

In re Investigation of an accident which occurred on one of the lines of the Fort Wayne & Northern Indiana Traction Company, near Logansport, Ind., on May 26, 1917.

July 26, 1917.

On May 26, 1917, there was a head-on collision on one of the lines of the Fort Wayne & Northern Indiana Traction Company, about two miles east of Logansport, Indiana, between an extra work train of that company and a regular passenger train of the Union Traction Company of Indiana, resulting in the injury of 8 passengers and 4 employees. After an investigation of the nature and cause of this accident the Chief of the Division of Safety submits the following report:

The single track line from Logansport east to I. U. T. Junction, or River, a distance of 2.4 miles, is used jointly by the Ft. Wayne & Northern Indiana Traction Company and the Union Traction Company of Indiana, although each road furnishes its own trolley wire. One mile west of I. U. T. Junction is Dorners Siding, and almost half way between these points the Traction line crosses over the track of the Wabash Railway by means of an overhead bridge. Except at this overhead crossing, the lines of the Traction Company and the Wabash Railway are approximately parallel. About 500 feet east of Dorners Siding is an industry track, known as the Radiator Siding, and which is also used as an interchange track with the Wabash Railway. In order to make a proper crossing of the railroad tracks, there are a series of curves, the one on the east being of 6 degrees 26 minutes, 700 feet long, and the one on the west being a reverse curve, the maximum curvature being 6 degrees 6 minutes, with a total length of 1,000 feet. Over the bridge the track is tangent for 100 feet, and there is a tangent from the Junction to the first curve of 1,900 feet; from the west curve to Dorners the track is straight for 1,600 feet. The grade approaching the bridge from each direction is 2 per cent.

Automatic signals of the light type are in use over this track, the block ending at Dorners. There are no signals on the tracks of the Union Traction Company of Indiana immediately south of the Junction, but there is a signal on its track controlling movements to the joint track. A signal east of the Junction on the Fort Wayne & Northern Indiana Traction Company tracks protects movements that are being made from the Union Traction Company of Indiana. The eastbound signal protecting this piece of single track is just west of the east switch at Dorners Siding. A red light on all signals indicates stop, but when a yellow light is displayed in connection with it, a train may proceed under control. Clear is indicated by a green light. All switches are provided with shunt boxes, controlling the signal circuits, and have indicators to show

the occupancy of the tracks. When the indicator blade is in the horizontal position it shows that the block is occupied; when it is vertical a clear block is indicated.

The time card of neither road shows the trains of the other company between the Junction and Logansport, and there is no special rule in either time card regarding this joint track, with the exception that in the time card of the Union Traction Company of Indiana the detailed operation of the switch indicator and signal leading to the Fort Wayne & Northern Indiana Traction Company tracks is covered by special rule No. 336, which is as follows:

LOGANSPORT JUNCTION - Lawrence Siding. 336. For trains proceeding from Union Traction lines to the Ft. Wayne & Northern Indiana lines at Logansport Junction, and for trains west-bound, moving from north track at Lawrence to main line at Lawrence, there is provided special signal equipment to indicate when it is safe to open the switch and proceed. First, the train must stop short of the insulated joints. The conductor will proceed to the switch and observe the switch indicator. If the switch indicator shows Clear, as per Figure 9, the switch may be opened. The opening of the switch will cause the indicator to indicate Stop, as per Figure 8. Providing no train is approaching the indicator will again clear, and at the same time the home signal, which is in view of the motorman, will change from Stop to Proceed, and it is safe for the train to proceed. The failure of the indicator to show Clear and the signal to show Proceed indicates that a train is approaching and that the switch should be promptly closed. In case the indicator does not indicate Clear within reasonable time, and signal does not indicate Proceed, authority for proceeding can only be obtained by calling the dispatcher.

On the day of the accident, eastbound motor No. 23, in charge of Conductor Bowman and Motorman Marks of the Ft. Wayne & Northern Indiana Traction Company, was working as an extra and was en route to Peru. They were at the 19th Street Siding, west of Dorners, for westbound train No. 15, of the Fort Wayne & Northern Indiana Traction Company, which was a few minutes late. After that train passed, they picked up a gondola car from the west end of Dorners and shoved it ahead of them to the Radiator Siding, then backed out and proceeded east to the point of collision, on the west approach to the bridge over the Wabash Railway tracks, the collision occurring at 1.51 p. m.

