IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURPED ON THE LOUISVILLE & NASHVILLE RAILROAD AT THEODORE, ALA., ON JUNE 2, 1921.

July 12, 1921.

On June 2, 1921, there was a rear-end collision between a passenger train and a freight train on the Louis-ville & Nashville Railroad at Theodore, Ala., which resulted in the death of 1 employee, and the injury of 3 passengers and 1 employee. After investigation of this accident the Chief of the Bureau of Safety reports as follows:

Location and method of operation.

The New Orleans and Mobile Division, on which this accident occurred, extends between New Orleans, La., and Mobile, Ala., a distance of 140.36 miles. For the most part this is a single-track line, and trains are operated over it by time-table and train orders, no block-signal system being in use. Under the rules, trains moving in the same direction are spaced 10 minutes apart. Approaching the point of accident from the south, there is a 1degree curve to the left 4,170 feet long, followed by a tangent extending beyond the point of accident, 3,313 feet distant. At the point of accident the track is practically level and is laid on a fill 5 or 6 feet high. The view is obstructed by trees on the inside of the curve and by a bank on the west side of the track, but a clear view is had from the south end of the tangent to the point of accident. The weather was clear at the time

of the accident, which occured at 12.28 a.m.

Description.

Northbound freight train first No. 78 consisted of 40 cars and a caboose, hauled by engine 762, and was in charge of Conductor Franco and Engineman McNamara. It departed from Saint Elmo, 6.04 miles south of Theodore and the last open office, at about 12.09 a.m., 3 hours and 57 minutes late, arrived at Theodore at 12.20 a.m., and while entering the south passing track switch its rear end was struck by train No. 2.

Northbound passenger train No. 2 consisted of 1 express car, 2 baggage cars, 2 coaches, 5 Pullman sleeping cars, and 1 chair car, hauled by engine 299, and was in charge of Conductor Raborn and Engineman Winnow. The 8th and 10th cars were of steel-underframe construction, while the others were of all-steel construction. Train No. 2 passed Saint Elmo at 12.22 a.m., 3 minutes late, and collided withthe rear end of train first No. 78 while running at a speed variously estimated at from 45 to 60 miles an hour.

The caboose of train first No. 78 and 3 cars were destroyed, and 4 other cars considerably damaged. The engine of train No. 2 came to rest in an upright position about 250 feet beyond the point of accident, and was quite badly damaged. No damage was sustained by the equipment of train No. 2. The employee killed was the engineman of train No. 2.

Under a requirement of the time-table, the minimum running time for northbound freight trains between Saint Elmo and Theodore is 14 minutes, while under operating rule 86, inferior trains are required to clear the time of supericm trains in the same direction in not less than 10 minutes. It is also provided in operating rule 90-H that a train must not leave a station to be passed at the next station by a superior train unless it has the full running time allowed between stations in addition to the clearance time. Fngineman McNamara and Conductor Franco, of train first No. 78, knew when their train left Saint Elmo that it was only about 10 minutes ahead of the schedule of train No. 2 and that they did not have time to reach Theodore and clear train No. 3 in accordance with the rules above referred to. Engineman McNamara, however, said he thought he could reach Theodore in 10 minutes, while Conductor Franco said that inasmuch as the train was running well and going down grade he thought it would be into clear at Theodore at 12.17 a.m. As a matter of fact the train stopped at the south passing-track switch at about 12.20 a.m., and after the head brake man had opened the switch some delay in starting the train was encountered, it being necessary to take slack several times. The train had entered the passing track a distance of 4 or 5 car-lengths when the accident occurred.

Engineman McNamara said he did not sound the whistle signal for the flagman to protect the train as he thought the flagman would attend to this duty. The engineman,

