

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

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(202) 426-8787

ISSUED: August 24, 1976

Forwarded to:

Honorable Elliot L. Richardson
Secretary of Commerce
Washington, D.C. 20230

SAFETY RECOMMENDATION(S)

I-76-7 through I-76-8

At 4:00 p.m. on September 1, 1975, Chicago, Rock Island and Pacific Railroad (Rock Island) train No. 81A31 derailed while descending a 1-percent grade on a 1-degree curve on the main line at MP 77.9 at the frog of a facing point switch near Des Moines, Iowa. Cars 24 through 40 were derailed. Cars 24 through 34 contained liquefied petroleum gas (LPG). During the derailment, some cars were punctured and LPG escaped and ignited. All hazardous material in cars 25 through 34 was lost, and 3 persons were injured.

The firemen's initial response and intended attack to extinguish the fires in the wreckage were the same as those of firemen who were seriously burned during other accidents investigated by the Safety Board. The only difference in this accident was the timing of the LPG explosions. They occurred as the firemen were approaching the wreckage, but before they got within range of the harmful effects of the explosions. Nothing these firemen could have achieved with conventional firefighting methods would have prevented the explosions in this accident. These events indicate that the safety knowledge acquired from previous accidents is not being effectively disseminated to firemen who have the need to know. This condition exists despite the efforts of the Safety Board and organizations such as the National Fire Protection Association, the Department of Transportation, and the railroads to communicate these accident experiences to the fire service personnel.

RAR-76-8

The rail line reopening was delayed for over 4 days, until the escaping LPG from the damaged tank cars burned off. The adjacent industrial area was also evacuated for much of this time. Actions to eliminate the danger sooner were not undertaken, because experts disagree on methods that should be used to safely handle fires of this kind. Extinguishment of the fires would result in the spread of dangerous flammable gas over the accident area, and possible explosions. The use of the explosive charges or projectiles to enlarge openings in burning tank cars, so that the fire will burn out more rapidly, is very controversial. Until these conflicting opinions are reconciled, firemen cannot be expected to act safely and decisively to minimize the duration of the dangers in such accidents.

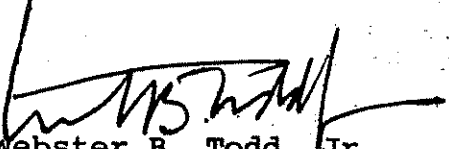
The National Fire Prevention and Control Administration, Department of Commerce, could contribute to safer outcomes in these transportation emergencies by giving fire service officers constructive guidance for their decisionmaking, from the earliest to the final stages of the emergencies. The NFPCA is in a position to solicit help from the Department of Transportation and others to assist it in this effort.

Therefore, the National Transportation Safety Board recommends that the Department of Commerce:

I-76-7
Develop firefighting procedures which assure safety and minimize the duration of fire danger in accidents involving LPG and other compressed flammable gases in tank cars. (I-76-7) (Class II, Priority Followup.)

I-76-8
Establish communication with all fire services and disseminate to them specific procedures for the safe handling of railroad transportation emergencies which involve hazardous materials. (I-76-8) (Class II, Priority Followup.)

TODD, Chairman, McADAMS, HOGUE, BURGESS, and HALEY, Members, concurred in the above recommendations.


By: Webster B. Todd, Jr.
Chairman

THESE RECOMMENDATIONS WILL BE RELEASED TO THE PUBLIC ON THE DATE SHOWN. NO PUBLIC DISSEMINATION OF THE INFORMATION CONTAINED HEREIN SHOULD BE MADE BEFORE THAT DATE.