INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE CHICAGO, ROCK ISLAND & PACIFIC AND PENNSYLVANIA RAILROADS AT BEVERLY HILLS, WEST 91st STREET, CHICAGO, ILL., ON AUGUST 29, 1926.

October 26, 1926.

To the Commission:

On August 29, 1926, there was a side collision between a Chicago, Rock Island & Pacific Railway passenger train and a Pennsylvania Railroad freight train at the intersection of the tracks of these railroads at Beverly Hills, West 91st Street, Chicago, Ill., resulting in the death of 2 employees and the injury of 18 passengers and 4 employees. This accident was investigated in conjunction with a representative of the Illinois Commerce Commission.

Location and method of operation

At the point of accident both roads are double-track lines over which trains are operated by time-table, train orders, and a manual block-signal system. The line of the Chicago, Rock Island & Pacific Railway extends north and south, while that of the Pennsylvania Railroad extends northwest and southeast, crossing the tracks of the Chicago, Rock Island & Pacific Railway at an angle of about 23°. The crossing is protected by an interlocking plant, the tower being located in the northwest angle of the intersection. This interlocking plant, of the mechanical type, is operated by the Chicago, Rock Island & Pacific Railway; the machine is a 12-lever Saxby and Farmer machine.

Approaching the point of accident on the Pennsylvania Railroad from the northwest, which by time-table direction is west, the line is tangent for more than one-half mile, followed by a $1^{\circ}30'$ curve to the right 772.8 feet in length, and then 156 feet of tangent to the crossing, this tangent extending for a considerable distance beyond. The grade is practically level. There is a block office located beside the tracks of the Pennsylvania Railroad at a point 743 feet west of the crossing; the home interlocking signal governing movements on the Pennsylvania Railroad over the crossing is located

366 feet west of the crossing, while the derail, which is of the Wharton lift type, is located 51 feet east of the signal. A link-type detector bar, 49 feet 2 inches in length, overlaps the derail a distance of about 3 feet, an approaching train encounters the detector bar 46 feet before reaching the derail. With a wheel of a train on the detector bar the derail point and home signal can not be changed. The line of the Chicago, Rock Island & Pacific Railway is tangent for about 1 mile south of the crossing while the grade is descending for northbound trains, varying from 0.75 to 0.86 per cent. The home signal on the Chicago, Rock Island & Pacific Railway is located 383 feet south of the crossing and the derail is located about 50 feet north of the signal.

The weather was clear at the time of the accident, which occurred at about 10.57 p.m.

Description

Pennsylvania eastbound freight train extra 7082 consisted of four cars, hauled by engine 7082, and was in charge of Conductor Gaumer and Engineman Schreckenghaust. It departed from 71st Street Yard at 10.47 p.m., en route to deliver the four cars to a train that was stalled, on account of a disabled engine, and also to exchange engines, it stopped at the block office near the crossing at about 10.52 or 10.53 p.m. received orders, and departed shortly afterwards, passed the home signal, which was displaying a stop indication, encountered the derail, which failed to perform its proper function, and while moving over the crossing at a speed estimated to have been about 10 miles an hour the engine was struck a glancing blow on the right side by the engine of the Chicago, Rock Island & Pacific train.

Chicago, Rock Island & Pacific northbound passenger train No. 182 consisted of three all-steel suburban passenger coaches, hauled by engine 1337, and was in charge of Conductor Postwaller and Engineman Kauffman. It departed from 95th Street station at 10.55 p.m., on time, and while making a station stop at 91st street collided with extra 7082 while traveling at a speed estimated to have been between 3 and 10 miles an hour.

Both engines were derailed; Pennsylvania engine 7082 remained upright and was only slightly damaged, while Chicago, Rock Island & Pacific engine 1337 came to rest on its left side, quite badly damaged, with many of the appurtenances stripped from its right side. The employees killed were the engineman and fireman of the Chicago, Rock Island & Pacific train.

Summary of evidence

On arrival at the block office extra 7082 was brought to a stop, at which time, according to Engineman Schreckenghaust and Fireman Kline, the interlocking signal was displaying a clear indication. A clearance card and train order were received and these employees said that when the train started, about a minute or two after first stopping, a clear indication was still displayed at the interlocking signal, and continued to be displayed until the engine was within from 3 to 5 car-lengths of the signal, with which statement Conductor Gaumer agreed; after this point had been reached they did not pay any more attention to the signal indication. On reaching a point about 20 or 25 feet from the crossing, traveling at a speed of about 10 or 12 miles an hour, Engineman Schreckenghaust noticed the Chicago, Rock Island & Pacific train approaching the crossing and immediately applied the air brakes in emergency, but it was too late to avert the accident. Engineman Schreckenghaust admitted that he did not observe the interlocking signal while passing it, that there was nothing to obscure his view of the signal, such as smoke, fog, steam, etc., and that after calling the position of the signal, immediately after departing from the block office, he engaged Conductor Gaumer in conversation relative to the work to be performed and noticed nothing unusual while passing over the derail. After the accident these employees observed that the derail was damaged; the engineman and firemen also noticed that the interlocking signal was displaying a stop indication, and the engineman stated that if the derail and signal were set against his train it must have been done before his engine reached the detector bar. Flagman Murphy, who was riding on top of the rear car at the time of the accident, there being no caboose, stated that the interlocking signal was displaying a proceed indication when the train first stopped at Beverly Junction tower, but that he did not notice the signal after departing from the tower, nor did he notice an air-brake application immediately before the accident. The statements of Head Brakeman Matthews brought out nothing additional of importance.