Train No. 314, of the Union Traction Company of

Indiana, consisting of motor 296, left Indianapolis at 10.00 a. m., and was in charge of Conductor Smith and Motorman Eager. For practically the entire distance the car was handled by Student Motorman Bookover, who was also acting as motorman at the time of the collision. This train arrived at River, or I. U. T. Junction, at 1.47 p. m., 12 minutes late. The motorman reported to the dispatcher, and the conductor opened the switch after noticing that the indicator showed a clear block. The student motorman, as well as his instructor, noticed the signal, which at first was red, change to green. Receiving a hand signal from the conductor, the train proceeded out on to the main track of the Fort Wayne & Northern Indiana Traction Company and was running at normal speed until the other car was noticed, a short distance before reaching the point of collision. The weather at the time of the accident was clear.

The collision drove the floor of the work car about 7 feet into the passenger car and badly crushed the vestibule and front end. One pair of wheels of the passenger car was derailed; all others remained on the track.

Motor No. 20 was a flat car, with two steel beams its full length and with a cab 17 feet long in the center. The platform extended 10 feet from each side of the cab. Car 296, forming train 314, was a wooden car about 60 feet in length, and had separate compartments for motorman, smokers and other passengers.

Conductor Bowman, of work extra No. 20, stated that he went on duty at 6.00 a. m. on the day of the accident, at Boyd Park, 8 miles east of Peru, having gone off duty at 7.00 p. m. of the day previous. He said that he had been in the service ten years, all in interurban service except one and one-half years, and had been operating work trains four years. He also stated that while he was on the 17th Street Siding he received an order from the dispatcher, at 1.36 p. m., to run extra to Peru, and that his motorman repeated the order to the dispatcher. When he came away from the telephone after getting the order, he says the signal at Dorners was green, so that he returned and asked the dispatcher where No. 15, a west-bound train then due, was. He was told it was a few minutes late, on account of the power being off. After train No. 15 passed at 1.41 p. m., Conductor Bowman states he backed out of the 17th Street Siding, headed into Dorners Siding, picked up a gondola car, backed out, and then headed east, passing the Dorners signal about 1.45 p. m., which was then green, or clear. At the Radiator Siding, 600 feet east of Dorners, the train stopped to allow the car ahead of the motor to be set on the siding. Conductor Bowman said the first "kick" was not hard enough to send the car clear of the track

circuit, so he switched the trolley from the main line to the siding wire to give the gondola car another "kick", but at no time was the motor clear of the track circuit, nor was the switch closed.

Conductor Bowman states that he was standing in the cab behind the motorman as they approached the scene of the accident, but from his position he could not see more than 100 feet ahead, although there are no obstructions to the view, except that the summit of the grade at the bridge would prevent two approaching cars from seeing each other for any considerable distance. At the moment of the collision, he estimates, the speed had been reduced to two or three miles per hour, although they had attained a speed of probably 25 miles per hour at one time after leaving the Radiator Siding. Conductor Bowman said he had no conversation with any one concerning the accident except one man who passed him and who said: "We had a green block," to which he replied: "You should not have had one."

Conductor Bowman further stated that his brakes were in good order, as indicated by stops they had made previously, and in his opinion they could have stopped within about 300 feet, at a speed of ten miles per hour.

Conductor Bowman said, for trains of the Fort Wayne & Northern Indiana Traction Company, train orders are necessary before entering the block between Dorners and I. U. T. Junction, but that any train would have the right to proceed against a first-class scheduled train governed solely by signal indications. He said he had no time-table of the Union Traction Company of Indiana, and knew nothing as to where train No. 314 was, or when it was due.

He stated further that he was acquainted with the location of the insulated joints at the signal locations, and is familiar with the instructions in the book of rules in regard to operation of the signals, and that conductors and motormen are both responsible for knowing the signal indications at Dorners and I. U. T. Junction.

Motorman Marks, of work extra 30, said he went on duty at 6.00 a. m. at Bo d Park, and had been relieved at 7.00 p. m. on the previous day. He said he had been employed by the Fort Wayne & Northern Indiana Traction Company as motorman for 15 years. He stated that he saw the signal at Dorners change properly from green to red and yellow as they approached, when the gondola ahead of his motor car struck the circuit. He thought the two cars were 1,100 feet apart when he first saw train No. 314, and that it was probably 500 or 600 feet east of the bridge. There was nothing to prevent the motorman of train No. 314 from seeing the extra approaching, except the

bridge. He stated that he at once threw off his current, applied the brakes in emergency, and reversed, but had no time to apply current again after reversing. He blew the whistle twice, just after applying the brakes, and jumped back into the cab.

