

## INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE SOUTHWEST MISSOURI RAILROAD NEAR LOWELL, KANS., ON MAY 3, 1924

May 26, 1924

To the Commission.

On May 3, 1924, there was a head-end collision between two passenger trains on the Southwest Missouri Railroad near Lowell, Kans., which resulted in the death of 2 passengers, and the injury of 48 passengers and 1 employee

Location and method of operation

The Southwest Missouri Railroad is an electric line extending between Carthage, Mo., and Picher, Okla., a distance of 38 7/8 miles. In the vicinity of the point of accident, this is a single-track line over which trains are operated by verbal train orders, transmitted by telephone, the conductor calls the dispatcher from the various telephone stations along the line, receives an order, repeats back to the dispatcher, and if correct is so told, and then delivers the order verbally to the motorman. A dictaphone in the dispatcher's office records his conversation but does not record that of the conductors. No written record of train orders is made, and no time-table, train-sheet, train-order book, or block signal system is in use. In lieu of a train sheet, a board in the dispatcher's office represents the entire system, with principal points, passing tracks, etc., movements of cars being recorded by means of pegs numbered to correspond with the numbers of the cars in operation.

The accident occurred at a point approximately 4,000 feet west of the station at Lowell, Kans., approaching this point from the east the track is tangent for 3,400 feet, followed by a 30° curve to the left 1,000 feet in length. The collision occurred near the middle of this curve, the track is tangent for more than 1 mile west of this curve. The track is level at the point of accident, and the gauge, surface and alinement were in good condition. Poles supporting the overhead trolley wire restrict the view across the inside of the curve on which the accident occurred. The weather was clear at the time of the accident, which occurred at 4:30 P. M.

### Description

Westbound passenger car No 36 of steel underframe construction, in charge of Conductor Surber and Motorman Crump, departed from Webb City, its initial station, at 3:20 P M., with orders to run to Blendville. It departed from Blendville at 3:55 P M., after receiving an order which the dispatcher said was as follows:

"Meet 69 at Tanyard, 61 at Riceville and go to Lowell "

Conductor Surber said the order received at Blendville provided for the meet with 69 at Tanyard and with 61 at Riceville, but ended by directing him to proceed to Baxter, the next station west of Lowell. This car proceeded westward, passed Lowell and collided with car No. 65 while traveling at a speed of between 15 and 20 miles an hour.

Eastbound passenger car No. 65, of all-steel construction, in charge of Conductor Miller and Motorman Brooks, departed from Picher, Okla., at 3:55 P M., with orders to proceed to Military, the second station west of Lowell, on arrival at which point the following order was received:

"Meet No 8, meet two cars at Baxter and go to Lowell "

The first two provisions of this order had been fulfilled and this car was approaching Lowell when it collided with car No 36 while traveling at a speed of 8 or 10 miles an hour

Both cars came to rest in an upright position with only one pair of wheels of car No. 65 derailed. Car No 65 telescoped car No. 36 a distance of about 15 feet, the wreckage taking fire and resulting in car No 36 being practically destroyed

### Summary of evidence

Dispatcher Cruse stated that at 3:55 P M. he issued and the conductor of car No. 36 repeated back to him the order for that car to go to Lowell, previously quoted, and that at about 4:20 P M he issued to the conductor of car No 65 the order which also instructed the crew of that train to go to Lowell, the intent and purpose of these orders being to establish a meeting point for the two cars at Lowell. The dictaphone record in operation in the dis-

dispatcher's office at the time the order was issued to Conductor Surber, of car No 36, was reproduced on three different machines, but in each reproduction it was so indistinct that it was not possible to identify it as the order in question, however, in all reproductions the words "go to Lowell" were very distinct. As previously stated, the dictaphone does not record the words of conductors in repeating orders to the dispatcher, but in this connection, however, the dispatcher's testimony is substantiated by the testimony of Conductor Lieb, who stated that he was at Blendville between 3:45 and 4.00 P. M., in charge of one-man Smelter Hill car No. 1, which met car No 36 at that point. He said that as his car passed within 15 feet of the telephone, moving very slowly, he heard Conductor Surber repeating the order to the dispatcher, and that while he did not understand the numbers of the cars to be met he understood the order as repeated by the conductor of car No 36 as "Meet one at Tanyard, one at Riceville and go to Lowell."

