

## 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 GREENDELL, N.J., ON SEPTEMBER 17, 1929.

January 10, 1930

To the Commission:

On September 17, 1929, there was a rear-end collision between a freight train and a train of empty express refrigerator cars on the Delaware, Lackawanna & Western Railroad near Greendell, N.J., resulting in the injury of four employees. This accident was investigated in conjunction with a representative of the New Jersey Board of Public Utility Commissioners.

Location and method of operation

This accident occurred on that portion of the Morris and Essex Division extending between Slateford Junction and Port Morris Junction, N.J., a distance of 28.6 miles, designated as the New Jersey cut-off, this is a double-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. The accident occurred on the eastbound main track at a point about 6 miles east of Greendell tower, or 242 feet east of the eastern portal of Roseville tunnel, which is 1,016 feet in length. Approaching this point from the west there is a 2° curve to the right 2,366 feet in length, followed by more than 2 miles of tangent, the accident occurring on this tangent at a point 5,224 feet from its western end. The grade is 0.55 per cent ascending for eastbound trains.

The automatic block signals involved, signals 528 and 520, are of the two-arm, two-position, lower-quadrant semaphore type, and are located 7,160 and 3,000 feet, respectively, west of the point of accident. Owing to an overhead arch bridge, which spans the tracks at a point 843 feet west of signal 520, the view of that signal is somewhat obstructed but under favorable conditions a clear view can be had of both arms of this signal when it is 1,848 feet distant.

It was daylight, but raining very hard, at the time of the accident, which occurred about 6.31 a.m.

### Description

Eastbound freight train extra 2227 consisted of 47 cars and a caboose, hauled by engine 2227, and was in charge of Conductor McCarthy and Engineman Edwards. On departing from the eastbound passing siding at Greendell, the east switch of which is located about 7,000 feet east of the tower, at about 5.50 or 5.55 a.m., Flagman Cawley put down two torpedoes and left a yellow fusee, on reaching a point just east of signal 520, and before entering Roseville tunnel, he dropped off another yellow fusee. Shortly after the caboose emerged from the opposite end of the tunnel, at which time the train was traveling at a speed estimated to have been between 12 and 20 miles per hour, it was struck by extra 1192.

Eastbound deadhead equipment train extra 1192 consisted of 24 empty express refrigerator cars and a coach, hauled by engine 1192, and was in charge of Conductor Hosey and Engineman Walker. On passing Greendell tower, at 6.17 a.m., according to the train sheet, copy of the following message was delivered to both the head and rear ends of the train:

"C&E Exa 1192 East

Clear at Roseville siding  
for No. 14."

The west switch of the eastbound passing siding at Roseville is located about  $2\frac{1}{4}$  miles east of where the collision occurred. Extra 1192 exploded the two torpedoes placed in the vicinity of the east switch of the eastbound passing track at Greendell, passed signal 528, which was displaying a caution indication, passed signal 520, which was displaying a stop indication, passed the lighted yellow fusee that had been dropped off in this immediate vicinity by the flagman of extra 2227, and collided with the rear end of that train while traveling at a speed estimated to have been between 30 and 35 miles per hour.

The caboose of extra 2227 came to rest on its left side on the westbound main track, as did engine 1192. The first two cars ahead of the caboose were damaged, while the tender of engine 1192 and two express cars were derailed. The employees injured were the conductor and flagman of extra 2227, and the engineman and fireman of extra 1192.

### Summary of evidence.

Flagman Cawley, of extra 2227, stated that he did not see any reflection from the headlight of engine 1192 at the time he dropped off the last fusee; he then went back inside the caboose, up into the cupola, and sat by the window. He estimated the speed of his train through the tunnel, to have been about 20 miles per hour, the collision occurring just after emerging therefrom. Conductor McCarthy,

who was also riding in the caboose, estimated the speed of his train through the tunnel to have been between 10 and 12 miles per hour.