Motorman Marks said the air brake was working in good shape and had been tested in the various stops he had made. He thought at ten miles an hour he could stop in fifty feet with the emergency, and at thirty miles in 350 or 400 feet. He thinks his car ran 300 feet after he applied the emergency before the collision. He had never known of a false clear indication of the signal at Borners, or at the Junction.

Conductor Smith, in charge of Union Traction Company of Indiana train No. 314, stated that he went on duty at 6.00 a. m. at Logansport, and had been to Indianapolis, and was on his return trip when the accident happened. He stated that he had been in the employ of the company ten days and had had no previous experience in railroad service, except as a car checker. He stated that when he was employed he was given a book of rules to study, and that for ten days he was instructed by a conductor on a car, learning the rules and regulations of operating cars, the safety of passengers and collecting fares.

He stated further that he was not under instructions at the time of the accident, this being his first trip alone. Conductor Smith said that he arrived at I. U. T. Junction at 1.47 p. m., that being the time he heard the motorman report by telephone to the dispatcher. He stated that he got off the front of his car and went down to the switch, while the car drifted down to within 30 or 40 feet of the insulated joints, which are 150 or 200 feet from the switch. At this time, he said, the signal displayed red, its normal condition, and at the switch the indicator blade was vertical, showing the block to be clear, but that the indicator properly took the horizontal position when the switch was opened. Conductor Smith did not see the signal again, but said the indicator returned to its clear position after a few seconds.

Conductor Smith said the car left at once and proceeded at a speed of from 12 to 15 miles per hour to the point of collision, and his first intimation of an accident was the sound of the whistle. After the collision occurred, he asked the motorman if he was badly hurt, and also stated to all who asked him that he had had a clear block. He said he had never found the block occupied before, but the conductor of a train on which he was being instructed had once found the indicator not clear, due to a train coming on the Fort Wayne & Northern Indiana Traction Company line. Conductor Smith said he did not know what effect the opening of the switch had on the Fort Wayne & Northern Indiana Traction Company signal, and that he

had received no special instruction except that contained in the rule book.

Student Motorman Bockover said that previous to his employment by the Union Traction Company of Indiana he had been braking on the "Cloverleaf" Railroad for one year. He said he left Logansport that morning on his first trial trip and was on his return trip, being in charge of the controller under the direction of the regular motorman. On approaching I. U. T. Junction he said they overran the "jack box" about three feet and had to back up in order to make the telephone connection. At this time, he said, the signal was showing red in the top light, which turned green after the switch was thrown, but he had no recollection of any other lights on this signal. After the conductor opened the switch he gave a proceed signal which he answered with two blasts of the whistle. He stated that the speed of the car was from 15 to 16 miles per hour up to the top of the incline crossing the Wabash Railroad. He said that approaching the bridge his view was obstructed by the smoke of a Wabash Railway train which had stopped for stock on the track just above the overhead bridge, and when he got through it, almost in the middle of the bridge, the other car was seen, almost 300 feet distant. He says his power was off and he had made a service application of the air before the collision.

Motorman Eager said he had been in the employ of the Union Traction Company of Indiana as motorman and conductor for four years, and went on duty at 5.45 a. m., on the day of the accident, after having been off duty since 1.55 p. m. of the previous day. Before taking his car out he had made an inspection and knew that the brake apparatus was in good condition. He said that Student Motorman Bockover handled the controller and did it generally in a proper manner. He did not remember any train on the Wabash Railway, or any other obstruction to the view of the other car, except the bridge itself. The power was shut off approaching the top of the grade, and Motorman Eager says it was after this that they saw the approaching car, and thinks it was forty or fifty feet on the other side of the bridge. He said he was not sure whether the brake was applied by Student Motorman Bockover without being told, or not, but that he took charge of the controller and operated the reverse.

