

Log # R-671J



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: August 28, 1997

In Reply Refer To: R-97-45

To the American Short Line Railroad Association,
the Brotherhood of Locomotive Engineers,
the United Transportation Union,
the International Brotherhood of Teamsters,
and the American Public Transit Association
(address list attached)

About 5:39 p.m. on February 16, 1996, Maryland Rail Commuter (MARC) train 286 collided with National Railroad Passenger Corporation (Amtrak) passenger train 29 near Silver Spring, Maryland. En route from Brunswick, Maryland, to Union Station in Washington, DC, MARC train 286 was traveling under CSX Transportation Inc. (CSXT) operation and control on CSXT tracks. MARC train 286 passed an APPROACH signal before making a station stop at Kensington, Maryland; proceeded as if the signal had been CLEAR; and, then, could not stop for the STOP signal at Georgetown Junction, where it collided with Amtrak train 29. All 3 CSXT operating crewmembers and 8 of the 20 passengers on MARC train 286 were killed in the derailment and subsequent fire. Eleven passengers on MARC train 286 and 15 of the 182 crewmembers and passengers on Amtrak train 29 were injured.¹

The National Transportation Safety Board stopping distance tests after the accident indicated that had the MARC train 286 engineer not used the reverser, thereby retaining dynamic braking until impact, MARC train 286 would have impacted Amtrak train 29 at a speed of about 34 mph as opposed to the actual impact speed of about 38 mph. The additional deceleration of MARC train 286 would have resulted in an additional 0.3 seconds of elapsed time before impact, which in turn would have resulted in Amtrak train 29 moving approximately 14 feet farther into the crossover before impact. Thus, with MARC train 286 operating at the speed of 66 mph and going into emergency braking 1,407 feet before impact, a collision was inevitable regardless of the reverser use by the MARC train 286 engineer.

Despite the CSXT instructions that the reverser only has limited utility and its intentions that the reverser be used only under specific conditions, the use of the reverser having a retarding effect is implied in the instructions. The MARC train 286 engineer may have drawn from that implication and used the reverser about 1,000 feet into his emergency braking sequence out of desperation when he

¹For more detailed information, read Railroad Accident Report--Collision and Derailment of Maryland Rail Commuter MARC Train 286 and National Railroad Passenger Corporation Amtrak Train 29, near Silver Spring, Maryland, on February 16, 1996 (NTSB/RAR-97/02).

realized emergency braking would not prevent the impending collision. Nevertheless, because the reverser use eliminated the additional braking provided by the locomotive dynamic brakes, the Safety Board concludes that the MARC train 286 engineer's use of the reverser during the emergency brake application resulted in a marginally increased stopping distance for MARC train 286. Therefore, the Safety Board believes that the American Short Line Railroad Association, the Brotherhood of Locomotive Engineers, the United Transportation Union, the International Brotherhood of Teamsters, and the American Public Transit Association should inform its membership of the circumstances of this accident and caution them not to use the reverser during emergency brake applications for those trains on which the use of reverser will eliminate the dynamic braking, thus increasing stopping distance.

Therefore, the National Transportation Safety Board recommends that the American Short Line Railroad Association, the Brotherhood of Locomotive Engineers, the United Transportation Union, the International Brotherhood of Teamsters, and the American Public Transit Association:

Inform your membership of the circumstances of this accident and caution them not to use the reverser during emergency brake applications for those trains on which the use of the reverser will eliminate the dynamic braking, thus increasing stopping distance. (R-97-45)

Also, the Safety Board issued Safety Recommendations R-97-9 through -21 to the Federal Railroad Administration (FRA); R-97-22 through -25 to the Federal Transit Administration; R-97-26 through -31 to the CSXT; R-97-32 through -35 to the Maryland Mass Transit Administration; R-97-36 to the U.S. Department of Transportation; R-97-37 to the Federal Emergency Management Agency; R-97-38 to the Governor and the General Assembly of Maryland; R-97-39 through -42 to the Association of American Railroads; R-97-43 to the Montgomery County Emergency Management Agency; and R-97-44 to the Baltimore County Emergency Management Agency, the Baltimore City Emergency Management Agency, the Metropolitan Washington Council of Governments, the Jefferson County Commissioners, and the Berkeley County Commissioners. The Safety Board also reiterated Safety Recommendations R-87-16, R-92-10, and R-93-12 to the FRA; R-92-16 to the General Electric Company; and R-92-17 to the Electro-Motive Division of General Motors.

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-97-45 in your reply. If you need additional information, you may call (202) 314-6430.

Chairman HALL, Vice Chairman FRANCIS, and Members HAMMERSCHMIDT, GOGLIA, and BLACK concurred in this recommendation.

By:




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