

## INTERSTATE COMMERCE COMMISSION.

- - - - -

REPORT OF THE CHIEF OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED AT THE INTERSECTION OF THE TRACKS OF THE SOUTHERN PACIFIC LINES AND INTERNATIONAL & GREAT NORTHERN RAILWAY AT HOUSTON, TEX., ON SEPTEMBER 13, 1922.

October 25, 1922.

To the Commission:

On September 13, 1922, there was a side collision between a passenger train of the Southern Pacific Lines and a freight transfer train of the International & Great Northern Railway, at the intersection of their tracks at Houston, Tex., resulting in the injury of 27 passengers and 1 employee.

## Location and method of operation.

At the point of accident both railroads are single-track lines over which trains are operated by time-table and train orders, no block-signal system being in use. The tracks of the two railroads intersect almost at right angles. Approaching on the Southern Pacific Lines from the west, according to time-table direction, the track is tangent for considerable distance, followed by a compound curve to the right 736 feet in length, the accident occurring on this curve at a point 242 feet from its western end, where the curvature is 6°, the grade for this distance is slightly descending eastward to within about 275 feet of the point of accident, from which point it is level. Approaching the point of accident on the International & Great Northern Railway from the south, there is a 3-degree curve to the left 1,154 feet in length, the accident occurring on this curve at a point 131 feet from its northern end, the grade is from 0.575 to 0.80 per cent descending for 1,500 feet, level for 300 feet, and slightly descending for about 1,100 feet to within about 275 feet of the crossing, from which point it is about 0.5 per cent ascending for a considerable distance. There is no interlocking plant at this point, and the only fixed signals protecting the movement of trains over this crossing consist of a caution board located 1,000 feet distant on the Southern Pacific Lines and a stop board located about 239 feet distant on the line of the International & Great Northern Railway, it is also required by state law, as well as by the operating rules of the two roads, that all trains shall stop when approaching a railroad crossing at grade, provided it is

not equipped with an interlocking plant. Owing to buildings near the right-of-way a clear view of the track of the International & Great Northern Railway south of the crossing, cannot be obtained from the fireman's side of a westbound engine on the Southern Pacific Lines until within 88 feet of the crossing. The weather was clear at the time of the accident, which occurred at about 4.50 p.m.

#### Description.

Southern Pacific eastbound passenger train extra 678 consisted of a caboose and 3 coaches, in the order named, all of wooden construction, hauled by engine 678, and was in charge of conductor Patrick and engine man Harveson. This train was traveling practically due west approaching the point of accident, made the usual stop for the crossing, sounded two blasts of the whistle, and started to move over the crossing. It was traveling at a speed variously estimated to have been between 10 and 18 miles an hour when the head end of the second coach was struck by an International & Great Northern freight transfer.

The International & Great Northern northbound freight transfer consisted of 44 cars, hauled by engine 147, headed south, and was in charge of Engine Foreman Horrocks and Engine man Trelford. This train left the yard northbound at about 4.30 p.m., with only the engine brakes in operation, the air brakes on the cars not having been coupled, made a stop en route for the purpose of taking water, reduced speed at the stop board, then sounded two blasts on the engine whistle, but did not make the required stop for the crossing, and collided with the passenger train while traveling at a speed estimated to have been between 2 and 5 miles an hour.

The rear tender truck, caboose, first two coaches, and front truck of the last coach, of extra 678, were derailed to the right, the coaches coming to rest on their right sides, the second coach was badly damaged, the rear end being practically demolished. The tender of engine 147 came to rest to the left of the International & Great Northern track, while the engine came to rest with the head end on the crossing, and the rear end to the right of the International & Great Northern track.

#### Summary of evidence.

Southern Pacific extra 678 had been brought to a stop with the head end of the engine, according to the engine man, about 40 or 50 feet from the crossing, remaining at this point about one minute for the purpose of discharging passengers. On receiving a proceed signal, two blasts on the whistle were sounded and the train departed, and when the engine was at the crossing, Engine man Harveson looked across through the Fireman's side of the cab and saw the transfer train approaching,

about 300 feet distant and traveling at a low rate of speed. At first he thought the transfer train was going to stop and wait for them to get across, however, on seeing two members of the crew of that train, who were riding on the rear end of the tender, giving violent stop signals, he realized trouble was imminent and increased speed in an endeavor to get his train across in time to avert the accident. Fireman McEnroe also thought the transfer train was going to stop before reaching the crossing, and was of the opinion the stop signals given by the switching crew were intended for the engineman of the transfer train. Although it was on his side of the train, Fireman McEnroe did not see the transfer train until about the time the Engineman saw it, he was unable to explain why he did not see it before that time. None of the other members of this crew was aware of anything wrong until the accident occurred.

