

In re investigation of an accident which occurred on the Pennsylvania Railroad near Earnest, Pa., on March 6, 1917.

April 17, 1917.

On March 6, 1917, there was a head-and collision on the Pennsylvania Railroad between a switching locomotive hauling cars, and a freight train being operated against the current of traffic. This accident occurred at HQ tower, near Earnest, Pa., and resulted in the death of 3 employees and the injury of 3 employees. After investigation of this accident the Chief of the Division of Safety submits the following report:

This part of the Pennsylvania Railroad is a double-track line, HQ tower being located just east of the entrance to HQ yard, .6 of a mile west of Earnest and 1 mile east of Horristown, Pa., the yard tracks being located on the south side of the main tracks. Train movements west of the tower are governed by automatic signals of the position light type, while east of the tower, where the accident occurred, they are governed by an absolute manual block system. On the south side of the eastbound main track is a siding from which the various yard tracks lead. This siding extends east of HQ tower and finally joins the east bound main track at a point about 1,250 feet east of the tower, and is known locally as the "extension." Beginning just east of HQ tower is a cross-over leading from the extension to the eastbound main track, another crossover connecting the eastbound and westbound main tracks, and then a third crossover leading from the westbound main track to the west leg of the Earnest wye. All of the main line switches in this vicinity are operated from HQ tower, except the switch at the east end of the extension track, and that is electrically controlled by the tower operator. All of the signals are ground signals, except the eastbound home signal, which is on a signal bridge located just west of the tower, the bridge also carrying the westbound automatic position light signal. Neither of these signals on the bridge were involved in the accident. All signal indications are given in the upper right hand quadrant, and the night indications are given by red, green and white lights on the high signals for stop, caution and proceed. The dwarf signals display only two indications, stop and caution, the colors for night indications being purple and green, respectively. Approaching HQ interlocking the dwarf signal governing reverse movements on the eastbound main track is on the north, or engineer's side, 375 feet east of the crossover leading from the east-bound main track to the extension track, and about 300 feet east of the west switch of the crossover connecting the two main tracks, this

switch being a trailing switch for reverse movements. This dwarf signal can be seen about 800 feet in day-light, but it can not be seen so far at night, as the purple light is of much shorter range.

Approaching the point of accident from the east there is a curve of one degree to the left about 2,000 feet in length, the last 1,200 feet of which extends through a rock cut which is of considerable height on the inside of the curve. The condition of track and signals at HQ tower can not be seen by approaching engine crews until nearly at the western end of the cut, about 1,200 feet from the tower, from which point the track is tangent to and for some distance beyond the tower. The grade in this vicinity is nearly level. The weather at the time of the accident was clear.

On the morning of the accident switching locomotive 1948, in charge of Conductor Schultz and Engineman Keller, was backing out of the yard, hauling a caboose and 10 cars, the caboose being next to the locomotive. The route was set up for it to cross over from the extension track to the eastbound main track, thence to the westbound main track and to the west leg of Earnest wye. The locomotive had passed the tower about 100 feet and had entered the crossover leading to the eastbound main track from the "extension" track when westbound freight train extra 1153, running on the eastbound track against the current of traffic, entered the open switch at the east end of the crossover and collided with the tender of locomotive 1948.

Westbound freight train extra 1153 consisted of 17 cars and a caboose, in charge of Conductor Hoult and Engineman Charles. It left the Fifty-second Street yard, Philadelphia, at 2.57 a. m., arriving at EF tower, 7 miles east of HQ tower, at 4.29 a. m. Second-class trains Nos. 6035 and 6037 were occupying the track ahead of extra 1153, and in order to avoid delay to extra 1153 the crew in charge were given train order No. 12 at EF tower, this order reading as follows:

"Extra 1153 west has right over opposing trains on eastward track, west end of Shawmont middle siding to Franklin Ave.; pass No. 6037 at CN block station and No. 6036 at HQ block station, and run ahead to Phoenixville."

Extra 1153 passed CN tower, 3.2 miles east of HQ tower, at 5.04 a. m., failed to observe the dwarf signal at HQ protecting the crossover, ran through the west switch of the crossover connecting the two main tracks, entered the open crossover switch leading to the extension track, and collided with switching locomotive 1948 at 5.13 a. m.

Locomotive 1948, together with the cars being hauled by it, was driven westward about 175 feet, the tender being

derailed, while the caboose immediately ahead of the locomotive was destroyed. Locomotive 1153 was derailed and the cab demolished, while the tender was derailed and practically destroyed. The two cars immediately behind locomotive 1153 were quite badly damaged.

Dispatcher Whitman stated that after train order No. 12 had been issued to extra 1153, the train did not leave EF tower promptly, and when train No. 6037 arrived at the westbound home signal at NQ tower and train 6035 was not ready to proceed, it was decided to run train No. 6037 on the eastbound track from NQ tower to Norristown and to let extra 1153 follow train 6035 on the westbound track from NQ tower. Train order No. 16 was therefore issued at NQ tower, annulling train order No. 12, but the accident occurred before the order could be delivered. Inasmuch as extra 1153 had not left EF tower at the time it was decided to return it to its normal track at NQ tower, he instructed the operator at EF tower to notify the conductor of extra 1153 that there would be orders for his train at NQ tower.

