

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON
THE MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE
RAILROAD AT GRAY'S LAKE, ILL., ON AUGUST 22, 1925.

January 4, 1926.

To the Commission:

On August 22, 1925, there was a side collision between two freight trains on the Minneapolis, St. Paul & Sault Ste. Marie Railroad at Gray's Lake, Ill., resulting in the death of one employee and the injury of two employees.

Location and method of operation

This accident occurred on the First District of the Fon du Lac Division, extending between Forest Park, Ill., and Shops Yard, Wis., a distance of 147.5 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table and train orders, no block-signal system being in use. The accident occurred just east of the west switch of the passing track at Gray's Lake; approaching this point from either direction the track is tangent and practically level for more than 1 mile. The passing track at Gray's Lake is 3,995.5 feet in length and parallels the main track on the north. The train-order signal at this point is of the three-position, upper-quadrant type, and is located 734.5 feet west of the east switch; night indications are green, yellow, and red, for proceed, Form 19 train orders, and Form 31 train orders, respectively. Eastbound trains are superior to westbound trains of the same class.

The weather was clear at the time of the accident, which occurred at about 7.28 p.m.

Description

Westbound freight train extra 2446 consisted of 71 cars and a caboose, hauled by engine 2446, and was in charge of Conductor Tindall and Engineman Cleveland. This train arrived at Gray's Lake at 7.12 p.m., according to the train sheet, headed in at the east switch of the passing track and was brought to a stop with the engine fouling the main track at the west switch, after which the engine and first 10 cars in the train were cut off, it being intended to do some switching at the rear end of the train. The engine had start-

ed to head out on the main track when eastbound extra 3011 was seen approaching; the crew then attempted to recouple the train and back into clear on the passing track, but the accident occurred before this could be done.

Eastbound freight train extra 3011 consisted of 52 cars and a caboose, hauled by engine 3011, and was in charge of Conductor Anthony and Engineman Davis. At Lake Villa, 5.5 miles west of Gray's Lake, the crew received a copy of train order No. 125, Form 19, reading as follows:

"Ex. 2446 west get this order take siding & meet extra 3011 east at Gray's Lake instead of Lake Villa."

This order was made complete at 7.15 p. m. and the train departed from Lake Villa at 7.18 p.m., colliding with extra 2446 at Gray's Lake while traveling at a speed estimated to have been between 15 and 20 miles an hour.

Both engines were derailed and came to rest on their right sides, considerably damaged; nine cars were also derailed, seven of which were practically demolished. The employee killed was the fireman of extra 3011.

Summary of evidence

Train Dispatcher Peterson stated that originally it was arranged to have extra 2446 meet extra 3011 at Silver Lake, 16.1 miles west of Gray's Lake. Extra 2446 was delayed en route and the meeting point was changed to Siding 55, then Lake Villa, the second and first stations west of Gray's Lake, respectively, and finally to Gray's Lake; all of these orders changing the meeting point were put out to the crew of extra 2446 at Gray's Lake, the first two being on Form 19, while the last order, No. 125, previously quoted, issued to extra 2446 at the meeting point, was on Form 31. After Operator Satterfield assured Dispatcher Peterson that the train-order signal was displaying a red indication, this being the Form 31 train-order position, Dispatcher Peterson told Operator Satterfield to give the "X" response, and before dismissing the operator he again inquired as to whether or not the train-order signal was in the red or "31" position and the operator informed him that it was. Then Dispatcher Peterson told Operator Satterfield to instruct Engineman Cleveland, of extra 2446, not to delay extra 3011 as that train was going to Mundelein, 5.5 miles east of Gray's Lake, ahead of train No. 6. Train order No. 125 was not signed for by the crew of extra 2446, while the order was not repeated by the operator until 7.37 p.m., after the accident had occurred.

Operator Satterfield, stationed at Gray's Lake, stated that he had both Form 19 and Form 31 train orders for extra 2446, and that the train order signal displayed a red indication, the Form 31 train-order position, before he copied train order No. 125, at 7.12 p.m., at which time extra 2446 had not quite reached the east switch of the passing track, and he recorded that train as having arrived at 7.12 p.m. The dispatcher told him to instruct Engineman Cleveland, of extra 2446, to stay into clear for extra 3011 and accordingly he ran down to the east switch, this switch being about 725 feet east of the office, and got there about the time the engine and first car had headed in on the passing track.

Operator Satterfield stated that he stood in the center of the main track, about 10 feet from the engine, and as the engine passed him he shouted to the engine crew, as loudly as he could, the instructions he had received from the dispatcher, but he was not certain that these instructions were understood, nor were they acknowledged. When the caboose was about opposite the station Conductor Tindall came in the office and Operator Satterfield said he informed the conductor of the contents of train order No. 125, whereupon Conductor Tindall went outside and signalled the head end of the train. Operator Satterfield also stated that he saw the markers on extra 2446 and informed Dispatcher Peterson that the train was into clear.

