INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE NORTHERN PACIFIC RAILWAY AT SARTELL, MINN., ON SEPTEMBER 15, 1929.

December 18, 1929.

To the Commission:

On September 15, 1929, there was a rear-end collision between two freight trains on the Northern Pacific Railway at Sartell, Minn., resulting in the injury of one employee.

Location and method of operation

This accident occurred on the First Subdivision of the St. Paul Division, extending between Staples and St. Paul, Minn., a distance of 141.3 miles. In the vicinity of the point of accident this is a double-track line over which trains normally are operated by time-table, train orders, and an automatic block-signal system, however, in order to avoid serious delay in clearing several superior trains, the eastbound freight trains involved in this accident were being operated against the current of traffic from Gregory to Sartell, a distance of 24.5 miles, under train-order authority. The accident occurred within the yard limits of Sartell, on the westbound track, at a point about 3,486 feet east of the west yard-limit board, approaching this point from the west the track is tangent for a considerable distance, followed by a 1° curve to the left 2,613 feet in length, the accident occurring on this curve at a point about 1,593 feet from its western end. The grade for eastbound trains is slightly descending.

There is an embankment on the inside of the curve, through a cut, which is about 10 feet in height at the point of accident, and owing to the curvature and a growth of weeds and brush, as well as a line of telegraph poles, the view was restricted to a distance of 1,728 feet from the fireman's side of the cab of an eastbound engine and to about 350 feet from the engineman's side.

The weather was clear and the sun was shining at the time of the accident, which occurred about 6.20 a.m.

Description

Eastbound freight train extra 1509 consisted of 73 cars and a caboose, hauled by engine 1509, and was in charge of Conductor Grace and Engineman Broshofke. At Gregory, the last open office, a copy of train order No. 8, Form 19, was received, reading as follows:

> "Extra 1509 east has right over opposing trains on westward track Gregory to Sartell Crossover."

This train left Gregory on the westbound track at 4.07 a.m., according to the train sheet, and arrived at Sartell about 5.50 a.m., and while standing at this point the caboose was struck by extra 1572.

Eastbound freight train extra 1572 consisted of 55 cars and a caboose, hauled by engine 1572, and was in charge of Conductor McLeer and Engineman Donahue. At Randall, 13 miles west of Gregory, a copy of train order No. 11, Form 19, was received, reading as follows:

> "Extra 1572 east has right over opposing trains on westward track Gregory to Sartell Crossover."

This train left Gregory on the westbound track at 5.41 a.m., according to the train sheet, 1 hour and 34 minutes behind extra 1509, exploded two torpedoes while approaching Sartell yard limits, passed the west yard-limit board, and collided with the rear end of extra 1509 while traveling at a speed estimated to have been between 8 and 12 miles per hour.

The caboose of extra 1509 and the first car ahead of it were demolished, the second car ahead was derailed, while the rear truck of the third car was shoved under the center of the car. Engine 1572 had its pilot demolished; the front end of the engine was also otherwise damaged and two pairs of driving wheels were derailed. None of the other equipment in either train was derailed or damaged. The employee injured was the conductor of extra 1509.

Summary of evidence.

Engineman Donahue, of extra 1572, stated that his train was drifting at a speed of about 30 miles per hour when torpedoes were exploded which he thought were in the vicinity of the yard-limit board, and he then applied the independent brake and kept a sharp lookout ahead. Approaching the curve to the left, he shouted across to the fireman and head brakeman inquiring as to conditions and soon afterwards they warned him of the train ahead. The engineman immediately applied the air brakes in emergency, opened the sanders, and reversed the engine. Engineman Donahue estimated the speed of his train to have been about 25 miles per hour when the emergency air-brake application was made, and between 8 and 10 miles per hour when the accident occurred, and fixed the location of his engine at the time of the emergency application as in the vicinity of a road crossing which was 1,020 feet from the point of accident. The air brakes had been tested, and worked properly en route. Engineman Donahue further stated that had he been advised that extra 1509 left Gregory 1 hour and 34 minutes ahead of his own train, also on the westbound track, he would have been more cautious; he had operated against the current of traffic over this section of track before, however, without receiving information on preceding trains. While operating with the current of traffic, the automatic block signals afford protection, as well as the yard-limit board, but when operating against the current of traffic, such as was the case in this instance, no protection was afforded except the yard-limit board, therefore, he said he was expecting to be flagged. Engineman Donahue fully understood however, that he was required to operate within yard limits prepared to stop.

Head Brakeman Dupre, of extra 1572, stated that he had been looking back along the train, but that just before his train started around the curve he looked ahead, and on seeing the caboose of extra 1509, he shouted a warning to the engineman, who at once applied the brakes in emergency. Head Brakeman Dupre stated that the train was drifting at a speed of about 25 miles per hour before the torpedoes were exploded and that the engineman acknowledged them and reduced speed slightly, the head brakeman estimated the speed to have been about 20 miles per hour on pass-

ing the yard-limit board, about 15 or 20 miles per hour at the time the emergency application was made, and about 8 or 10 miles per hour when the accident occurred. The head brakeman could not estimate the distance between his engine and the caboose when he saw it, but said he thought his train traveled about 30 or 40 car-lengths after the emergency application was made.

