

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE GREAT NORTHERN RAILWAY AT LITCHFIELD, MINN., ON OCTOBER 1, 1923.

November 9, 1923.

To the Commission:

On October 1, 1923, there was a derailment of a freight train on the Great Northern Railway at Litchfield, Minn., which resulted in the death of one employee and the injury of two employees.

Location and method of operation

This accident occurred on the First Subdivision of the Millrar Division, extending between Delano and Millmar, Minn., a distance of 63.09 miles, over which trains are operated by time-table and train orders, following trains are spaced 20 minutes apart at open offices. There are two passing tracks at Litchfield, this accident occurred at the west switch of the west passing track about 900 feet west of the station, this being a facing-point switch for eastbound trains. The investigation disclosed that this switch had been left set for the passing track and had been run through by a westbound train before this accident occurred. The track is tangent in either direction for over 2 miles, while the grade is 0.40 per cent ascending for eastbound trains for a distance of about 3,700 feet. The track is laid with 90-pound rails, 53 feet in length, with 20 tanstuck and fir ties to the rail-length, single-spiked and tie-plated, and ballasted with about 18 inches of gravel. A No. 11 frog is used, the distance from the switch points to the point of the frog being 90 feet. The switch stand is a Norton stand, located on the engineer's side of an eastbound train, the center of the lens is 7 feet 4 inches above the tops of the ties. The weather was clear at the time of the accident which occurred at 12.47 a.m.

Description

Westbound freight train extra 3027 consisted of 54 cars and a caboose, hauled by engine 3027, and was in charge of Conductor Myers and Engineer Selvig. This train entered the west passing track at Litchfield to permit a passenger train to pass and after the lapse of the 20-minute spacing interval as required by the rule, the train departed at 10.05 p.m., leaving the west switch open in accordance with an agreement which the conductor and brakeman claim to have had with the engineer of extra 3020.

Westbound extra 3020 consisted of engine 3020 and a caboose and was in charge of Conductor Fokberg and Engineman O'Neil. This train occupied the east passing track and after the passenger train had passed, entered onto the main track, at which time extra 3027 was still on the west passing track, and stopped in front of the station. After waiting the required 20 minutes after the departure of extra 3027, the train departed at 10.25 p.m., without closing the west switch of the west passing track, and, consequently ran through the switch, leaving the switch in that condition and with the switch points spread.

Eastbound freight train extra 3005 consisted of 91 cars and a caboose, hauled by engine 3005, and was in charge of Conductor Mullen and Engineman Stolt. This train left Willmar, 25.92 miles from Litchfield, at 11 p.m. left Atwater, 12.76 miles from Litchfield, at 12.23 a.m., and was derailed at the west switch of the west passing track at Litchfield at 12.47 a.m., while traveling at a speed estimated to have been about 15 miles an hour.

Engine 3005 was derailed to the left and came to rest on its left side 200 feet from the point of derailment and was badly damaged, the first eight cars were derailed and all but the seventh and eighth cars were demolished, the latter two being badly damaged. The next 15 cars were not derailed nor damaged, but the following 11 cars were derailed and badly damaged, some being destroyed. The employee killed was the fireman of extra 3005.

Summary of evidence.

Engineman O'Neil, of extra 3020, said that before extra 3027 pulled out of the west passing track, he told Rear Brakeman Rice of that train that he would close the west switch, no answer being made by the brakeman, and then pulled down the main track to the station where he saw Conductor Myers and also told him that he would close the switch for him and he said that when Conductor Myers replied that they had only 64 cars and plenty of time, and that it would not be necessary, he considered his previous talk with Brakeman Rice void, but admitted that he had sounded two whistle signals as a proceed signal to the head end of extra 3027 as that train was departing. Engineman O'Neil said that while waiting for the block to clear he worked on the headlight and upon the expiration of 25 or 30 minutes he received a proceed signal and pulled out, not looking to see the position of the switch, as he supposed it was alright. He further stated that the headlight was good and that he

was able to see for fully 1/4 of a mile and was in a position to see the switch light on the opposite side of the engine until he was within six or eight car lengths of it. Fireman Smith said he did not hear the conversation between Engineman O'Neil and Conductor Myers or Brakeman Rice, and that when leaving Litchfield he was working the stoker, not looking for the indication of the switch, although he knew of the rule to the effect that firemen must know the indication of switches and call the attention of the engineman to all signals set against their trains. Conductor Eckberg, Brakeman Storm and Brakeman Moriarity of extra 3020, said they knew of no arrangement Engineman O'Neil made with the conductor and brakeman of extra 3027 as to handling the switch for them, and that as their train started to pull out they went inside the caboose and did not notice the position of the switch as their train passed over it.