Operator Tronson, stationed at Lake Villa, stated that he was listening in on the telephone and just after copying train order No. 125 for extra 3011 he heard Operator Satterfield inform Dispatcher Peterson that extra 2446 was into clear. Operator Tronson then gave this information to the head brakeman of extra 3011.

Engineman Cleveland, of extra 2446, stated that the only order he had against extra 3011 was a meet with that train at Silver Lake. On arrival at Gray's Lake the train-order signal was displaying a yellow indication, the Form 19 train-order position; it was in this position when he started to head in at the east switch, but he did not notice it after this time, nor did he understand what the operator said to him as the train was entering the passing track. On receiving a signal from the rear end he brought the train to a stop and at this time the engine was just foul of the main track at the west switch, about 35 feet from the switch frog. The first 10 cars were then cut off and the switch then was opened, but before pulling out on the main track, after having moved not more than a car length, Engineman Cleveland saw the headlight of extra 3011 coming around the curve, about $1\frac{1}{2}$ miles distant. He told the fireman to see that

the head brakeman closed the switch and then endeavored to back up but the brakes stuck and prevented him from doing so. The fireman then got off with a fusee, lighted it and started toward extra 3011, and, although his train was not in to clear on the passing track, Engineman Cleveland extinguished the headlight to enable the engineman of extra 3011 to have a better view of the fusee. He heard the engineman of extra 3011 acknowledge the fireman's stop signals and was fully satisfied in his own mind that it was going to stop, not realizing there was danger of a collision until about the time it occurred; he thought the speed of extra 3011 was about 15 miles an hour at the time of the accident. He estimated that extra 3011 was about $\frac{5}{4}$ mile distant when the switch was relined for the main track, and more than $\frac{1}{2}$ mile distant when the fireman lighted the fusee and he extinguished the headlight, at about which time the fusee was acknowledged. Rule 221A of the Rules of the Operating Department relates to the use of train-order signals and provides in part as follows:

"while 'stop' or 'caution' is indicated trains must not proceed without a clearance card Form A."

Engineman Cleveland thought it was permissible to head in at the east switch of the passing track, pass the train-order signal while it was displaying the Form 19 train-order position, proceed to the west switch and then use the main track without first receiving the train orders for which the signal was displayed, this being in accordance with the instructions of the train rules examiner as he understood them. He admitted, however, that he would not pass such a signal on the main track for the purpose of backing in on the passing track. He further stated that had the train-order signal displayed a red indication, the Form 31 train-order position, he would not have fouled the main track.

Fireman Rosenthal, of extra 2446, stated that on arrival at Gray's Lake the train was brought to a stop about 10-car-lengths east of the switch and at this time the train-order signal was in the Form 19 train-order position; he did not again look at the signal. When Engineman Cleveland gave warning of the approach of extra 3011 Fireman Rosenthal secured a fusee, lighted it, and started toward that train, reaching a point about two or three car-lengths ahead of his engine before his signals were acknowledged. He could not determine how far away extra 3011 was when he flagged it, as the glare from the headlight was deceiving, but thought it was close and was of the opinion that the train was under control.

Head Brakeman Sage, of extra 2446, stated that as the engine headed in on the passing track he noticed that

the train-order signal was displaying a yellow indication; he did not again look at the signal. The operator was standing on the main track about a car length west of the switch and shouted something but he did not understand what the operator said.

Conductor Tindall, of extra 2446, stated that when he first noticed the train-order signal his train was about half way in on the passing track and at this time it was displaying a red indication. Before his train came to a stop on the passing track he got off, the caboose and went into the office; the operator informed him of the meet with extra 3011 and he also saw the Form 31 train order on the desk. At that time the dispatcher had issued instructions for his train to stay into clear for extra 3011; Conductor Tindall told the operator he had better see to it that this was done and then went out on the platform, walked about a car length or so, and he and Flagman Gribben then began to give stop signals to the head end of their train. (Satisfying himself that his train was into clear, Conductor Tindall returned to the office and talked to the operator about the switching to be performed, and then sent Flagman Gribben toward the head end of the train in connection with this work. Shortly afterwards Conductor Tindall went outside and saw the headlight of extra 3011 as the train approached, and by looking at the headlight of that train from this position he said that he thought the main track was clear and his train was standing on the passing track; he again went back into the office, where he was located when the accident occurred. He did not agree with Engineman Cleveland that his train had a right to foul the main track at the west switch with the train-order board in the Form 19 train-order position, although he would not say it was not done under certain circumstances.

