

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE DELAWARE, LACKAWANNA & WESTERN RAILROAD NEAR PARADISE, PA., ON NOVEMBER 25, 1923.

January, 19, 1924.

To the Commission.

On November 25, 1923, there was a rear-end collision between two freight trains on the Delaware, Lackawanna & Western Railroad near Paradise, Pa., which resulted in the death of one employee and the injury of seven employees.

Location and method of operation.

This accident occurred on that part of the Scranton Division extending between Washington, N. J., and Binghamton, N. Y., a distance of 125.12 miles, in the vicinity of the point of accident this is a double-track line over which trains are operated by timetable, train orders, and an automatic block-signal system. The accident occurred at a point about 550 feet east of the eastern end of the crossover at Paradise; approaching this point from the east there is a curve to the left of $5^{\circ} 5'$ which is 1,230 feet in length and then a tangent 209 feet in length, followed by a 5° curve to the right 1,124 feet in length, the accident occurring on this curve at a point about 125 feet from its western end. The grade for more than 4,000 feet is ascending for westbound trains varying from 1.410 to 1.534 per cent, being 1.534 per cent at the point of accident.

Automatic block-signals 961 and 969 involved in this accident, are of the two-arm, two-position, lower-quadrant type. On the heavy grades in this particular territory, the top arm, or home signal, displays a yellow light instead of a red light, and when the arm of such a home signal is horizontal, with a yellow light showing, a train may pass such an indication without stopping, proceeding under control, at a speed not in excess of 10 miles an hour, expecting to find a train in the block, broken rail, obstruction, or switch not properly set.

This avoids stopping a train on the heavy grade, which would be necessary in case the ordinary stop-and-proceed signal were used. Signal 969, the last westbound signal approaching the point of accident, is of this type, and is located about 3,570 feet east of the point of accident. There is a water tank located about 1,350 feet west of signal 969.

The weather was clear and it was daylight at the time of the accident, which occurred at about 6.38 a.m.

Description.

Westbound freight train extra 884 consisted of engines 884 and 358, and a caboose, and was in charge of Conductor Henderson and Enginemen Griffin and Creveling. This train passed West Henryville, the last open telegraph office and approximately 7.83 miles east of the point of accident, at 5.44 a.m., and at about 6.28 a.m., while running at a low rate of speed near the eastern end of the east crossover at Paradise, the caboose was struck by extra 1104.

Westbound freight train extra 1104 consisted of engine 1104 and a caboose, and was in charge of Conductor Higgins and Engineman Huff. This train passed West Henryville at 6.31 a.m., passed signal 961, displaying a caution indication, passed signal 969, which was displaying its most restrictive indication, proceed under control, and collided with the rear-end of extra 884 while running at a speed estimated to have been 25 or 30 miles an hour.

The force of the collision demolished the caboose of extra 884, knocked the cistern of the tender of engine 358 from its frame into the ditch on the right side of the right-of-way, and pushed the tender frame under the firebox. Engine 1104 was only slightly damaged, while only one pair of driving wheels was derailed. The employee killed was a brakeman of extra 884.

Summary of evidence.

Conductor Henderson, of extra 884, stated that his train was stopped by a flagman of extra 1179 east of the water tank, on account of that train taking water. As soon as his train had stopped Flagman Conn, of extra 1104, went back to flag and he said that when recalled he left two torpedoes on the rail and also left a green fusee burning. Extra 1179 then moved forward a train

length so that its helper engines could take water. Extra 884 followed closely behind, stopped, and Flagman Conn again went back to flag, and when recalled did not leave any torpedoes, but left a green fusee burning, he said that it was his opinion that the rules had been fulfilled and did not require additional torpedoes to be left as his train had moved only a short distance. After extra 1179 had departed, extra 884 followed slowly and had proceeded about half a mile when Flagman Conn looked back, saw extra 1104 approaching at a high rate of speed and shouted a warning, but before any of the employees in the caboose could jump the collision occurred. Flagman Conn said extra 1104 was working steam at the time of the collision, and in his opinion it was traveling at a speed of 30 or 35 miles an hour.

Engineman Huff, of extra 1104, said that at the time his train passed signal 961 it was displaying green and yellow lights, which indicated that the block governed by signal 969 was occupied or otherwise obstructed. Signal 969 was displaying two yellow lights, indicating that the block was occupied, and he knew that under the rules he could pass this signal with his train under control, prepared to stop, moving at a speed not in excess of 10 miles an hour. He also knew there were two light engines and a caboose ahead of him because at the time of passing signal 969 he saw extra 884 about half a mile ahead. After passing the water tank he reduced the speed to about 20 or 25 miles an hour, and continued at this rate of speed until he saw the caboose of extra 884 about two engine lengths distant, he immediately shut off steam and applied the air brakes in emergency, but was unable to stop his train in time to avert the collision. Engineman Huff said he was sitting on his seat box, looking directly ahead approaching the point of accident, and while the collision occurred on a curve, he stated the curve was in his favor, that it was daylight and that he had a clear view of the track ahead a distance of about 400 feet, that nothing occurred to divert his attention, and that the air brakes were working properly, yet he could give no reason for his failure to see the caboose of extra 884 until he was close to it. He also stated that he did not encounter any torpedoes approaching the point of accident and did not see any fusees burning.

Fireman Parrish, of extra 1104, stated that he was sitting on his seat box at the time his train passed signal 961 and noticed it was displaying a caution indication. He left his seat box shortly after passing this signal to attend to his fire and did not see signal 969, he was thus engaged when the collision occurred.

Conclusions.

This accident was caused by the failure of Engineman Huff, of extra 1104, to operate his train under proper control after passing a signal indicating that the block was occupied.

Under the rules, with signal 969 displaying a proceed-under-control indication, extra 1104 was authorized to proceed without stopping at a speed of not more than 10 miles an hour, while rule 705 provides in part that an engineman entering a block on any signal other than a clear signal will be held responsible in case of accident caused by overtaking a preceding train. In this particular case Engineman Huff had seen the indication of the signal and also had seen extra 884 approximately half a mile ahead but failed to reduce the speed of his train in accordance with the rules, and when approaching the point of accident, although the weather was clear and the view unobscured for several hundred feet, for some reason he failed to see the rear end of extra 884 until too close to prevent the accident.

Flagman Conn, of extra 884, said he left torpedoes and a fusee when first recalled to his train and that he left another fusee when recalled the second time. Engineman Huff, however, said he did not encounter either torpedoes or fusees, and there was no other evidence to show which of these statements was correct. After passing the water tank however, extra 884 was being operated at such a low rate of speed that it was in danger of being overtaken by a following train and rule 99-F would apply, this rule requiring that lighted fusees be thrown off at proper intervals, and had Flagman Conn fully complied with this rule it is possible this accident could have been prevented.

This accident again directs attention to the necessity for automatic train control. The engineman failed to reduce the speed of his train as required by the signal indication which he received. Had an adequate automatic train-control system been in use this accident would have been prevented.

The crew of extra 1104 had been on duty approximately 4 hours, after having been off duty 12 hours or more.

Respectfully submitted,

W. P. BORLAND,

Director.