

Log R-462

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: February 22, 1984

Forwarded to:

Mr. W. H. Dempsey
President and Chief Executive Officer
Association of American Railroads
1920 L Street, N.W.
Washington, D.C. 20036

SAFETY RECOMMENDATION(S)

R-84-11 and -12

About 4:35 p.m. on July 18, 1983, 58 cars of Burlington Northern Railroad Company (BN) freight train No. MTC-0718, moving about 52 mph, were derailed on the main track near Crystal City, Missouri. Two of the derailed cars came to rest in the Mississippi River. Within the train's 94 cars were 17 maintenance-of-way (MW), ballast-laden hopper cars being transported to MW work locations north of St. Louis, Missouri. The train was being operated in revenue service without restriction. No one was injured in this accident, and no hazardous materials were involved. Damage was estimated to be about \$1,058,330. ^{1/}

The Safety Board determined that the probable cause of this accident was the displacement of the outer rail in a curve by a truck on an MW car, which could not slue to the track curvature because of a cracked and displaced centerplate. Contributing to the accident was the BN's failure to enforce its inspection and maintenance procedures for MW cars or to impose restrictions on their movement in revenue freight trains.

Postaccident examination of the derailed equipment disclosed that the body centerplate from one end of hopper car BN 958200 had separated from the car body during the accident and had multiple fractures with rust-covered surfaces. The examination also disclosed that two other ballast-laden hopper cars that were derailed in the accident, BN 958104 and NP 85412, had fractured body centerplates with rusted surfaces. The cars were not overloaded. All three of the ballast cars were stenciled "MW" in accordance with 49 CFR 215.305 and were dedicated to ballast hauling services.

On July 22, 1983, two Safety Board investigators went to the stone quarry near Hoxie, Arkansas, where the ballast cars involved in the accident had been loaded. They examined 21 hopper cars at that location that were loaded with ballast and ready for movement. Of the 21 cars, 2 cars were found to have fractured centerplates. Car GN 78206 was found to have fractured centerplates at both ends of the car. Car BN 958123 was found to have a fractured centerplate at the "B" end of the car. These conditions were brought to the attention of BN officials who then ordered the two cars to be transferred to the repair track at Memphis. Car GN 78206 received extensive repairs and was returned to service; car BN 958123 was later condemned and scrapped.

^{1/} For more detailed information, read Railroad Accident Report—"Derailment of Burlington Northern Railroad Company Freight Train No. MTC-0718, near Crystal City, Missouri, July 18, 1983" (NTSB/RAR-84/01).

BN officials stated to Safety Board investigators after the accident that it was BN policy to give, and that they were giving, MW cars the same maintenance inspections given to freight cars used in revenue service. They further stated that BN policy was to continue operating MW cars in revenue trains without imposing any additional restrictions to the operation of those revenue trains containing MW cars.

MW cars, especially those which are used in ballast hauling service, generally are subjected to severe operating practices. This is particularly true during periods of seasonally intensive railroad MW work, such as major ballasting and track-surfacing operations. During these periods MW cars often are subject to quick turnaround and extended use, hauling ballast between source sites and various work project locations. Further, MW cars used in ballast service often are subject to rough handling while being unloaded. MW crews unload such cars using chains and/or timbers affixed to the bottom outlet doors so as to regulate the flow of ballast onto the track while the car is moved at a slow pace. Often the ballast becomes obstructed and the flow slows unacceptably or stops prematurely. A common practice to restart the flow of unloading ballast is to rapidly gather and stretch the slack in the work train, thereby inducing a shock to dislodge the obstructed ballast. These induced shocks place severe stresses on the component members of the cars.

Most MW cars are older railroad freight cars which have been removed from revenue service and relegated to MW service. The Safety Board concludes that the severe stresses placed on equipment which has already deteriorated substantially in years of revenue service hastens component failures in MW cars. These component failures, such as the failed car body centerplates found on MW cars BN 958200, BN 958104, and NP 85412 at Crystal City, and on cars GN 78206 and BN 958123 at Hoxie, normally would be detected through routine periodic inspections if the cars were being used in revenue service. However, MW cars are exempt from the periodic inspection and mechanical requirements of the freight car safety standards of the Federal Railroad Administration (FRA).

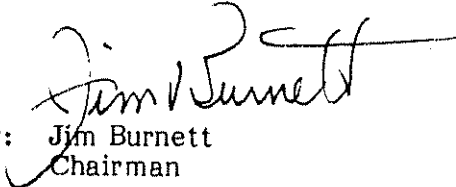
Although the BN stated that its policy is to provide MW cars with the same inspections given to freight cars used in revenue service, it is apparent that the stated policy is not in fact a working practice. MW car BN 958200 had been on the Galesburg repair track about 2 weeks prior to the accident, and the inspection of the car while under repair should have detected the multiple fractures in the centerplate. The accident could have been prevented if the defective car body centerplate had been replaced at that time. The centerplate from MW car BN 958200 evidenced previous weldment repair. Although weldment repair of the body centerplate on MW cars is permissible because MW cars are not subject to the FRA's freight car safety standards or the interchange rules of the Association of American Railroads, such weldment repairs are not considered a safe practice, and are, in fact, banned from interchange and revenue service. The reliance on weldment repairs for MW cars suggests a fundamental deficiency in the BN's policy concerning the safety of train operations in placing such MW cars in high-speed freight trains.

Therefore, the National Transportation Safety Board recommends that the Association of American Railroads:

Urge its member railroads to review and revise as necessary their procedures for inspecting, maintaining, and operating maintenance-of-way cars to be moved in revenue freight trains so as to prevent accidents similar to that which occurred near Crystal City, Missouri, on July 18, 1983. (Class II, Priority Action) (R-84-11)

Notify the Safety Board of the results of the reviews by its member railroads of their procedures for inspecting, maintaining, and operating maintenance-of-way cars to be moved in revenue freight trains. (Class II, Priority Action) (R-84-12)

BURNETT, Chairman, and BURSLEY, ENGEN, and GROSE, Members, concurred in these recommendations. GOLDMAN, Vice Chairman, did not participate.


By: Jim Burnett
Chairman