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Log R-526

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

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Forwarded to:

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Vice President-Transportation
Seaboard System Railroad, Inc.
500 Water Street
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SAFETY RECOMMENDATION(S)

R-85-76 through -78

About 7:15 a.m. on February 23, 1985, Seaboard System Railroad (SBD) train No. 690, en route from Savannah, Georgia, to Augusta, Georgia, derailed while travelling westbound about 49 mph on a single main track at Jackson, South Carolina. The accident resulted in the derailment of 28 cars, including 8 DOT specification 111A100W tank cars laden with cyclohexane, a flammable liquid. All of the tank cars were severely damaged and their contents ignited. The release of the hazardous material led to the evacuation of all residences within a 1-mile radius of the accident site. Although no injuries resulted from the accident, preliminary estimates of property damage exceed \$2,000,000.

The engineer and head brakeman of train No. 690 stated that they felt and heard their locomotive strike something on the track immediately before the accident. After the derailment, a cushion underframe 1/ unit was found in the vicinity of the initial point of derailment; the unit's female portion was found inside the track gage and the male portion was found outside the track gage. About 5 hours before the accident, an eastbound freight train containing cushion-underframe boxcar SBD 156678 had passed through that area. After the derailment, boxcar SBD 156678 was found to have its cushion-underframe unit and a brake rod missing, among other damage. The support plate assembly which retains the cushion-underframe unit was missing and portions of only three broken securement bolts were found in place. The support plate assembly normally is secured by 16 bolts. The brake rod from boxcar SBD 156678 was found later just east of the site where train No. 690 derailed. The cushion-underframe unit had been installed on boxcar SBD 156678 at the SBD's mechanical repair shops at Charlotte, North Carolina, on December 4, 1984.

After the accident at Jackson, South Carolina, the locomotive of train No. 690 was taken to Augusta, Georgia, a distance of about 14 miles. The engineer and head brakeman stated to Safety Board investigators that when they arrived at Augusta they informed SBD officials there that they had struck something on the track at Jackson. The five-unit locomotive was inspected at Augusta but was not placed over the available locomotive inspection pit for the inspection. The inspection revealed no damage to the locomotive of

1/ The term "cushion underframe" refers to an energy absorption device installed on some rail cars to minimize the effects of compressive and tensile forces in a train which can damage lading and equipment.

train No. 690 and the locomotive units were returned to revenue service. However, a later inspection on February 24, 1985, by Federal Railroad Administration (FRA) inspectors at Erwin, Tennessee, working in conjunction with Safety Board investigators, revealed that three of the locomotive units sustained strike marks and damage to traction motors and end plates and one locomotive unit had crosstie pieces wedged between a traction motor and its housing. Only one locomotive unit showed no signs of contact with a foreign object in the track.

Damage to the track and wreckage clearing operations associated with the derailment precluded completion of several train movements. Shortly after the accident, the crew of SBD train No. 481, en route from Florence, South Carolina, to Augusta, Georgia, was instructed by the dispatcher at Florence to leave the cars from their train at Robbins, South Carolina, and proceed to the accident site at Jackson with their locomotive to assist in the wreckage clearing. They then pulled 97 cars from train No. 690 to a sidetrack at Ellenton and went back to the accident site. Upon completing their tour of duty, they left the locomotive from train No. 481 in a sidetrack near the accident site. Later during the day of February 23, 1985, the crew of SBD train No. 757, en route from Savannah to Augusta, Georgia, also were instructed to leave their train at Robbins. Since all of train No. 757 could not be placed on the same track with the cars from train No. 481, the train crew left the locomotive and three cars in a sidetrack located there, leaving most of their cars near and just west of the cars from train No. 481. A space of about 5 or 6 car lengths was left to clear an at-grade road crossing at that location.

