



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: August 25, 2005

In reply refer to: R-05-05 and -06

Honorable Joseph H. Boardman
Administrator
Federal Railroad Administration
1120 Vermont Avenue, N.W.
Washington, D.C. 20590

About 6:33 p.m. central daylight time on April 6, 2004, northbound National Railroad Passenger Corporation (Amtrak) train No. 58 (*City of New Orleans*) derailed on Canadian National Railway Company (CN) railroad track near Flora, Mississippi.¹ The entire train, consisting of one locomotive, one baggage car, and eight passenger cars, derailed near milepost 196.5 while traveling about 78 mph. The train was carrying 61 passengers and 12 Amtrak employees. The derailment resulted in 1 fatality, 3 serious injuries, and 43 minor injuries. The equipment costs associated with the accident totaled about \$7 million.

The National Transportation Safety Board determined that the probable cause of this accident was the failure of CN to properly maintain and inspect its track, resulting in a rail shift and the subsequent derailment of the train, and the Federal Railroad Administration's (FRA's) ineffective oversight to ensure the proper maintenance of the track by the railroad.

As a result of its investigation of this accident, the Safety Board identified as safety issues the FRA's oversight of continuous welded rail (CWR) maintenance programs and Amtrak's emergency response training of its employees.

CN's CWR program in effect in 2004 at the time of the accident was its "Policy on Continuous Welded Rail," dated April 2003, which had been submitted to the FRA in 2003. This document superseded the CWR program that had been submitted to the FRA by CN's former owner, the Illinois Central Railroad, in February 1999.

Before the Flora accident, although the FRA inspector had the railroad's current CWR program and he found areas in which the rail anchors were ineffective against longitudinal displacement, he did not write up any defects, nor did he identify instances where anchors were not applied box style on every other tie as required by CN's CWR program. However, such instances were found and identified as defects after the accident prompted a more focused FRA inspection.

¹ For additional information, see National Transportation Safety Board, *Derailment of Amtrak Train No. 58, City of New Orleans, Near Flora, Mississippi, April 6, 2004*, Railroad Accident Report NTSB/RAR-05/02 (Washington, DC: NTSB, 2005).

The FRA inspector had several methods available to inform the railroad of corrections necessary to improve the track conditions. The most severe was to note a defect and file a violation on that defect. An alternative was for the inspector to note a defect, but not file a violation, which gives the railroad time to correct the problem. A third method, which he used, was to write comments to the railroad, although this method has no enforcement element. Later, the FRA inspector and the FRA track specialist agreed that the railroad was not required to respond to written comments and they did not expect the railroad to make repairs based on comment items.

In his written inspection comments to CN in June 2003, the FRA inspector characterized the anchoring as “ineffective against longitudinal displacement,” indicating that the rail could move because of changes in temperature. However, in a February 2004 return visit to the same territory, the FRA inspector did not comment on the condition of the anchors, and no records were found to indicate that anchors had been applied between June 2003 and February 2004 to meet CN’s CWR program requirement that anchors be applied box style on every other tie. An inspection after the derailment found that approximately 50 percent of the anchors in the area of the accident were missing or not properly positioned. Although the FRA inspector had brought the anchor deficiencies to CN’s attention about 10 months before the accident, he did not link this deficiency to CN’s CWR program and communicate the problem in a formal way—as a defect—that would have likely prompted corrective action by CN. The Safety Board concludes that although an FRA preaccident inspection identified track deficiencies, the FRA’s oversight was not effective in ensuring corrective action by CN.

Regarding emergency preparedness, during emergency situations, particularly those involving passenger evacuations, the train crew and on-board service personnel are responsible for managing and directing the safe evacuation of passengers. Passengers rely on the training, experience, and leadership of the on-board service personnel. Required periodic emergency situation training should prepare the train crewmembers to perform their duties confidently when emergency situations occur. This periodic training is important because policies and procedures change over time, both skills and memory erode unless exercised and emergencies are rare, and the training is required by Federal regulation (Title 49 *Code of Federal Regulations* (CFR) Part 239).

The Safety Board has long been concerned with the emergency preparedness training of Amtrak crewmembers, and has previously made six recommendations (R-79-36, R-83-24, R-83-72, R-89-35, R-93-23, and R-98-59) to Amtrak regarding this issue. Safety Recommendation R-79-36,² which asked Amtrak to establish a program to train crewmembers in the proper procedures for care of passengers in derailment and emergency situations, was classified “Closed—Acceptable Action” on October 8, 1980, after Amtrak said that all employees had received training and that an ongoing training program was in place. In response

² National Transportation Safety Board, *Rear End Collision of Conrail Commuter Train No. 400 and Amtrak Passenger Train No. 60, Seabrook, Maryland, June 9, 1978*, Railroad Accident Report NTSB/RAR-79/03 (Washington, DC: NTSB, 1979).