Flagman Gribben, of extra 2446, stated that when his train came to a stop before heading in at the east switch he looked out of the caboose and saw that the train-order signal was displaying a red indication; he did not again look at the signal. His other testimony practically corroborated that of Conductor Tindall. Section Foreman Newman also saw the train-order board displaying a red indication, this being when extra 2446 was pulling through the passing track.

The statements of Engineman Davis, of extra 3011, were taken at the hospital; he stated that when he came around the curve west of the point of accident he saw the headlight of extra 2446, and thinking that the rear end of that train was not into clear he shut off steam and let the train drift, the speed being about 35 miles an hour at this time. When about 15 or 20 car-lengths from the west switch the headlight of extra 2446 was extinguished and he was illag-
ed with a fusee, while at about the same time he saw that t

the head end of extra 2446 was fouling the main track and he immediately applied the air brakes in emergency.

Conductor Anthony, of extra 3011, stated that the only information he had on extra 2446 was that contained in train order No. 125, received at Lake Villa, and under this order the west switch at Gray's Lake should have been approached under control and the engineman should have definitely ascertained whether or not the opposing train was into clear before passing the switch. He judged that the air brakes were applied on his train when the engine was about 40 car-lengths from the west switch.

Trainmaster Mann stated that a train must not pass a station where the train-order signal is displayed without receiving the proper clearance card and the proper orders; if it goes beyond the clearance point on the passing track it is passing the clearance point of the station and such a movement should be made only under flag protection.

Conclusions

This accident was caused by the failure of Engineman Cleveland, of extra 2446, to stop his train before it had fouled the main track at the west passing-track switch after having observed that the train-order signal was displayed to indicate that there were orders for delivery to the crew of his train.

Under the rules, when the train-order signal is displayed for the delivery of train orders, either on Form 31 or on Form 19, a train can not proceed without first obtaining a clearance card. When extra 2446 stopped at Gray's Lake for the purpose of heading in on the passing track the train order signal was displayed and Engineman Cleveland therefore knew that there were orders for his train. Instead of stopping on the passing track with his engine clear of the main track until he had ascertained the contents of the orders, he allowed the engine to foul the main track and then started to head out on the main track with 10 cars for the purpose of backing eastward on that track to perform some switching. He said he thought such a movement was permissible with the train-order signal in the Form 19 position, but that he would not have fouled the main track had the train-order signal been in the Form 31 position nor would he have proceeded down the main track, with the signal in the Form 19 position, for the purpose of backing in at the west switch. The weight of evidence indicates that the signal was in the Form 31 position, but the fact remains that even had it been in the Form 19 position he had no right to foul the main track at the west switch. The

rule makes no distinction between the two positions of the signal; in either case the train can not proceed.

Under rule 98A all freight trains are required to enter and pass through all stations under full control expecting to encounter other trains. On account of the injuries he received in the accident Engineman Davis, of extra 3011, could not be questioned as to his reason for not observing this rule. Such statements as he was able to make was to the effect that his train approached Gray's Lake at a speed of about 35 miles an hour and that he did not apply the air brakes until he was flagged by the fireman of extra 2446, at about which time he saw that that train was fouling the main track. Had Engineman Davis complied with the rule it is probable he could have stopped his train in time to avoid the accident, but it is only proper to state that it was not determined to what extent he was misled by the information given by Operator Tronson that extra 2446 was clear of the main track.

The rules of the operating department also provide that train orders for a train to meet or wait for another train shall not be issued at the meeting or waiting point except when unavoidable. The investigation did not develop anything to show that Dispatcher Peterson could not have issued train order No. 125 to the crew of extra 2446 at a preceding station, 7.6 miles distant, at which point other orders were delivered to the crew of this train. Attention is also called to the fact that at about the same time another train order, not involved in the accident, was issued by Dispatcher Peterson which violated these provisions, this being a wait order sent to a first-class train at the waiting point.

The investigation developed that, with respect to the use of the main track when the train-order signal is displaying a Form 19 indication, there was a lack of uniform understanding among the employees which suggested that the rule in practice was often disregarded; there was also the failure of the dispatcher to issue restricting orders to trains at a station preceding the point at which the particular restriction became effective, and also the failure of the engineman of extra 3011 properly to control the speed of his train when entering Gray's Lake. The happening of so many violations of rules on the part of several employees raises a doubt as to whether the supervising officials have been as strict in the enforcement of the rules as should have been the case. This accident could have been prevented had any of the rules mentioned been strictly enforced and obeyed.

Had an adequate block-signal system been in use on this line the accident probably would not have occurred; an adequate automatic train stop or train control device would have prevented it.

With the exception of the head brakeman of extra 2446 all the employees involved were experienced men. At the time of the accident the crew of extra 2446 had been on duty about $4\frac{1}{2}$ hours after 8 hours off duty, while the crew of extra 3011 had been on duty nearly 9 hours after about 15 hours off duty.

Respectfully submitted,

W. P. Borland,

Director.