INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE MICHIGAN CENTRAL RAILROAD AT TOWN LINE, MICH., ON MARCH 6, 1931.

April 13, 1931.

V

To the Commission:

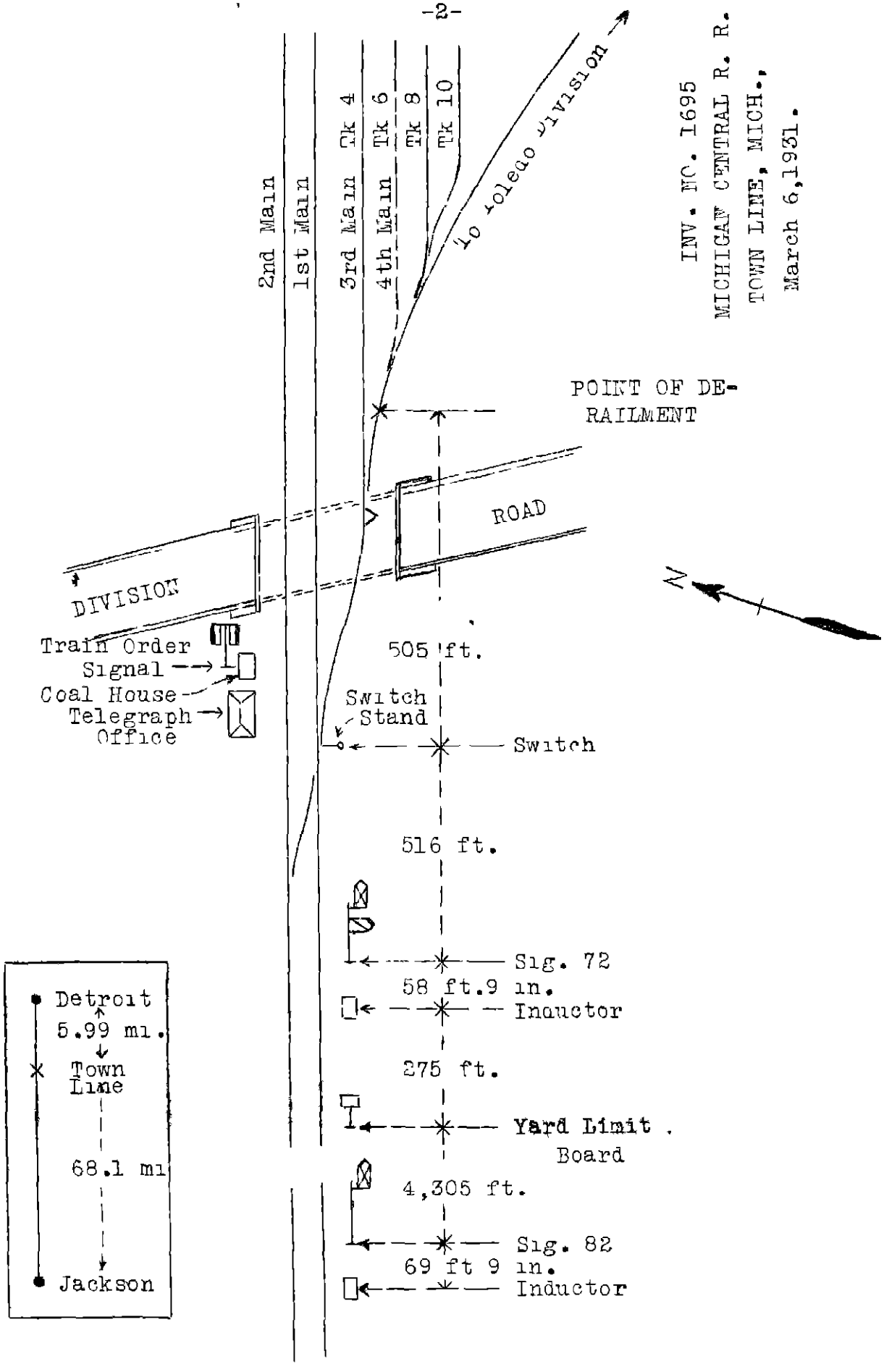
On March 6, 1931, there was a derailment of a passenger train on the Michigan Central Railroad at Town Line, Mich., which resulted in the injury of three employees.