Operator Caley, located at EF tower, stated that when the dispatcher told him to notify the crew of the extra that there might be orders for that train at NQ tower, the train was on the middle siding, and a member of the crew had closed the switch and was running to board the caboose, which was moving slowly. He called to him out of the window telling him what the dispatcher had said, and the man turned partly around as if he had heard him, but did not make any reply. He said that he had already given the train the block and that it was, therefore, unnecessary for any member of the crew to call him again by telephone from the western end of the siding.

Flagman Thoman, of train No. 6035, stated that his train stopped on the westbound track with the caboose just east of NQ tower. Train 6037 then approached on the westbound track, stopped at the home signal, then crossed over to the eastbound track and proceeded westward from NQ tower on the eastbound track. Locomotive 1948 which had been on the west leg of the Earnest wye, then crossed over the two main tracks and entered the yard. It then started out of the yard, and at about this time extra 1153 approached, the engineman sounding a whistle signal indicating that he was running against the current of traffic. This was followed by four short blasts for signals, this being repeated 3 or 4 times. Flagman Thoman stated that he did not see anyone give signals to the approaching train and that he could not see the indication of the dwarf signal. He was unable to say whether or not extra 1153 was working steam, and did not know whether the brakes were applied before the collision occurred. He said he was standing

about 3 car lengths east of the point of collision and that he thought the speed of extra 1153 was about 25 miles an hour. He also said that he did not know at the time that switching locomotive 1948 was coming out on the main track, thinking that it might be on the extension track, and he said that if he had known that it was coming toward the main track he would have flagged the approaching extra.

Conductor Hoult, of extra 1153, stated that he was on the locomotive from EF to NQ towers, riding on the fireman's seat-box, with the head brakeman behind him. Coming around the curve east of NQ tower, the engineman sounded 4 short blasts of the whistle several times, calling for signals, and then answered a signal, after which he began to work steam. He said that he had not seen any signal, but took it for granted that the engineman had received a hand signal, saying that they always received a hand signal from the towerman when running against the current of traffic. He saw locomotive 1948 working at NQ tower and thought it was on the extension track. When he saw it coming toward the eastbound main track he called to the engineman. The locomotive was then near the crossover switch, and he thought it was traveling at a speed of about 15 or 18 miles an hour when the collision occurred. Conductor Hoult further stated that he knew where the dwarf signal was, but as it was on the ground on the engineman's side it was difficult for him to see it from the left side of the locomotive, and on account of it being on the engineman's side he was not looking for it. He also said that he was looking for a proceed hand signal to be given by the operator from the tower. He did not hear any signals being called out by any one on the locomotive.

Engineman Charles, of extra 1155, stated that no one said anything to him about looking out for orders at NQ tower, and that he supposed he had the right to the track between points indicated in train order No. 12. Approaching NQ tower he called for signals by sounding four short blasts of the whistle, this signal being given at least three times, and he was positive he saw the operator give a proceed signal with the electric office light, which signal he acknowledged with two short blasts of the whistle. He saw locomotive 1948 coming out of the yard, and thought it was moving on the extension track until he felt his locomotive swing to the left as it entered the crossover switch leading to the extension track. He was then about one car length from locomotive 1948 and was moving at a speed of about 15 or 20 miles an hour. He also stated that he did not notice the dwarf signal governing reverse movements on the eastbound main track, although he knew of its location and was cognizant of the fact that he would have to have a caution indication from it in order to pass it, saying that he was not looking at the ground signals on account of looking at the operator for

a signal from him. He said that there was no train order signal displayed, and that if this signal had been displayed he would have brought his train to a stop at the tower. He also stated that he did not notice his engine running through the switch at the western end of the crossover connecting the two main tracks. Engineman Charles stated that he had made this move once before.

Brakeman Miller, of extra 1153, who was riding in the caboose at the time the accident occurred, said that when coming around the curve east of HQ tower he heard the engineman call for signals several times, and that he then heard him answer a signal with two blasts of the whistle. The speed of the train was about 20 miles an hour and the first he knew that anything was wrong was when he felt the shock of the collision. He said that he did not see the operator give any hand signals.

Flagman Yost, of extra 1153, stated that after the accident he saw the dwarf signal governing reverse movements on the eastbound track and it was in the stop position.

