

INTERSTATE COMMERCE COMMISSION.

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON
THE CENTRAL VERMONT RAILWAY NEAR SHARON, VT.,
ON JUNE 20, 1924.

July 8, 1924.

To the Commission:

On June 20, 1924, there was a head-end collision between a passenger train and a freight train on the Central Vermont Railway near Sharon, Vt., which resulted in the death of one employee, and the injury of seven passengers, five employees and one Pullman porter.

Location and method of operation.

This accident occurred on that part of the Northern Division extending between White River Junction, Vt., and St. Johns, P.Q., a distance of 158.32 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by time-table and train orders, no block-signal system being in use. The point of accident was about 250 feet south of the south passing-track switch at Sharon; approaching this point from the north there are about 1,200 feet of tangent, followed by a compound curve to the right about 4,900 feet in length, the accident occurring on the curve about 3,000 feet from its northern end at a point where the curvature is $3^{\circ} 30'$. The passing track is on the left side of the main track, or on the outside of the curve. Approaching from the south there is a curve of 3° to the right nearly 1,000 feet in length and a tangent about 100 feet in length, followed by a curve on which the accident occurred. The grade is ascending for northbound trains for more than 1 mile being 0.74 per cent at the point of accident. The view across the inside of the curve is restricted by a sloping embankment, on which there are trees and shrubbery, to about 10 car lengths at practically all points. The weather was clear at the time of the accident, which occurred between 3.20 and 3.23 a.m.

Description.

Northbound passenger train No. 21, en route from Washington, D. C., to Montreal, P.Q., consisted of one combination baggage car and coach, one coach, five Pullman sleeping cars, and one private car, all of steel construction, hauled by Canadian National engine 5079, and was in charge of Conductor Fitzgerald and Engineman Chapman. It left White River Junction at 2.57 a.m., four minutes late, passed West Hartford, 7.27 miles from White River Junction and

5.55 miles from Sharon, at 3.13 a.m., eight minutes late, without any orders relating to extra 473, and collided with that train near Sharon while traveling at a speed thought to have been about 30 or 35 miles an hour.

Southbound freight train extra 473 consisted of 36 cars and a caboose, hauled by engine 473, and was in charge of Conductor Allen and Engineman Toof. Extra 473 left South Royalton, 4.86 miles from Sharon and the last open office, at 2.40 a.m., headed in on the passing track at Sharon for the purpose of clearing the time-table schedule of train No. 21, and at 2.55 a.m., 18 minutes before train No. 21 was due to pass, stepped with the head end of the train near the south passing-track switch. At about 3.21 a.m. Engineman Toof began to work steam for the purpose of heading out on the main track, and was moving at a speed of about 3 miles an hour, with the engine and several cars south of the switch, when train No. 21 was seen approaching, and extra 473 had been brought practically to a stop when the collision occurred.

Both engines were derailed and had their front ends badly damaged, while the tender of engine 5079 badly damaged the head end of the combination car for a distance of about 20 feet, none of the other equipment in train No. 21 was damaged. Engine 473 was driven backward a distance of two or three car lengths and the first three cars in its train were demolished. The employee killed was the fireman of train No. 21.

Summary of evidence

There were three men on the engine of extra 473 when that train was brought to a stop on the passing track at Sharon at 2.55 a.m., the engineman, fireman, and the head brakeman. After stopping, there was some discussion as to where they would be able to go for train No. 17 after train No. 21 had passed, and Engineman Toof said that finally he and the fireman fell asleep; he was not positive about the head brakeman. On waking up he was of the impression that he had been awakened by the noise of train No. 21 as it passed his engine and remarked to the others on the engine that it had passed, and he said the fireman agreed with him and said he had heard it. Engineman Toof then looked at his time-table to see where he could go for train No. 17 and after some discussion, in which he said the head brakeman joined, it was decided to go to West Hartford. Engineman Toof was not positive about whistling off, but turned on the headlight and began to work steam, while the head brakeman went ahead to open the switch, this being at 3.21 a.m. On reaching a point about five car lengths beyond the switch he saw the reflection of the headlight of the engine of train No. 21, about 8 or 10 car lengths distant, called to the other men on the engine to jump, and at the same time applied the air brakes, bringing his train practically to a stop. Engineman Toof was unable to explain what it was that awakened him while on the passing track,

