

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
CHICAGO AND NORTH WESTERN RAILWAY AT CLYBOURN,
ILLINOIS, ON SEPTEMBER 6, 1926.

October 25, 1926.

To the Commission:

On September 6, 1926, there was a rear-end collision between two passenger trains on the Chicago and North Western Railway at Clybourn, within the city of Chicago, Illinois, which resulted in the death of 5 passengers and the injury of approximately 200 passengers

Location and method of operation

This accident occurred on Sub-division 4 of the Wisconsin Division, which extends between Chicago and Harvard, Illinois, a distance of 62.7 miles. In the immediate vicinity of the point of accident this is a double-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. The point of accident was near the western end of the station platform at Clybourn; approaching this point from the west the track is tangent for a distance of several miles, followed by a 2° 23' curve to the right which is 1,400 feet in length, the accident occurring on this curve 522 feet from its western end. The grade is practically level.

Beginning at a point 889 feet west of the point of accident and extending westward for a distance of several miles there are three main tracks, numbered from south to north, 1, 2, and 3. Tracks 1 and 3 are used for westbound and eastbound movements respectively, trains running with the current of traffic keeping to the left instead of the right, track 2 is used for eastbound movements between 11 p.m. and 11 a.m. and for westbound movements between 11 a.m. and 11 p.m. The interlocking tower at what is known as Wood Street is located 863 feet west of the point of accident, while eastbound home signal 34 governing movements on track 3 is located 1,835 feet west of the point of accident. This signal, which also serves as an automatic block signal, is of the one-arm, three-position, upper-quadrant type, mounted on a signal bridge over the track. On the same mast with signal 34 there is also a calling-on signal known as signal 38

The weather was clear at the time of the accident which occurred at about 7.06 p.m.

Description

Eastbound passenger train third No. 508 consisted of one express car, one mail car, one baggage car, one smoking car, four coaches, one parlor car and four coaches, in the order named, hauled by engine 1635, and was in charge of Conductor Koepp and Engineman Thompson. The first nine cars were of steel construction, while the rear four cars were of wooden construction. The accident occurred during the hours when track 2 is normally used for westbound movements, but authority was given the crew of train third No. 508 to use that track from Hunting Avenue, 4.2 miles west of Clybourn, to the eastern end of the track at Wood Street. The train entered on track 2 accordingly and at Maplewood, 1.2 miles from Clybourn, it passed train No. 734, which was on track 3. It then passed Wood Street at 7:03 p.m., stopped at Clybourn at about 7:04 p.m., 28 minutes late on the schedule of train No. 508, and about two minutes afterward was struck by train No. 734.

Eastbound passenger train No. 734 consisted of five coaches and one combination passenger and baggage car, all of wooden construction, hauled by engine 125, and was in charge of Conductor Wolff and Engineman Smith. A stop indication was encountered at signal 34 but the calling-on signal was placed in the caution position before the signal location was reached and the train proceeded at reduced speed, passing Wood Street, according to the towerman's record, at 7:05 p.m., 18 minutes late, and collided with the rear of train third No. 508 while traveling at a speed variously estimated to have been between 5 and 20 miles an hour.

Engine 125 telescoped the rear end of the rear car for a short distance, and that car in turn telescoped the rear end of the car immediately ahead of it, both of these cars being badly damaged. Engine 125 was not derailed, while none of the cars in its train sustained serious damage.

Summary of evidence

Conductor Koepp, of train third No. 508, said that when his train stopped at Clybourn he and the head brakeman assisted the passengers at the head end of the train while the flagman had been instructed to open the doors of the four rear coaches, the practice being that when the head end of a train has been unloaded the head brakeman will go back and assist the flagman with the four rear cars. Conductor Koepp said he had unloaded six passengers at the head end of the train and started to walk back to the car immediately in the rear but had not quite reached it when the collision occurred, about a minute or a minute and a half after his train had stopped. He knew nothing about the conditions existing in

the rear of his train immediately prior to the collision but said it was not customary to flag when making a station stop unless some unusual circumstances arose, and he expressed the opinion that under the circumstances which existed in this case the responsibility would rest with the engineman of the following train, who should be proceeding prepared to stop within his range of vision after having received a calling-on signal. The statements of Head Brakeman Bauer, Baggage-master Singer, Engineman Thompson and Fireman Goetke, all of train third No. 508, brought out no additional facts of importance