Conductor Surber, of car No 36, stated that upon arriving at Blendville at 3:55 P. M., he received the following verbal order

"Meet car No 69 at Tanyard, 61 at Riceville and go to Baxter "

He repeated the order as above, ending with the words "go to Baxter," to which the dispatcher replied "correct." The motorman of his car was in a nearby drug store when the order was received and repeated, and upon his return he repeated the order verbatim as he said it was received. His car proceeded toward Picher, met car No. 69 at Tanyard, met car No. 61 at Riceville, passed Lowell, and was running at a speed of about 25 or 30 miles an hour west of that point, when the motorman suddenly attempted to stop the car, this being his first knowledge of the car approaching from the opposite direction, the cars colliding shortly afterwards. Conductor Surber also said that a one-man city car was at the end of the double track, about 50 feet distant from the telephone, while the order was being received and repeated, and that the conductor of that car could not have heard his conversation with the dispatcher.

Motorman Crump, of car No 36, stated that at Blendville he received an order to "meet 69 at Tanyard, 61 at Riceville and go to Baxter." He said he first received this order from the conductor before leaving Blendville and a second time about  $\frac{1}{2}$  mile from there, it being his custom to have the conductor repeat orders a second time.

His train had passed Lowell and when approaching the point of accident he had shut off the power, and upon reaching a road crossing 287 feet east of the point of accident had re-applied the power, when he saw car No. 65 approaching, it then being about  $\frac{1}{2}$  mile distant. His own car was moving at a speed of about 30 miles an hour, and he estimated its speed to have been about 15 miles an hour at the time of the collision.

Conductor Miller, of car No. 65, said he first saw car No. 36 approaching when it was about 600 or 700 feet distant, he did not know how fast his own car was traveling at the time, but said it had nearly stopped at the time of the collision, this latter statement was corroborated by statements of passengers in his car to Assistant Superintendent of Transportation Gray at the scene of the accident shortly after its occurrence. Motorman Brooks estimated the speed of his car at from 35 to 40 miles an hour at the time he first saw car No. 36 approaching about 600 or 700 feet distant, and he said he immediately shut off power and applied the air brakes in emergency, and then released the brakes and reversed the motor, which reduced the speed of his car to a speed of less than 10 miles an hour at the time of the collision.

The braking power of both cars was stated to have been in good condition, having been inspected during the night previous to the day of the accident.

#### Conclusions

This accident was caused by the misunderstanding of a train order, for which it is believed that Conductor Surber of car No. 36, is responsible.

Under the system of operation in effect on this railroad, there is no written record of train orders, while the record made by the dictaphone, in the dispatcher's office, records only the dispatcher's conversation, and in this particular case was not sufficiently clear to make it absolutely certain that the words "go to Lowell" represent the conclusion of the train order involved. Conductor Miller, however, said he heard Conductor Surber repeat the order, and that it contained the instructions claimed by the dispatcher. Under these circumstances, the weight of evidence is against Conductor Surber, and it seems apparent that he received the order correctly but conveyed the wrong information to the motorman, resulting in the car proceeding beyond Lowell without authority for such movement.

Attention is called to the fact that under rule 10, of the Rules and Regulations for the Government of Conductors and Motormen, it is provided in part as follows.

"Wherever it is practicable motormen will stop their cars with front platform opposite the phone where orders are being received and give undivided attention to orders being repeated back by the conductor "

Instead of remaining where he could hear Conductor Surber repeat the order back to the dispatcher, Motorman Crump went into a nearby drug store, had he complied with the rule he would have heard the correct wording of the order and the accident probably would not have occurred

While this railroad is not of sufficient size to require an extensive system for the operation of its trains, there is no doubt that an added element of safety would be provided were conductors required to write out the orders received by them, their motormen being required to repeat them back to the dispatcher. Had an arrangement of this kind been in force, it is probable that the error of the conductor would have been detected, in which event the accident would have been prevented. This is an accident which also could have been prevented had an automatic train-control system been in use

With the exception of the conductor of car No 65, the employees involved were experienced men, at the time of the accident they had been on duty from 1 to 2½ hours, after off-duty periods of from 14 to 15½ hours

Respectfully submitted,

W. P. BORLAND,

Director