Log-R-601A

National Transportation Safety Board

Washington, D. C. 20594

Safety Recommendation

Date: June 28, 1988

In reply refer to: R-88-19 through -22

Honorable John C. Riley
Administrator
Federal Railroad Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

About 1:15 a.m. on June 15, 1987, Southern Pacific Transportation Company (SP) freight train Extra 7791 West collided head-on with SP freight train Extra 7267 East near Yuma, Arizona. The yardmaster had instructed Extra 7791 West to proceed westward on the westbound main track to the subway, stop, wait for an eastbound train to pass, cross over to the westbound main track, and proceed to the yard office. Meanwhile, the yardmaster had planned for Extra 7267 East to depart the yard office and proceed eastward on the eastbound main track to the subway, stop to align the crossover switches, and proceed eastward on the eastbound main track. However, Extra 7267 East crossed over to the westbound main track at the subway and the trains collided head-on. The engineer of Extra 7267 East was killed. 1/

The Yuma Regional Medical Center refused to collect blood or urine samples from the surviving crewmembers for toxicological testing because of concerns over possible liability. The medical facility did allow samples to be collected on its premises from the deceased engineer. The SP arranged to have the samples collected elsewhere. SP has requested the FRA's assistance in obtaining test samples following an earlier accident. The FRA's lack of responsiveness led SP to immediately seek alternative methods of collecting samples following the June 15, 1987, accident. That samples were ultimately collected in both cases and that a sample was collected from the Yuma yardmaster speaks well of SP's commitment to toxicological testing; however, a more timely collection of the samples could have resulted if the FRA had intervened quickly and vigorously. Title 49 Code of Federal Regulations (CFR), Part 219, issued by the Federal Railroad Administration (FRA), is not specific concerning obtaining the cooperation of a medical facility in collecting samples for toxicological testing from uninjured employees. The regulation is more specific for an injured and unconscious employee (49 CFR 219.203 (d)(2)), or for a fatally injured employee (49 CFR 219.207 (a, b, & c)). The Safety Board believes that the FRA should extend the same notification and assistance procedures regarding obtaining the cooperation of a medical facility that it currently has for unconscious and fatally injured employees to include uninjured, nonrefusing

1/ For more detailed information, read Railroad Accident Report--"Head-On Collision of Southern Pacific Transportation Company Freight Trains, Yuma, Arizona, June 15, 1987" (NTSB/RAR-88/02)

employees. The delay in collecting samples for toxicological testing from the yardmaster and the surviving crewmembers precluded any determination as to whether alcohol may have been used by those individuals.

The locomotive control compartment of Extra 7267 East was crushed and pushed rearward about 22 feet by impact forces. The Safety Board determined that all occupiable space was eliminated, thus rendering the accident unsurvivable from any position within the locomotive control compartment.

Following an investigation of an accident at Riverdale, Illinois, on September 8, 1970, the Safety Board issued a safety recommendation to the FRA for timely improvement of the crashworthiness of railroad equipment, particularly to protect the occupants of locomotive control compartments. In a letter to the Safety Board dated May 3, 1971, the FRA outlined its concern for this problem and set up a meeting with locomotive builders, labor organizations, rail carriers, and the Association of American Railroads. On January 16, 1973, the FRA advised the Safety Board that it was planning a program to test locomotive control compartments to determine locomotive cab crashworthiness and that the test program would set requirements for anticlimbing devices and design requirements for locomotive crash posts and pilots.

Since 1973, however, the Locomotive Control Compartment Committee (LCCC) has not published any criteria for the structural design of locomotives. The Safety Board has investigated numerous accidents in which the locomotive control compartments have been identified as inadequate to protect the occupants of locomotive control compartments. There is currently no Federal standard for locomotive sill height nor is the Safety Board aware of any effort by the FRA to establish such a standard. Since the sill is the strongest section in the structural design of a locomotive, the Safety Board believes the FRA should establish a standard for compatible locomotive sill heights.

As a result of its investigation of an accident at Pacific Junction, Iowa, on April 13, 1983, 2/ the Safety Board issued Safety Recommendation R-83-102 to the FRA requesting that it initiate and/or support a design study to provide a protected area in the locomotive operating compartment for the crew when a collision is unavoidable. On April 30, 1984, the FRA responded to the recommendation indicating that it intended to commence a safety inquiry on issues of health and safety in the locomotive cab, which would be the subject of one or two major safety efforts for the year ahead.

In a followup letter to the FRA on July 5, 1984, the Safety Board pointed out that accident investigations continued to indicate that enginecrews were being injured or killed because the locomotive operating compartments or portions thereof are not structurally designed to withstand the impact forces. The Safety Board urged the FRA to direct its attention to this subject when conducting the safety inquiry. The Safety Board is not aware of any evidence that the FRA is making any effort to resolve this problem.