Flagman Elling said that when his train stopped at the interlocking plant at Mayfair, 4.7 miles from Clybourn, he noticed that both of the markers on the rear car were burning brightly. Train No. 734 was passed at Maplewood and he saw it pulling out of the station as his own train passed, at a speed of about 25 miles an hour, and he therefore knew that train No. 734 would be closely following his own train. He supposed, however, that the following train would be operated prepared to stop after passing the calling-on signal, and when his own train stopped to discharge passengers at Clybourn he got off with red and white lanterns at the rear end of the rear car and assisted passengers to alight. While so engaged, probably half a minute after his train had stopped, he happened to look back and saw the headlight of the engine of the following train. Flagman Elling said he at once started back swinging his lanterns across the track as a stop signal, and after going back about a distance of two and one-half car-lengths he saw that the approaching train was not going to stop before reaching him and got out of the way on the fireman's side of the track by jumping to one of the girders of the bridge which carried the tracks over a public highway a short distance west of the station. He said the engine of train No. 734 was working steam although he was unable to tell whether it was in forward or reverse motion, and he also said that he had fusees and torpedoes with him at the time but that he did not have an opportunity to use them. Flagman Elling further stated that it was customary to assist passengers in making station stops, going back to flag only under unusual circumstances

Engineman Smith, of train No. 734, said he saw train third No. 508 pass his own train at Maplewood and that he departed from that point slowly in order to give that train time to clear the signal at Wood Street. The signal at the latter point, however, was in the stop position and he shut off steam, but when within from one-fourth to one-half mile of the signal location the calling-on signal was changed to display a caution indication and he allowed his train to drift by the signal at a speed of about 15 miles an hour. Shortly afterward the headlight of a train on the westbound track interfered with his vision, and he made a further re-

duction in speed and did not release the brakes until after the headlight had been passed. He saw that his train was about to stop, the speed then being down to 6 miles an hour, and released the brakes, although he could not see very far on account of the fact that the westbound train was on the inside of the curve and interfered with his view. A very few seconds after releasing the brakes he saw the rear end of the train ahead and at once placed the brake valve in the emergency position, opened the sanders, reversed the engine and opened the throttle, the collision occurring at about the time the last of these acts had been accomplished, at which time the speed was about 5 miles an hour. He estimated that his train was about three coach-lengths, or possibly a little more, from the rear of train third No. 508 when the headlight of the train on the westbound track passed him and thought this distance had been decreased to about one and one-half coach-lengths before he saw the rear end of the train ahead.

Engineman Smith further stated that when he received the calling-on signal at Wood Street he supposed the preceding train had departed from the station at Clybourn. Under rule 501-G, however, the signal indication he had received required him to "Proceed at slow speed prepared to stop short of train or obstruction," and he considered that he operated his train strictly in accordance with this rule, saying that he would have been able to stop if the brakes had held properly. He attributed this difficulty with the brakes to the fact that they had not been recharged after the previous applications, coupled with long piston travel. Engineman Smith advanced a further reason for the occurrence of the accident in the fact that he did not know train third No. 508 was immediately ahead of him, saying that he frequently received a permissive indication at a calling-on signal when there was no train ahead and that in this case he assumed that the towerman was using the calling-on signal for a purpose other than that for which it was intended; notwithstanding this argument, however, he would not admit that he violated the provisions of rule 501-G nor would he admit that the speed of his train was more than 5 miles an hour at the time of the accident, even in view of the amount of damage which resulted.

Fireman Laidley, of train No. 734, who was an inexperienced employee, said he did not call the indication of the home signal as the engineman had shut off steam and applied the air brakes when approaching it. The speed was reduced to about 25 miles an hour when passing the signal and the brakes were then released, and Fireman Laidley said that so far as he knew the engineman did not again open the throttle but allowed the train to drift. When about 10 car-lengths from the point of accident the headlight of a westbound train came into view and Engineman Smith dimmed the headlight on his own engine. Very shortly afterward, however, he turned

on the full-power headlight, and Fireman Laidley, who was on the outside of the curve, said he could plainly see the markers on the rear of train third No. 508 with the flagman standing at the rear of the train assisting passengers. This flagman, however, as soon as the headlight was turned on fully, jumped to the middle of the track and began giving stop signals with his lanterns. In the meantime Fireman Laidley had called to Engineman Smith but he said that apparently the engineman had seen the train ahead at about the same time, applying the brakes in emergency and opening the sanders. Fireman Laidley estimated that the distance between the two trains was about four car-lengths at the time Engineman Smith turned on the high-power headlight and said that the time intervening was so short that there was nothing for them to do but to brace themselves for the shock of the collision, which occurred while his train was traveling at a speed he estimated to have been 15 to 20 miles an hour. He further stated that no difficulty had been experienced in making the various station stops en route.