Conductor Myers, of extra 3027, said that after the passenger train had passed, he coupled a crossing and after testing the air, gave a proceed signal and then went to the station to get a clearance card, and while his train was pulling out, extra 3020 pulled up to the station on the main track and Engineman O'Neil of that train volunteered to close the west switch, but he replied "Maybe we can close our own switch." He got on the caboose as it passed him and Brakeman Rice told him that Engineman O'Neil had said he would close the switch and he concluded that as Engineman O'Neil was considered a competent man he would close the switch as he had said he would. Conductor Myers further said that he was riding on the rear platform of the caboose with the two brakeman and that the speed of the train was such passing over the switch that it would have been impossible for a man to have gotten off the train, throw the switch and again board the train. Brakeman Rice said that before his train pulled out, extra 3020 pulled out of the east passing track and down the main track towards the station and as the engine passed him, Engineman O'Neil told him he would take care of the switch and as soon as his train was ready to depart, he gave a proceed signal to the head end, and heard Engineman O'Neil sound two whistle signals, and concluded that he would throw the switch behind them. Brakeman Rummel, Engineman Selvig and Fireman Resbacher of extra 3027, said they heard two blasts on a whistle and supposed that the switch would be taken care of and that no stop was to be made for that purpose.

Engineman Stolt, of extra 3005, said he shut off steam approaching Litchfield and allowed the train to drift, as he saw the train-order board displayed, and he called to the fireman and head brakeman about picking up the order. When about 30 or 40 car lengths from the west switch, running at a speed of about 25 miles an hour, he saw the stop indication of the switch lamp, applied the air brakes in emergency, and had reduced speed to about 15 miles an hour when the accident occurred. Engineman Stolt said that the lights about the station and street lights confused him together with the fact that a new automatic signal mast was in a direct line of view with the switch light, and while he admitted that it was easier to distinguish a red light than a green light he was unable to account for the fact that he was able to see several green lights beyond the station before he saw the red light of the switch, which was nearer to him, and was burning properly. He made an inspection of the switch and switch stand after the accident and found that the switch had been run through, the switch being lined for the passing track the switch unlocked and the lock in the hasp. Extra 3005 had made only one stop en route, and while Engineman Stolt said the engine passed the water tank at that point a distance of 10 or 15 car lengths, making it necessary to back up, he did not consider that there was anything wrong with the air brakes, and he said that when he saw the switch at Litchfield set against his train it was too close to stop. Head Brakeman Magnuson said that he was looking back over the train approaching Litchfield and when he heard the engineman speak about getting a train order he looked ahead and noticed the red switch light and at about the same time the engineman applied the brakes in emergency.

Division Roadmaster Hara said that upon making an inspection in company with the superintendent and master mechanic about 1 1/2 hours after the accident, he found that the switch bore indications of having been run through. He also said that he made measurements and found that the switch stand is 6 feet 4 inches from the nearest rail, while the signal mast referred to by Engineman Stolt, which is a part of a new automatic block-signal system being installed but not yet in operation, is 6 feet 2 inches from the nearest rail. Observations showed that there was nothing to interfere with the view of the engineman of an eastbound train.

Conclusions

This accident was caused by the damaged condition of a switch which had been run through by another train.

While there is a dispute in the testimony as to the existence of an understanding with Engineman O'Neil, of extra 3020, that he would close the switch after the departure of extra 3027, this does not explain his failure to observe the position of this switch when his own train departed from Litchfield, resulting in running through it and damaging it. The switchstand was on the fireman's side, and according to the fireman's own statement he was on his seat box, but was giving attention to the operation of the stoker instead of looking ahead. Had either of these employees been maintaining a proper lookout, they would have seen that the switch was open and could have stopped in time to avoid running through it.

Under rule 104 of the Rules and Regulations for the Government of Employees of the Operating Department, it is provided in part that "a switch must not be left open for a following train unless in charge of a trainman of such train." The crew of extra 3027 understood that Engineman O'Neil would close the switch, this understanding being more reasonable in view of the fact that either he or some other member of his crew would have to close the switch in order to proceed, and under the circumstances as they existed it is not considered that the crew of extra 3027 are responsible for departing from Litchfield and leaving the switch open.

The train sheet shows that the average speed of extra 3005 from Atwater to Litchfield had been nearly 32 miles miles an hour, and in view of the damage resulting from the accident, and the fact that the grade is 0.4 per cent ascending for a distance of 2,700 feet approaching the switch, it seems apparent either that the speed must have been more than 25 miles an hour when Engineman Stolt first saw the stop indication of the switch lamp 30 or 40 car lengths distant, or else that his estimate as to this distance is excessive, in either event, however, considering the straight track, unobscured view, and the fact that the switch lamp was burning properly, it is clear that Engineman Stolt did not see its indication as soon as he could have, although it is possible that his having

observed the indication of the train-order board, some distance beyond the switch, and then turning to speak to the firer and head brakeman about getting the order to be delivered at that point, diverted his attention momentarily from observing the indication of the switch lamp.

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. F. BORLAND

Director.