

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED AT THE INTERSECTION OF THE TRACKS OF THE CHICAGO & WESTERN INDIANA AND PENNSYLVANIA RAILROADS AT CHICAGO, ILL., ON DECEMBER 6, 1928.

January 31, 1929.

To the Commission:

On December 6, 1928, a Chicago & Eastern Illinois passenger train moving over the tracks of the Chicago & Western Indiana Railroad was derailed and then collided with the side of a Pennsylvania Railroad express train at the intersection of the tracks of the two last-named roads at Chicago, Ill., resulting in the injury of one employee. This accident was investigated in conjunction with a representative of the Illinois Commerce Commission.

Location and method of operation

This accident occurred on that part of the Chicago & Western Indiana Railroad extending between Yard Center and Chicago, Ill., a distance of 18 miles. In the vicinity of the point of accident this is a six-track line, the tracks being numbered from east to west; tracks 1 and 2 are used by passenger trains and train movements over these tracks are governed by time-table, train orders and an automatic block-signal system. Train movements over the Pennsylvania crossing are protected by an interlocking plant, and the derailment occurred within these interlocking limits on track 1, the northbound main track, at a derail located about 100 feet north of the home signal, while the collision occurred about 450 feet beyond the derail, at W. 21st Street and Stewart Avenue, where the Pennsylvania tracks cross those of the Chicago & Western Indiana Railroad. The distant signal, located 1,240 feet south of the home signal, at W. 24th Street, is a three-position, upper-quadrant semaphore, night indications are red, yellow, and green, for stop, caution, and proceed, respectively. The home signal, located just south of W. 22nd Street, is a two-position, upper-quadrant semaphore; night indications are red and green for stop and proceed, respectively.

Approaching the point of derailment from the south the track is tangent for over 2 miles, this tangent continuing for a distance of 348 feet north of the home signal. The grade for northbound trains is practically level to a point 2,610 feet south of the home signal and

it is then descending, varying from 0.14 to 1.7 per cent, being 0.8 per cent at the home signal location. Signal indications can be easily distinguished and there is nothing to obstruct the view of the home signal. Under special instructions contained in the time-table all trains are required to come to a full stop at the crossing, regardless of the position of the home signal.

The weather was clear and the temperature was about 14° above zero at the time of the accident, which occurred at about 8.08 a.m.

Description

Northbound C&EI passenger train No. 30 consisted of two coaches, hauled by Atlantic-type engine 225, and was in charge of Conductor Hunt and Engineman Campbell. This train left Yard Center, where it entered on the tracks of the C&WI Railroad, at 7.33 a.m., according to the train sheet, on time, made several stops en route, passed W. 40th Street at 8.06 a.m., two minutes late, passed the distant signal in the caution position and the home signal in the stop position, ran off the derail while traveling at a speed variously estimated to have been between 12 and 30 miles per hour, and then continued on the ties and over three railroad crossings a distance of 450 feet until it collided with a Pennsylvania train which was moving over the crossing.

Train No. 30 was entirely derailed, but, with the exception of the tender, which came to rest on its left side, the equipment remained upright, the tender was separated from the first car a distance of about 6 feet. Three cars in the Pennsylvania train, two baggage cars and a milk car, were derailed but remained upright.

Summary of evidence

Engineman Campbell, of train No. 30, stated that when in the vicinity of W. 28th Street, at which time the speed of the train was about 45 miles per hour, he closed the throttle, made a service application of the air brakes and opened the sanders. This application did not seem to have the proper effect and he therefore made a second application, which also was without any noticeable effect, and he said that when in the vicinity of the distant signal, which he saw displaying a caution indication he moved the brake valve handle to the emergency position, no release having been made after either of the two previous applications, and at the same time he applied the independent engine brake. Just before reaching the