Dispatcher Overholtz, of the Fort Wayne & Northern Indiana Traction Company, at Logansport, stated that he gave the order to work train No. 20 to run extra to Peru, but that this order conferred no rights over any scheduled trains, and

that so far as conflicting trains are concerned, between Dorners and I. U. T. Junction, they depend entirely upon the block signals. He said that when Union Traction Company of Indiana crews, at the Junction, reported a red block and asked for instructions, a verbal order was given, as he had no authority to give these trains written orders. No such call had been received recently, he said, and he could not remember the last time that trouble had been experienced with the signals. He said that usually when the signal was out of order he held trains long enough for any train in the block to get out of it, as he did not know what trains the Union Traction Company of Indiana might have in there. He said defect cars are made out when signals are reported out of order.

Signal Supervisor Trader said that he made an inspection after the accident and repeated, as far as possible, with a work car, the conditions existing just previous to the accident, and all the signals worked properly. He said the gaps in the switch boxes are ample and there is no leakage across. He stated further that it was not possible to get a clear signal indication at the Junction when a car was occupying the block. His last general inspection was two or three days prior to the accident. He said that as he approached I. U. T. Junction on his way to the scene of the accident, the signal at I. U. T. Junction was red. He said the last trouble that he remembered having on this signal was in February or March, and in case of trouble this block always has preference, in making repairs, over any other failures reported. He said that he had reports on the 18th of May that that signal was failing, but nothing was found wrong upon inspection. Track circuits are used, which control the track relays, which in turn control the line relays operating the signals, and he said one of the two signals at I. U. T. Junction can not be out of order without the other failing, as they use the same control.

This investigation developed the fact that work extra No. 20 was in this block when train No. 314 arrived at the Junction, for the reason that, with approximately equal distances to travel to the point of accident, the work train did the work at the Radiator Siding, and therefore must have entered the block some few minutes before 1.47 p. m., the reported time of the arrival of train No. 314 at the Junction.

The investigation further developed that while the motorman in charge of train No. 314 stated that his view approaching the point of accident was obstructed by smoke from a Wabash Railway train, his instructor did not notice any smoke, and the records of the Wabash Railway show no train as having passed for several hours previous.

Both the conductor and the Motorman handling train No. 314 at the time of the accident were inexperienced employees, unfamiliar with the operation of the signals involved. On the other hand, the employees in charge of the work extra were experienced employees, fully acquainted with all the rules of the company and the operation of the signals governing this movement. The evidence shows the signals to have been working properly immediately after the accident, and while only general tests were made, there is no reason to believe that they were not working satisfactorily prior to the accident.

It is therefore believed that the direct cause of this accident was the failure of the crew in charge of train No. 314 correctly to interpret and to obey the signal governing the movement of their train from the line of the Union Traction Company of Indiana upon the line used jointly with the Fort Wayne & Northern Indiana Traction Company.

A contributing cause was the lax method of train operation between I. U. T. Junction and Logansport over the 2.4 miles of joint track. Even the most ordinary precaution of showing all scheduled trains in both time-cards, or of using a separate joint time-card, was lacking. While the Union Traction Company of Indiana time-table has a special rule governing the signals at I. U. T. Junction, there is nothing in this time-table as to the general rights of their trains on the joint track. As to the special rules of the time-table of the Fort Wayne & Northern Indiana Traction Company, there is no reference to the joint tracks or to the trains of the Union Traction Company of Indiana.

Investigation further discloses that even the dispatcher of the Fort Wayne & Northern Indiana Traction Company could not issue orders to the Union Traction Company of Indiana trains on the joint track except when signals were found at stop and crews called up for instructions, and then he could issue only verbal orders.

The rules and practices in effect were therefore not adequate to provide for the safety of train movements, and under such operating conditions it is not surprising that accidents of this nature should occur. In order to prevent such accidents, the companies concerned should issue explicit instructions in these time-cards, or by special rule, as to the use of, and rights of all trains using, this joint track. The dispatcher operating this track should have complete jurisdiction over all trains using it.

Student Motorman Bookover had just been employed and was making his first trial trip on the day of the accident.

Conductor Smith had been employed for 10 days and was making his first trip alone.

Motorman Eager had been employed for four years, and had been employed by other interurban lines for three years previously. For the first two years with the Union Traction Company of Indiana he had worked as a conductor; for the next year he worked part of each day as conductor and part as motorman; and for the last year he had worked as conductor. The day of the accident was the first he had worked as motorman recently.

All these men had gone on duty at 5.45 a. m. or 6.00 a. m. on the day of the accident, and Conductor Smith and Motorman Eager had been relieved from duty at 2.00 p. m. on the day previous.