Engineman Walker, of extra 1192, stated that the fireman took the message handed on at Greendell as the train passed that point at a speed of about 15 miles per hour. After reading the message the fireman handed it to the engineman, who also read it. Engineman Walker said it was raining very hard and that at first he had the storm window wide open in order to get a view ahead, however, as the rain beat in and he was getting wet, he closed the window to the 45° angle. On reaching the vicinity of the east switch of the eastbound passing siding at Greendell two torpedoes were exploded, but there was no lighted fusee at this time. Extra 2227 had left the siding more than 20 minutes before extra 1192 passed Greendell tower. After leaving Greendell the engineman started eating his lunch, approaching signal 528, which he saw was displaying a caution indication, the speed of his train was about 30 miles per hour and just after passing the signal he began to consult the time-table in order to ascertain how much time he had on train No. 14. It was while he was so engrossed that he passed signal 520 without having observed its indication, but he did see a burning yellow fusee that had been dropped off in this immediate vicinity by the flagman of extra 2227. At about this time a train went by on the opposite track, leaving the tunnel filled with smoke and steam, he turned his head to identify this train, opened the window and threw out lunch paper, between signal 520 and the tunnel, and shut off steam upon entering the tunnel. Although he could not see through the tunnel, he proceeded at a speed of about 30 miles per hour, and the first indication he had of anything wrong was when he felt the crash, no air-brake application having been made. Engineman Walker further stated that while approaching signal 520 he looked under the overhead arch bridge and saw the bottom arm of the signal, but that he passed it without seeing the top arm. Engineman Walker fully realized that he had passed a signal without seeing the indication displayed; but said that the fusee encountered in this immediate vicinity had burned down about 3 or 4 inches from the top, indicating to him that the preceding train was from 5 to 7 minutes ahead of him.

Fireman Decker, of extra 1192, stated that he took the message off the hoop, read it, and handed it to the engineman. He did not recall whether two torpedoes were exploded in the vicinity of the east switch of the eastbound passing siding. After leaving Greendell, the speed was increased from about 10 or 15 miles per hour to about 30 or 35 miles per hour, and from that point on he was kept busy, almost continuously, pulling down coal and working on the fire, and did not see either of the signals involved or the yellow fusee, the first indication he had of anything wrong being when the collision occurred. Conductor Hosey, Head Brakeman

Hughes and Flagman Wilson were riding in the coach, the last car in the train, and were unaware of anything wrong prior to the collision. They estimated the speed of their train to have been between 30 and 35 miles per hour at the time of the collision. After the accident, both Conductor Hosey and Flagman Wilson saw a stop indication displayed on signal 520; Flagman Wilson further stated that the lighted yellow fusee had just about burned out as he got back to it.

Section Laborer Cavana stated that he was walking eastward on the south side of the tracks when extra 2227 passed him. When it went by signal 520 he saw that signal assume the stop position, both arms going to the horizontal position. Section Laborer Cavana then observed extra 1192 following, a short distance away, and thought that it would be brought to a stop at the signal but when he realized that it was not going to be brought to a stop, he waved his arms to attract the attention of the engineer, but he did not see the engineer as the cab windows were closed. Section Laborer Cavana said that he was only a few feet away from signal 520 when extra 1192 passed it.

Tests made of signals 528 and 520 subsequent to the accident disclosed them to be in proper working order.

#### Conclusions

This accident was caused by the failure of Engineman Walker, of extra 1192, properly to observe and obey automatic block signals and other restrictive indications.

From the warnings which he had received, Engineman Walker should have been fully aware of the fact that he was closing up on the preceding train. He had run over torpedoes near signal 528, and the caution indication of that signal was displayed for his train; near signal 520 there was a yellow fusee only partly burned out. The caution indication of signal 528 required him to approach signal 520 prepared to stop, and the burning yellow fusee required him to proceed with caution, prepared to stop short of train or obstruction. He observed neither of these requirements. Instead of being on the alert to observe the indication of signal 520 and prepared to bring his train to a stop as required by the indication of that signal, he was occupied in eating his lunch and examining the time table to check up on a following train, and his attention was also attracted to a passing train on the opposite track. He admitted that he saw only the bottom arm, which was in caution position, but failed to see the top arm which, as disclosed by the investigation, was in stop position, and notwithstanding the fact that he knew he had passed a signal without seeing its indication he did not stop as required by the rules but proceeded at practically undiminished speed. The burning yellow fusee which he encountered

near signal 520 was an additional warning, but in spite of even this warning, Engineman Walker proceeded through the smoke-and-gas-filled tunnel, where the view was almost wholly obscured, at a rate of speed which he himself estimated at about 30 miles per hour. Engineman Walker entered the service of the Lackawanna as fireman in 1906 and was promoted to engineman in 1912. It is difficult to believe that an engineman of his experience could have displayed such disregard of restrictive and warning signals if he was in good physical condition and in possession of all his faculties, yet he steadfastly maintained that he was awake and not sick or incapacitated in any way.

This accident again directs attention to the necessity for automatic train control devices to enforce obedience to restrictive signal indications when not observed or heeded by enginemen. For a period of several weeks prior to this accident the traffic over this line averaged about 48 trains daily, with approximately the same number in each direction.

The employees involved in this accident were experienced men and none of them was on duty contrary to the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,

Director.