home signal Fireman Crouch, of his own accord, came over to the engineman's side of the cab and reversed the engine, and as the brakes were set this action on the part of the fireman resulted in the driving wheels becoming locked, the accident occurring immediately afterwards. Engineman Campbell said that the air brake applications did not seem to have the proper effect, although the speed was reduced to a certain extent when the independent brake was applied. Engineman Campbell further stated that on the southbound trip with the same train, made earlier in the day, the air brakes were tested and worked properly en route with the exception that in a couple of instances the driving wheels locked. While at Crete, 12.4 miles south of Yard Center, preparatory to making the return trip northbound, this being the trip on which the accident occurred, a running test of the air brakes was made and they worked properly at that point and also at all other points en route until just prior to the accident, with the exception that at two points the train ran by a station for a short distance, due to an error of judgment on the part of the engineman. It further appeared from Engineman Campbell's statements that he was thoroughly familiar with the requirement that all trains come to a stop at the crossing regardless of the position of the home signal; that the rail seemed to be all right as far as braking conditions were concerned; that he felt he had taken proper precautions to bring the train to a stop, and that in his opinion the air brakes failed to apply properly on the train, although he was unable to give any explanation for their failure.

According to the statements of Engineman Campbell he went off duty on the day before the accident at 2.45 p.m., had one drink of liquor, alone, at about 5 p.m., ate supper at 6.15 p.m., then read the paper, went to bed at 8.45 p.m., slept well, got up at 3.45 a.m., and went on duty at 4.30 a.m. Engineman Campbell emphatically denied having had anything intoxicating between the drink he had at about 5 p.m. and the time of the accident, saying that he is not in the habit of drinking and that it was unusual for him to indulge but that on this occasion he felt he wanted a little before supper, and he said that while on duty he was on the alert and that his mind functioned as usual. Engineman Campbell also said that he was considerably shaken up as a result of the collision and swallowed a chew of snuff, which made him sick. He then went back into one of the coaches to rest and shortly thereafter the city police removed him to a hospital and he was examined by Dr. C. A. Donovan, a surgeon in the police department of the City of Chicago, and also by Dr. W. H. Bohart, chief surgeon of the Chicago & Eastern Illinois

Ry. The diagnosis of Dr. Donovan read "Acute alcoholism and bruises of left thigh." The report of Dr. Bohart was to the effect that he arrived at the hospital prior to the arrival of the police surgeon and at that time Engineman Campbell was in the receiving room, sitting down with his head in his hands. Dr. Bohart reported that the engineman talked in a rather maudlin manner, appeared hazy in his conversation, and walked the length of the room unsteadily. After the arrival of Dr. Donovan the engineman was removed to a private room where some of his stomach contents were removed, which Dr. Bohart had analyzed, the analysis disclosing the presence of alcohol in a minute quantity, and in a letter to the general manager of the C&I Railroad written on the day of the accident, Dr. Bohart said he felt satisfied Engineman Campbell had been drinking.

Fireman Crouch said the engineman shut off steam in the vicinity of W. 28th Street and that two brake-pipe reductions were made, he did not know at what points these reductions were made but said that at some point between W. 26th and W. 22nd Streets he noticed that the gauge showed between 50 and 70 pounds brake-pipe pressure. Fireman Crouch was unable to say how fast the train had been moving en route but he estimated the speed to have been about 12 or 15 miles per hour when the train left the derail, at which time the driving wheels were sliding. He had noticed nothing unusual about the condition of Engineman Campbell prior to the occurrence of the accident.

Conductor Hunt, of train No. 30, stated that he conversed with Engineman Campbell at Crete and also at W. 33rd Street but noticed nothing unusual about his condition, and he felt sure that the engineman had not been drinking. Conductor Hunt noticed nothing wrong in regard to the speed of the train or the manner in which it was handled prior to the accident, and he considered that all the stops en route were made with reasonable accuracy, although at two points the train ran by the station to a slight extent, and on this point he stated that more difficulty was experienced in making stops on this run with an Atlantic-type engine than with other types of engines. He thought the air brakes were applied just before the derailment occurred, although he did not pay particular attention in this connection; immediately after the accident he observed that the brakes were set throughout the train. Brakeman Robinson was riding in the rear coach with the conductor when approaching the point of accident and estimated the speed of the train to have been between 25 and 30 miles per hour at the time it was derailed, he felt no application of the air brakes prior to the accident.

Assistant Leverman Lovett, on duty at the interlocking tower, estimated the speed of train No. 30 to have been about 25 or 30 miles per hour at the time of the derailment.

