



National Transportation Safety Board

Washington, D. C. 20594

Safety Recommendation

Date: May 17, 1991

In reply refer to: R-91-10

Mr. Robert Wauhop
Fire Marshal, Fire Marshal Office
Fire Administration Building
S.E. Corner, 3rd and Spring Garden
Philadelphia, Pennsylvania 19115

At 0821 on March 7, 1990, westbound Southeastern Pennsylvania Transportation Authority (SEPTA) Market-Frankford Subway Elevated (MFSE) train 61 derailed in a tunnel 238 feet west of the 30th Street station platform in Philadelphia, Pennsylvania.

Train 61 had 2 crewmembers and about 180 passengers aboard when the derailment occurred. Extensive car damage, together with darkness, cramped wreckage conditions, and debris in the tunnel complicated rescue efforts that took about 5 hours to complete. Four passengers were killed, and 158 were injured. One crewmember and a firefighter sustained minor injuries. Damage to the equipment and track was estimated by SEPTA to have been about \$2 million.¹

Postaccident inspection of the track and switch 7E at the 30th Street station revealed no deficiencies in the track structure that were causal to this accident. The extent of crashworthiness was not, as a practical matter, a factor in the severity of this accident. Also, the train crew complied with SEPTA rules in operating train 61.

After leaving the 30th Street platform, train 61 continued to travel west to a remote-controlled interlocking switch (7E) that was 238 feet from the platform. The first two cars proceeded through the switch and remained on the rails. At the same time, the No. 2 traction motor on the A end of the third car dropped to the track, striking the ties. It passed over the switch, damaging the switch mechanism. The third car and the lead truck of the fourth car continued over the damaged switch and remained on the track. But the traction-motor had bent the switch points to the open position, allowing the rear truck of the fourth car to be diverted. The body of the fourth car was directed sideways as westbound movement continued until the

¹For more detailed information, read Railroad Accident Report--"Derailment of Southeastern Pennsylvania Transportation Authority (SEPTA) Commuter Train 61, Philadelphia, Pennsylvania March 7, 1990," (NTSB/RAR-91/01)

car derailed and struck the steel H-columns between the eastbound and westbound right-of-ways. The side of the car struck the columns, which penetrated 30 feet into the car, resulting in injuries and fatalities. The lead truck of the fifth car derailed in the crossover switch as it followed the fourth car. The sixth car derailed but remained coupled to the fifth car.

Despite the difficulty of extricating the passengers who were trapped in the wreckage, the emergency response was timely and involved a sufficient number of employees and amount of equipment. However, communications below surface were poor during the emergency rescue operations and had to be achieved by line of sight or hard wire application. This difficulty was compounded by the fact that SEPTA and the Philadelphia Fire Department do not use the same terms. The Safety Board believes that SEPTA and the Philadelphia Fire Department should develop a common language.

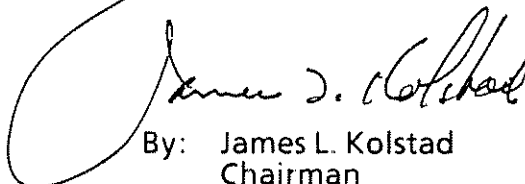
Therefore, the National Transportation Safety Board recommends that the city of Philadelphia Fire Department:

Cooperate with the Southeastern Pennsylvania Transportation Authority to review and revise the procedures and terminology that train dispatchers and the fire department can utilize for notification of emergency and rescue personnel, in order to eliminate delays and provide information necessary for proper assessment of equipment and manpower requirements. (Class II, Priority Action) (R-91-10)

Also, as a result of its investigation, the Safety Board issued Safety Recommendations R-91-1 through -8 to the Southeastern Pennsylvania Transportation Authority and R-91-9 to the Transport Workers Union. Also, the Safety Board reiterated Safety Recommendation R-87-38 to the governor of Pennsylvania.

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any action taken as a result of its safety recommendations. Therefore, it would appreciate a response from you regarding action taken or contemplated with respect to the recommendation in this letter. Please refer to Safety Recommendation R-91-10 in your reply

KOLSTAD, Chairman, COUGHLIN, Vice Chairman, and BURNETT, LAUBER, and HART, Members, concurred in this recommendation.



By: James L. Kolstad
Chairman