

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
NEW YORK CENTRAL RAILROAD AT ALBANY, N. Y., ON
FEBRUARY 13, 1923.

March 20, 1923.

To the Commission:

On February 13, 1923, there was a rear-end collision between a freight transfer and a light engine on the New York Central Railroad at Albany, N. Y., which resulted in the injury of two employees. The investigation of this accident was held in conjunction with representatives of the Public Service Commission of New York, Second District.

Location and method of operation.

This accident occurred on the Mohawk Division, which extends between Albany and Syracuse, N. Y., a distance of 147.39 miles. In the vicinity of the point of accident this is a four-track line over which trains are operated by time-table, and an automatic block-signal system. The tracks are numbered from south to north as follows, 2, 1, 4 and 3, tracks 4 and 3 being eastbound and westbound freight tracks, respectively. Tracks 4 and 3 curve to the left just east of signal station 1, which is about 1,400 feet west of the point of accident, and run on a viaduct to a bridge across the Hudson River. Tower C is located about 300 feet west of this bridge, the point of accident being about 50 feet west of tower C. Approaching this point from the west on tracks 4 and 3, there are 800 feet of tangent, a curve of $6^{\circ} 12' 33''$ to the right 940 feet in length, 1,500 feet of tangent, a curve to the left of $7^{\circ} 30'$ which is 800 feet in length, and then a tangent extending beyond the point of accident, 500 feet distant. The grade is descending for eastbound trains for more than a mile, varying from 1.32 per cent to 1.63 per cent. The weather was clear at the time of the accident, which occurred at about 10.46 a. m.

Description.

Eastbound transfer engine 3129, with 51 cars, had stopped on the bridge over the Hudson River at about 10.40 a. m., on account of a brake beam being down, the rear end of the transfer being nearly opposite tower C. Eastbound light engine 2939, in charge of En-

engineman Zollner, stopped behind this transfer at about 10.43 a. m., and while standing at this point was struck by transfer engine 2505.

Eastbound transfer engine 2505, with 42 loaded cars, was in charge of Conductor Davidson and Engineman Whydra. It left West Albany at 10.25 a. m., got beyond control of the engineman on the descending grade, and collided with light engine 2939 while traveling at a speed estimated to have been 25 or 30 miles an hour.

Engine 2939 was driven ahead against the preceding transfer train, six cars in that train being destroyed or badly damaged. Engines 2939 and 2505 were derailed and damaged, while three cars in the train of engine 2505 were destroyed or badly damaged. The derailed equipment struck tower C and knocked it off the viaduct into the street, the tower being demolished.

Summary of evidence.

The investigation disclosed that the usual inspections, air brake tests and necessary repairs were made by the yard inspectors at West Albany of the cars which made up the transfer being hauled by engine 2505 at the time of the accident; it was reported that the brakes on these cars were in proper condition prior to the arrival of the engine. After the engine was coupled to the cars in this transfer, a terminal test of the brakes was made by the train crew. Conductor Davidson stated a defective car near the head end was set out, the train was then coupled up, the air brakes were tested, and he walked the entire length of the train and noted that the brakes on all cars were applied except in three cases where they had leaked off. When he reached the rear end a signal was given to the engineman to release the brakes, and after the brakes had been released he opened the angle cock on the rear end, causing another brake application, and after closing the angle cock the brakes released properly. Conductor Davidson stated that the inspections and tests made were in accordance with his common practice and there was nothing about the operation that attracted his attention as being unusual. Retaining valves were then turned up on the entire train, hand brakes on the first 10 cars were applied, and the train departed from West Albany at about 10.25 a. m.

According to the statement of Engineman Whydra, he was not entirely satisfied that the brakes on this train were in proper operating con-

dition, for the reason that when he applied the brakes for the terminal test the brake-pipe exhaust seemed too short for a train of that length, and he stated that when the terminal test had been completed by the train crew he made another brake application and walked back 20 or 25 car lengths examining the brake shoes as he went along to determine whether the brakes were properly applied. After leaving West Albany he made a running test at Rock Cut and satisfied himself that the brakes in the train were working properly. Approaching tower 2, the signal was in the stop position and the engineman made a brake application; he was about to make a second reduction when the signal went to caution position and he released the brakes. Shortly after passing tower 2, another application was made, the brake-pipe reduction being about 7 pounds, it did not appear to slow up the train as it should, and shortly afterward the engineman made another reduction of 8 pounds, which also did not seem to take hold. He then placed his brake valve in emergency position and sounded the whistle signal for hand brakes.

Conductor Davidson stated that he was riding near the middle of the train, on top of a box car, when the engineman sounded the whistle signal calling for brakes. He immediately signalled to the rear brakeman and began setting hand brakes. He thought he had set about five hand brakes, and he jumped off the train shortly before the accident occurred; he thought his train was running about 25 miles an hour at that time. He stated that he felt the air brakes being applied at Rock Cut at the time the engineman made the running test, but that after that time he did not notice the air brakes being applied.