Examination of the equipment made by officials of the railroad within less than one hour after the accident disclosed that the independent brake valve was applied, with the automatic brake valve in the emergency position, the reverse lever in back motion, and all angle cocks open, there was also sand on the rail south of the derail. Apparently no examination was made of the hose connection between the tender and first car in the train immediately after the accident, the air hose had parted at this point due to the fact that the tender broke away from the car.

Tests of the air brake equipment failed to disclose any defect except that the charging port to the pressure chamber of the locomotive equipment was partly obstructed. There is a remote possibility that ice had formed in the nose connection between the tender and first car in the train but nothing definite on this point was developed.

Conclusions.

This accident was caused by the failure of Engineman Campbell, of train No. 30, properly to observe and obey signal indications.

Engineman Campbell maintained that he took proper precautions to bring his train to a stop in obedience to the caution indication displayed by the distant signal and the stop indication displayed by the home signal, as well as the requirement that all trains come to a full stop at the crossing regardless of the position of the signals, and he attributed his failure to stop to the fact that the air brakes did not apply properly on the train. The weight of evidence, however, does not support such a contention. Aside from the difficulty experienced in making stops with an Atlantic-type engine with 79-inch driving wheels, and a light train of only two cars, it appears that the brakes operated properly on the southbound trip, that they operated properly in making several stops en route on the northbound trip, the last such stop having been made about five minutes prior to the occurrence of the accident, and that according to the engineman's own statement, they had operated properly up to the time of the accident. Not only does it further appear from the engineman's statements that the brakes on the engine were set at the time the fireman reversed the engine,

but the conductor examined the brakes immediately after the accident and found them set on the cars in the train, while officials reaching the scene within a comparatively few minutes found all angle cocks open, with the brake valve handle in the emergency position. Subsequent tests failed to disclose anything which would affect the operation of the brakes with the exception of the partial obstruction of the charging port previously referred to; this condition could have slowed up the action of the locomotive automatic brake in service application but it would have had no effect on an emergency application of the automatic brake or on the application of the independent brake. Under these circumstances, with the air brakes in the same condition as they had been throughout the southbound and northbound trips, it seems incredible that an experienced engineman in full possession of his faculties could have misjudged speed and distance to such an extent as to cause an accident of this kind, and it is believed therefore that the engineman was not in full possession of his faculties and that this condition resulted in his failure to operate his train in accordance with signal indications. It is extremely doubtful, however, that Engineman Campbell was under the influence of intoxicating liquor. Doctor Bohart said that analysis of the stomach contents disclosed the presence of alcohol in minute quantity, while Doctor Donovan in his report stated that Engineman Campbell was suffering from acute alcoholism. Such a diagnosis seems inconsistent when consideration is given to the fact that (1) Engineman Campbell operated train No. 31 from 40th Street southward to Yard Center on the Chicago and Western Indiana tracks and thence to Crete on the Chicago and Eastern Illinois tracks, a distance of 26.6 miles, with a total of 10 scheduled stops and one flag stop en route, that (2) after a layover at Crete of seven minutes, according to the time-table schedule, he started northward with the same equipment via the same route and made 13 scheduled stops, the last one having been at 47th Street about five minutes prior to the occurrence of the accident; and (3) Conductor Hunt stated that immediately after the accident the engineman was in a dazed condition and did not know what he was talking about but that he had not been drinking, that (4) Engineman Campbell was able afterwards to describe what took place after his removal to the hospital and that (5) Doctor Bohart said the engineman improved rapidly during the one and one-half hours that Doctor Bohart was at the hospital and seemed to be in possession of his faculties when the doctor departed. That something was wrong with Engineman Campbell is obvious in view of the fact that he ran his train off the derail and then continued on the ties a distance of 450 feet and over three railroad crossings to

the point where it ~~collided~~ with the Pennsylvania train, but on the record as it stands it is believed that any attempt to explain why Engineman Campbell failed to obey signal indications is a matter of mere conjecture.

All of the employees involved are men of long experience with good records. Engineman Campbell entered the service of this railroad as fireman on February 1, 1904, and was promoted to engineman on November 5, 1906. The engine crew had been on duty 3 hours and 38 minutes and the train crew 2 hours and 53 minutes at the time of the accident, prior to which they had been off duty 13 hours and 45 minutes and 9 hours and 40 minutes, respectively.

Respectfully submitted,

W. P. BORLAND,

Director.