to Safety Recommendations R-83-24³ and R-83-72,⁴ Amtrak developed an advanced 4-hour course on emergency procedures for on-board crewmembers and supervisory personnel.⁵ Safety Recommendation R-89-35⁶ asked Amtrak to develop procedures and equipment for evacuation of passenger cars involved in an accident and train employees in those procedures and equipment. Amtrak updated its emergency evacuation procedures manual and provided annual refresher training to all train and engineering and on-board crews. Safety Recommendation R-89-35 was classified “Closed—Acceptable Action” on January 16, 1990. In response to Safety Recommendation R-93-23, Amtrak now provides all on-board service personnel with comprehensive training in first aid, cardiopulmonary resuscitation, and the use of the public address system.^{7, 8} Safety Recommendation R-98-59 asked Amtrak to implement effective controls to monitor and ensure that all train crews and on-board service personnel receive the necessary initial and recurrent emergency training to provide for passenger safety.^{9, 10} In response, Amtrak established a computerized database that tracks the attendance of all on-board crewmembers in initial and recurrent training in passenger emergency preparedness and response education. However, Amtrak had difficulty locating accurate training records for 4 of the 12 crewmembers after this accident because the database had not been updated. Amtrak also centralized the training records into a single database for compliance monitoring by Amtrak’s human resources office.

Despite the existence of an employee training database, an Amtrak on-board employee in this accident had not had training as required by Federal regulation. Amtrak’s continued failure to provide passenger emergency training to its crews has the potential to put the traveling public at risk should an emergency occur on an Amtrak train. Although it was not a factor in this accident, the Safety Board concluded that Amtrak was not assuring that all of its crewmembers received emergency preparedness training.

According to 49 CFR Part 239 all Amtrak employees that worked on trains had to be trained for emergency response by January 29, 2001, and retrained every 2 years thereafter. However, Amtrak has failed to meet this requirement. The FRA is responsible for ensuring that Amtrak is in compliance with this regulation, but Safety Board investigators

³ National Transportation Safety Board, *Derailment of Amtrak Train No. 5 (the San Francisco Zephyr) on the Burlington Northern Railroad, Emerson, Iowa, June 15, 1982*, Railroad Accident Report NTSB/RAR-83/02 (Washington, DC: NTSB, 1983).

⁴ National Transportation Safety Board, *Fire Onboard Amtrak Passenger Train No. 11, Coast Starlight, Gibson, California, June 23, 1982*, Railroad Accident Report NTSB/RAR-83/03 (Washington, DC: NTSB, 1983).

⁵ Safety Recommendation R-83-24 was classified “Closed—Acceptable Action” on October 12, 1984, and Safety Recommendation R-83-72 was classified “Closed—Acceptable Action” on June 3, 1986.

⁶ National Transportation Safety Board, *Derailment of National Railroad Passenger Corporation Train 7, on Burlington Northern Railroad near Saco, Montana, August 5, 1988*, Railroad Accident Report NTSB/RAR-89/03 (Washington, DC: NTSB, 1989).

⁷ National Transportation Safety Board, *Derailment and Subsequent Collision of Amtrak Train 82 with Rail Cars on Dupont Siding of CSX Transportation Inc. at Lugoff, South Carolina, July 31, 1991*, Railroad Accident Report NTSB/RAR-93/02 (Washington, DC: NTSB, 1993).

⁸ Safety Recommendation R-93-23 was classified “Closed—Acceptable Action” on December 5, 2000.

⁹ National Transportation Safety Board, *Derailment of Amtrak Train 4, Southwest Chief, on the Burlington Northern Santa Fe Railway near Kingman, Arizona, on August 9, 1997*, Railroad Accident Report NTSB/RAR-98/03 (Washington, DC: NTSB, 1998).

¹⁰ Safety Recommendation R-98-59 was classified “Closed—Acceptable Action” on December 5, 2000.

identified only one FRA audit of Amtrak's emergency preparedness training. Moreover, that audit occurred after the accident and in one location in a different region. Before the Part 239 regulation was in effect, this issue had surfaced in six Amtrak accident investigations over 18 years, resulting in recommendations to improve emergency training. Further, since Amtrak's failure to ensure such training surfaced in another accident after the regulation required the training, the Safety Board concludes that the FRA was not conducting periodic audits of Amtrak's passenger train emergency preparedness plan to ensure that all crewmembers were receiving the required emergency preparedness training.

Therefore, the National Transportation Safety Board makes the following safety recommendations to the Federal Railroad Administration:

Emphasize to your track inspectors the importance of enforcing a railroad's continuous welded rail program as a part of the Federal Track Safety Standards, and verify that inspectors are documenting noncompliance with the railroad's program. (R-05-05)

Establish an audit and enforcement program to verify that Amtrak complies with initial and periodic emergency preparedness training for all crewmembers systemwide, as required by 49 *Code of Federal Regulations* Part 239. (R-05-06)

The Safety Board also issued safety recommendations to the Canadian National Railway Company and Amtrak. In your response to the recommendations in this letter, please refer to Safety Recommendations R-05-05 and -06. If you need additional information, you may call (202) 314-6177.

Acting Chairman ROSENKER and Members ENGLEMAN CONNORS and HEALING concurred in these recommendations. Member HERSMAN disapproved. (For further information, see Member HERSMAN's dissenting opinion in the published report referenced on page 1 of this letter.)

By: Mark V. Rosenker
Acting Chairman