

INTERSTATE COMMERCE COMMISSION.

REPORT OF THE CHIEF OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE PENNSYLVANIA RAILROAD NEAR SOUTH LEBANON, OHIO, ON OCTOBER 9, 1922.

November 15, 1922.

To the Commission:

On October 9, 1922, there was a rear-end collision between two freight trains on the Pennsylvania Railroad near South Lebanon, Ohio, resulting in the death of 1 employee.

Location and method of operation.

This accident occurred on the Cincinnati Division, extending between Columbus and Cincinnati, Ohio, a distance of 119.3 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table, train orders, and a manual block-signal system. The accident occurred about 1,900 feet east of the east passing-track switch at South Lebanon; this switch is known as switch No. 1, while the west switch is known as switch No. 2, the siding being approximately 1,835 feet long. The track in this vicinity is on the south bank of the Little Miami River; at the point of accident it is located on a fill, the north slope of which is about 30 feet in height and the south slope about 6 feet. Approaching from the east there is a compound curve to the right 1,859 feet in length, followed by 1,060 feet of tangent extending to the east switch; the accident occurred on the above mentioned curve at a point 840 feet from its western end, where the curvature changes from $5^{\circ} 18'$ to $3^{\circ} 32'$. The grade is descending for westbound trains, varying from 0.25 to 0.50 per cent for 855 feet, then 0.19 per cent ascending to the point of accident, a distance of 617 feet. Owing to trees near the right-of-way, the view of the point of accident across the inside of the curve, from the engineman's side of a westbound train, is limited to about 500 feet. Under the rules, at meeting points between trains of different classes the inferior train must take the siding and clear the superior train at least five minutes, and must pull into the siding when practicable. It was raining at the time of the accident, which occurred at about 9.47 p. m.

Description.

Westbound freight train extra 1166 consisted of 44 cars and a caboose, hauled by engine 1166, and was in charge of Conductor Hudson and Engineman Rooney. This train passed Ft. Ancient, 10 miles from South Lebanon, at 7.17 p. m., with right over train first No. 486 to South Lebanon. Arriving

at Morrow, 4.8 miles from South Lebanon, at 7.50 p. m., the crew received a copy of train order No. 115, Form 19, reading as follows:

"1st No 485 engine 3425 and
Extra 1166 west have right over
No 490 Morrow to Fosters."

Foster's is 4.4 miles beyond South Lebanon. Extra 1166 departed from Morrow at 9.28 p. m., under a caution signal, stopped just east of switch No. 1 at South Lebanon, for the purpose of heading in to meet train No. 1226, a first-class eastbound train, scheduled to arrive at this point at 9.56 p. m., and after standing less than 3 minutes, had started to move forward when the rear end was struck by train first No. 485.

Westbound freight train first No. 485 consisted of 30 cars and a caboose, hauled by engine 3425, and was in charge of Conductor Flint and Engineman Pray. This train arrived at Morrow at 8.15 p. m., at which point the crew received a copy of train order No. 117, Form 19, reading as follows:

"1st No 485 has right over
1st No 486 eng. 9867 Morrow
to switch 2 South Lebanon."

They also received a copy of train order No. 115, previously quoted. Train first No. 485 left Morrow at 9.34 p. m., 9 hours and 54 minutes late, under a caution signal, and while traveling at a speed variously estimated to have been between 8 and 20 miles an hour collided with extra 1166.

Engine 3425 together with its tender came to rest down the north slope of the embankment, bottom up; the first car was turned on its side clear of the track. The caboose and four rear cars in extra 1166 were derailed and badly damaged. The employee killed was the fireman of train first No. 485.

Summary of Evidence.

Instructions were issued over the telephone by Train Dispatcher Delaney to Operator Trainer, stationed at Morrow, to tell the crews of extra 1166 and train first No. 485 not to depart from Morrow unless they could make Foster's for train No. 1226, at which point that train is scheduled to arrive at 9.49 p. m.; also that train first No. 486, a second-class eastbound train, was on the siding at South Lebanon. Operator Trainer stated he gave this information verbally to the crew of extra 1166 while they were talking among themselves in the station, and assumed he had their attention, although none of the members of this crew made any reply. A caution signal was displayed as

extra 1166 prepared to depart and Operator Trainer told Engineman Rooney it was on account of train first No. 486 being at South Lebanon. Engineman Rooney said he told Operator Trainer at Morrow that it would be impossible to make Foster's for train No. 1236, provided it was necessary to run under a caution signal indication, and when he left Morrow, he had no intention of going any farther than South Lebanon for train No. 1236. Conductor Hudson was under the impression they were going to Foster's for this train; according to his statement, the operator inquired if they could reach Foster's and Engineman Rooney said he thought they could. This crew had no information on train No. 1236 except its time-table schedule.

As extra 1166 departed from Morrow, the west switch was closed by the crew of train first No. 485, leading Conductor Hudson to think it was not going to follow his train. As extra 1166 was being brought to a stop at South Lebanon, Flagman Rea remarked to the conductor that he thought there was another train coming, lighted a fusee and jumped off, at which time the speed of his train had been reduced to 5 or 6 miles an hour. Flagman Rea thought he had gotten back about 8 car-lengths when the engine of train first No. 485 came in sight. His stop signals were acknowledged by the engineman of the approaching train.

Conductor Hudson knew train first No. 486 was in the clear at South Lebanon, and thought the stop was being made for the purpose of telephoning the train dispatcher for instructions on train No. 1236, as it was getting close on their time, or for some other cause; otherwise he said better rear-end protection would have been afforded. He thought the flagman was back about 1 car-length when the train stopped and had reached a point about 9 car-lengths distant when the engineman of the following train acknowledged his stop signals.