Operator Lawler, on duty at HQ tower, stated that when locomotive 1948 had crossed over into the yard he left the crossovers lined up for the return movement, and after the locomotive had coupled to the cars in the yard he cleared the dwarf signal for it to leave the yard and cross back to the Earnest wye. He knew extra 1153 was approaching on the westbound track with orders giving it rights over opposing trains to Franklin Avenue, and he also had train order No. 16, annulling the order for the extra to run against the current of traffic beyond HQ tower. The dwarf signal governing reverse movements on the eastbound track was in the stop position and was disregarded by the extra. He said that he did not have his train order signal displayed and that there was no particular reason why it was not displayed, as it was burning, but he fully expected extra 1153 to stop at the dwarf signal, and he also expected that locomotive 1948 would complete its crossover movement before the extra approached. This move has been made, Mr. Lawler stated, a large number of times since he has been at HQ tower, and in each case the signal has been observed. He said that he was standing in the window on the east side of the tower; that he did not give any hand signal to extra 1153, either with the electric light or any other light, and that he supposed that the extra was going to stop. He said that he had not heard any whistle signal sounded by the extra, and that the only light that he knew of which could be seen by the crew of the extra was the light on the tender of locomotive 1948, as there was no one in the tower with him who could have given such a signal. He said that extra 1153, after passing the dwarf signal and running through the trailing crossover switch, entered the crossover

leading to the extension track, and was in about the middle of this crossover when it collided with the tender of locomotive 1948.

Engineman Keller, of locomotive 1948, stated that the crossover and dwarf signals were set for the movement which his train was making. When he saw extra 1153 coming, it was very close to his train and he called out, the collision occurring almost immediately and before he had a chance to get off. Fireman Weightman stated that the dwarf signals and the switches were lined up for the crossover movement and he was working on the fire when he heard the engineman call to him. He did not know what he said, but at the same time the engineman got down on the deck of the locomotive and at about this time the collision occurred. He had not heard extra 1153 approaching. He also said that there was no headlight on the rear of the tender of his locomotive, but that a white lantern had been placed there for the purpose.

Rule 361a of the railroad company's book of rules reads in part as follows:

"A train approaching a block station on a track for which there is no block signal must stop and ascertain from the signalman the condition of the block ahead, unless a signal to proceed is given by the signalman with a white or green flag by day or a white or green light by night."

Inasmuch as train extra 1153 was proceeding on the left hand track against the current of traffic, the manual block signal for the regular westbound track did not control as the road at this point is signaled for traffic in one direction only. This movement was controlled, however, by the dwarf signal previously referred to, the indication of which was not observed nor obeyed.

Rule 707, describing conductor's duties, reads in part as follows:

"He is responsible for the movement, safety, and proper care of his train, and for the vigilance and conduct of the men employed thereon, and must report any misconduct or neglect of duty."

This accident was caused by the failure of the crew in charge of extra 1153 to observe and obey the stop indication of the dwarf signal governing reverse movements on the eastbound main track, for which Conductor Hault and Engineman Charles are jointly responsible. While ordinarily the observation of signals is left to the engineman, inasmuch as he is the one usually in a position to see the signals as he

approaches them, yet under the conditions prevailing at the time of the accident, responsibility for the safety of the train rested equally upon the conductor. Engineman Charles admitted that he did not observe the position of the signal, saying that he was watching for a hand signal to be given by the operator, and he claims that such a signal was given. Conductor Hoult stated that he did not look for this signal, assuming that the engineman saw it, since he proceeded without stopping; nor did he see a hand signal given from the tower, although he was riding on that side of the engine. Under the conditions, he should have been more alert than usual, especially as he was in a position on the train to observe the signal. Further, the hand signal that Engineman Charles claims he saw, was not given in accordance with rule 361a, quoted above, and such a signal as he claims to have seen should not have been accepted by him. The operator denies that any signal was given, but even if the engineman were correct in his statement that he did receive a signal, and that signal had been a correct one, that would not have relieved him from the duty of observing and being governed by the indication of the dwarf signal in the stop position.

Operator Lawler is open to censure for failure to display the train order signal for extra 1183. Engineman Charles stated that he was watching the tower for any signals which might be given, and under the circumstances had Operator Lawler displayed the train order board, as he should have done under the rules, it is probable that Engineman Charles would have seen it in time to bring his train under control, in readiness to stop at the tower, so that the consequences of the collision would have been materially lessened or possibly the accident would have been averted.

While the evidence indicates that movements of this nature are more or less frequent, there apparently is nothing in the rules to give the added safeguards which would seem to be required, since the road is not signaled for movements against the current of traffic. If such movements are too infrequent to justify signaling this part of the road for such a purpose, rules governing such movements should be in force to provide adequate protection for all trains concerned.

Engineman Charles was employed as a fireman in March, 1907, and was promoted to engineman in December, 1913. His efficiency and discipline records are good. At the time of the accident he had been on duty between 7 and 8 hours, after 10 hours off duty.

Conductor Hoult entered the service of the Pennsylvania Railroad as freight brakeman in June, 1903, and was promoted to freight conductor in December, 1910. In 1911 he was demoted to brakeman, and served as brakeman and flagman until 1915, when he was again promoted to freight conductor, and has

since been employed as such. He has a good record. He had been on duty about 7 hours at the time of the accident, after about 10 hours off duty.