

## INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE  
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE  
LEHIGH VALLEY RAILROAD NEAR MAUCH CHUNK, PA., ON  
DECEMBER 1, 1929.

February 26, 1930.

To the Commission:

On December 1, 1929, there was a head-end collision between a freight train and a light engine on the Lehigh Valley Railroad near Mauch Chunk, Pa., which resulted in the injury of two employees.

Location and method of operation

This accident occurred on the New Jersey and Lehigh Division extending between Greens Bridge, N. J., and Penn Haven, Pa., a distance of 56.3 miles, in the vicinity of the point of accident this is a double-track line over which trains are operated by time-table, train orders, and an automatic block-signal and train control system. The accident occurred at a point 1,500 feet east of a trailing-point crossover, located approximately 1 mile west of Mauch Chunk. Approaching the point of accident from the east the track is tangent for a distance of 1,470 feet, followed by a  $2^{\circ} 30'$  curve to the right 1,000 feet in length, the accident occurring on this curve at a point 380 feet from its eastern end. Approaching from the west the track is tangent for a distance of 600 feet, followed by the curve on which the accident occurred. There is a retaining wall and an embankment on the inside of the curve on which the accident occurred which restricts the range of vision from trains approaching in either direction. The maximum speed authorized for freight trains in the vicinity of the point of accident is 20 miles per hour.

The signals involved are signals 1231 and 1241 and are of the three-position upper-quadrant type. Signal 1231 is located 4,110 feet east and signal 1241 is located 1,170 feet west of the point of accident.

The weather was clear at the time of the accident, which occurred at about 7.10 a.m.

### Description

Light engine 1665, headed west, was in charge of Conductor Begel and Engineman Weiss. This engine departed from Mauch Chunk at 6.58 a.m., en route to Glen Onoko, a station 2 3 miles west of Mauch Chunk, to assist an eastbound train which was disabled at that point. Shortly after arriving at Glen Onoko this engine started eastward on the westbound main track, it being intended to proceed as far as the crossover but before reaching that point it collided with extra 3111 while traveling at a speed estimated at 10 miles per hour.

Westbound freight train extra 3111 consisted of 32 cars and a caboose, hauled by engines 376 and 2111, and was in charge of Conductor Daley and Enginemen Clark and Newman. This train left Packerton, 2 miles east of Mauch Chunk, at 7.00 a.m., passed Mauch Chunk at 7.08 a.m., and collided with engine 1665 while traveling at a speed estimated to have been between 5 and 10 miles per hour.

Engine 1665 was not derailed but was separated from its tender by a distance of about 335 feet. The tender was considerably derailed and had one pair of wheels derailed. Engine 376 was derailed to some extent and had the rear tender truck derailed while engine 2111 was only slightly derailed and was not derailed. The employees injured were the enginemen and a brakeman of the light engine.

### Summary of evidence

Engineman Weiss, of engine 1665, stated that while at Mauch Chunk his conductor instructed him to go to Glen Onoko to ascertain whether a freight train at that point, which was disabled, needed assistance, and to leave a flagman at the crossover between these points. A few minutes after arriving at the latter point the conductor instructed him to return to the crossover and notify the flagman not to open the crossover switches, and then return to Glen Onoko. He immediately started a backup movement on the westbound track and was moving at a speed of about 10 miles per hour when he noticed the exhaust of steam from an approaching engine which was then about 10 car-lengths distant, at that time he thought it was an engine on an adjoining track, as he understood the return movement to the crossover would be protected by the flagman whom they had left at that point. He did not discover that the other engine was on the westbound track until its whistle was sounded and it was then within four car-lengths of his own engine;

He immediately applied the brakes, reversed the engine and opened the throttle. He said that he did not hear the instructions given by the conductor to the flagman who had been dropped off at the crossover, and was of the impression that this flagman would have the crossover switches open which would cause the signals to function and protect the movement against the current of traffic.

Fireman Geiger, of engine 1665, stated that he did not see the opposing train until it was called to his attention by the engineman and at that time the engines were about two car-lengths apart.

Conductor Begel, of engine 1665, stated that he received orders from the yardmaster at Mauch Chunk to proceed to Glen Onoko to determine what was delaying an eastbound train there, and to leave a flagman at the crossover. He instructed this flagman, who got off near the east switch, to hold all trains until the engine returned and not to open the crossover switches until 7.15 a.m. Upon arrival at Glen Onoko he learned that the disabled train was about ready to proceed and after notifying the dispatcher to this effect he instructed the engineman to return to the crossover and instruct the flagman not to open the switches, he remained at Glen Onoko to keep the dispatcher advised as to the movement of the eastbound train. He said that he realized afterwards he should have left the flagman about 30 car-lengths east of the crossover and another man at the crossover to provide full protection for the reverse movement but did not do so for the reason that he did not think of it at the time, as well as the fact that a train seldom follows an engine en route to assist a disabled train. His purpose in not having the flagman open the switches until 7.15 a.m. was to keep from holding the eastbound train that he was going to assist at the signal west of that point.

Flagman Hollenbach, of engine 1665, stated that he was instructed by the conductor to get off at the crossover west of Mauch Chunk and to flag all trains and leave the crossover switches closed until 7.15 a.m. He got off, unlocked the switches and then walked eastward and upon reaching a point about 10 car-lengths from the east switch he observed extra 2111 approaching. He gave warning signals with a red lantern from the engineman's side of that train but these signals were not acknowledged, the train passing him at a speed of about 35 or 40 miles per hour, and it appeared that the leading engine was still working steam. He did not place torpedoes on the rails as he was anxious to get back as far as possible and said he lost no time in doing so after unlocking the switches.

