

R-2690

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: June 3, 1980

Forwarded to:

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

SAFETY RECOMMENDATION(S)

R-80-25

About 6:10 a.m., on October 2, 1979, Amtrak passenger train No. 4, the Southwest Limited, derailed 3 locomotive units and 17 cars while moving through a 7° curve on the Atchison, Topeka and Santa Fe Railway Company's (AT&SF) tracks at Lawrence, Kansas. Of the 147 passengers and 30 crewmembers, 2 persons were killed and 69 persons were injured. Property damage was estimated to be \$4,634,330. 1/

Since the uninjured AT&SF traincrew had specific duties immediately following the accident, such as protecting the train from following trains and notifying the dispatcher, the burden fell upon Amtrak personnel to provide help to the injured. Because of injuries, only 10 of the 24 Amtrak employees were available to render first aid to the injured passengers. It is unknown how many did render aid but the effectiveness of the aid is in doubt because these personnel had no formal training in rudimentary first aid or rescue procedures. Additional work needs to be done to prepare traincrews, particularly Amtrak service employees, to act appropriately following an accident.

In its investigation of a June 9, 1978, accident at Seabrook, Maryland, 2/ the Safety Board recommended that Amtrak: "Establish a program to train crewmembers in the proper procedures for care of passengers in derailment and emergency situations. (R-79-36)" Amtrak replied that it would "follow up on the training of the crewmembers to deal with derailments and emergency situations" and include such training in its on-going employee training program. The Safety Board reiterates this recommendation and continues to hold it "Open."

1/ For more detailed information read "Railroad Accident Report--Derailment of Amtrak Train No. 4, the Southwest Limited on the Atchison, Topeka and Santa Fe Railway Company, Lawrence, Kansas, October 2, 1979" (NTSB-RAR-80-4).

2/ "Railroad Accident Report--Rear-End Collision of Conrail Commuter Train No. 400 and Amtrak Passenger Train No. 60, Seabrook, Maryland, June 9, 1978" (NTSB-RAR-79-3).

Investigation of the accident at Lawrence disclosed that the automatic train stop (ATS) equipment on the locomotive did not apply the brakes automatically when the engineer did not press the acknowledgment button while passing over an inert inductor in the track about 1 mile west of the 7° curve at Lawrence. During postaccident testing of the ATS system, the Safety Board found that the ATS system did not function or functioned erratically on several other Amtrak trains. These malfunctions occurred even when the locomotive ATS equipment had been tested and found to be operative before the locomotive left the initial terminal.

When an engineer is aware of the location of an inductor, he can prevent the alarm whistle from sounding by pressing the acknowledgment button before passing over an inductor. While this "preacknowledgment" is a preferred procedure, it will not alert him to a failure in the ATS system. However, if acknowledgment is deferred until the locomotive passes over an inductor (postacknowledgment), an alarm will sound. This alarm indicates that the ATS is operative and alerts the engineer that he has 4 to 6 seconds to acknowledge the alarm by pressing the acknowledgment button before the brakes apply automatically.

To provide a positive indication of the status of the ATS equipment en route, and to allow engineers to continue to use the preferred preacknowledgment procedure, the National Transportation Safety Board recommends that the National Railroad Passenger Corporation (Amtrak):

Redesign automatic train stop equipment to provide an audible and visual alarm which will indicate that the system is functioning during both preacknowledgment and postacknowledgment procedures. (Class II, Priority Action) (R-80-25)

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN, and BURSLEY, Members, concurred in this recommendation.

By: 
James B. King
Chairman