Conductor Wolff said his train passed Wood Street at a speed of about 15 miles an hour and thought it was still moving at about the same rate of speed at the time the accident occurred, without any application of the air brakes having been made. Ticket Collector Lowell thought the speed was about 25 miles an hour when passing Wood Street, that there was an application of the air brakes just before the tower was passed, and that the speed at the time of the accident was about 20 miles an hour. Flagman Stallman was not sure about an application of the air brakes immediately prior to the collision and estimated the speed to have been about 15 miles an hour.

Towerman McLain said he knew that train third No. 508 was using the middle track and had lined the route for that train to proceed to the station at Clybourn without stopping, the train passing the tower at 7.02 p.m. Immediately after the train had passed he lined the route for the passage of train No. 734 and gave that train the calling-on signal. Train No. 734 passed the tower at 7.05 p.m., moving at a speed he estimated to have been somewhat in excess of 10 miles an hour, but not more than 15 miles an hour, with the engine working steam. According to his statement the engine of the westbound train passed the tower at the same time as the engine of train No. 734; the headlight on the engine of the westbound train was dimmed but to the best of his recollection Engineman Smith left the high-power light turned on.

Conclusions

This accident was caused by the failure of Engineman Smith, of train No. 734, properly to obey signal indications.

The home interlocking signal at Wood Street interlocking plant was in the stop position on account of the fact that train third No. 508 was standing at the station at Glyn-bourn. As soon as the proper route had been lined for the movement of train No. 734 through the plant to the station, the towerman gave Engineman Smith the calling-on signal for the purpose of allowing his train to close up on the train ahead. The indication received by Engineman Smith, however, allowed him to pass the stop-and-stay home signal only at a low rate of speed "prepared to stop short of train or obstruction." While the evidence is somewhat conflicting it appears that while passing the tower or immediately afterward Engineman Smith's vision was interfered with to some extent by the headlight of an engine having a train moving in the opposite direction on an adjoining track, this train being on the inside of the curve. Engineman Smith said he was within three coach-lengths of the point of accident when that engine passed him and that he then looked down at the ground, saw his train was about to stop, released the brakes and within a very few seconds after this had been done he saw the rear of train third No. 508, apparently one and one-half coach-lengths distant. Engineman Smith estimated the speed of his train to have been about 6 miles an hour when releasing the brakes and said that within that distance of one and one-half coach-lengths he was able only to reduce the speed to 5 miles an hour before the occurrence of the accident. Engineman Smith's statements regarding the speed of his train are not supported by those of any of the other members of the crew, or by any other witness except possibly the towerman. The damage which resulted from the accident tends to support the statements of the witnesses other than Engineman Smith and Towerman McLain, and fully warrants the conclusion that the speed of train No. 734 was much higher than was estimated by the engineman, and it seems probable that he allowed his train to proceed around the curve, with his view more or less obstructed, at a speed of at least 15 miles an hour and that when he finally saw the rear end of the train ahead it was too late to take any effective action toward preventing the accident. Had Engineman Smith complied with the intent and plain meaning of the rule, reducing the speed so that he could stop within his range of vision, this accident would not have occurred.

When the towerman gave train No. 734 the calling-on signal he authorized that train to close up on train third No. 508 instead of remaining at the signal location until the rear of the train ahead had cleared the limits of the interlocking plant, east of the station. This was the only possible benefit that could have been derived from such a move, and in view of the fact that the station platform was not long enough for both of the trains to discharge passengers at the same time, it is not believed that such a movement should have been authorized with the first train still standing at

the station. This is especially true when it is considered that the first train would have cleared the interlocking plant almost immediately after its departure from the station, at which time train No. 734 could have proceeded on the usual signal indications with full knowledge that the track was clear. Had the use of this calling-on signal been properly restricted, train No 734 would have been held at signal 34 and this accident would not have occurred.

With the exception of the fireman of train No. 734, all of the employees involved were experienced men. The crew of train third No 508 had been on duty about $9\frac{1}{2}$ hours after 10 hours off duty, while the crew of train No. 734 had been on duty from $6\frac{1}{2}$ to 7 hours, after 16 hours or more off duty.

Respectfully submitted,

W. P. BORLAND,

Director