Engineman Clark, of helper engine 376, stated that when signal 1231 first came into view it was displaying a clear indication but before his engine reached that point he noticed it was displaying a caution indication and he acknowledged it by operating the automatic train stop acknowledging valve. The speed of his train at that time was about 35 or 40 miles per hour and he partly closed the throttle and the engineman on the second engine shut off steam. While his train was approaching the crossover he observed a flagman standing on track 3, which parallels the westbound track on the north, flagging him in the ordinary manner. This flagman was about 8 or 10 car lengths east of the east crossover switch and was not more than 2 car-lengths ahead of the engine when he was first seen. Engineman Clark immediately shut off steam and made a heavy service application of the brakes, and after the train travelled a distance of about 15 car-lengths he noticed engine 1665 approaching and he applied the brakes in emergency but this had very little effect due to having previously made a service reduction; he thought the speed was reduced to about 5 miles per hour at the time of the accident. He said he did not apply the brakes in emergency as soon as he saw the flagman as he did not know the westbound track was being used for a reverse movement and the service application of the brakes would have brought the train to a stop before it passed signal 1241 which he expected to find in the stop position. He thought the reason he was being flagged was that some crew intended to set out a train on track 3 and the west switch of which is located beyond signal 1241. It was his opinion that if it was intended to use the crossover the flagman should have been located at a much greater distance east of where he was actually standing as it would have been impossible even by an emergency application of the brakes to stop the train short of the crossover between the point where he could see this flagman and the east crossover switch. He also thought that the switches should have been opened and this would have caused signal 1231 to display a stop indication. He was familiar with the rule restricting the speed to 20 miles per hour between Penn Haven Junction and Mauch Chunk but did not think it applied to westbound trains.

Engineman Newman, of the second engine of extra 2111, stated that before leaving Packerton an inspector gave him an air-brake test form which indicated that the brakes were working on all of the cars except one. When his engine reached a point about four or five car-lengths east of signal 1231 he noticed that it displayed a caution indication and he shut off steam but did not notice at that time whether steam was shut off on the leading engine although he was positive that it was shut off within

10 car-lengths beyond that signal. He did not see the flagman east of the crossover as the stoker had become stalled and he was working on it when his engine passed that point. He returned to his engine cab after passing the crossover, or about 600 feet from the point of accident, and at that time the speed was about 35 miles per hour. He did not know at what point the brakes were applied but they took proper hold and reduced the speed to about 15 miles per hour when the opposing engine came into view and this speed was further reduced to about 10 miles per hour at the time of the accident. He noticed fire flying from beneath engine 1865 while it was approaching and estimated the speed of that engine at 15 miles per hour.

### Conclusions

This accident was caused by the failure to provide proper flag protection for a movement against the current of traffic, for which Conductor Begel and Flagman Hollenbach are responsible.

The rules provide that conductors must carefully instruct flagmen as to the safe performance of their duties. A flagman must be sent in the direction of opposing traffic a sufficient distance from a detour crossover to insure full protection, with instructions to stop and hold all trains. In automatic signal territory, crossover switches at each end of single track section will be operated so as to hold automatic signals at stop.

Conductor Begel did not instruct the flagman to go back to insure protection, although he did tell him to hold all trains at the crossover. He also failed to arrange for the opening of the crossover switches to provide automatic signal protection, but instead he specifically instructed the flagman to leave them closed until 7.15 a. m., which he said was for the purpose of allowing the eastbound train to proceed without stopping at the signal west of the crossover. He admitted that had he arranged to have the crossover switches opened before his engine departed from that point on its westbound trip the accident would have been prevented. He also said that he should have dropped another flagman off about 30 car-lengths east of the crossover but did not think of it at the time.

The rules further require that the flagman must go back immediately and proceed rapidly to a distance sufficient to insure full protection and on reaching the required distance or on the approach of a train to display stop signals and in addition place two torpedoes

on the rail. Flagman Hollenbach said that as soon as he got off at the crossover he unlocked the switches then started eastward, and when he reached a point about 10 car-lengths from the crossover he observed extra 2111 approaching. He gave the required stop signals but did not place torpedoes as he said he did not have time. The train sheet shows that engine 1365 left Mauch Chunk at 6.58 a.m., and arrived at Glen Onoko at 7.02 a.m., which would indicate that it passed the crossover at about 7.00 a.m. As Flagman Hollenbach under his instructions was expected to be at the crossover to open the switches at 7.15 a.m., he had  $7\frac{1}{2}$  minutes in which to provide protection in accordance with this rule and during that interval he should have reached a greater distance from the crossover than he actually did at the time extra 2111 passed him.

Engineman Clark, who was operating the leading engine of extra 2111, said that his train was traveling at a speed of between 35 and 40 miles per hour when it passed signal 1231 which was displaying a caution indication. He partly closed the throttle at that time and when he observed the flagman he completely closed the throttle and made a heavy service application of the brakes with the intention of bringing the train to a stop short of the next signal in advance, while he did not know that a reverse movement was being made he was not justified in assuming, after being flagged, that the block was not occupied or obstructed. The maximum speed permitted for freight trains between Penn Haven Junction and Mauch Chunk as prescribed by time-table is 20 miles per hour, but Engineman Clark was of the opinion that this rule did not apply to westbound trains. The investigation developed that the speed restriction of 20 miles per hour between Penn Haven Junction and Mauch Chunk is being exceeded as a matter of common practice. A check of the train sheets for the two days preceding the date of the accident disclosed that out of a total of 73 freight trains 49 of them exceeded the speed limit between these points.

The employees involved were experienced men and at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,

Director.