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UNITED STATES OF AMERICA
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: November 30, 1972

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD
at its office in Washington, D. C.
on the 20th day of November 1972.

FORWARDED TO:)
Mr. Alan S. Boyd, President)
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135 East Eleventh Place)
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SAFETY RECOMMENDATION R-72-37 thru 40

The National Transportation Safety Board's continuing investigation of the collision of two Illinois Central Gulf Railroad (ICGRR) commuter trains at the 27th Street Station in Chicago, Illinois, on October 30, 1972, has revealed several important safety problems. Although the Safety Board has not established finally the role these problems played in causing the collision and in contributing to the fatalities, the problems are involved sufficiently to warrant immediate corrective action to prevent similar accidents.

The ends of the ICGRR Highliner cars are painted a flat black color, which makes it difficult to distinguish the cars in certain lighting and background conditions. Specifically, a train similar to Train 416 of October 30, standing or backing slowly in the vicinity of the 27th Street platform, is difficult to distinguish against the dull, dark background when it is viewed from the operating compartment of an approaching train on the same track.

The rear end of a Highliner train can be rendered attention-getting and distinguishable in several ways. The existing marker lights, which are small and not easily seen in daylight, could be replaced by marker lights of a larger size and greater intensity. The end portions of cars, now painted black, could be painted with large zones of fluorescent color or with alternating light and dark striping in order to contrast with typical railroad backgrounds.

The National Transportation Safety Board therefore recommends that the Illinois Central Gulf Railroad and the Chicago South Suburban Mass Transit District:

1. Install attention-getting marker lights, which are effective in all light conditions, and provide definitive attention-getting colored markings at the ends of trains made up of Highliner cars. These actions should be considered also for other commuter passenger cars of generally dark coloration.

Until the causal factors related to signals and operating rules are determined, the Safety Board recommends that in order to guard against a repetition of the accident sequence, the ICGRR:

2. Revise Rule 515 in the current Illinois Central Rules and Regulations of the Operating Department to provide that train or engine which has passed beyond the limits of a block must not reenter that block without the protection of a train order.

This procedure, by removing the authority to reenter a block under a flag protection, also removes any possible uncertainties as to what flagging action would be required under Rule 99(a) in relation to Rule 515. Rule 99 of the ICGRR is the same as Rule 99 of the Association of American Railroad's Standard Code of Operating Rules. The Safety Board in its special study entitled "Signals and Operating Rules as Causal Factors in Train Accidents," adopted on December 2, 1971, pointed out some vague areas in Rule 99. The requirement for a train order will insure that any following train, if affected, will be notified. This procedure is practical on railroads, such as the ICGRR, which have radio communication.

The Safety Board also recommends that, as an interim measure, the ICGRR:

3. Establish procedures that will prohibit a train from entering a block already occupied by a passenger train except under protection of a train order.

Although it appears that the following train in this accident did not enter the block while the first train was still occupying it, the operating rules would allow such an entry at restricted speed. In this accident, the second train apparently passed an approach signal at 31st Street and was required to reduce to medium speed (30 m.p.h.) at once and to approach the next signal prepared to stop. The damage is evidence that the second train did not approach the collision point prepared to stop. Therefore, the Safety Board concludes that a second train can enter an occupied block on a restricting signal and strike an occupied train at a speed that can inflict serious and possibly

fatal, injuries to passengers and employees. This recommendation, in conjunction with the recommended change of Rule 515, will insure that two trains moving in the same direction on the same track will not occupy the same block except by a train order which will reduce to a minimum the risk of a collision between them.

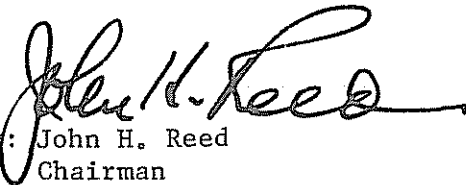
This accident also involves the maximum specified speeds for trains moving under various signal indications. All knowledge of train speed during the accident, however, must be based upon estimates of persons or indirect inference, because the older, following train was not equipped with any form of speedometer. In order to follow the rule the engineer of that train had to estimate his speed which is an unreliable method of determining speed. The new Highliner trains are equipped with speed indicators, and a speed indicator was installed in an older train by the railroad for the purpose of operating tests a few days after the accident.

The Safety Board recommends that the ICGRR:

4. Provide a reasonably accurate speedometer for the use of engineers required to operate trains wherever rules require limit or control of speed.

These recommendations will be released to the public on the issue date shown above. No public dissemination of the contents of this document should be made prior to that date.

Reed, Chairman, McAdams, Burgess and Haley, Members, concurred in the above recommendation. Thayer, Member, was absent, not voting.


By: John H. Reed
Chairman