Brakeman Hoppinstall also stated that a brake application was made at Rock Cut but that he did not notice the air brakes being applied at any other time on this grade. He heard the engineman sound the whistle signal calling for hand brakes and saw the stop signal given by the conductor. He immediately began setting up hand brakes, but stated that there was no reduction in the speed of the train.

Brakeman Fairchild stated that when he saw the conductor give the stop signal he was on the rear car, he climbed down the rear end and tried to open the angle cock but could not get it all the way open. He got it partly open, however, and there was a considerable exhaust of brake-pipe air. He thought, however, that this was done before the engineman placed his brake valve in emergency position. He closed the angle cock and then began to set hand brakes and thought he had set about five before the accident occurred.

Fireman Marshall stated that he did not notice anything unusual on this trip until at tower 2, when the engineman made a brake application and it did not seem to slow up the train, the emergency application being made shortly afterwards. He thought the speed of the train at the time the emergency application was made was about 10 or 12 miles an hour, he jumped off before the accident occurred, when he thought the train was running at a speed of about 30 miles an hour.

Engineman Zollner, on light engine 2939, stated that he heard the transfer train coming, and also heard a blast of the whistle which indicated to him that this train was running away. He ran off to one side and saw the collision; he estimated the train was running at between 20 and 30 miles an hour at the time of the accident, although he stated he was not in a position to make a close estimate of its speed.

Signalman Jackson, on duty at tower C, stated he heard the operator at tower 2 tell the dispatcher a train on track 4 was running fast and probably would not be able to stop. He notified trackmen, bridgemen and men on the preceding train to look out, and said that the runaway train was traveling at high speed when the accident occurred.

Air Brake Instructor Eicher stated that the standard pressures used on engines were 110 pounds main reservoir and 85 pounds brake pipe.

The brake valve on engine 2505 is the type L automatic brake valve of the New York Air Brake Company. This brake valve has six positions, namely, release, running, holding, lap, service, and emergency. The holding position is for the purpose of holding the engine brakes applied and not overcharging the brake pipe after the train brakes have been released.

Superintendent Fleming, of the Mohawk Division, stated that it was common practice to operate trains of 50 cars on this grade.

Tests of the brake equipment on cars in this train after the accident disclosed that of 34 cars tested, the piston travel was adjusted within proper limits and the brakes operated on all except four cars on which the brakes released immediately after the application was made. In the retaining valve tests, all valves except three, held for one minute or more. Tests of the brake equipment on the cars were made with the cars in two sections, one

consisting of 28 cars and the other of 8 cars. The brake pipe leakage on the 28 cars was 6 pounds per minute from a pressure of 58 pounds, on the 8 cars the leakage was 5 pounds per minute from 55 pounds. The officials who made these tests reported that of the 36 cars tested, 33 had effective brakes. Tests of the brake equipment on engine 2505 did not disclose any defect which could have contributed to failure properly to control the train in this case.

Conclusions.

This accident was caused by improper operation of the train brake system by Engineman Whydra, of engine 2505, resulting in the transfer train getting beyond control and running away.

The investigation of this accident disclosed that Engineman Whydra did not have a proper understanding of the operation of the air brake system nor of the functions of the brake valve when placed in holding position. It was his understanding that when the brake valve was placed in holding position both engine and train brakes were held applied. The evidence also indicates that in making service brake applications on the grade after leaving West Albany, Engineman Whydra moved his brake valve from service to holding position instead of to lap position. This is borne out not only by Engineman Whydra's own statements, but also by the statements of the conductor and brakemen that after the running test at Rock Cut no further air-brake applications on the train were felt by them. This method of operating the brake valve would result either in failure of the brakes to be applied or in immediately releasing them, and brake-pipe reductions in the service application which were made by Engineman Whydra were therefore not only ineffective in controlling the train, but also depleted brake-pipe pressure to such an extent that the emergency application subsequently made was not effective to control or stop the train.

The records show that Engineman Whydra qualified as an engineman November 4, 1918, was promoted to engineman February 4, 1920, demoted to fireman on account of reduction in force December 4, 1920, and was promoted to engineman November 6, 1922; also that he had worked continuously since November 10 until the date of this accident, and that on 30 days during this period he had worked on the grade where this accident occurred, operating engines assigned to the same service and having the same type of brake valve as engine 2505. During the remainder of this period he was assigned to yard and road service. He

attended the air brake instruction car in June, 1919.

In this investigation, no reasonable explanation of Engineman Whydra's failure to operate the brake valve properly was developed; on the other hand, it is difficult to understand, in view of his very limited knowledge of air brake apparatus and his wrong understanding of some of the functions of the brake valve, how Engineman Whydra escaped earlier disaster of this character.

Since this accident occurred, instructions have been issued that all men handling freight trains between West Albany and Rensselaer shall be examined on air brakes. It is apparent that Engineman Whydra had not been properly instructed in the operation of air brakes and had not been subjected to such an examination as would disclose his limited knowledge of air brakes. The operating officers of this railroad company are open to censure for their failure to provide suitable methods for the instruction and examination of enginemen, and to make certain that Engineman Whydra was properly qualified for the duties he was required to perform.

None of the employees involved in this accident was on duty in violation of the hours of service law.

Respectfully,

W. P. BORLAND

Director.