

HYB-AJB

December 2, 1911.

MEMORANDUM TO COMMISSIONER McCHORD
relative to accident on the Pennsylvania R. R., September 25, 1911.

Draft submitted by the Chief Inspector of Safety Appliances
as a basis for the report of the Commission.

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On September 25, 1911, the Pennsylvania Railroad reported by telegraph a head-on collision occurring at Larimer, Pa., between train No. 28, known as the east-bound Pennsylvania Special, and west-bound extra freight train No. 2937. Inspectors Coutts and Craig were assigned to make an investigation, in which they were assisted by Mr. H. B. Lyon, an Inspector of the Block Signal and Train Control Board. The synopsis of their report is as follows:

Train No. 28 left Pittsburgh at 12:50 A. M., September 25, hauled by engine No. 3386, and consisted of one parlor car and five sleeping cars, all of modern steel construction. At 1:17 A. M. this train collided with extra No. 2937, made up of 50 empty cars and a caboose, at a tower known as "C P" Tower, located 1,000 feet east of the station at Larimer, Pa., which is about 20 miles east of Pittsburgh. This collision resulted in the death of the fireman on train No. 28, the serious injury of three employees, and the injury of one passenger.

This division of the Pennsylvania Railroad is a four track railroad. East-bound passenger trains leaving Pittsburgh use track No. 1 to "R" Tower at the west end of Pitsclairn Yard,

where they are diverted to track No. 3, using this track to "C P" Tower, where they are diverted back to track No. 1. The purpose of using track No. 3 from "R" Tower to "C P" Tower is to avoid going through Pitcairn and other yards. West-bound freight trains use track No. 3 from Radebaugh Tunnel to "C P" Tower, where they are diverted to track No. 2 for the purpose of entering Pitcairn Yard.

"C P" Tower is a telegraph station, where a record is kept of all passing trains. The men in charge work eight hour shifts. The tower contains twenty-three levers, operating the electric-pneumatic interlocking plant installed at this place. These levers control all of the signals and switches governing trains passing this tower.

The engineman in charge of west-bound extra No. 2937 on track No. 3, received a caution signal at Shafton, located about 9,000 feet east of "C P" Tower, a clear signal at Irwin, located about 3,600 feet east of "C P" Tower, and a clear signal at "C P" Tower, which indicated to him that he had the right to cross over from track No. 3 to track No. 2. The engineman states that the home signal was also clear when he passed under it. When opposite "C P" Tower he noticed that his train was still on track No. 3 instead of crossing over to track No. 2, as the signals indicated. At the same time he noticed the headlight of train No. 28, which was approaching on the same track, and immediately applied the emergency air brakes.

On approaching the distant signal at Carnegie, the engineman of train No. 28 found it to be set at caution, in-

dicating that he should be prepared to stop at the home signal at "C P" Tower. On reaching the straight track about 1,500 feet west of "C P" Tower, he whistled for, but did not receive, a clear signal. He kept his train in motion prepared to stop west of the road crossing at Larimer station. Before he had brought his train to a stop the signal was changed to clear, indicating to him that he had the right to cross over as usual from track No. 3 to track No. 1. He then started to increase the speed of his train, and on again looking at the signal discovered that it had been changed to danger. Before he could apply the brakes the collision occurred. The speed of the freight train at the time of the accident was about thirty miles per hour, while that of the passenger train was about four miles per hour.

The Pennsylvania Railroad at the place of the accident uses No. 20 cross-overs, which permit a speed of 35 miles per hour while crossing from one track to another. The track at this place is straight, with a slight down grade for west-bound trains.

The towerman in charge of "C P" Tower states that when the freight extra was reported to him at 1:10 A. M. from the first tower east of his station, he set the switches and signals for it to cross from track No. 3 to track No. 2. This was about seven minutes before train No. 26 was due. As train No. 28 approached the tower from the west he became confused and, overlooking the fact that he had set the switches for the freight to cross over, changed the route so as to permit train No. 28

to cross from track No. 3 to track No. 1. In doing this he had to change the switches and signals governing the movement of the freight train, and evidently changed the home signal to danger about the time that the engine passed it. When the freight train reached an insulated track joint near the switch that led to track No. 4, the east-bound home signal on track No. 3, which had been placed to indicate clear to train No. 28, automatically dropped to danger, and was seen by the engineman on that train, but the collision occurred before he could stop his train.

The towerman in charge of this tower at the time of the accident is 32 years of age, and had been employed by the Pennsylvania Railroad Company in various capacities since May 1, 1899, and had been working at this tower since August 1, 1911. He had had experience in operating mechanical interlocking plants before being transferred to this tower, and had passed a satisfactory examination showing this knowledge. "C P" Tower is equipped with track indicators, located directly in front, and in plain view, of the towerman. These indicated to him that the freight extra was approaching on track No. 3, and there is no excuse for his changing the route already set up.

The circuit plan furnished our Inspectors by the Pennsylvania Railroad Company was carefully checked, and it was found that it did not agree with the circuits and apparatus in service. The plan called for seven time releases, which were not installed, and for a different arrangement of circuits than was found to be in actual operation. This plant is a very important one, as all freight trains and east-bound passenger

trains are at this place diverted from one track to another, and its operation under the conditions above mentioned is certainly not in accordance with modern signal practice. This interlocking plant is not equipped with either approach or route locking. Had approach or route locking been used it would have prevented the towerman from changing the signals and routes after the freight extra had passed the home signal.

This accident was caused by the towerman changing the switches and signals after the west-bound freight train had passed the home signal. As a result it continued westward on the same track, on which the east-bound passenger train was approaching. In doing this the towerman disregarded the indications of the track indicators directly in front of him and in plain view.

As a preventive of accidents of this character, it is recommended that interlocking plants shall be equipped with proper systems of approach and route locking.

Respectfully submitted,

Chief Inspector of
Safety Appliances.