unless it was the sound made by train No. 21 as it passed over a bridge located about 1 1/4 miles south of the point of accident, and he said, in effect, that the fact that train No. 21 was then several minutes late also was a factor in causing him to conclude that it had passed. It further appeared from the statements of Engineman Toof that he had spent the night of June 18 at home, getting up at about 8 am. June 19, and that he had not had any sleep from that time up to the time of the accident, a period of about 18 1/2 hours.

Fireman Tuttle said that after pulling in on the passing track at Sharon the head brakeman swept the running board on the engineman's side of the cab and then sat down on it, with the engineman on his own seat box and Fireman Tuttle on the fireman's seat box. Fireman Tuttle said that after some conversation he dozed off, but was not fully asleep, and that in an instant he was wide awake and thought he heard train No. 21, but on crossing over to the engineman's side and looking north he did not see the markers of train No. 21 and decided it had passed around the curve and was out of sight. He noted that the train was overdue, remarked that it must have been train No. 21, with which opinion the engineman agreed, and then they began to figure on where to meet train No. 17, Fireman Tuttle did not know whether or not the head brakeman had been asleep, but said the engineman had been sleeping.

Head Brakeman Sullivan said that after stopping on the passing track at Sharon there was no discussion concerning where they would be able to go for train No. 17, and that after sitting there several minutes he fell asleep, was awakened by the engineman's foot touching him on the back, and on hearing the engineman say they had time to go to West Hartford and on seeing the engineman place the engine in forward motion and begin to work steam, he got off the engine and went forward to open the switch, without instructions to do so. As he was getting off the engine he heard the fireman say he was sure train No. 21 had gone, while the engineman said he was positive about it. Head Brakeman Sullivan admitted he had been sound asleep, that he had heard nothing, and that he was acting entirely on the idea that the engineman knew what he was doing.

Conductor Allen said he thought the head end of his train was clear of the south switch by 8 or 10 car lengths, that he was working at his desk all the time the train was on the passing track, and that when it began to move slowly ahead, at a speed of about 3 miles an hour, he concluded that the engineman either was moving ahead a little so as to work on the engine, or that train No. 21 was coming and that they were moving ahead in readiness to head out on the main track as soon as train No. 21 had passed. Flagman Brooks went out on the rear platform of the caboose and then told him he could not hear train No. 21 coming, Conductor Allen said he jumped to his feet and for a moment was unable to move, and that he then started for the conductor's valve but before reaching it

the brakes were applied from the head end of the train. Conductor Allen estimated that his train had moved ahead a distance of about eight car lengths at the time of the collision, and said he had not realized that it moved so great a distance. Conductor Allen further stated that in conversation with the engineman, fireman, and head brakeman, shortly after the occurrence of the accident, all of them admitted having been asleep.

Flagman Brooks, of extra 473, said his caboose stopped about at the switch leading from the passing track to the spur of the copper company, which is 2,028 feet from the south passing-track switch, and from that he judged that the engine must have been five or six car lengths north of the south switch. He left the caboose for a few minutes on account of illness, and shortly after he returned the train began to move ahead. He remarked that train No. 21 must be coming, thinking that the engineman had seen it and was getting the train under way preparatory to departing after train No. 21 had cleared the switch, and then went out on the rear platform of the caboose. Not seeing or hearing train No. 21 coming, he so notified Conductor Allen, this being when the train had moved ahead about two car lengths. Flagman Brooke said Conductor Allen at once jumped to his feet and stood there for a minute or so before starting to come out on the rear platform, it being at about this time that the brakes were applied from the head end of the train.

