



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: January 12, 2012

In reply refer to: R-11-8 and 9

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The National Transportation Safety Board (NTSB) 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 recommendations in this letter. The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives.

Since April 2011, five rear-end collisions of railroad trains have occurred in which crewmembers failed to operate their trains at the required restricted speed: (1) Red Oak, Iowa, on April 17, 2011, (2) Low Moor, Virginia, on May 21, 2011, (3) Mineral Springs, North Carolina, on May 24, 2011, (4) DeWitt, New York, on July 6, 2011, and (5) DeKalb, Indiana, on August 19, 2011. The NTSB is investigating two of these accidents: Red Oak and Mineral Springs. The recommendations are derived from the NTSB's ongoing investigations of these two accidents and the facts of the Low Moor, Virginia, DeWitt, New York, and DeKalb, Indiana, accidents. The NTSB has issued five safety recommendations, two of which are addressed to the Association of American Railroads and the American Short Line and Regional Railroad Association. Information supporting these recommendations is discussed below. The NTSB would appreciate a response from you within 90 days addressing the actions you have taken or intend to take to implement our recommendations.

The first of the five accidents occurred on April 17, 2011, about 6:55 a.m. central daylight time. Eastbound BNSF coal train C-BTMCNM0 26A collided with the rear of standing BNSF maintenance-of-way equipment train U-BRGCRI5 15G in Red Oak, Iowa. The coal train was traveling about 23 mph when it struck the standing maintenance-of-way equipment train. The coal train had passed a red automatic block signal about 2 miles before the point of collision. The signal had required the engineer to operate the train at restricted speed, which was 20 mph.

The coal train consisted of 130 loaded coal cars, weighed 18,529 tons, and was 7,122 feet long; it had two locomotives on the head end and one locomotive on the rear end. The maintenance-of-way equipment train consisted of 21 loaded cars and 13 empty cars, weighed 2,635 tons, and was 3,170 feet long; it had one locomotive on the head end.

As a result of the collision, the two locomotives on the head end of the striking coal train derailed along with the first two coal cars. The locomotive crew cab of the coal train was damaged and was engulfed in a subsequent fire. Seven additional coal cars were damaged; however, these cars did not derail. Ten cars of the standing maintenance-of-way train derailed. Both the engineer and the conductor on the coal train were fatally injured. The two crewmembers on the maintenance-of-way equipment train were not injured. At the time of the accident, the visibility was reported to be 5 miles at Red Oak Municipal Airport, which is about 2 1/2 miles east of the accident location; mist was also reported. Damages are estimated at over \$8 million.

The second of the five accidents occurred on May 21, 2011, about 11:38 a.m. eastern daylight time. CSX Transportation freight train H75221 collided with stopped CSX Transportation freight train G88219 in Low Moor, Virginia, which is about 170 miles west of Richmond, Virginia. The trains were operating in double-main track territory. Each train had an engineer and a conductor. No crewmember reported an injury as a result of the collision. The locomotive of the striking train derailed, and the last car on the struck train—a grain car—derailed.

Train G88219 had stopped to wait for another train. Train H75221 had two locomotives, one loaded car, and nine empty cars; it was operating eastbound on a restricted signal indication. Train H75221 was descending a grade and had reached a speed of 21 mph, although the restricted speed for the railroad was 15 mph. The conductor said that as train H75221 passed through a curve, he saw the rear car of standing train G88219. The engineer placed the train into emergency braking about 259 feet before the point of collision. At impact, the train was traveling about 13 mph. At the time of the accident, the weather was partly cloudy and the temperature was 75° F. Damages are estimated at \$150,000.

The third of the five accidents occurred on May 24, 2011, about 3:35 a.m. eastern daylight time. Northbound CSX Transportation freight train Q19423 struck the rear of northbound CSX Transportation freight train Q61822 in Mineral Springs, North Carolina, about 8 miles south of the CSX Transportation Monroe Yard. The striking train was traveling about 48 mph at the time of the collision, considerably faster than the mandated 15 mph restricted speed. The striking train consisted of 12 intermodal cars, and the struck train consisted of 9 general manifest cars. Each train had two crewmembers—an engineer and a conductor—who were in the lead locomotives. The engineer and the conductor of the striking train were fatally injured. The engineer and the conductor of the struck train sustained minor injuries. The two locomotives of the striking train were engulfed in a subsequent fire. Damages are estimated at \$1.6 million.

