
REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE PHILADELPHIA & READING RAILWAY AT PHILADELPHIA, PA., ON NOVEMBER 23, 1922

January 3, 1923.

To the Commission.

On November 23, 1922, there was a side collision between a switch engine and a light engine on the Philadelphia & Reading Railway at Philadelphia, Pa., resulting in the death of 2 employees.

Location and method of operation.

This accident occurred on that part of the Philadelphia Division known as the Subway District, extending between 13th and 41st streets, a distance of about 4,000 feet, switching operations for Philadelphia and the vicinity being made in this district. Train movements are handled by time-table and interlocking signal indications. The accident occurred just north of 17th street, on the northbound main track, at the south switch of a crossover connecting the two main tracks.

Main track signals, governing movements with the current of traffic, are of the two-position, lower-quadrant, semiautomatic type, displaying only stop or caution indications, while dwarf and calling-on signals are of the two-position, lower-quadrant, nonautomatic type, displaying similar indications. The dwarf signals governing movements against the current of traffic on the main line display yellow and purple indications, for proceed with caution, and stop, respectively. The three interlocking towers in this territory, located at Broad, 17th, and 41st streets, are equipped with electro-pneumatic interlocking machines. All signal levers are equipped with electric locks, preventing the levers being restored to normal position while signals display clear indications. The interlocking plants are equipped with route locking and detector circuits, while all switch levers are equipped with electric locks. Switching movements to and from the main tracks are controlled from the towers, no hand operated switches being in use.

In making a movement from the southbound passing track to the southbound main track, thence to the northbound main track, the following signals are encountered: Signal 10-R, which is located on the passing track north

of the crossover switch leading to the southbound main track, and signal 24-R, located on the northbound main track beyond the crossover connecting the two main tracks and which controls reverse movements beyond the crossover. Dwarf signal 14-R is also located on the northbound main track, but is north of the crossover switch, is also controls reverse movements on the northbound main track, and protects the south crossover switch and with the route lined for a movement from the southbound passing track to the northbound main track the lever controlling signal 14-R is locked to hold the signal in the stop position. The weather was clear at the time of the accident, which occurred at about 5.22 p.m.

Description.

Switch engine 1168, headed north, in charge of Conductor White and Engineman Norris, coupled to the south end of a transfer composed of 13 cars which was standing on the southbound siding just north of bridge signal 10-R. Immediately after train No. 15 passed, a scheduled first class northbound train, switch engine 1168 proceeded southward with the transfer via the crossovers, crossed the southbound main track, and on reaching the south switch of the crossover connecting the two main tracks, while traveling at a low rate of speed, the switch engine was struck by light engine 315.

Immediately after train No. 15 passed 30th Street, light engine 315, headed north, en route from the roundhouse to Reading Terminal, proceeded southward on the northbound main track at a speed estimated to have been not in excess of 4 miles an hour, passed signal 14-R, and collided with switch engine 1168.

Switch engine 1168 came to rest on the southbound main track on its left side, while the tender of light engine 315 was derailed to the east. The employees killed were the engineman and fireman of the switch engine.

Summary of evidence.

As soon as train No. 15 passed, the route was lined for switch engine 1168, after which Brakeman Wheeler got on the rear footboard of the tender, this being the forward end of the transfer on this occasion, and gave Engineman Norris a proceed signal. Brakeman Wheeler did not notice the indication of signal 14-R, saying he was giving his entire attention to the switches and signals affecting the movement of the transfer. Brakeman Strohecker, who was riding on the rear car of the train, stated when this ~~car~~ train started to move through the crossovers, light engine 315 passed, moving in the same direction on the northbound track. He immediately looked ahead and saw signal 14-R in the stop position, and

said light engine 315 passed it in this position. None of the other members of the train crew was aware of anything wrong until the accident occurred. Conductor White was in the trainmaster's office, located a short distance from the point of accident, obtaining way bills for the cars being moved.

As light engine 315, of the double-cab type, was making a back-up movement over the northbound main track, it was necessary for Fireman Andrich to inform Engineman Reber as to the signal indications displayed. After proceeding a short distance from 20th street, Fireman Andrich informed Engineman Reber that all the signals displayed clear indications. Although he saw the transfer, Fireman Andrich did not know it was moving toward the northbound main track until its engine was crossing the southbound track, at which time the two engines were about a car length apart, with his own engine traveling at a speed of about 4 miles an hour. He immediately shouted over the boiler to Engineman Reber and the air brakes were applied in emergency. Fireman Andrich emphatically stated signal 14-R was displaying a yellow, or proceed with caution indication, at the time his engine passed it. Neither he nor Engineman Reber examined the position of the signals or switches immediately after the accident. Engineman Reber stated the air brakes were in proper working order and he could very easily have brought the light engine to a stop before passing signal 14-R had Fireman Andrich informed him it was in the stop position. He further stated the northbound main track is frequently used in making this southbound back-up movement, and very often it is necessary to bring the light engine to a stop before reaching signal 14-R on account of the crossovers being in use.

Towerman Taylor, stationed at 17th street tower, stated that General Yard Master Comaskey inquired over the telephone as to whether or not the switch engine was ready to depart with the transfer, and on being informed that it was, issued instructions to let it depart as soon as train No. 15 passed, ahead of light engine 315. Accordingly, the route was lined for the switch engine via the crossovers, and the signals cleared, at which time light engine 315 was still at the roundhouse at 20th street.

Immediately after the accident, the switches were found to be lined for the crossover movement, and signals 10-R and 24-R were displaying clear indications, while signal 14-R was displaying a stop indication, these being the correct indications when the route is lined via the crossovers, and tests made of the signal apparatus showed it to be in proper working order.

Conclusions.

This accident was caused by the failure of Fireman Andrich, on light engine 315, properly to observe and inform Engineman Reber as to the indication displayed by dwarf signal 14-R.

The movement made by both engines involved on this occasion is practically of daily occurrence, and Fireman Andrich was thoroughly familiar with the physical characteristics, signals and switches in this vicinity. Although Fireman Andrich emphatically stated dwarf signal 14-R was displaying a clear indication, the statement of Brakeman Surbecker, the indication this signal was displaying immediately after the accident, coupled with the tests which were made, indicate that he either misread or failed to observe the indication of the signal. It would also appear that regardless of the indication displayed, had Fireman Andrich been keeping a proper lookout he could have seen switch engine 1163 moving through the crossover in ample time to have taken proper steps to have engine 315 brought to a stop before reaching the switch.

The crew of engine 315 were experienced men. At the time of the accident they had been on duty less than 5½ hours, after having been off duty 16 hours.

Respectfully submitted,

W. P. Borland

Director.