Location and method of operation

This accident occurred on that part of the Middle Division extending between Jackson and Detroit, Mich., a distance of 74.07 miles, over which trains are operated by time-table, train orders, an automatic block-signal system, and an automatic train-stop of the intermittent inductive type. West of the point of accident this is a double-track line, the westbound track being known as the second main and the eastbound track as the first main. At Town Line a switch connects the first main with yard tracks 4, 6, 8 and 10 and a wye track leading to the Toledo Division, tracks 4 and 6 paralleling the two main tracks on the south are also known as the third and fourth main tracks. The main line switch leading to these tracks is a facing-point switch for eastbound movements, a high switch stand controlling this switch is located on the south side of the track opposite the telegraph office. Approaching this switch from the west, the track is tangent for a distance of more than 2 miles, while the grade is slightly descending for a distance of about 4,000 feet, being 0.09 per cent descending at the point of accident. The derailment occurred on the lead track between the third and fourth main tracks at a point about 505 feet east of the main line switch.

The signals involved are signals 72 and 82, located 516 feet and 5,155 feet, respectively west of the main line switch. Signal 72 is of the two-arm, three-position, upper quadrant type, the top arm governing main-track movements and the lower arm controlling diverging movements, and the inductors for signals 72 and 82 are located 58.9 feet and 69.9 feet, respectively, west of these signals. The train-order board is located north of the main tracks and immediately east of the telegraph office. The maximum speed permitted for passenger trains is 60 miles per hour.

It was daylight and the weather was clear at the time of the accident, which occurred about 5.19 p.m.


INV. NO. 1695
MICHIGAN CENTRAL R. R.
TOWN LINE, MICH.,
March 6,1931.
To Toledo Division
2nd Main
1st Main
3rd Main
Tk 4
4th Main
Tk 6
Tk 8
Tk 10
POINT OF DE-
RAILMENT
ROAD
DIVISION
Train Order
Signal
Coal House
Telegraph
Office
505 ft.
Switch
Stand
Switch
516 ft.
Sig. 72
58 ft.9 in.
Inductor
275 ft.
Yard Limit
Board
4,305 ft.
Sig. 82
69 ft 9 in.
Inductor
Detroit
5.99 mi.
Town
Line
68.1 mi
Jackson

Description

Eastbound passenger train No. 10 consisted of two express refrigerator cars, one mail car, one baggage car, one Pullman club car, two Pullman sleeping cars, one dining car, and three coaches, in the order named, all of steel construction, hauled by engine 8202, and was in charge of Conductor Hintz and Engineman Schempf. The train departed from Jackson, 68 08 miles west of Town Line, at 3.51 p.m., one minute late, reached the telegraph office at Town Line at 5.18 p.m., three minutes late, entered the open switch leading to the yard tracks, and was derailed while traveling at a speed estimated at 60 miles per hour.

The engine and tender stopped on their left sides about 960 feet east of the main track switch, across the third and fourth main tracks. The first eight cars were also derailed, stopping in various positions to the rear of the engine, while the last three cars in the train remained on the track. The engine was badly damaged, the first car was destroyed, and the other derailed cars were more or less damaged. The employees injured were the engineman, fireman, and the baggageman.

Summary of evidence

Engineman Schempf stated that after leaving Jackson he made a running test of the brakes and that they functioned properly en route Approaching Town Line he sounded one long blast of the engine whistle, both the distant and home signals were displaying clear indications, and the clear indications of the home signal and train-order board were called to him by the fireman. He made a brake-pipe reduction of 9 or 10 pounds as a running test, although he held the engine brakes off and continued to work a light throttle. After making this brake application, when the train reached a point from 6 to 10 car-lengths west of signal 72, he leaned out of the side window to make certain that a clear indication was still displayed by the train-order signal. As he resumed his position on the seat box his engine was passing signal 72; he estimated the speed at that time at about 60 miles per hour. Just after passing this signal, the fireman shouted a warning and he thought he saw the open switch at about the same time, he immediately applied the brakes in emergency but did not remember whether or not he shut off the throttle prior to the accident Engineman Schempf stated he did not operate the forestalling device while passing over the inductor west of signal 72 and was unable to state whether he received an automatic brake application at that point as he already had applied them in service and shortly afterwards made an emergency application. He did not examine the equipment after the accident as he was immediately taken to a hospital.