2/ Railroad Accident Report--"Rear-End Collision of Two Burlington Northern Railroad Company Freight Trains, Pacific Junction, Iowa, April 13, 1983" (NTSB/RAR-83/09).

In its investigation of an accident near North Platte, Nebraska, on July 10, 1986, 3/ the Safety Board noted that the time for studying the problem has long since passed and the head-end crew should be afforded more protection than is the case with the current design of locomotive operating compartments. As a result of the North Platte accident investigation, the Safety Board classified Safety Recommendation R-83-102 "Closed--Unacceptable Action/Superseded" and issued Safety Recommendation R-87-23 on September 9, 1987, which called on the FRA to require locomotive operating compartments to be designed to provide crash protection for occupants of locomotive cabs.

On April 20, 1988, in response to Safety Recommendation R-87-23, the FRA replied that both American locomotive manufacturers would be considering major design modifications to their products in the late 1980s and that the FRA was seeking to promote an agreement between the two manufacturers to include a series of design improvements in the cabs of their new basic models. The FRA also replied that its Locomotive Control Compartment Committee (LCCC) has proposed a list of specific design improvements in which near-term improvements may be achievable and that the FRA intended to schedule hearings on this issue during September and October 1988. While the Safety Board agrees that an agreement between the two manufacturers would be desirable, in view of the fact that no agreement has been made over the many years, the Safety Board questions the ability of the FRA to accomplish this objective without regulatory action. Further, while the Safety Board also agrees that the proposals of the LCCC are desirable, these proposals do not address the issue of cab crashworthiness. Moreover, the Safety Board questions the need to study this issue through a special safety inquiry.

The circumstances of the Yuma accident again highlight the need for improved and standardized locomotives designed to provide protection to on-board personnel. Therefore, the Safety Board reiterates its position that the FRA should promptly require locomotive operating compartments to be designed to provide crash protection for occupants of locomotive control compartments. In the meantime, Safety Recommendation R-87-23 is being held in an "Open--Unacceptable Action" status.

Yardmasters in Yuma were actively involved in controlling the movements of trains and engines. The Safety Board is concerned that yardmasters at Yuma, who performed similar service as the yardmasters at Sparks were not covered under Hours of Service requirements until after the FRA initiated an evaluation following the accident. The Safety Board is further concerned that the Sparks yardmasters were not covered under Hours of Service requirements until after an FRA evaluation was initiated following a labor action. The Safety Board does not believe that either an accident or a labor action should initiate corrective action. However, the Safety Board recognizes that the position of yardmaster is unique in that some positions require coverage under the Hours of Service while others may not. SP's timetable indicates many instances where trackage situations similar to both Sparks and Yuma exist. The Safety Board believes that the FRA should conduct an evaluation of the duties of all SP non-Hours of Service yardmasters to determine their proper status. The Safety Board further believes that the FRA should consider extending the scope of this evaluation to include the remainder of the Nation's railroads.

3/ Railroad Accident Report--"Rear-End Collision and Derailment of Two Union Pacific Railroad Freight Trains, North Platte, Nebraska, July 10, 1986" (NTSB/RAR-87/03).

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

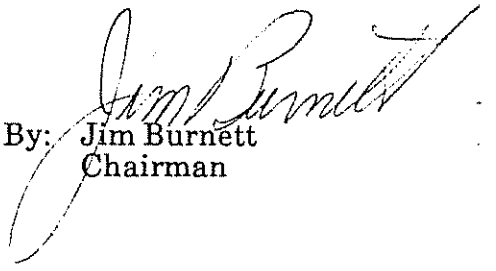
> Provide the same notification and assistance procedures for collecting toxicological samples from uninjured, nonrefusing employees that Title 49 Code of Federal Regulations Part 219 presently has for unconscious and fatally injured employees. (Class II, Priority Action) (R-88-19)
>
> Modify Title 49 Code of Federal Regulations Part 229 to require compatible main frame sill height standards. (Class II, Priority Action) (R-88-20)
>
> Conduct an evaluation of all Southern Pacific Transportation Company non-Hours of Service yardmasters to determine their proper status. (Class II, Priority Action) (R-88-21)
>
> Determine whether the scope of the evaluation conducted on the Southern Pacific Transportation Company non-Hours of Service yardmasters should be extended to include the remainder of the Nation's railroads. (Class II, Priority Action) (R-88-22)

As a result of its investigation of this accident the Safety Board reiterates Safety Recommendation R-87-23:

> Promptly require locomotive operating compartments to be designed to provide crash protection for occupants of locomotive cabs.

Also, as a result of its investigation, the Safety Board issued Safety Recommendations R-88-16 through -18 to the Southern Pacific Transportation Company.

BURNETT, Chairman, KOLSTAD, Vice Chairman, and LAUBER and NALL, Members, concurred in these recommendations.



By: Jim Burnett
Chairman