

Log R-467

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: April 9, 1984

Forwarded to:

Mr. David L. Gunn
President
New York City Transit Authority
370 Jay Street
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SAFETY RECOMMENDATION(S)
R-84-17 through -19

On March 17, 1984, the National Transportation Safety Board investigated an accident that occurred in the New York City Transit Authority (NYCTA) subway system. During the investigation, the Safety Board identified problems in the supervision of construction and maintenance practices; the emergency rescue procedures; and the lack of oversight by funding sources. The most immediate concern, however, was the very poor method that had been used by the contractor for supporting the skeletonized track. Therefore, this recommendation letter is addressing that issue. The other issues will be dealt with at a later time. Following is the information regarding the accident and the recommendations by the Safety Board in regard to the construction and maintenance practices.

At 5:27 p.m., on March 17, 1984, an NYCTA 10-car, number 4, subway train was southbound in the East River Tube when the last 4 cars in the train derailed. The derailment caused a separation of the airbrake pipe, and an emergency brake application occurred. The operator, unaware that a derailment had occurred, tried unsuccessfully to recharge the train brakes after the train had stopped. An NYCTA employee on the train disembarked and began to inspect the train. The employee found that the last four cars of the train had derailed, and after he reported that information, the electrical power to tracks 2 and 3 was shut off.

The investigation revealed that the derailment had occurred in an area where about 100 feet of track were being rehabilitated as a part of an \$85 million project. The project is the zone 2 rehabilitation that includes the replacement of the signal system and the installation of continuous welded rail. The project is being funded 80 percent by the Urban Mass Transportation Administration (UMTA) and 20 percent by the New York State Metropolitan Transportation Authority (MTA). The track had been skeletonized, which was the temporary removal of permanent track support, and the contractor had removed the concrete ballast in the tunnel. To hold the rail at the proper height, the contractor had placed blocking longitudinally under the rail and stub ties. In addition to the stub ties, the contractor had left 8-foot crossies at every fourth or fifth crossie position. However, these 8-foot crossies did not contact the sides of the tube to stabilize the track laterally. The contractor at several locations attempted to close the gap by using 1-inch by 3-inch scrap lumber and chunks of broken concrete between the crossies and the wall, but in most locations nothing had been provided.

During the hours the contractor was working, there were two NYCTA inspectors present to insure that the contractor's work was done correctly, to inspect the work to see that it was safe to operate trains, and to release the track for service. These two inspectors are assigned to the NYCTA Engineering Construction Division, which is responsible for all new construction and rehabilitation construction performed by contractors under contract for specific jobs. Another division, the NYCTA Engineering Track Maintenance Division, performs the everyday maintenance of the track. On the day of the accident the contractor finished work for that day at 12:40 p.m., and one of the NYCTA inspectors reported to the command center that trains could be operated on the track. After the inspector reported that it was safe to operate trains, 19 trains used the track prior to the time of the derailment.

Inspection of the track following the derailment revealed that the longitudinal and lateral wooden blocking had become disturbed by the movement of the previous trains using the track, particularly since this was on a curve in the track. When this disturbance caused the track to move laterally, one of the old deteriorated 8-foot cross ties became overloaded and broke. The east rail then tipped outward causing the four cars to derail. Qualified inspection by the NYCTA Engineering Construction Division should have readily determined that the track support method was inadequate, since train movements would disturb the blocking.

During the investigation it also was learned that the contractor had not furnished, and the NYCTA had not required, a drawing or plan indicating how the contractor was to support the skeletonized track. The method used to support the skeletonized track by the contractor did not meet the standards of the NYCTA engineering track maintenance division. When questioned, NYCTA Engineering Construction Division personnel, including the two inspectors responsible for inspecting the contractor's work, were not aware that the NYCTA Engineering Track Maintenance Division had a standard for supporting skeletonized track. This lack of communication between these two divisions should not be permitted to exist, and if standards do exist for any construction and maintenance of track and structures, then the standards should be shared freely so that accidents such as this might be prevented.

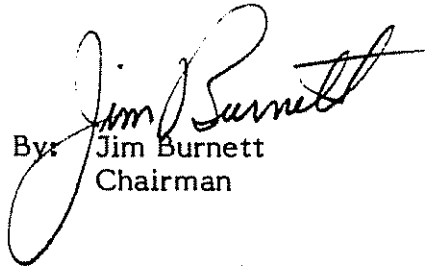
Therefore, the National Transportation Safety Board recommends that the New York City Transit Authority:

Immediately require all existing construction contracts to provide plans that meet approved engineering, construction, and maintenance specifications of the New York City Transit Authority, and require that all future contracts contain such provisions. (Class I, Urgent Action) (R-84-17)

Immediately evaluate the New York City Transit Authority maintenance division standards for supporting skeletonized track, and insure that the standards provide for the safe operation of trains. Provide those standards to all divisions involved in the construction and maintenance of track, and incorporate those standards in all work plans. (Class I, Urgent Action) (R-84-18)

Require that inspectors responsible for insuring safe conditions of track know the necessary standards for maintaining those conditions. (Class I, Urgent Action) (R-84-19)

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


By: Jim Burnett
Chairman