Fireman Herron stated that when his train reached the tangent west of Town Line the signals and the train-order board were in clear position and he called the indications of the home signal and the train-order board to the engineman When the train reached a point three or four car-lengths from the home signal he lost sight of it, as it is located on the opposite side of the track At about this time, however, he saw some one cross the tracks, from the north to the south side, stop and then return, and becoming alarmed he rose from his seat box and on leaning out of the window and looking ahead he saw that the main track switch was open. Fireman Herron then called a warning to the engineman, who immediately applied the brakes in emergency, but by this time the engine was only about one and one-half car-lengths from the switch. He also stated that the engineman made a service application of the brakes in the vicinity of signal 72 but did not forestall, and that the cab-whistle did not blow while passing this signal; the cab indicator referred to by the fireman is a whistle which sounds when the engineman acknowledges a restrictive signal indication thereby forestalling a brake application by the automatic train stop device. He was not certain of the exact location of his engine when the switch was thrown, he said it might have been either east or west of the signal, but it was after his view of the signal was obstructed by the front end of his engine

Conductor Hintz stated that the proper terminal test of the brakes was made before departing from Chicago on the trip on which the accident occurred, and that he noticed nothing unusual about the handling of the train in making several station stops en route. He was riding in the rear seat of the last car and the train was traveling at a speed of about 60 miles per hour approaching Town Line when the brakes were suddenly applied. He was unable to state how far the rear of the train was located from the telegraph office when this application of the brakes was made. After the accident he returned to the office and the operator told him that he had mistaken train No. 10 for a freight train.

Flagman Simpson stated that his train approached Town Line at a speed of about 60 miles per hour and that he was standing in the rear end of the last car preparatory to exchanging signals when there was a heavy application of the brakes, this being the only brake application he noticed before the train stopped. Immediately after the accident he went back to protect and when he passed signal 72 the top arm was displaying a red and the lower arm a yellow indication, with both lights burning.

Baggageman Lafayette, who was working on his records, thought the train approached Town Line at a speed of about 50 miles per hour He did not observe the indication of signal 72 and could not remember having felt a brake

application approaching that point, but he felt the baggage car lurch as it was entering the main-track switch.

Brakeman Trimmer stated that he was riding in the next to the last car of the train and his first knowledge of anything wrong was when he felt a severe application of the brakes, which appeared to be an emergency application, about 14 or 15 car-lengths from the telegraph office at Town Line, this was the only brake application that he felt approaching the point of accident. He estimated the speed at 60 miles per hour at the time this air-brake application was made.

Operator Greenwood stated that he had been employed as operator-switchtender at Town Line since January 24, 1931, his hours of duty being from 3 to 11 p m. On the date of this accident he went on duty at 3 p.m., the local freight which was usually by before that time had not come and he kept watching for it. The local freight was reported by Wiard, 20.8 miles west of Town Line, at 4 p.m., and a special train was reported by that point at 4.42 p.m., the latter train passing his station at 5 p m. About 5 15 p.m the operator at West Detroit inquired as to the time of train No. 10 and Operator Greenwood then called Wiard and was informed this train had passed that point at 4.58 p.m., he gave this information to West Detroit, and then saw a train approaching about 1 mile distant, he had just received the report that No. 10 was by Wiard and he said there was no other train expected at that time except the local freight so he felt sure it was that train which was coming. He left the tower, crossed the tracks and opened the switch leading into the yard He then returned to the platform on the north side of the tracks so as to have a better view of the approaching train, and he then realized it was the passenger train. He thought the approaching train was then about 100 feet west of the signal and that it was then too late to cross the tracks again and close the switch ahead of the train. He gave stop signals from the fireman's side, although he did not see the fireman at the time. He paid particular attention to see if the brakes were applied but did not see any sparks flying and did not hear the grinding of the brakes until about half the train had passed his office, he thought the train entered the switch at a speed of about 40 miles per hour Operator Greenwood said that when he opened the switch, signal 72 assumed its proper position, the top arm dropping to horizontal and the bottom arm going to the 45° position, and that at that time the approaching train was west of the signal. He thought it would take him from 20 to 30 seconds to cross the track, throw the switch and return to the platform. He further stated that it was his practice to keep in touch with the dispatcher when the local train is likely to be ahead of train No. 10, but the dispatcher had told him on previous occasions that he would have to look out for that

himself as the dispatcher could not tell him when the local would arrive On the day of the accident he made no attempt to learn the location of the local train and did not have any report on train No. 10 until he called Wiard in order to obtain information for the operator at West Detroit. He said the reason he threw the switch immediately and then watched the approaching train, which he assumed was the local freight, was to display the signal ahead of the train so that the engineman would know his train was to go into the yard; had he not done so the engineman might sound the whistle signal calling for the switch or he might come on down the main line. He said the local was usually diverted into the yard, but that he was never absolutely sure that it was the freight train approaching when he opened the switch as he had no means of obtaining positive information. He thought there should be some method adopted for giving the operator at Town Line definite information when the local freight was approaching.