None of the surviving members of the crew of train No. 182, the Chicago, Rock Island & Pacific train, had any knowledge of anything wrong before the accident occurred. Conductor Postweiler stated that the air brakes on his train worked properly en route, no trouble being experienced in making various stops. He also said that before Engineman Kauffman died the engineman informed him that the signals were clear for his train. Brakeman Ditmars stated that after the accident he observed that the route was properly lined for the Chicago, Rock Island & Pacific train.

Towerman Brown, stationed at the interlocking tower, stated that he lined the route over the crossing for the Pennsylvania train at about 10.53 p.m., but on observing that train stop at the Pennsylvania block office he changed the route, lining it for the Chicago, Rock Island & Pacific train, he was of the opinion that the Pennsylvania train was stopped at the time he changed the route, and was unable to account for the fact that it was not derailed when it encountered the derail east of the signal. Towerman Brown estimated the speed of the Pennsylvania train to have been about 20 miles an hour at the time of the accident.

Superintendent of Signals and Telegraph Lantz, of the Pennsylvania Railroad, stated that he inspected the derail after the accident. It showed indications of having been run over while in normal position, the point rail being curved and twisted, and marked its entire length on the gauge side, apparently by a wheel flange. The angle bars were twisted and the bolt in the angle bar on the follower-rail end was broken, while a piece about 2 feet long was broken off the end of the follower rail next to the point rail. Marks on the base and head of the stock rail indicated that the point rail had been forced tight against the stock rail the entire length of the point rail, the spikes and ties indicated that the stock rail had been pushed outward about 3/4 inch at a point 4 feet from the east end of the derail. There were also marks on top of the point rail apparently made by wheel flanges. The lifting rail was barely marked on top and on the gauge side. The rail clips on the lifting end were bent, indicating that the rail had been subjected to an outward rolling pressure. The operating rod, from the switch adjustment to the escapement crank on the switch and lock movement, was bent slightly downward indicating that it had been under more than normal compression. Inspection and test of the interlocking machine by officials of both roads indicated that the mechanical locking was in good condition and had not been tampered with.

Conclusions

This accident was caused primarily by the failure of Engineman Schreckenghaust, of Pennsylvania extra 7082, properly to observe and obey the indication of the interlocking signal governing train movements over the crossing.

Under the interlocking rules of the Pennsylvania Railroad, if a signal, permitting a train to proceed, is changed to a stop signal before it is reached, the stop must be made at once. Engineman Schreckenghaust admitted

that he engaged Conductor Gaumer, who was riding on the engine, in conversation shortly after departing from the block office and that he did not observe the interlocking signal while passing it or when within a few car-lengths of it. After the accident the signal was found in the stop position, and as it could not have been changed afterwards, it is clear that it must have been in the stop position when passed by extra 7082. Had Engineman Schreckenghaust been maintaining a proper lookout he could have seen this stop indication before his engine passed it and the collision probably would have been prevented.

The interlocking rules of the Chicago, Rock Island & Pacific Railway require that, when necessary to change any route for which the signals have been cleared for an approaching train or engine, the signals may be placed in the normal position, but the derails, switches, or movable point frogs must not be changed until the train or engine for which the signals were first cleared has stopped, and under the interlocking rules of the Pennsylvania Railroad it is required that, if necessary to change any route for which the signals have been cleared for an approaching train or engine, switches must not be changed or signals cleared for any conflicting route until the train or engine, for which the signals were first cleared, has stopped. Towerman Brown maintained that he was of the opinion that the Pennsylvania train was stopped at the time he changed the route. Whether or not he changed the route at that time or just after the train departed from the junction tower the fact remains that the route was changed immediately prior to the collision. Had Towerman Brown not changed the route practically in front of the Pennsylvania train the collision probably would not have occurred.

Inspection of the derail after the accident disclosed that it had been run over while in normal, or derailing, position. Failure of the lifting rail to raise the engine wheels over the south running rail permitted the flanges to remain on the gauge side of the rail, thereby crowding the left wheels against the point rail with such force that the 70-pound point rail, not being fastened securely at any point, was unable, to withstand the pressure exerted against it and consequently gave way, the wheels continuing on the securely spiked and well maintained 100-pound running rail. Marks on the left front driving wheel indicated that this was the wheel which bent and twisted the point rail. The weight of the engine, which was 591,900 pounds, engine and tender loaded, apparently contributed to the failure of the derail to function thereby raising a doubt as to whether or not this type of derail can be depended upon to function properly under similar circumstances. Had the de-

rail functioned properly the collision would not have occurred.

None of the employees involved had been on duty in violation of any of the provisions of the hours of service laws.

Respectfully submitted,

W. P. BORLAND,

Director.