



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

LOG R-655D

Date: SEP 18 1995

In Reply Refer to: R-95-39

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Chairman, President, and CEO  
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About 3:25 a.m., mountain daylight time, on June 8, 1994, three Burlington Northern (BN) freight trains were involved in an accident. An eastbound train that had stopped for a train ahead was struck in the rear by a following eastbound train. Before the collision, the striking eastbound train had passed a *restricted proceed* signal indication at high speed without appreciably slowing. The lead unit of the striking train derailed and came to rest on an adjacent track where it was hit by a westbound train. The engineer and conductor of the striking eastbound train were killed and the engineer and conductor of the westbound train were injured. Damages to track, equipment, and lading were estimated at \$2.5 million.<sup>1</sup>

From its investigation, the Safety Board identified three primary safety issues in this accident: the inattentiveness of the crewmembers of the striking eastbound train because of fatigue, train operations using the *restricted proceed* signal indication, and positive train separation.

In its research for this report, the Safety Board determined that on December 1, 1983, the BN changed from a *stop and proceed* signal indication to a *restricted proceed* signal indication. The *restricted proceed* signal indication does not require an engineer to stop the train. It only requires that the engineer slow the train to *restricted speed* and be prepared to stop. Since 1987, the Burlington Northern has had 21 rear-end collisions, of which 9 reported collisions involved a *restricted proceed* signal indication.<sup>2</sup> Following this accident, the BN discontinued the use of the *restricted proceed* signal indication, except for special circumstances.

<sup>1</sup> For additional information, see Rail Accident Report -- *Collision and Derailment Involving Three Burlington Northern Freight Trains near Thedford, Nebraska, on June 8, 1994* (NTSB/RAR-95/03).

<sup>2</sup> The NTSB investigated three accidents: Falls City, Nebraska, on July 17, 1990; Glendive, Montana, on January 7, 1988; and Mandan, North Dakota on October 19, 1990. The FRA investigated the others: Willbridge, Oregon on May 31, 1987; Blacktail, Montana, on January 31, 1989; Seattle, Washington, on January 18, 1990; Lakes, Minnesota, on June 2, 1990; Austin, Montana, on April 21, 1991; and Stoddard, Wisconsin, on March 23, 1994.

The Safety Board also determined that other railroads either do not use a *restricted proceed* signal indication or have stopped using it after experiencing several rear-end collisions. For example, CSX Transportation used *restricted proceed* from 1989 to 1992 and on January 4, 1993 changed to a *stop and proceed* signal indication after experiencing several rear-end collisions.<sup>3</sup> Other railroads have replaced the *restricted proceed* with a *stop and proceed* signal indication, which requires that an engineer bring his train to a stop before entering the track area controlled by the signal. The companies have found that using the *stop and proceed* signal serves to enhance the engineers awareness of the train's location, the circumstances of the signal indication, and create an environment in which his response to the unexpected would be improved.

The FRA has advised the Safety Board that it is aware of only four major class 1 carriers using the *restricted proceed* signal indication such as BN did before this accident: Illinois Central Railroad Company, Kansas City Southern Railway Company, Norfolk Southern Railway Company, and Soo Line (CP Rail System Heavy Haul-US).

Based on the circumstances of this accident, the Safety Board concludes that the use of the *restricted proceed* signal indication may be a less safe operating practice than use of a *stop and proceed* signal indication and should not be used in general applications to control train movement. However, the Safety Board is aware that under certain applications, such as requiring a heavy tonnage train to stop on a grade, the elimination of the *restricted proceed* signal indication could present unreasonable operating difficulties.

The National Transportation Safety Board therefore issues the following recommendation to the Norfolk Southern Railway Company:

Limit the use of the *restricted proceed* signal indication to special circumstances in which its elimination would present unreasonable operating difficulties. (Class II, Priority Action) (R-95-39)

Also, the Safety Board issued Safety Recommendations R-95-35 to the American Short Line Railroad Association, R-95-36 to the Association of American Railroads, R-95-37 to the Illinois Central Railway Company, R-95-38 to the Kansas City Southern Railway Company, and R-95-40 to the Soo Line Railroad Company (CP Rail System Heavy Haul). The Safety Board reiterated two recommendations to the Federal Railroad Administration.

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 interested in any action taken as a result of its safety recommendations.

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<sup>3</sup> According to FRA statistics for rear-end collisions in signal territory, the CSXT had eight rear-end collisions from 1989 to 1993. On January 4, 1993, CSXT changed to a *stop and proceed* signal indication. As of January 1995, the latest date for available FRA records, CSXT has not reported any rear-end collisions.

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-95-39.

Chairman HALL, VICE Chairman FRANCIS, Member HAMMERSCHMIDT and Member GOGLIA concurred in this recommendation.

By:   
Jim Hall  
Chairman