Fireman Patterson, of extra 1572, stated that he had been sitting on his seat box about one minute, having just gotten back on it, when he saw the caboose ahead, apparently about 20 car-lengths distant; he estimated the speed of his train at this time to have then been about 25 or 30 miles per hour, and said he did not think he could have seen the caboose a greater distance.

Conductor McLeer, of extra 1572, stated that the speed of his train was between 25 and 30 miles per hour when the emergency application was made, and he thought it then traveled a distance of about 25 car-lengths before the accident occurred. He estimated the speed to have been about 10 or 12 miles per hour at the time of the accident. Conductor McLeer also stated that it was not customary to receive notice of an extra train ahead on the westbound track. The statements of Flagman Cannon developed nothing additional of importance.

Conductor Grace, of extra 1509, was under treatment in the hospital for injuries received in the accident and was not interrogated. Flagman Higgins was at the head end of the train, assisting with the work at Sartell, and he said that after arriving at that point he telephoned the dispatcher, at about 5.55 a.m., and received information concerning several trains. He was also told that extra 1572 was following extra 1509, but he said he did not go back and inform Conductor Grace, or any one else, in view of the fact that under the rules, no flag protection was required, since his train was within yard limits. The statements of other members of this crew added nothing additional of importance.

The two torpedoes that were exploded by extra 1572 on the westbound track had been placed there by the Conductor of eastbound freight train extra 1788, which left Gregory behind extra 1509 and ahead of extra 1572, at the time extra 1788 stopped to head-in

on the eastbound passing track at Bartell, the conductor having anticipated that his train probably would be backed over, and having put down the torpedoes as a matter of extra precaution. Roadmaster Seaburg informed the Commission's inspector that he found the remains of a recently exploded torpedo along the inside rail of the westbound track at a point 1,914 feet west of the west yard-limit board, and undoubtedly this was one of the torpedoes used by the conductor of extra 1788, for had these torpedoes been placed on the rail by some member of the crew of a westbound train, for a following movement, they would have been placed on the opposite rail, on the engineman's side of the track. These facts would indicate that the torpedoes encountered by extra 1572 were more than 40 car-lengths outside the yard-limit board and more than 1 mile from where the accident occurred.

Conclusions

This accident was caused by the failure of Engineman Donahue, of extra 1572, to operate under proper control within yard limits.

The evidence showed that torpedoes had been put down at a point some distance outside of the yard-limit board, having been placed there by the conductor of a train not involved in the accident. Engineman Donahue's engine exploded these torpedoes, but his view of the track ahead was good, and he continued with very little reduction of speed, passing the yard-limit board at a speed of about 30 miles per hour, and his train was moving at a speed of at least 25 miles per hour when approaching the curve to the left on which the accident occurred, where he had practically no view of the track ahead. The result was that he was unable to stop his train when the fireman and head brakeman, both of whom were riding on the left side of the engine, gave warning of the presence of extra 1509.

Engineman Donahue seemed to think that flag protection should have been provided. He was thoroughly familiar with rule 93, however, which in part requires extra trains to move within yard limits prepared to stop, unless the main track is seen or known to be clear, and since this rule also provides that first-

class trains when running against the current of traffic must be operated prepared to stop, it is difficult to see why he should have had any idea that his own train, which was an extra, could be operated any differently. Engineman Donahue also said he would have been more cautious had he known extra 1509 was ahead of him. Here, again, the answer is to be found in the requirements of rule 93, just referred to, and it might also be well to point out that in view of the fact that extra 1509 left Gregory, only 24.5 miles from Sartell, 1 hour and 34 minutes ahead of him, it is rather doubtful if he would have operated his train any differently, even had all of this information been given to him. There was other evidence, however, to the effect that he had operated under similar circumstances on previous occasions without being furnished with information concerning preceding trains, and it is not believed that there is any justification for the excessive speed at which he was operating his train when entering the yard at Sartell against the current of traffic.

There is a question as to whether Engineman Donahue was given as much warning as possible by those on the left side of the engine. The engineman said the emergency application was made in the vicinity of a road crossing which is only about 1,000 feet from the point of accident, the head brakeman said the train travelled 30 or 40 car-lengths after this application had been made, the fireman thought the caboose was about 20 car-lengths distant when he first saw it, and the conductor thought the train moved about 25 car-lengths after the brake application was made. The view from the fireman's side was found to be 1728 feet, and this fact, when considered in connection with the estimates of the engineman, fireman and conductor, just referred to, make it appear probable that warning was not given to the engineman at the earliest possible moment, and there is a possibility that the accident might have been prevented had the engineman had the benefit of the full distance of 1,700 feet within which to bring his train to a stop.

All of the employees involved were experienced men, and at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,

Director.