



National Transportation Safety Board

Washington, D.C. 20594
Safety Recommendation

Date: May 19, 1987

In reply refer to: R-87-16

Honorable John Riley
Administrator
Federal Railroad Administration
400 Seventh St. S.W.
Washington, D.C. 20530

The principle of safely and successfully operating more than one train on a given railroad segment is predicated on the establishment of a system that will keep the trains separated. Such a system using the existing technology of the period was prevalent on most high-density freight and passenger railroads in the 1930's. Due to economic pressures and lower traffic densities, many railroads either downgraded the level of protection the systems afforded or dismantled the systems and replaced them with less costly and more easily maintained facilities. Since its formation in 1967, the National Transportation Safety Board has investigated 50 major collision accidents, including 24 head-on and 26 rear-end collisions, most of which could have been prevented had a system which mandated train separation been in effect. Four recent railroad collisions resulting in 19 fatalities, 356 injuries, and a total estimated damage of \$21.1 million emphasize the need for an operating system that will provide positive train separation. These accidents were:

1. CSX Transportation Company collision of two freight trains on February 6, 1987, near East Concord, New York;
2. Amtrak collision with Conrail freight train on January 4, 1987, at Chase, Maryland;
3. Union Pacific Railroad collision of two freight trains on July 10, 1986, near North Platte, Nebraska; and
4. Boston and Maine commuter train collision with Conrail freight train on May 7, 1986, at Brighton, Massachusetts.

The collisions involved various types of trains under train operating methods varying from freight trains operating in unsignalized territory to high-speed passenger trains operating in automatic train control territory.

For over 10 years the Safety Board has had unfulfilled expectations that the Federal Railroad Administration (FRA) would take the needed action to require that trains be equipped with devices which would assure that separation of trains would be maintained. The Safety Board has issued several recommendations calling for regulatory action to require the installation of these devices, and it was envisioned that these devices would be designed to act in time to avoid collisions in spite of any action or inaction by train crewmembers. The recommendations, however, have resulted in minimal action on the part of the FRA, and consequently, the type of head-on and rear-end collisions previously outlined have continued to occur.

The Safety Board is aware that the railroad industry is joined in an effort known as the Advanced Train Control Systems (ATCS) Project which is adapting modern technology to train operating problems. The project involves designing and testing systems which could be applied to U.S. railroads regardless of their length or present method of operation. This would allow railroads to select the system which best suits their operational and economic needs. An interesting safety aspect of the ATCS Project is the design premise of train separation which includes the ability of the systems to stop trains when they exceed authorized limits.

Unfortunately, the ATCS Project lacks any FRA oversight to ensure a successful completion of the project from an operational safety standpoint. In conversations between the FRA and Safety Board staff, the FRA has indicated that their only involvement with ATCS has been through briefings by the industry and monitoring by technical staff. FRA has not indicated to the Safety Board that they were exploring other advanced technologies or systems for controlling movements of trains. The Safety Board believes that the railroad industry is presently designing and testing state-of-the-art railroad operating systems and that the FRA should take an active role to help formulate the operational and safety aspects of these systems. Further, by taking a more active role, the FRA could assure that train separation is a required component of any train control system ultimately installed.

In view of the recommendation issued with this letter which would take into account the intent of previous Safety Recommendations R-76-3 and R-84-31, the Safety Board has, for the record, placed Safety Recommendations R-76-3 and R-84-31 in a "Closed -- Unacceptable Action/Superseded" status.

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

Promulgate Federal standards to require the installation and operation of a train control system on mainline tracks which will provide for positive separation of all trains. (Class II, Priority Action) (R-87-16)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER, Member, concurred in this recommendation. NALL, Member, did not participate.


By: Jim Burnett
Chairman