments are not used on hazardous material packagings and that all hazardous materials packages are secured under normal transportation conditions can adequately reduce risks of packaging punctures at lower costs. Therefore, we request that Safety Recommendations I-90-8 and I-92-1 be classified as "Open-Acceptable Alternative Action."

Safety Recommendation I-90-9. Require independent inspections of new and reconditioned low pressure cylinders that are consistent with the present independent inspection requirements for high pressure cylinders.

RSPA Comments. Docket HM-220 proposes to discontinue the manufacture of low-pressure cylinders made to the current DOT 4B, 4BA, 4BW, 4B240ET, 4E, 4D, 4DA, 4DS and 4AA480 specifications and establish a new DOT 4M metric-marked cylinder specification. All cylinders manufactured or rebuilt to the new DOT metric-marked cylinder specifications would be subject to independent inspection. Numerous commenters expressed overwhelming objections to the proposals. One of their key concerns is that cylinders manufactured to the proposed specifications may not be acceptable in the world market. They requested that we permit the

continued manufacture of cylinders to the current specifications and not adopt the new cylinder specification until the International Standards Organization (ISO) finalizes its work on cylinder standards and the United Nations (UN) Committee of Experts on the Transport of Dangerous Goods incorporates them into the UN Recommendations. Based upon the merits of the comments, we agree that these proposals should not be finalized at this time. Meanwhile, we are working closely with the ISO and UN Committee of Experts to develop international cylinder standards.

Based upon RSPA's action under Docket HM-220 and our work in developing the international cylinder standards, we request that Safety Recommendation I-90-9 be classified as "Open-Acceptable Action."

Safety Recommendations I-93-1 and -2 were issued as the result of the Safety Board's investigation of a March 1, 1993 incident involving a leak from a compressed gas cylinder containing 600 pounds of hydrogen chloride (a toxic gas). The leak occurred aboard a tractor semitrailer traveling Interstate 35 near Des Moines, Iowa.

Safety Recommendation I-93-1. Coordinate with the Compressed Gas Association, Inc. (CGA) in amending Pamphlet C-6, *Standard for Visual Inspection of Compressed Gas Cylinders*, to require the use of a thread gauge, such as an L9 or equivalent, to measure the interior section neck threads for acceptance or rejection during periodic examination of cylinders that are used to transport gases with corrosive properties.

Safety Recommendation I-93-2. Prohibit the use of cylinders that do not meet the acceptance criteria for cylinder neck threads established in CGA Pamphlet C-6, *Standard for Visual Inspection of Compressed Gas Cylinders*.

RSPA Comments. Through our participation on CGA's Cylinder Specification Committee, we are working with CGA to address your concern. After much discussion between cylinder manufacturers and users and valve suppliers, we and CGA believe that the use of a thread gauge is not a workable solution. A thread gauge does not adequately detect all thread corrosion that can result in significant leakage. As CGA mentioned in a meeting with NTSB staff members, the CGA Cylinder Specification Committee is working to develop an alternative inspection method for determining the adequacy of neck threads during periodic examination of cylinders. CGA intends to incorporate the alternative inspection method into CGA Pamphlet C-6. CGA informs us that they will provide you with a response to Safety Recommendation I-93-1 by the end of July 2001.

After receipt of the revision to CGA Pamphlet C-6, we will consider proposing a rule that would incorporate by reference the updated pamphlet. Based upon CGA's commitment to respond to you by the end of July 2001, we request that Safety Recommendations I-93-1 and I-93-2 continue to be classified as "Open-Acceptable Alternative Action."

If you have any questions, please contact me or Ms. Patricia Klinger, Director of External Communications, at (202) 366-4831.

Sincerely,

Edward A. Brigham

Edward A. Brigham
Acting Deputy Administrator

Enclosure