

14. The demonstrated ambiguity of Rule 34 resulted from the failure of the MP to define its scope and to enforce its requirements.
15. Train DMX was not operated in accordance with the requirements of Rule 27, since the speed of the train exceeded 15 mph as the train approached the north house-track switch and the switch position had not been identified.
16. When train DMX stopped, flagging protection to the rear was not provided. Instead the conductor established radio contact with crewmembers of the following train. In this instance, the radio contact sufficed, although the procedure was not in accordance with Rule 99.
17. Whether the crewmembers in the lead locomotive unit of train DMX remained in the cab by choice or for some other reason could not be determined.

PROBABLE CAUSE R-74-22-28

The National Transportation Safety Board determines that the probable cause of this accident was the establishment of a collision route for train DMX by the unauthorized operation of a switch by persons unknown. Contributing to the collision were railroad operating practices which authorize engineers to operate trains at speeds at which they could not stop short of a switch target which indicates the switch is improperly aligned. Contributing to the severity of the collision was the fact that the crewmembers in the locomotive of train DMX did not identify the open switch and apply the train's brakes soon enough to slow the train.

RECOMMENDATIONS

The National Transportation Safety Board recommends that:

1. The Missouri Pacific Railroad Company:

- (a) Review its operations on main tracks that are not equipped with automatic block signals and take appropriate action to ensure the capability of engineers to stop trains in advance of misaligned switches. This action could include reducing the size or speed of trains, installing automatic block signals or advance-position indicators, or improving the visibility of switch-stand targets. (Recommendation R-74-22)
- (b) Review the problems demonstrated in the application of Rule 27 and Rule 34 in this accident and make any changes necessary to ensure that the language and interpretation of the rules are consistent with the intended operating practices. (Recommendation R-74-23)

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- (c) Ensure that all employees understand and comply with the intent of Rules 27, 34, and 99. (Recommendation R-74-24)

2. The Federal Railroad Administration:

- (a) During its consideration of the need for uniform operating rules, consider the inconsistencies demonstrated in the application of Rules 27, 34, and 99 in this accident. (Recommendation R-74-25)
- (b) Determine and assess the current risks of train accidents involving misaligned switches, collisions, broken rails, and other route obstructions on main tracks where automatic block signal systems do not exist. The FRA should then promulgate regulations to replace Interstate Commerce Commission Order No. 29543. These regulations should detail the major risks and controls assumed, should set guidelines for safe operations below the maximum operating speed, and assign responsibility to the carrier for safe operations. (Recommendation R-74-26)
- (c) Require positive indications of both normal and reversed switch positions on main tracks not equipped with automatic block signals. (Recommendation R-74-27)
- (d) Sponsor a program to develop and test devices for the securement of manually operated switch stands so that they are more resistant to operation by unauthorized persons. (Recommendation R-74-28)

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/ JOHN H. REED
Chairman

/s/ FRANCIS H. McADAMS
Member

/s/ LOUIS M. THAYER
Member

/s/ ISABEL A. BURGESS
Member

/s/ WILLIAM R. HALEY
Member

June 27, 1974

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