

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: November 1, 1979

Forwarded to:

Mr. Alan S. Boyd
President
National Railroad Passenger Corporation
400 North Capitol Street, N.W.
Washington, D.C. 20001

SAFETY RECOMMENDATION(S)

R-79-68 through-72

About 12:03 p.m., e.s.t., on April 20, 1979, National Railroad Passenger Corporation (Amtrak) passenger train No. 111, a Metroliner, consisting of an electric locomotive, five passenger cars, and one power car, which was being substituted for the standard Metroliner equipment, collided head-on with a Plasser track machine at Edison, New Jersey. The track machine was destroyed and the locomotive was damaged heavily. The lead truck of the passenger car behind the locomotive was derailed. Seventy-one persons were treated for minor injuries, and one passenger and one onboard attendant were admitted to the hospital. The property damage was about \$353,600. 1/

This accident occurred when the passenger train was permitted to enter a signaled block of track No. 3 that was occupied by the track machine. The track machine was not insulated; therefore, it could not shunt the track circuits and activate the signal system.

The track machine was being moved from Midway to Union, New Jersey, a distance of 21.5 miles, over main track No. 3 which is signaled for train operations in either direction. The movement required the track machine to enter the main track at Midway tower, pass County and Lincoln towers, and leave the main track at Union tower. Because the track machine could not activate the signal system, special arrangements were required for its movement. According to operating rules, before authority could be issued for the track machine to occupy the main track, the train dispatcher should have required all of the involved tower operators

1/ For more detailed information, read "Railroad Accident Report--National Railroad Passenger Corporation, Head-End Collision of Train No. 111 and Plasser Track Machine Equipment, Edison, New Jersey, April 20, 1978, NTSB-RAR-79-10. "

to align the route and direction, to establish stop signals at each end of the route with intermediate proceed signals at intermediate locations, and to place protection devices on the controlling levers so that they could not be inadvertently changed until the movement was completed. After being advised that this was done, the train dispatcher then could issue the authority for the track machine's movement to all tower operators and the operator of the track machine.

In this case, the train dispatcher failed to have the route and directions aligned, the proper signals established, and the protection devices applied to the controlling levers. He only issued the authority for movement of the track machine to the tower operator at Midway and to the pilot of the machine. The tower operators at County and Lincoln had no authority for movement of the track machine and only knew of it from the preceding tower operator. In addition, the County tower operator permitted the track machine to continue on track No. 3 without having proper authority. When the track machine passed County, the tower operator requested the tower operator at Lincoln to establish an eastward direction on track No. 3 for the track machine, which he did. However, the Lincoln tower operator did not apply a protection device on the lever, and shortly thereafter, when informed of train No. 111's approach, he changed the directional lever to westward which permitted train No. 111 to proceed at an unrestricted speed on track No. 3. The operator realized his mistake when the train passed his tower, and he attempted unsuccessfully to radio to the engineer to stop, but train No. 111 had been permitted to depart from New York with an inoperative radio.

Many of the passengers of train No. 111 were injured when their seats rotated as a result of the collision. A similar situation was found in the investigation of the collision of a Conrail commuter train with an Amtrak passenger train at Seabrook, Maryland, on June 9, 1978. In both accidents, the failure of the locking devices resulted from improper maintenance procedures.

An assistant track gang foreman was assigned as pilot for the movement of the track machine. Even though he had been qualified on the operating rules, he had limited experience in their application. The original request for movement was made by the pilot to the Midway tower operator who in turn called the train dispatcher. The train dispatcher was the only supervisor directly involved.

The Northeast Corridor is the heaviest traveled passenger route of the American Railroad System. In the area of the accident, Metroliners are permitted to travel at speeds of 110 mph. If train No. 111 had been provided with standard Metroliner equipment and had been moving at a speed of 110 mph when it collided with the heavy track machine, the accident could have been a catastrophe. If the radio on the locomotive had been operable, the accident may have been prevented. Therefore, as a result of this accident, the National Transportation Safety Board recommends that the National Railroad Passenger Corporation:

Conduct an audit of its train operations to determine the extent of noncompliance with its operating rules and instructions, and provide the Board with a report of its findings. (Class II, Priority Action)
(R-79-68)

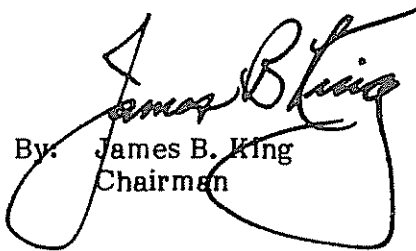
Provide adequate supervision to arrange and monitor the movement of insulated track machines which eliminate the protection of the automatic block signal system on the Northeast Corridor. (Class II, Priority Action) (R-79-69)

Establish procedures to require that pilots employed in the movement of track machines are fully experienced with all rules and instructions relating to such movements. (Class II, Priority Action) (R-79-70)

Require that all trains operating on a main track be equipped with an operable radio. (Class II, Priority Action) (R-79-71)

Require that the seats of all Amfleet equipment are maintained in proper condition to insure that the seats are locked securely in place. (Class II, Priority Action) (R-79-72)

KING, Chairman, DRIVER, Vice Chairman, GOLDMAN, and BURSLEY, Members, concurred with the above recommendations. McADAMS, Member, did not participate.


By: James B. King
Chairman