

INTERSTATE COMMERCE COMMISSION

1321

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
NEW YORK CENTRAL RAILROAD AT SAVANNAH, N. Y., ON
JANUARY 9, 1927.

February 8, 1927.

To the Commission:

On January 9, 1927, there was a rear-end collision between two passenger trains on the New York Central Railroad at Savannah, N. Y., which resulted in the death of 1 employee, and the injury of 40 passengers, 11 Pullman employees, and 3 employees of the railroad.

Location and method of operation

This accident occurred on that part of the Syracuse Division extending between Syracuse and Buffalo, N. Y., a distance of 143.8 miles, in the vicinity of the point of accident this is a four-track line over which trains are operated by time-table, train orders and an automatic block-signal system. From north to south the tracks are numbered 4, 3, 1 and 2, the accident occurring on track 2, the eastbound passenger track, at a point approximately 500 feet east of the station at Savannah. Approaching this point from the west the track is tangent for a distance of about 1 1/2 miles followed by a 1° curve to the right which is 2,514 feet in length, the accident occurring just east of the leaving end of this curve, the grade is 0.46 per cent ascending for eastbound trains.

The automatic block signals involved are of the one-arm, three-position, upper-quadrant, normal-danger type, mounted on signal bridges which span the four tracks; night indications are red, yellow, and green, for stop, caution, and proceed, respectively. The signals involved were eastbound signals 32422 and 32322, located 9,381 and 4,383 feet, respectively, west of the point of accident. The view of signal 32322 is unobstructed and in clear weather it can be seen a distance of 6,280 feet, but at the time of the accident, 3.24 or 3.25 a.m., there was a dense fog which restricted the range of vision of engine crews to about 200 feet.

Description

On the night of the accident there were six sections of the eastbound Twentieth Century Limited, train No. 26, these sections being operated as the fifth, sixth, seventh, eighth, ninth and tenth sections of train No. 8, and the collision involved the seventh and eighth sections of this train.

Eastbound passenger train seventh No. 8 consisted of one club car, seven Pullman sleeping cars and one observation car, hauled by engine 3360, and was in charge of Conductor Purdy and Engineer Butler. This train passed Lyons, 13.3 miles from Savannah, at 3.06 a.m., passed Clyde, 6.09 miles from Savannah, at 3.15 a.m. and at about 3.22 a.m. it was brought to a stop a short distance east of the station at Savannah because of the fact that the engineer had failed to observe the indication of signal 32323 and also to enable him to replace a burned-out bulb in the electric headlight. The bulb had been replaced and the train was about to proceed when it was struck by the following section of train No. 8.

Eastbound passenger train eighth No. 8 consisted of one club car, six Pullman sleeping cars and one observation car, hauled by engine 3337, and was in charge of Conductor Rice and Engineer Scoville. This train had left Clinton Street, Buffalo, 21 minutes behind the seventh section, passed Lyons at 3.11 a.m., passed Clyde at 3.17 a.m., only two minutes behind the seventh section, and collided with that train east of the station at Savannah while traveling at a speed estimated by the conductor to have been about 30 or 35 miles an hour.

The seventh section of train No. 8, on which the train brakes had been released, was driven ahead a distance of 110 feet, while the train was broken in two between the third and fourth cars, the forward portion of the train being driven ahead an additional distance of about 80 feet. None of these cars was derailed with the exception of the rear truck of the last car, the rear end of this car was considerably damaged. Engine 3387 was not derailed but the tender was thrown diagonally to the left, fouling track 1, while the head end of the club car was practically destroyed; the other equipment in the eighth section sustained only slight damage. The employee killed was the engineer of the eighth section.