Engineman Chapman, of train No. 21, said his train started around the curve at a speed of about 35 miles an hour, and that the first thing he noticed was the reflection of a headlight on the rail, he said he then stood up, with his hand on the brake valve, and on looking around the front end of the boiler saw engine 473 not more than two engine lengths distant. He at once placed the brake valve in the emergency position and called to the fireman, but did not have time to jump before the collision occurred. Engineman Chapman did not know whether the fireman was looking out on the left side of the cab or whether he was working on the fire, but the position in which his body was found indicated that the latter was the case.

Conductor Fitzgerald, of train No. 21, said the first intimation he had of anything wrong was when he felt an application of the air brakes, followed almost immediately by the shock of the collision. He estimated the speed at the time to have been about 40 miles an hour. The statements of Flagman Culley brought out no additional facts of importance, he estimated the speed to have been about 45 miles an hour. No detailed statement was obtained from Baggage man McKennay on account of the injuries he sustained; he said, however, that he knew of nothing wrong until he was thrown to one end of the car.

Conclusions

This accident was caused by extra 473 heading out on the main track before the arrival of train No. 21, an opposing superior train, due to the fact that the engineman, fireman and head brakeman fell asleep and thought train No. 21 had passed.

According to the statements of Head Brakeman Sullivan, he fell sound asleep and did not hear anything, but when he was awakened by the engineman he judged from the words and actions of the engineman that train No. 21 had passed, and therefore went forward and opened the switch so his train could depart. According to the statements of Engineman Toof and Fireman Tuttle, they dozed off and were awakened by what they thought was the noise made by train No. 21 as it passed them, they noted from their time-tables that it was after the time at which train No. 21 was due, felt sure in their own minds that it had passed, and began to discuss where they would meet the next opposing train, after which the train headed out on the main track.

The evidence indicated that extra 473 was operated in accordance with the rules en route from St. Albans to Sharon, and the fact that the train headed in on the passing track at Sharon for the particular purpose of meeting train No. 21 on its time-table schedule is evidence that the employees on the head end of the train had not forgotten train No. 21. No reasonable explanation has been advanced, however, to explain their actions from the time their train stopped on the passing track until it was in collision with train No. 21, nor was it determined what it was, if anything, that awakened the engineman and fireman and caused them to think train No. 21 had passed. The engineman afterwards thought it might have been the sound of train No. 21 as it passed over a bridge about 1 1/4 miles south of the south switch, but it is doubtful if he would have had time then to consult his time-table, release the brakes and move the train as far as he did, prior to the arrival of train No. 21.

The evidence is somewhat conflicting as to just where extra 473 stopped on the passing track. The distance from the clearance post to the point of accident is about 10 car lengths and the statements of those on the engine would indicate that the engine stopped within 2 or 3 car lengths of this post, while the statements of the conductor and flagman would indicate that this distance must have been at least 5 or 10 car lengths. If the statements of those on the head end are correct, the train moved about 12 or 13 car lengths, while if the conductor and flagmen are correct it must have moved 15 or 20 car lengths, although the conductor in his testimony said his train had moved about 8 car lengths. Regardless of which of the estimates are correct, however, it seems clear that had the conductor and flagman paid close attention as

soon as their train began to move, they would have known that it was moving far enough to foul the main track, although there is no certainty that had the conductor or flagman applied the air brakes the engineman would have been able either to release the brakes and back the train into clear, or to provide the necessary flag protection, in time to avert the accident.

All the employees involved were experienced men. At the time of the accident the crew of extra 473 had been on duty nearly 8 1/2 hours, after periods off duty ranging from about 16 hours to several days, the crew of train No. 21 had been on duty about 1 hour, after nearly 25 hours off duty.

Respectfully submitted,

W. P. BORLAND,

Director