According to Engineman Rooney, it was 9.41 or 9.42 p. m. when extra 1166 stopped and about three minutes afterward that the accident occurred. He thought his train had moved forward about 2 car-lengths after the switch was opened. Head Brakeman Walker said he got off before the train stopped, and that just after he had thrown the switch he heard the whistle signals acknowledging the stop signals of the flagman, and thought his own train had not been stopped more than half a minute.

When the crew of train first No. 485 entered the office at Morrow, Operator Trainer gave them the same information he said he had previously given to the crew of extra 1166. Conductor Flint told him they could not make Foster's for train No. 1236 unless they were given time on that train. Train Dispatcher Delaney was advised to this effect, and

started to put out a train order; but in order to avoid delay, as train first No. 485 had whistled off brakes and was ready to depart, Conductor Flint suggested that this train order be given them at South Lebanon, and that should it be found there was not sufficient time at their disposal to reach Foster's for train No. 1226, they would back in at switch No. 2 at South Lebanon, which was agreed to by the dispatcher. Engineman Pray was advised of this arrangement by Conductor Flint and Head Brakeman Anderson, and the train departed under a caution signal, with rights over train first No. 486 to switch No. 2 at South Lebanon, and with the crew under the impression extra 1166 was going to Foster's for train No. 1226, as it was to be decided after arrival at South Lebanon whether or not their own train should also go to Foster's for train No. 1226. When about 18 car-lengths from the rear of extra 1166, while traveling at a speed of about 30 miles an hour, Engineman Pray saw flagman Rea about 10 car-lengths ahead giving stop signals; he made an emergency application of the air brakes and answered the stop signals, jumping just before the accident occurred. Engineman Pray explained his failure to stop by saying he had not expected to find extra 1166 at that point but intended to proceed on the main track to the telegraph office, expecting that the dispatcher would have a train order ready for him at that point.

Train Dispatcher Delaney stated he informed Operator Trainer, over the telephone, that it was his intention to have extra 1166 and train first No. 485 wait at Morrow for train No. 1226 if they could not make Foster's for that train. Shortly afterwards Operator Trainer informed him these verbal instructions had been given to both crews, were thoroughly understood by them, and that extra 1166 had departed. Therefore, he gave train first No. 485 right over train first No. 486 to switch No. 2 at South Lebanon, in order to permit of the intended movement, and he intended to give this crew about 5 minutes time on train No. 1226.

Conclusions.

This accident was caused by failure to provide adequate flag protection for the rear end of extra 1166, for which Conductor Hudson and Flagman Rea are responsible, and by the failure of Engineman Pray, of train first No. 485, properly to operate his train while running under a caution signal indication.

According to his own statement, Flagman Rea did not get off and go back to flag until he heard train first No. 485 approaching, while the conductor said the train did not move more than a car-length after the flagman got off. Time-table rule 19, superseding rule 99 of the operating rules, provides in part as follows:

"When a train stops under circumstances in which it may be overtaken by another train the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes, and when necessary in addition, displaying lighted fuseses."*

"When a train is moving under circumstances in which it may be overtaken by another train the flagman must take such action as may be necessary to insure full protection. By night, or by day when the view is obscured, lighted fuseses must be thrown off at proper intervals."

Flagman Rea was extremely negligent in waiting until he heard the following train approaching before making any effort to protect his own train. Had he thrown off a lighted fusee as soon as the speed of the train began to be reduced preparatory to stopping at the switch, and gone back as far as possible with stop signals when his train stopped to take siding, the engineman of the following train would no doubt have been warned in time to permit him to stop and thus avert the accident. The evidence indicates that extra 1166 consumed approximately 18 minutes in traveling the distance of about 4 miles between Morrow and the point of accident. This is an average speed of only 13.3 miles an hour; at this rate of speed the train was in danger of being overtaken at any point by a following train and the flagman should have been on the alert to furnish the protection required by rule 13, quoted above.

Conductor Hudson was in position to know what protection was afforded by the flagman and is equally responsible with the flagman for failure to provide adequate protection. His statement that he did not know the purpose of the stop, otherwise he would have provided more protection, is an admission of negligence on his part. When a train is stopped on the main line, the same degree of protection is required regardless of the purpose of the stop.

Engineman Pray was operating under a caution signal indication, which under the rules means "proceed with caution". The interpretation placed upon the rule by the various employees varied considerably. Engineman Pray said it meant that there was another train between Morrow and South Lebanon, and that the train should be under control, which means to be able to stop within "seeing distance of obstructions".

Engineman Pray's explanation of his failure to stop, that he had not expected to find a train at the point where the accident happened, indicates that his train was not being operated under such control as the circumstances required. He knew there was a train ahead of him in the block and he should have operated his train through this block under control. Had he properly observed his requirement this accident would have been averted.

Rule 103 of the book of rules reads as follows:

"Messages or orders respecting the movement of trains, or the condition of tracks, bridges or signals, must be in writing."

Dispatcher Delaney issued verbal instructions to the effect that the trains involved in this accident should not leave Morrow unless they could go to Foster's for an opposing superior train, and when he arranged for the intended movement of train first No. 485 he evidently assumed these instructions were being complied with by the crew of extra 1166. These instructions were not fully understood nor followed by the crew of extra 1166. Had Dispatcher Delaney complied with rule 103, this misunderstanding, which was one of the conditions leading to this accident, would have been avoided.

All the employees involved were experienced men; they had been on duty from 9 to 10 hours, after more than 10 hours off duty.

Respectfully submitted,

W. P. Borland

Chief, Bureau of Safety.