Summary of evidence

Engineman Butler, of train seventh No. 8, stated that there was a dense frost fog, making it very difficult to distinguish signal indications as the lenses were coated with frost rendering them almost invisible. Signal 32422 was displaying a clear indication, but the headlight bulb on his engine burned out just before signal 32332 was reached, and on account of the dense fog he missed the indication of this signal although he was aware of his location on account of the fact that he passed under an overhead highway bridge located 57 feet west of the signal. He then applied the air brakes and brought the train to a stop with the rear end approximately 500 feet east of the passenger station at Savannah. The whistle signal was sounded for the flagman to protect the train, and after the headlight bulb had been replaced Engineman Butler got back on the engine, sounded the signal recalling the flagman, released the train brakes and applied the independent engine brake, it was about one-half minute after this had been done that the accident occurred, or about three minutes after the train was first brought to a stop. Engineman Butler further stated that on account of the weather conditions he had missed two other signals besides signal 32522 and that in this particular case if the headlight bulb had not burned out he would not have brought his train to a stop at the point where the accident occurred but would have proceeded at a low rate of speed until the following signal had been reached and would then have been governed by the indication displayed by that signal. The statements of Fireman Murray were similar to those of Engineman Butler, Baggageman Storms thought the flagman was recalled about two minutes after the stop was made, followed in less than a minute by the shock of the collision.

Conductor Purdy, of train seventh No. 8, stated that when his train stopped at Savannah he was about in the middle car of the train, walking toward the head end. He continued walking through the cars and was about to open the front door of the first sleeping car in the train when the accident occurred. He thought he heard the signal for the flagman to protect the train and said he heard him recalled, he estimated that his train had been standing about two minutes at the time of the collision. Conductor Purdy also stated that his train had been delayed at Waynesport, a coaling station 34.2 miles west of Savannah, and while at that point he had noticed that the markers on the rear of the train were burning properly.

Flagman Winne, of train seventh No. 8, stated that when approaching Savannah he was riding on the rear platform of the observation car. He felt an air-brake application and after the speed of his train was reduced sufficiently he threw off a light^{ed} five-minute fusee, somewhere in the vicinity of signal 32322. When the train finally stopped he was standing on the rear platform, with the gate open on the south side of the platform, and he said he immediately got off with two fusees, a lantern and torpedoes, at which time he could hear the following train as it approached with the engine working steam. Flagman Winne said that he lighted either one or both of the fusees and began to run as fast as he could, between the rails of track No. 2, and when about six or seven car-lengths back he heard the signal recalling him but he continued running back toward the following train. He had the torpedoes spread, ready to place on the rail, but after seeing the headlight of train eighth No. 8 appear through the fog he did not have time to place the torpedoes and was compelled to jump from between the rails in order to avoid being run down. Flagman Winne said he shouted and continued to wave violent stop signals but that his signals were not acknowledged and that the engine passed him working steam without the air brakes having been applied. Flagman Winne had reached a point near the passenger station when the engine of train eighth No. 8 passed him, the rear car in that train stopped with its forward end directly opposite the west end of the passenger station and Flagman Winne said he was about opposite the third car from the rear end of the train. Flagman Winne further stated that he had previously flagged train eighth No. 8 at Wayneport and that his signals were properly complied with at that point.

Fireman Henderson, of train eighth No. 8, who was interviewed at the hospital on January 14, stated that his train was flagged at Wayneport and that it stopped accordingly, after which coal was taken. When it was approaching Savannah the engineman called the caution indication of signal 32422 and the fireman also saw the indication and answered the engineman in the affirmative. Engineman Scoville missed the indication of signal 32322 and made a remark to that effect. Fireman Henderson said he thought it might be possible to see the signal from the deck of the cab and got down quickly and endeavored to ascertain its indication, but without success, and he said he was about to get back to his seat box when the accident occurred. Fireman Henderson could not estimate the speed of his train at the time the caution signal was passed, saying that the fog was

so dense he could not locate a landmark, but he said that after passing this signal the engineman made an air-brake application, he was unable to say to what extent the speed was reduced, nor did he know whether or not steam was shut off or the brakes applied after the home signal was passed. Fireman Henderson did not see anything of a fusee. It also appeared from the fireman's statements that the engineman had been in normal condition, alert at all times, and that after saying he had missed the indication of signal 32322 the only sound that came from the engineman was a groan just before the collision occurred.

