

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: March 6, 1979

Forwarded to:

Honorable John M. Sullivan
Administrator
Federal Railroad Administration
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)

R-79-10 and R-79-11

About 10:31 a.m., on September 18, 1978, Louisville and Nashville Railroad Company (L&N) local freight train Extra 542 South collided head-on with L&N yard train No. 101 inside yard limits at Florence, Alabama. The engineer and head brakeman of the local freight and the conductor of the yard train were killed. Property damage was estimated to be \$462,500. 1/

The accident occurred on the main track and both trains were governed by L&N Rule 93 which permits use of the main track within yard limits "prepared to stop within one-half of the range of vision, but not exceeding 20 mph." There were no signals or written special instructions. Post-accident stopping tests indicated the speed of the local freight was greater than that which would have complied with the rule. The wording of the L&N rule conforms to the requirements of 49 CFR 218.35.

The investigation disclosed that the crew of Extra 542 South had violated other L&N operating rules and bulletin instructions which complied with various Federal regulations. These were Rule 99 (flag protection - 49 CFR 218.37), Rule 171 (initial terminal airbrake tests - 49 CFR 232.12), and Birmingham Division Bulletin 17-166 (road train airbrake tests - 49 CFR 232.13). At the time of the collision, Extra 542 South included an LPG tank car placarded "Empty Flammable" next to the locomotive and a tank car of anhydrous ammonia placarded "Non-Flammable Gas" two cars ahead of the caboose which was occupied. Placement of these cars were violations of 49 CFR 174.93 and 49 CFR 174.91, respectively.

1/ For more detailed information about this accident read "Railroad Accident Report - Head End Collision of Louisville and Nashville Railroad Local Freight Train and Yard Train at Florence, Alabama, September 18, 1978" (NTSB-RAR-79-2).

Although the L&N rules cited conformed with the applicable regulations, the evidence indicated that supervisors were not enforcing these rules in compliance with 49 CFR 217. Employee training emphasized the 20-mph maximum speed provision of Rule 93 rather than the ability to stop in limited visibility situations. Supervisory checks of Rule 93 compliance were not made in limited visibility locations where a speed of 20 mph would be excessive. Although conductor's delay reports revealed crews were not complying with Rule 99, supervisors never observed such violations.

The crewmembers of Extra 542 South and their supervisors did not know what the hazardous materials regulations required. The timetable contained obsolete hazardous materials regulations and had not been modified to reflect regulations and placards which went into effect January 1, 1977. Management's explanation was that the regulations were considered "advisory" and not mandatory.

As a result of the collision, the lead unit of yard train No. 101 overrode the lead unit of Extra 542 South causing the cab of the latter to be torn loose and thrown 30 feet from the track. The engineer and head brakeman in the cab were ejected and run over by their units, and both men were killed. The operator compartment provided no protection whatever. The only chance the men had for survival was to successfully jump from the locomotive before the collision.

This accident again demonstrated the tendency for conventional general-purpose locomotive units to be overridden in low-speed collisions with disastrous effect to the superstructure. Since 1970, the Safety Board has repeatedly pointed out the poor crashworthiness of locomotive cabs and has recommended that the FRA develop improvements in cab design and promulgate appropriate regulations. The most recent such recommendation, R-78-27, was made on June 8, 1978, in the Safety Board's report on an accident at Goldonna, Louisiana. ^{2/} The Safety Board recommended that the FRA quickly conclude its design improvement studies to minimize crash damage. The FRA responded that tests and research are planned for 1979 and 1980. However, no design improvements have been developed in the interim and train crewmembers continue to be killed in accidents where impact forces are relatively low.

^{2/}"Railroad/Highway Accident Report - Collision of a Louisiana & Arkansas Railway Freight Train and a L.V. Rhymes Tractor-Semitrailer at Goldonna, Louisiana, December 28, 1977" (NTSB-RHR-78-1).

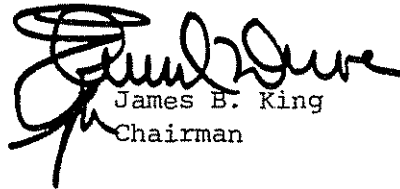
(3)

Therefore, the National Transportation Safety Board recommends that the Federal Railroad Administration:

Insure that the Louisville and Nashville Railroad Company complies with the requirements of 49 CFR 174, Transportation of Hazardous Materials; 49 CFR 232, Railroad Power Brakes; and 49 CFR 217, Railroad Operating Rules, particularly in connection with the application and enforcement of L&N Rules 93 and 99. (Class II, Priority Action) (R-79-10)

Expedite action on Recommendation R-78-27 of June 8, 1978, relating to its study of locomotive operator compartment design to minimize crash damage, and promulgation of appropriate regulations. (Class II, Priority Action) (R-79-11)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and HOGUE, Members, concurred in the above recommendations.



James B. King
Chairman