When just south of the stop board, traveling at a very low rate of speed, Engine Foreman Horrocks and Switchman Bell, who were riding on the rear end of the tender of the transfer train, heard the two blasts of the whistle sounded by the Southern Pacific engine. Engineman Trelford said he had released the air brakes at the stop board, and was working steam for the ascending grade which begins south of and extends for a considerable distance north of the crossing, shortly after which, in accordance with the stop signals given by Engine Foreman Horrocks, he applied the independent engine brake and opened the sanders, at the same time inquiring of Fireman Deason if any train was approaching from his side, and in turn was at first informed in the negative, then immediately afterwards in the affirmative. However, the speed of the train was too great to permit of its being brought to a stop with only the engine brakes in time to avert the accident, and these employees jumped just before the collision occurred. Engineman Trelford and Engine Foreman Horrocks stated that as difficulty is experienced in making the ascending grade, with a northbound train similar to the transfer involved, it is customary, after reducing speed at the stop board, to continue over the crossing without coming to a stop, as was being done on this occasion. Terminal Superintendent Brown and Engine Foreman Horrocks also stated that since July 1, 1922, between the yard and the point to which this switching transfer was en route, it has been the practice not to couple the air brakes on the cars, and Engine Foreman Horrocks was of the opinion Engineman Trelford could have brought this train to a stop in time to have averted the accident had the air brakes on the cars been coupled and in operation, or with only the independent brake had the transfer train been brought to a stop at the stop board. However, Engineman Trelford was of the opinion it would have been impossible to have brought his train to a stop before reaching the crossing, with only the engine brakes, after the passenger train came into view, estimating this distance at about 3 car-lengths, even if a stop had been made at the stop board.

Engine Foreman Horrocks and Switchman Bell said violent stop signals were given to Fireman McEnroe, of extra 678, but the fireman said he saw them giving violent signals to their own engineman, and did not understand them to have been given to extra 678. There was also some conflict in the statements of Engine Foreman Horrocks, Engineman Trelford and Switchman Bell, of the transfer train, as to the exact location of their own train at the time stop signals were first given to Engineman Trelford, the engineman saying it was only 3 car-lengths from the crossing.

A test was made subsequent to the accident with a train similar to the transfer train involved. This test train was brought to a stop with the engine tender opposite the stop board, after which steam was worked as if intending to ascend the grade over and beyond the crossing. Stop signals were then given to the engineman from the rear of the tender, practically under the same conditions as prevailed at the time of the accident, at a point 118<sub>2</sub> feet south of the crossing, and the train was brought to a stop with the north end of the tender 79 feet south of the crossing, with the use of only the independent engine brake.

All trains are required by rule and state law to come to a stop before reaching the crossing involved before proceeding.

The state law provides in part that:

"Article 4507. \*\*\*\* each locomotive engine approaching a place where two lines of railway cross each other shall, before reaching such railroad crossing, be brought to a full stop, \*\*\*\* provided, however, that the full stop at such crossing may be discontinued when the railroads crossing each other shall put into full operation at such crossings an interlocking switch and signal apparatus, and shall keep a flagman in attendance at such crossing."

Rule 98 of the book of rules of each railroad reads as follows:

"Trains must approach the end of double track, junctions, railroad crossings at grade, and drawbridges, prepared to stop, unless the switches and signals are right and the track is clear. Where required by law, trains must stop."

### Conclusions.

This accident was caused by International & Great Northern transfer train 147 not having the air brakes coupled up and operated by the engineman, in violation of the safety appliance law, and by the failure of Engineman Trelford to bring this train to a stop before passing over the crossing, as required by the rules.

Had the air brakes on the cars of the transfer train been coupled with the engine brake equipment and operated by the engineman as required by law, this train could no doubt have been stopped in time to avert the accident after the passenger train was discovered approaching the crossing. The practice of moving transfer trains without the air brakes on the cars being coupled and under control of the engineman was known by Terminal Superintendent Brown to have existed for some time. There can be no excuse not only for this disregard of the requirements of law, but also for the neglect to utilize the power brakes which in this situation were vitally necessary to safeguard train operation.

Engineman Trelford knew the air brakes in the transfer train were not coupled, and he should have exercised all possible caution when approaching the crossing. Had he brought his train to a stop at the stop board, in accordance with the rules and the state law, he probably could again have brought it to a stop with the engine brakes, after he first saw the stop signals, in time to have averted the accident.

The investigation disclosed that it was the practice for northbound transfer trains to move over this crossing without coming to a stop, for the purpose of more easily negotiating the ascending grade. The officials of this railroad are open to severe censure for permitting this practice in violation of the rules, and the operation of transfer trains without air brakes in service. Had either of these practices been eliminated, this accident undoubtedly would have been prevented.

All the employees involved were experienced men. At the time of the accident the crew of the transfer train had been on duty 2 hours or less, previous to which they had been off duty 13 hours or more, while the crew of extra 678 had been on duty less than 11 hours, after having been off duty 12 hours or more.

Respectfully submitted,

W. P. Borland,

Chief, Bureau of Safety.