Conductor Rice, of train eighth No. 8, stated that he was riding in the club car, the first car in the train, and that he felt a light application of the air brakes when the train passed under the overhead highway bridge just west of signal 32322. He started toward the door, with the intention of looking out, but within about one-half minute, before he got to the door, the accident occurred, at which time he estimated the speed to have been reduced from 50 miles an hour to about 30 or 35 miles an hour. He also stated that the air brakes were not released after the light application which was made while passing under the bridge, and apparently the engineman shut off steam and applied the air brakes in emergency immediately prior to the collision. Conductor Rice did not hear any whistle signals sounded, either for the road crossing at Savannah or in answer to a flag, nor did he see the reflection of any burning fusee under his train. Conductor Rice further stated that he had had no conversation of any consequence with Engineman Scoville at any point, at Buffalo he delivered train orders to the engineman but at that time noticed nothing unusual in his actions, the engineman appearing perfectly normal in every respect. The air brakes were tested at Buffalo and had worked properly en route, after the accident and before the last seven cars of train eighth No. 8 were moved from the scene of the accident back to Clyde, 6.09 miles west of Savannah, the air brakes on those cars were tested and all were found to be in proper working order with the exception of one car, originally the second car in the train, on which the brake had to be cut out on account of the fact that the brake pipe was broken as a result of the collision.

Head Brakeman Young and Flagman Zimmerman, of train eighth No. 8 were riding in the observation car. When the air-brake application was made in the vicinity of signal 32322, at which time the speed was about 60 miles per hour, Flagman Zimmerman went out on the rear platform and threw off a lighted fusee, and he said the collision occurred just as he got back inside the car. He immediately went back to flag and on his way back saw the lighted fusee which he had thrown off, this being the only burning fusee along the track, signal 32332 was then displaying a stop indication. The statements of Head Brakeman Young in connection with what transpired immediately prior to the accident were similar to those of Flagman Zimmerman, Head Brakeman Young also said that the air brakes were not released following the application made at the overhead highway bridge near signal 32332 and that afterwards an emergency application was made, which could either have been made by the engineer or have been a result of the collision. He estimated the speed of his train to have been about 50 or 60 miles an hour when passing under the overhead bridge and thought it had been reduced to between 25 and 30 miles an hour at time of the accident.

Crossing Watchman Van Voorhis, located in a tower on the south side of track 2 at a point 220 feet west of the point of accident, stated that when train seventh No. 8 came to a stop, with its markers visible from the tower, the flagman dropped a lighted fusee from the rear platform of the last car, at about which time the engineer sounded the whistle signal for the flagman to protect the train. The flagman then got off the car, started walking back, and had reached a point opposite the tower when he was recalled. The flagman then dropped a lighted fusee and at about that time the watchman raised the window and told the flagman that the following train was approaching, having been warned of this fact by the ringing of the bell which meant he should lower the crossing gates. He did not hear the flagman make any reply, but saw him pick up the fusee from the track, light another one, and then run westward with the two burning fusees in his hands, waving stop signals, reaching a point about 100 feet east of the passenger station when the engine of train eighth No. 8 passed him. The crossing watchman further stated that the crossing whistle signal was sounded by the engineer of train eighth No. 8, that steam was shut off in the vicinity of the passenger station west of the crossing and that the brakes were applied as the train approached the crossing, the watchman saying he saw sparks flying from the wheels. He did not know whether or not the flag signals were acknowledged.

Division Engineer Winchester, who arrived at the scene of the accident about two and one-half hours after its occurrence, said the body of Engineman Scoville was in a sitting position, on his seat box, with the right arm resting on the window sill and his right hand just inside the window, while his left hand was on the top of the reverse control wheel, located in front of the left shoulder and above the level of the face, his head was inclined slightly forward and was facing straight ahead. An autopsy held the day of the accident disclosed that Engineman Scoville had breathed steam into his lungs, indicating that he evidently was alive at the time of the accident.

A test of the signal apparatus involved made subsequent to the accident disclosed the signal system to be in proper working order.

Conclusions

This accident was caused by the failure of Engineman Scoville, of train eighth No. 8, properly to observe and obey signal indications.

