National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: April 27, 2005

In reply refer to: H-05-01

Honorable Jeffrey W. Runge, M.D.
Administrator
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

At 10:50 a.m. on October 13, 2003, a 1992 Neoplan USA Corporation 49-passenger motorcoach, owned and operated by the First Baptist Church of Eldorado, Texas, was traveling eastbound on Interstate 20 near Tallulah, Louisiana. The motorcoach, carrying 14 passengers, was en route from Shreveport, Louisiana, to Tuscaloosa, Alabama, as part of a multicity sightseeing tour that had originated in Eldorado. As the motorcoach approached milepost 168, it drifted rightward from the travel lanes and onto the shoulder, where it struck the rear of a 1988 Peterbilt tractor semitrailer operated by Alpha Trucking, Inc., which was stopped on the shoulder at milepost 167.9. As both vehicles moved forward, the motorcoach rotated clockwise slightly and the semitrailer rotated counter-clockwise slightly; the vehicles remained together. They traveled approximately 62 feet and came to rest, still oriented to the east, adjacent to the right side of the interstate on the outside shoulder. Eight motorcoach passengers sustained fatal injuries, the motorcoach driver and six passengers received serious injuries, and the Peterbilt driver was not injured.[1]

The National Transportation Safety Board determined that the probable cause of the accident was the motorcoach driver's operation of the motorcoach in a reduced state of alertness due to fatigue as a result of his chronic insomnia and poor quality sleep. Further contributing to the accident was the failure of Alpha Trucking, Inc., to perform vehicle maintenance and to provide safety management controls, which resulted in the accident tractor semitrailer being parked on the interstate shoulder. Contributing to the severity of the injuries was the failure of the motorcoach seat anchorages.

During the Tallulah crash sequence, many passenger seats did not remain secure in their original positions in the passenger compartment, even in the space outside the intrusion area. Among several seating securement issues addressed during its investigation, the Safety Board examined the issue of performance standards for motorcoach passenger seating anchorages. The Safety Board is concerned about the apparent lack of standardization in motorcoach seat anchorage system design. The Safety Board has examined the issue of motorcoach seat

[1] For additional information read National Transportation Safety Board, *Motorcoach Run-Off-The-Road Accident, Tallulah, Louisiana, October 13, 2003*, Highway Accident Report NTSB/HAR-05/01 (Washington, DC: 2005).

anchorage failure in six previous accident investigations. (See table 1.) Several different seat anchorage system designs were used in the motorcoaches involved in these accidents. Even when properly installed and maintained, some seat anchorage systems failed, while others did not, even in similar accident scenarios. The manufacturers of these seating systems primarily used either a seat anchorage design in which a threaded vertical rod was placed within the seat pedestal and attached to a floor track (or the flooring itself) or a design in which a T-bolt fit into the opening of the floor track and then was turned perpendicular to provide securement (as in the Tallulah motorcoach).

Table 1. Previous Safety Board investigations involving motorcoach passenger seat anchorage problems.

Location/Date	Injured/Fatalities	Failed Seat Units	Seat System Manufacturer
Nelson Township, New York September 7, 1996	5 Injuries 0 Fatalities	9	Prevost
Santa Fe, New Mexico January 5, 1998	22 Injuries 1 Fatality	15	Amaya-Astron
Burnt Cabins, Pennsylvania June 20, 1998	16 Injuries 6 Fatalities	0	National Seating
New Orleans, Louisiana May 9, 1999	21 Injuries 22 Fatalities	4	National Seating
Hewitt, Texas February 14, 2003	29 Injuries 5 Fatalities	3	Amaya-Astron
North Hudson, New York February 22, 2004	47 Injuries 0 Fatalities	2	Prevost

No Federal regulation or standard requires large motorcoaches sold or operated in the United States to be equipped with active or passive occupant protection (other than for the driver). Standards or requirements for the strength and adequacy of passenger seat anchorage systems are also lacking.

Although the seat anchorage designs differed in the seven accidents (including Tallulah) investigated by the Safety Board, the causes of the seat anchorage problems in all cases were impact from unrestrained passengers and intrusion during the accident sequence. Many different seating system designs are used in motorcoaches operating in the United States; each manufacturer uses its own hardware and anchorage designs, and these designs are not required to meet any strength requirements or other standards. This lack of requirements for seating systems results in inconsistent occupant protection. The Safety Board concluded that because no performance standards are in place for motorcoach seat anchorages, some anchorage systems may be inadequately designed to withstand crash forces, which can lead to severe or fatal passenger injuries in an accident.

Other countries have also investigated motorcoach accidents involving seat anchorage failure, and they have developed testing and performance standards for motorcoach passenger seat anchorages. For example, in Europe, regulation ECE80 concerns evaluating seat and

anchorage strength using tests that involve an unrestrained dummy striking the seat. In Australia, the Australian Design Rules for motorcoaches include a regulation, essentially equivalent to ECE80, which addresses static and dynamic seat strength testing requirements. The research and testing information available from Europe and Australia could provide a useful starting point for conducting research on, and developing, passenger seat anchorage performance standards for motorcoaches in the United States.

Therefore, the National Transportation Safety Board makes the following safety recommendation to the National Highway Traffic Safety Administration:

Develop performance standards for passenger seat anchorages in motorcoaches. (H-05-01)

The Safety Board also issued safety recommendations to the Federal Motor Carrier Safety Administration, the American Association of Motor Vehicle Administrators, the Commercial Vehicle Safety Alliance, and Neoplan USA Corporation.

Please refer to Safety Recommendation H-05-01 in your reply. If you need additional information, you may call (202) 314-6177.

Acting Chairman ROSENKER and Members ENGLEMAN CONNERS, HEALING, and HERSMAN concurred in this recommendation.

Original Signed

By: Mark V. Rosenker
Acting Chairman