conductor, and head brake man had seen the reflection of the headlight of the engine hauling train No. 2, But did not see the flagman or a fusee. Conductor Franco finally saw the flagman jump from the caboose with a lighted fusee in his hand at about the time the train started to move into the passing track, about 1/2 minute before the accident occurred. Flagman Mott said he had been riding on the caboose platform nearly all the way from Saint Elmo, that in the vicinity of Fowl River, nearly $1\frac{1}{2}$ miles from the point of accident, he noticed the headlight of the engine hauling train No. 2 and immediately threw off a lighted 10-minute fusee, and he said the reflection of this fusee remained visible all the way to Theodore, although Conductor Franco said he had looked back but had not seen the reflection of the fusee. Flagman Mott further stated that as his train approached Theodore he got off while it was moving at a low rate of speed, from 6 to 10 miles an hour, lighted a fusee, and at about this time saw train No. 2 approaching at the southern end of the tangent. He said he then started toward it, waving the lighted fusee, and that he was back about 30 carlengths when train No. 3 passed him; at this time fire was flying from the wheels, indicating that the brakes had been applied. Flagman Mott thought he had gone back as far as possible in the time at his disposal and considered that the accident was due to this lack of time.

Fireman Palmer, of train No. 2, said that for some distance he had been on his seat box looking ahead, but that he did not see any fusees and did not have any warning of the train ahead until his train rounded the curve south of Theodore, traveling at a speed of about 55 or 60 miles an hour. He and the engineman saw the caboose and the lighted fusee, apparently on the right steps of the caboose, and the engineman immediately applied the air brakes. The brakes were in good condition and no trouble had been experienced with them.

Conductor Raborn, of train No. 2, said that when his train stopped he went immediately to the door of the first coach, in which he was riding, and at that time saw Flagman Mott, who was then only about 2 car-lengths south of the point where the caboose had been struck. The statements of both Conductor Raborn and Flagman Burnett, also of train No. 3, indicated that only a few seconds elapsed between the time the air brakes were applied and the time of the collision.

Dispatcher Simmons said that it is not usual for freight trains to leave a station only 10 minutes ahead of a passenger train and that he frequently cautions crews against doing so, but he had just come on duty and did not caution the crew of train first No. 78 because he had not had time to take in the situation.

Conclusion.

This accident was caused primarily by failure to provide proper flag protection for the rear of train first

No. 78, for which Flagman Mott and Conductor Franco are responsible. A contributing cause was the operation of this train on short time ahead of train No. 3, for which Conductor Franco and Engineman McNarara are responsible.

Notwithstanding the statement of Flagman Mott that he got off before his train stopped and went back as far as possible in the time at his disposal, the weight of evidence indicates that his train reached Theodore at or before the time train No. 3 passed Saint Elmo, that he did not start back immediately to protect his train and that he was back only a few car-lengths when the engine of train No. 3 passed him. Conductor Franco knew that his train was on short time, and under these circumstances should have been particularly careful to place himself in position to see that proper flag protection was provided.

Conductor Franco and Engineman McNamara were extremely negligent in allowing their train to leave Saint Elmo, and in so doing they violated rule 90-H, previously referred to, and clearly displayed their intention either of violating rule 86 or the time-table restriction of 14 minutes between Saint Elmo and Theodore.

The engineman and fireman of train No. 2 could have seen the caboose of train first No. 78 for distances of 3,313 and 3,730 feet, respectively, and had they become aware of the train ahead as soon as it was possible for them to have done so, it is believed that the engine-

man could have brought his train to a stop or at least have reduced its speed materially before colliding with the train shead. The reason why Figureman Winnow did not earlier see the rear end of train first No. 78 could not be ascertained.

Conductor Franco was employed as a brakeman in September, 1906, and promoted to conductor in November, 1915; in 1919 he had operated his train ahead of train No. 2 without sufficient running and clearance time. Flagman Mott was employed as a brakeman in February, 1884. At the time of the accident no member of either crew had been on duty in violation of any of the provisions of the Hours of Service law.

This investigation indicated that the flagging and 10-minute spacing rules are not always obeyed on this division. An instance was noted where a freight train stood at a station for more than 30 minutes while the flagmar, instead of going back to protect the train, was engaged in packing a hot box. It was also noted that the records of train movements are not accurately kept, an instance being noted where one passenger train closely followed another passenger train for a considerable distance, the trains leaving one station only 2 minutes apart, although the train sheet covering the movements of these trains indicated that they were spaced 10 minutes apart in accordance with the rules. The investigation also de-

veloped that Flagman Mott could neither read nor write, although he said he could tell the names of the stations and the time of trains as shown in the time-table; he had not been examined on the rules since 1914.