According to the statements of the fireman, both he and Engineman Scoville saw signal 32422 displaying a caution indication. The fireman said an air-brake application was made at this time but he did not know to what extent the speed was reduced; the statements of the members of the train crew indicated that the first application of the air brakes was not made until the train was in the vicinity of the home signal, which was signal 32322, and that only a light application was made at that point. While this conflict in the statements of the surviving members of the crew of train eighth No. 8 makes it a matter of doubt as to just what action was taken by Engineman Scoville at the caution signal, it is clearly apparent that he did not take effective steps to bring his train under such control as to enable him to stop at signal 32322. It further appears that Engineman Scoville failed entirely to observe the indication of signal 32322, due undoubtedly to the heavy frost fog which prevailed at the time. Had he applied the air brakes at the time he failed to observe this signal he would have been able to stop the train before it reached the point at which the rear end of the preceding train was standing.

The statements of the flagman of train seventh No. 8 and of the crossing watchman located in the tower 220 feet west of the point of accident do not agree as to what steps were taken by the flagman to protect his

train after it came to a stop. But even a view of the testimony most unfavorable to the flagman would seem to indicate that he was out on the rear platform of the rear car when the train came to a stop, that he got off almost immediately and started back to protect his train, and that when recalled he stopped for a moment and then started running toward the approaching train. In view of the close headway under which these trains were being operated, they being only two minutes apart at the last reporting station, and in view of the time lost by the seventh section in coming to a stop, it was clearly impossible for the flagman to have gone back a sufficient distance to protect his train. The only reasonable ground for criticism of his actions would depend on whether or not he threw off a fusee when he realized that his train was being brought to a stop. He said this was what he did, but on the other hand there was no evidence to support this statement. Engineman Scoville was on the alert in the vicinity of signal 33322 in the endeavor to ascertain the indication of that signal and had a fusee been thrown off in that vicinity, as was stated by the flagman, the engineman might have observed it.

This accident is somewhat similar to that which occurred on this railroad in a dense fog at Forsyth, N.Y., on December 9, 1923, involving sections of the west-bound Twentieth Century Limited. In the Forsyth accident the engineman of the following train saw the caution indication of the distant signal but, as was the case with Engineman Scoville, he failed to take steps toward bringing his train to a stop at the home signal. In that case, however, the engineman saw the home signal displaying a stop indication but on account of the speed at which his train was running he overran the signal location a distance of approximately 1,000 feet and collided with the rear end of the preceding train. Several months after the occurrence of the Forsyth accident the New York Central rules were modified to the extent of requiring that when an engineman observes a signal displaying a caution indication he is to proceed at a speed not in excess of one-half the authorized maximum speed. The accident here under investigation simply lends further emphasis to what has been pointed out on many previous occasions, which is that the time to begin bringing a high-speed train under control is at the distant-signal location. /

The speed limit on this railroad is 70 miles an hour. A check of the train sheet indicated that there were times when the various sections of the Twentieth

Century Limited considerably exceeded this limit, in fact, one instance was found where the speed attained was so much in excess of 100 miles an hour as to indicate quite clearly that the train-sheet figures were not correct. Attention is called to the fact, however, that according to the train-sheet record of 18 of the sections of train No.8 which were operated between January 1 and January 9, inclusive, only 1 train consumed as much as seven minutes' time in traveling the distance of 3.8 miles between South Byron and Bergen, 5 trains consumed six minutes, 9 trains consumed five minutes, 2 trains consumed four minutes, and 1 train consumed only three minutes. The average running time was very slightly more than five minutes, which incidentally was the running time between these points of the two trains involved in this accident. The operation of several sections of a train under close headway at speeds of 80 miles an hour or more, frequently under adverse weather conditions, reduces the possibility of effective flag protection to a minimum and places practically all of the responsibility on the engineman. Such a situation clearly warrants the installation of an automatic train-control device which will compel the engineman to begin bringing his train under control at the distant signal location, and this is particularly true when the signals are as close together as signals 32422 and 32322, which are only 4,998 feet apart. Had such a device been in use on this line this accident would not have occurred.

Engineman Scoville was 48 years of age, he entered the service of this railroad as a fireman in 1898, was promoted to engineman in 1905, qualified for passenger service in 1923 and for service on the Twentieth Century Limited and other similar trains in May, 1926. The other employees involved were also experienced men, at the time of the accident the engine crews had been on duty about five hours and the train crews about four hours, previous to which they had been off duty for varying periods of time, none of which involved a violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,

Director.