Dispatcher Prentice stated that as a rule the local freight train arrives at Town Line before Operator Greenwood goes on duty. On this particular day, however, the local train was passed at Wayne by trains Nos. 2 and 8, and also by the special train, and he said there was no reason for the operator at Town Line to expect the local ahead of train No. 10 any more than that it would be ahead of the other three trains. The operator did not inquire of him as to the location of the local train, had he done so, he would have been informed that it was behind train No. 10. On the other hand, if the local had left Wayne ahead of train No. 10 he would have taken it upon himself to notify the operator at Town Line, as he always notifies him when any train is close ahead of a passenger train so that he can avoid delay to the passenger train. The local train clears the time of all first-class trains and occasionally clears at Dearborn, located between Wayne and Town Line, performs its work, and leaves that point without his knowledge, as Dearborn is a non-telegraph office, in such cases he is unable to inform the operator at Town Line as to the location of this train, and it is then necessary for Operator Greenwood to look out for himself, and to be sure before making any move that he is certain which train is approaching. Dispatcher Prentice stated that immediately after the accident the operator at Town Line in reporting the wreck said that he had let train No 10 into the yard, that when that train approached one long blast of the whistle was sounded and he thought it was the local freight.

According to Master Mechanic Adams and Engineman Tripp, who operated the derrick after the accident, the automatic train stop device was found in application position, however it was thought possible something which occurred after the derailment caused it to assume this position.

Conclusions

This accident was caused by a switch being opened directly in front of an approaching train, for which Operator Greenwood is responsible

According to the statements of the engineman and fireman, signals 82 and 72 were displaying clear indications as their train approached Town Line. As they were closely approaching signal 72 the engineman was watching the train order board and he did not see signal 72 immediately before his engine reached it. The fireman stated the signal was still in the clear position when it became obscured from his view by the front end of his engine at a distance of three or four car lengths, but until that time its indication was clear. His statement was very definite that it was after he lost sight of the signal, due to the front end of the engine obstructing his view, that he saw the man walk across the track and back again, and then saw that the switch was set for the diverging route. He immediately warned the engineman who applied the brakes in emergency, but it was then too late to prevent the accident. According to the operator's statement, however, he saw the approaching train when it was about 1 mile away, and assuming it to be the local freight he at once proceeded to open the main track switch to head this train into the yard. After he had done so, and when the train was in the vicinity of signal 72, he discovered it was the passenger train.

The estimated speed of train No. 10 as it approached Town Line was about 60 miles per hour. The distance between signal 72 and the main line switch opposite the tower was 516 feet At this rate of speed train No. 10 would have covered this distance in approximately six seconds. It would have been manifestly impossible for the operator to cross the tracks, open the switch and return to the platform in this short period of time. The operator must therefore at least have started across the track for the purpose of opening the switch when train No 10 was some distance west of signal 72. It is believed that when he saw this train approaching some distance away, assuming it to be the local freight, he started across the track, opened the switch, returned to the platform and then discovered that the approaching train was the passenger train. This is not in conflict with the engineman's and fireman's statements The engineman said he was watching the train-order signal for a distance of from 6 to 10 car-lengths west of signal 72 and during that interval did not observe the indication of signal 72. The fireman's view of signal 72 was cut off by the front end of his engine some distance west of signal 72, and it is entirely possible that this signal went to stop position during that interval.

After the accident the automatic train stop apparatus on this engine was found in application position and it is reasonable to believe that an automatic brake application was initiated by this device at the inductor installed in connection with signal 72. The engineman under the circumstances would not be able to determine definitely whether the device functioned in view of the previous service application of the brakes and the subsequent emergency application made by him. It is apparent, however, that there was not sufficient time or distance after the switch was opened in which to stop the train by means of any of the brake applications which were made.

The cause of this accident was practically identical with that of the accident on the Grand Trunk Railway at Battle Creek, Mich., on February 7, 1931, a report concerning which was issued by this Bureau on March 9. In that case a switchtender also opened a switch to a yard directly in front of an approaching high-speed train, having failed definitely to identify that train and having mistaken it for a freight train which was to be diverted to the yard. In the present case Operator Greenwood said that when he opened the switch to divert the local freight into the yard, he was never certain that the approaching train was the local freight. A switch for a diverging movement should not be operated directly in front of an approaching train until the train has been definitely identified and either it is a sufficient distance away to enable it to be properly controlled or it is known that the rate of speed is sufficiently low to permit the diverging movement to be made in safety. The operating conditions and practices at this point should at once be given proper attention by responsible officers of this railroad.

Operator Greenwood has been in the employ of the Michigan Central Railroad since August, 1920. The other employees involved also 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,

W P. BORLAND,

Director.