

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: August 2, 1979

Forwarded to:

Mr. C.K. Bernard
General Manager
Bay Area Rapid Transit District
800 Madison Street
Oakland, California 94607

SAFETY RECOMMENDATION(S)

R-79-42 through -52

About 6:06 p.m., on January 17, 1979, the fifth and sixth cars of the seven-car westbound train No. 117 of the Bay Area Rapid Transit District (BART) caught fire while moving through the tunnel under the San Francisco Bay between Oakland and San Francisco, California. Forty passengers and two BART employees were evacuated from the burning train through emergency doors into a gallery walkway located between the two single-track tunnels and then into a waiting train in the adjacent tunnel. One fireman died when the gallery suddenly filled with heavy black toxic smoke. Twenty-four firemen, 17 passengers, 3 emergency personnel, and 12 BART employees were treated for smoke inhalation. Property damage was estimated to be \$2,450,000. ^{1/}

Investigation disclosed a poorly fastened undercar equipment cover fell from train No. 363 causing damage and fire to following train No. 117. The investigation also disclosed inadequate inspection procedures, vehicle materials with low flame resistance that produce toxic fumes when burning, and emergency procedures that did not properly coordinate the rescue and firefighting efforts of BART and the Oakland and San Francisco Fire Departments.

Therefore, the National Transportation Safety Board recommends that the Bay Area Rapid Transit District:

Revise emergency procedures to clarify the necessity of unloading passengers immediately from a stopped burning train in the Transbay Tube and other long tunnel locations. (Class II, Priority Action) (R-79-42)

Revise emergency procedures to prevent sending rescue trains with other than emergency personnel into tunnel fire and/or accident areas. (Class II, Priority Action) (R-79-43)

^{1/} For more detailed information, read "Railroad Accident Report—Bay Area Rapid Transit District Fire on Train No. 11 and Evacuation of Passengers While in the Transbay Tube, San Francisco, California, January 17, 1979" (NTSB-RAR-79-5).

Revise Transbay Tube emergency fan and damper procedures to prevent smoke from engulfing an entire train and/or entry into the gallery. (Class II, Priority Action) (R-79-44)

Revise emergency procedures to require notification of both the San Francisco and Oakland Fire Departments in the event of smoke and/or fire in the Transbay Tube. (Class II, Priority Action) (R-79-45)

Determine and designate the most effective department or personnel to act as coordinator of rescue efforts involving train fires and/or emergency evacuations. (Class II, Priority Action) (R-79-46)

Provide a means for fire departments to use their own radio equipment in the Transbay Tube and other long tunnel location. (Class II, Priority Action) (R-79-47)

Train and equip employees who may be involved in tunnel rescue efforts to manage a smoke and/or fire environment. (Class II, Priority Action) (R-79-48)


Provide an additional Central Train radio frequency for emergency communications. (Class II, Priority Action) (R-79-49)

Upgrade the flame resistance of vehicle seat assemblies and other plastic components. (Class II, Priority Action) (R-79-50)

Provide means of preventing entry of fire through the vehicle floor in areas susceptible to fire. (Class II, Priority Action) (R-79-51)

Redesign and modify car uncoupling circuitry to provide train operators with a positive means of uncoupling from within the cars in the event of an electrical short or malfunction. (Class II, Priority Action) (R-79-52)

KING, Chairman, DRIVER, Vice Chairman, and McADAMS and GOLDMAN, Members, concurred in these recommendations.


By: James B. King
Chairman