

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE  
CENTRAL RAILROAD OF NEW JERSEY NEAR SOLOMON'S GAP, PA ,  
ON NOVEMBER 28, 1920.

February 26, 1921.

On November 28, 1920, there was a rear-end collision between two freight trains on the Central Railroad of New Jersey near Solomon's Gap, Pa., which resulted in the death of 1 employee and the injury of 1 employee. After investigation of this accident the Chief of the Bureau of Safety reports as follows:

#### LOCATION

This accident occurred on that part of the Lehigh & Susquehanna Division which extends between Scranton and Easton, Pa., a distance of 118.33 miles. Between Mountain Park and Penobscot, Pa., a distance of 9 miles, within which territory this accident occurred, it is a single-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. The eastbound signals involved were signals 1582, 1574, 1572 and 1562, located about 9,000, 3,000 and 30 feet west, and 1,450 feet east, of the point of accident. The indications displayed by signal 1574 are proceed and caution while the indications of the other signals are proceed and stop, night indications are red, yellow and green, for stop, caution and proceed, respectively. The western yard-limit board is approximately 1,000 feet west of signal 1572.

Approaching the point of accident from the west the track for more than 1 mile is made up of a series of short tangents and sharp curves, then there is a compound curve to the left 1,341 feet long, the maximum curvature of which is  $6^{\circ} 20'$ ; the track is then tangent for 454 feet to a 4-degree 20-minute curve to the right 833 feet long, near the western end of which this accident occurred. The grade is about 1 per cent ascending for eastbound trains for a distance of several miles. The weather at the time was foggy.

#### DESCRIPTION.

Eastbound freight train extra 656, consisting of engines 656 and 659, 41 cars, engines 651 and 173, and a caboose, in the order named, in charge of Conductor Hartzell, with Engineer Stoltz in charge of the leading engine, left Ashley, Pa., at 1 a. m. and passed Mountain Park, about  $7\frac{1}{2}$  miles from the point of accident and the last open telegraph station, at 2.07 a. m. Approaching Solomon's Gap the train stopped for signal 1572, which was displaying a stop indication, proceeded slowly and with a stoppage or came nearly to a stop at signal 1562, which also was displaying a stop

indication, and was proceeding eastward at a low rate of speed when at about 2.55 a.m. the rear end of the train was struck by extra 758.

Eastbound freight train extra 758, in charge of Conductor McCool and Enginemen Kireman, consisted of engine 758, 9 cars and a caboose. This train left Ashley at 2.10 a.m., Mountain Park at 2.32 a.m., and at about 2.55 a.m. collided with the rear end of extra 656 while traveling at a speed estimated to have been about 15 or 20 miles an hour.

Engines 651 and 273, of extra 656, were damaged, while the caboose was destroyed; engine 758 was also somewhat damaged. The employee killed was the fireman of engine 273.

#### SUMMARY OF EVIDENCE.

Flagman Morgan, of extra 656, said that when his train stopped at signal 1572 he got off immediately but that the train started at about the time he had descended to the ground and he again boarded the caboose; he said the train did not stop again until the accident occurred. He was in the caboose and heard an engine approaching; at first he thought it was on the track of another railroad nearby, but on looking back he saw the engine of extra 758, apparently about 50 feet distant, and he then called a warning to a brakeman who was with him in the caboose and jumped. The flagging rule of this railroad requires that when a flagman is recalled he shall use torpedoes when the condition requires it. Flagman Morgan had not put down any torpedoes when his train stopped at signal 1572, and he said that he did not consider that their use was required in this case because the following train would have to approach under flag protection as per rule 504, which reads as follows:

"When a train is stopped by a block signal it may proceed when the signal is cleared.

Or it may proceed--

(a) After waiting one minute and then running under caution;

Or--

(b) On single track--preceded by a flagman to the next clear signal.

Although rule 107 requires extra trains to run under control within yard limits, Flagman Morgan said it was his custom to flag within yard limits in the same manner as at other points. Rule 107 reads in full as follows:

"Yard limits will be indicated by yard limit boards, within these limits yard engines may occupy main tracks, protecting themselves against

scheduled trains. Extra trains must run through yards under control, looking out for yard engines and other extras."

Conductor Hartzell, who was riding on the head end of extra 656, said that the train stopped at signal 1572 and also at signal 1562, the statements of the other members of the crew were conflicting as to whether or not a stop was made at signal 1562. Their statements indicated that there was considerable fog, and that it got thicker as the train proceeded around the curve.

Extra 758 had reduced speed at Ashley for the purpose of picking up an employee who was en route to his home. Engineman Kirchman did not know whether this employee wanted to get off at Solomon's Cap or at Fenchert, the next station beyond, and after passing signal 1582, which he said was displaying a clear indication, Engineman Kirchman shut off steam and looked back for the purpose of receiving a signal from this employee which would indicate where he wanted to get off. On account of looking back toward the rear of his train, Engineman Kirchman failed to observe any of the signal indications beyond signal 1582, or the rear end of extra 656, saying that his train collided with that train while he was still looking back toward the rear of his train.

Signal 1582 should have been displaying a stop indication at the time Engineman Kirchman passed it and he said he was so positive it was displaying a clear indication that after the accident he went back to look at it and at that time it was in the stop position. Fireman Engler, of extra 758, had not noticed any of the signal indications, neither had he noticed what the engineman was doing, engine 758 being of the double-cab type. Breckenham Trainer, who was riding on engine 758, verified Engineman Kirchman's statements that signal 1582 was displaying a clear indication. Not only did the employees find the signals displaying the proper indications immediately after the accident, but examination of the signal apparatus by Supervisor of Signals Garra less than 5 hours after the occurrence of the accident showed it to be functioning properly, with the signal lamps burning brightly.

#### CONCLUSIONS.

This accident was caused by the failure of Engineman Kirchman, of extra 758, properly to observe and be governed by automatic block-signal indications, and also by his failure to operate his train under proper control within yard limits.

Although Engineman Kirchman claimed that signal 1582 was displaying a clear indication when his train passed it, he found it to be displaying a stop indication when he went back to look at it after the occurrence of the accident,

and in view of the fact that the other signals were found to be displaying the proper indications after the accident and that examination of the signal apparatus disclosed no improper functioning of the same, it is believed that signal 1582 was displaying a stop indication and that its indication either was misread or not observed by Engineman Kirchman. He acknowledged his failure to observe the indications of the signals east of signal 1582, or to know when his train passed the yard limit board, and also his failure to observe the markers on the rear of extra 656.

Rule 99 reads as follows:

When a train stops or is delayed, under circumstances in which it may be overtaken by another train, the flagman must go back immediately with stop signals a sufficient distance to insure full protection. When recalled, he may return to his train, first placing two (2) torpedoes on the rail when the conditions require it.

The front of a train must be protected in the same way, when necessary, by the front brakeman, or in his absence, by the fireman.

When extra 656 stopped at signal 1572 it was in danger of being overtaken by a following train. Under these circumstances, and particularly in view of the unfavorable weather conditions which existed at the time, Flagman Morgan displayed poor judgment in failing to put down torpedoes.

Engineman Kirchman was employed as a fireman in March, 1902, and promoted to engineman in January, 1907. Flagman Morgan was employed as a brakeman in 1909 and qualified as a flagman in 1910. The crew of extra 656 had been on duty about  $8\frac{1}{2}$  hours after periods off duty varying from 8 hours to 36 hours. The crew of extra 758 had been on duty nearly 5 hours, after periods off duty varying from 9 hours to  $15\frac{1}{2}$  hours.