



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: November 6, 2003

In reply refer to: R-03-23

Mr. Edward R. Hamberger
President and Chief Executive Officer
Association of American Railroads
50 F Street, N.W.
Washington, D.C. 20001

The National Transportation Safety Board is an independent Federal agency charged by Congress with investigating transportation accidents, determining their probable cause, and making recommendations to prevent similar accidents from occurring. We are providing the following information to urge your organization to take action on the safety recommendation in this letter. The Safety Board is vitally interested in this recommendation because it is designed to prevent accidents and save lives.

This recommendation addresses the need to complete the interoperability standards for positive train control systems. The recommendation is derived from the Safety Board's investigation of the April 23, 2002, collision of a Burlington Northern Santa Fe Railway (BNSF) freight train with a commuter train at Placentia, California, and is consistent with the evidence we found and the analysis we performed. As a result of this investigation, the Safety Board has issued three safety recommendations, one of which is addressed to the AAR. Information supporting this recommendation is discussed below. The Safety Board would appreciate a response from you within 90 days addressing the actions you have taken or intend to take to implement our recommendation.

On Tuesday, April 23, 2002, about 8:10 a.m. Pacific daylight time, eastbound BNSF freight train PLACCLO3-22 collided head on with standing westbound Southern California Regional Rail Authority (Metrolink) passenger train 809 on the No. 2 track at Control Point (CP) Atwood in Placentia, California.¹ Emergency response agencies reported that 162 persons were transported to local hospitals. There were two fatalities.² Damage was estimated at \$4.6 million.

¹ For more information, see National Transportation Safety Board, *Collision of Burlington Northern Santa Fe Freight Train With Metrolink Commuter Train at Placentia, California, April 23, 2002*, Railroad Accident Report NTSB/RAR-03/04 (Washington, DC: NTSB, 2003).

² In order to provide standard classifications, the Safety Board applies published aviation injury criteria (49 Code of Federal Regulations 830.2) to all modes of transportation. For statistical uniformity only, an injury to a person that results in death within 30 days of the accident is classified a fatality. In the Placentia accident, a third injured passenger, a 77-year-old woman, died on or about June 7, 2002, which was about 45 days after the accident. Under the foregoing criteria, she is not classified in this report as an accident fatality. The Safety Board's investigation did not identify any evidence that her death was directly attributable to injuries sustained in the

The National Transportation Safety Board determined that the probable cause of the accident was the freight train crew's inattentiveness to the signal system and their failure to observe, recognize, and act on the *approach* signal at milepost 42.31. Contributing to the accident was the absence of a positive train control system that would have automatically stopped the freight train short of the *stop* signal and thus prevented the collision.

The *General Code of Operating Rules* required both crewmembers to remain alert for the signal, to call out the signal, and to continue observing the signal until the train passed. Investigators found that the *approach* signal at milepost 42.31 was visible from more than 3,000 feet away, or for 48 seconds, given the speed of train PLACCLO3-22 (hereafter referred to by its operational identification, BNSF 5340).

As evidenced from their statements to investigators, the BNSF 5340 crewmembers were focusing attention on their conversation rather than on the signals governing the operation of their train. The crewmembers said they were engaged in a conversation about previous employment.

The Safety Board is concerned about the safety of railroad operations when backup systems are not available to intervene if a train crew operates a train improperly or fails to comply with wayside signals. Safety Board railroad accident investigations over the past 30 years have shown conclusively that the most effective way to avoid train-to-train collisions is through the use of positive train control systems that will automatically assume some control of a train when the train crew does not comply with the requirements of a signal indication.

Most recently, in its investigation of a May 28, 2002, collision of two BNSF freight trains near Clarendon, Texas, the Safety Board determined that the accident would have been prevented if an operational positive train control system had been in place on that section of track. Similarly, had such a system been in place and operational on the territory where the Placentia accident occurred, it would have intervened when the engineer failed to slow his train in response to the *approach* signal and would have stopped the train short of the *stop* signal. The Safety Board concluded that had a fully implemented positive train control system been in place on the BNSF San Bernardino Subdivision at the time of the accident, the system would have intervened to stop the freight train before it could enter into the track area occupied by Metrolink 809, and the collision would not have occurred.

Since 1969, the Safety Board has issued a number of safety recommendations related to positive train control. The most recent such recommendation was Safety Recommendation R-01-6, issued to the Federal Railroad Administration (FRA) as a result of the Safety Board's investigation of a train collision involving three freight trains in Bryan, Ohio.³ In a response to the Safety Board's request for an update on the status of this recommendation, which is currently classified "Open-Acceptable Response," the FRA stated, in a May 5, 2003, letter to the Safety Board:

accident. Further, this classification does not reflect any determination that she did not, in fact, succumb to injuries received in the accident.

³ National Transportation Safety Board, *Collision Involving Three Consolidated Rail Corporation Freight Trains Operating in Fog at Bryan, Ohio, January 17, 1999*, Railroad Accident Report NTSB/RAR-01/01 (Washington, DC: NTSB, 2001).

FRA is doing everything within its power to prepare the way for PTC and encourage its rapid deployment. FRA shares the Board's disappointment that certain aspects of this work have not proceeded as rapidly as projected. For instance, the Association of American Railroads has yet to provide standards for interoperability of PTC systems. Nevertheless, we remain convinced that the momentum achieved to date, together with the strong potential for PTC technology to support other business needs, will result in the safety advances that we both seek.

While the Safety Board understands that positive train control development is complex and expensive, the Board remains convinced that these systems provide the best approach to reduce human-error collisions. The Safety Board is aware of the BNSF program to develop a train collision avoidance system but remains concerned that it has taken so long for the FRA to require and for the railroad industry to develop and implement such systems.

As noted in the FRA letter, one of the issues hindering development and deployment of positive train control systems is the lack of standards for interoperability. Such standards are necessary to ensure that the effectiveness of positive train control systems is not compromised by the sharing of locomotive units that is common among railroads. The Safety Board is vitally interested in this issue.

Based on its investigation of the April 23, 2002, collision at Placentia, California, the National Transportation Safety Board makes the following safety recommendation to the Association of American Railroads:

Report to the National Transportation Safety Board the milestones and activities needed for completion of the interoperability standards for positive train control systems and your priorities for completion of this effort. (R-03-23)

The Safety Board also issued safety recommendations to the FRA and to the BNSF. In your response to the recommendation in this letter, please refer to Safety Recommendation R-03-23. If you need additional information, you may call (202) 314-6177.

Chairman ENGLEMAN, Vice Chairman ROSENKER, and Members GOGLIA, CARMODY, and HEALING concurred in this recommendation.

Original Signed

By: Ellen G. Engleman
Chairman