The fourth of the five accidents occurred on July 6, 2011, at 12:45 p.m. eastern daylight time. Eastbound CSX train Q 366-05 with 2 locomotives and 58 cars (40 loaded cars and 18 empty cars) struck the rear of CSX train L 156-05 in DeWitt, New York. Both crewmembers on the striking train were transported to a local hospital where they received medical attention

and were released. The two locomotives and the lead car of the striking train and the rear three cars of the struck train derailed. In response, local officials evacuated the surrounding area, including several businesses, and closed nearby roads due to the large amount of diesel fuel that was spilled by the lead locomotive of the striking train.

The fifth accident occurred on August 19, 2011, at 5:44 a.m. central daylight time. Westbound Norfolk Southern train 925C347 with 2 locomotives and 21 loaded cars struck the rear of Norfolk Southern train 359B249, which was stopped at milepost CD366. The collision caused nine cars on the rear of the struck train and both locomotives of the striking train to derail. There were no injuries. Both tracks of the main line were blocked, delaying other freight traffic and scheduled Amtrak (National Railroad Passenger Corporation) passenger service.

Preliminary information obtained by NTSB investigators indicates that the train crews in all five accidents failed to operate their trains at the required restricted speed. Two of the five accidents resulted in crewmember fatalities. Four of the five accidents occurred on railroad lines over which Amtrak passenger trains operate. Because these accidents occurred on different railroads and under different circumstances, the NTSB is concerned that noncompliance with restricted speed requirements may be an issue affecting a broad segment of the U.S. railroad industry.

During train operations, the signal system or train dispatcher can often provide safe separation between trains that are moving in either the same direction or the opposite direction. However, there are times when trains must be authorized to occupy the same sections of track. In these cases, safe train operation relies solely on crewmember compliance with the railroad's restricted speed requirements.

Typically, railroad restricted speed rule requirements include "being prepared to stop within one-half the range of vision." Complete understanding of and strict compliance with restricted speed requirements are absolutely mandatory to prevent catastrophic train collisions. The NTSB believes that all railroads should be informed about the circumstances identified in these five accidents. In addition, the NTSB believes that all railroads should emphasize adequate training and ensure the compliance of train crews operating at restricted speeds.

Therefore, the National Transportation Safety Board makes the following safety recommendations to the Association of American Railroads and the American Short Line and Regional Railroad Association:

Through appropriate and expeditious means, such as issuing and posting advisory bulletins on your website, use the occurrences of five recent rear-end collisions of freight trains—(1) Red Oak, Iowa, on April 17, 2011, (2) Low Moor, Virginia, on May 21, 2011, (3) Mineral Springs, North Carolina, on May 24, 2011, (4) DeWitt, New York, on July 6, 2011, and (5) DeKalb, Indiana, on August 19, 2011—to urge your members to undertake a review of their operations to identify the potential for similar occurrences and to take appropriate mitigating actions. (R-11-8)

Examine the effectiveness of your member railroads' restricted speed and compliance programs. (R-11-9)

The NTSB also issued safety recommendations to the Federal Railroad Administration, the Brotherhood of Locomotive Engineers and Trainmen, and the United Transportation Union.

NTSB investigators are still examining issues related to the Red Oak and Mineral Springs accidents. At this time, the NTSB has not yet determined the probable cause of these two accidents. Nonetheless, the NTSB has identified the safety issues described above which resulted in these recommendations that should be addressed. In response to the recommendations in this letter, please refer to Safety Recommendations R-11-8 and -9. If you would like to submit your response electronically rather than in hard copy, you may send it to the following e-mail address: correspondence@ntsb.gov. If your response includes attachments that exceed 5 megabytes, please e-mail us asking for instructions on how to use our secure mailbox. To avoid confusion, please use only one method of submission (that is, do not submit both an electronic copy and a hard copy of the same response letter).

Chairman HERSMAN, Vice Chairman HART, and Members SUMWALT, ROSEKIND, and WEENER concurred in this recommendation.

[Original Signed]

By: Deborah A.P. Hersman
Chairman