On February 24, 1985, another train crew was taxied from Augusta to the sidetrack near Jackson, where the locomotive from train No. 481 had been left the day before. The dispatcher then instructed this crew to proceed to Robbins with that locomotive as Extra 5523 West and to pick up the locomotive and 3 cars on the sidetrack and 32 loaded, 68 empty, and 2 piggyback cars on the main track and then to pick up the 97 cars at Ellenton and proceed to Augusta. These figures total to the car count of trains No. 481 and No. 757 in their entirety. When the train crew arrived at Robbins, they coupled to the locomotive and three cars in the sidetrack, and then onto the remaining cars of train No. 757. The conductor called the dispatcher, after counting the cars the train pulled by him, to inquire about the discrepancy in the total number of cars, because he had only "... 40 or 50 some cars ..." in train Extra 5523 West. After a conversation wherein the dispatcher referred to the 97 cars yet to be picked up at Ellenton and the conductor noted that he had a caboose at the end of his train, the traincrew proceeded to Ellenton and then to Augusta, where they went off duty. The 59 cars from train No. 481 which had been left standing on the main track at Robbins to the east of train No. 757 on February 23, 1985, were overlooked and remained at that location.

On February 25, 1985, regularly scheduled train No. 481, en route from Florence to Augusta, struck the rear of the standing cars on the main track at Robbins after passing through a right hand curve. The engineer, head brakeman, and flagman on the lead locomotive unit all jumped from that unit just before the collision. All three crewmembers sustained serious injuries, and preliminary damage estimates exceed \$250,000.

Trains are dispatched on this portion of SBD by manual block, wherein the dispatcher issues verbal authority to the conductor and the engineer of a train by radio or telephone, through lengths of track of defined limits. After the collision, Safety Board investigators asked the SBD Florence Division Chief Dispatcher for his supervisory evaluation of the three dispatchers involved in the movements of trains between the

accidents at Jackson and Robbins. He referred to the performance level of the three dispatchers respectively as "... weak comparatively speaking ...", "...has a good head but he is a sloppy worker ...", and "... very average to less ...". The chief dispatcher further stated, when asked by Safety Board investigators, that he had not made any additional effort in terms of supervising those dispatchers after the derailment at Jackson which required a number of out of the ordinary dispatching events.

The Safety Board's investigation into the derailment and release of hazardous material at Jackson, South Carolina, is ongoing, as is its investigation into the collision at Robbins, South Carolina. However, the Safety Board believes that the inordinately short time between mechanical repairs on boxcar SBD 156678 and the subsequent mechanical failure of that car's cushion-underframe retaining assembly and the return to revenue service of the locomotive of train No. 690 after an inspection which failed to note damage to the units of that locomotive involve breakdowns in SBD procedures which the SBD should address promptly to enhance the safety of its operations. Further, the Safety Board believes that the events concerning the dispatching of trains after the accident at Jackson, South Carolina, on February 23, 1985, and up to the collision at Robbins, South Carolina, on February 25, 1985, warrant a critical review of SBD dispatching practices to determine whether the practices conform to documented procedures.

Therefore, the National Transportation Safety Board recommends that the Seaboard System Railroad:

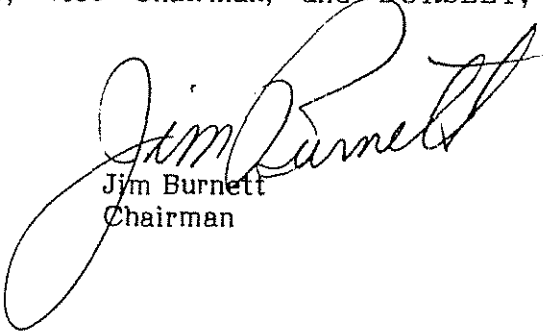
Review and revise, as necessary, mechanical maintenance, inspection, and supervisory practices for locomotive and car equipment to prevent the return to service of unsafe equipment. (Class II, Priority Action) (R-85-76)

Review and revise, as necessary, dispatching practices and prescribed procedures for dispatching trains in manual block territories to provide for the safe operation of trains. (Class II, Priority Action) (R-85-77)

Review and revise, as necessary, supervisory procedures in dispatching offices having manual block territories to provide for the safe dispatching of trains. (Class II, Priority Action) (R-85-78)

The National Transportation Safety Board is an independent Federal Agency with the statutory responsibility "...to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendations, and the Board would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter.

BURNETT, Chairman, GOLDMAN, Vice Chairman, and BURSLEY, Member, concurred in these recommendations.


Jim Burnett
Chairman