



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

The Administrator

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

AUG 11 2000

The Honorable Jim Hall
Chairman
National Transportation Safety Board
Washington, DC 20594

Dear Mr. Chairman:

This letter addresses the National Transportation Safety Board's (NTSB) Safety Recommendation H-95-37 concerning an accident involving a cargo tank carrying liquefied petroleum gas (LPG) in White Plains, New York, on July 27, 1994. The front end of the tank fractured, releasing the LPG which ignited and propelled the tank onto a frame house, engulfing it in flames. The driver was killed, 23 people were injured, and an area with a radius of approximately 400 feet was engulfed by fire. The recommendation states:

H-95-37

In cooperation with the Federal Highway Administration, study methods and develop standards to improve the crashworthiness on front heads of cargo tanks used to transport liquefied flammable gases and potentially lethal nonflammable compressed gases.

The Research and Special Programs Administration (RSPA) contracted with Pressure Sciences Incorporated to study methods of improving the crash worthiness of front heads on DOT specification MC-331 cargo tank motor vehicles. The study was conceived jointly between the Federal Highway Administration (FHWA) and RSPA and funding was shared.

The feasibility portion of this work was completed and a report of this phase was sent to the Board on August 19, 1997. The second phase of the study used the tools developed in the initial period to model and analyze a cargo tank motor vehicle containing pressurized propane liquid and vapor. The design of the vessel's front head was varied to assess the importance of essential design parameters to the likelihood of failure under a range of crash conditions. A secondary head was added to determine the potential for failure mitigation for a dual head configuration. Finally, the mitigating effect of crushable material between the two heads was evaluated. A copy of the report on this phase is enclosed.

Currently, Pressure Sciences is engaged in an investigation of several discrete designs. This phase will evaluate manufacturing costs, producibility and marketability considerations. It is expected that this activity will complete this 3-phase, 4-year project.



In view of the technical products already developed and disseminated and our continued investigation of discrete designs, we request classification of H-95-37 remain "Open-Acceptable Response." We thank you for your consideration of our request.

If you have any questions, please contact me or Jack Murray, Associate Administrator for Policy and Program Support, at (202) 366-4831.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kelley Coyner", with a long horizontal flourish extending to the right.

Kelley S. Coyner

Enclosure