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Railroad accident investigation 1101

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Report C.V. 237 no 1101-1150
INTERSTATE COMMERCE COMMISSION

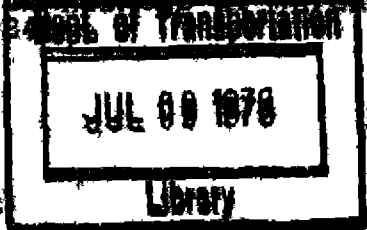
C.V. 237

NO.

1101-

1150

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
BALTIMORE & OHIO RAILROAD AT WEVERTON, MD., ON
NOVEMBER 15, 1924



December 9, 1924.

To the Commission

On November 15, 1924, there was a derailment of a passenger train on the Baltimore & Ohio Railroad at Weverton, Md., which resulted in the death of one employee, and the injury of one employee, two mail clerks, four cooks and one waiter.

Location and method of operation

This accident occurred on that part of the Baltimore Division extending between Washington, D. C., and Weverton, Md., a distance of 52.2 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 system. Extending westward from the yard at Brunswick there are two freight tracks which end at the interlocking plant at Weverton; the passenger tracks are on the outside of the freight tracks and in diverting a train from track 1, the westbound passenger track, to track 2, the eastbound passenger track, it is necessary to move it through a No. 8 crossover to the westbound freight track then through a No. 16 crossover to the eastbound freight track and thence to the eastbound passenger track. The accident occurred at the east switch of the No. 8 crossover leading from track 1, this switch being 1,463 feet east of the station at Weverton. Approaching this crossover switch from the east there is a compound curve to the left 2,400 feet in length with a maximum curvature of 3° 15'; the track is then tangent to the switch a distance of 770 feet.

The home interlocking signals are mounted on a bracket post 66½ feet east of the east crossover switch. There are two signal masts on this post, the right-hand mast carrying the signals governing movements on track 1. There are three arms mounted on this mast, the top arm, signal 50, governing high speed movements through the interlocking plant and the middle arm, signal 48, governing diverging movements from track 1 to the right to the Washington County branch, while the bottom arm, signal 47, is a slow-speed all-route or calling-on signal. The distant signal is a two-arm semaphore signal; the bottom arm, which is staggered, is fixed in hori-

zontal position and serves as a marker indicating that the signal is a distant signal for an interlocking plant. The top arm, signal 52, operates in three positions; the clear position signifies that home signal 50 is displaying a clear indication and that the high-speed route through the interlocking plant is clear; the caution position signifies that the block is clear as far as the home signal and that the train should prepare to stop at the home signal, while the stop position requires the train to stop before proceeding.

The weather was cloudy at the time of the accident, which occurred at 4.18 p.m.

Description

Westbound passenger train No. 5 consisted of one mail car, one club car, two sleeping cars, two dining cars, four sleeping cars, and one observation car, all of steel construction, hauled by engine 5218, and was in charge of Conductor Huffman and Engineman Ross. It left Washington, according to the train sheet, at 3 p.m., on time, passed Brunswick at 4.14 p.m., four minutes late, and was derailed at the east crossover switch at Weverton while traveling at a speed shown by the speed recorder on the engine, as well as by the one in the club car, to have been 48 miles an hour.

The engine, first six cars, and the forward truck of the seventh car were derailed. The engine and mail car turned over to the left, the engine coming to rest with its head end about 900 feet beyond the switch. The employee killed was the fireman.

Summary of evidence

On the day of the accident westbound freight train extra 6117, consisting of 125 empty cars and a caboose, passed Weverton, which is the dividing point between the Baltimore and Cumberland Divisions, at 11.22 a.m., and at 11.33 a.m., Cumberland Division Dispatcher Fluke was advised that the train had broken in two resulting in damage and derailment to several cars. A relief train was sent to the scene and for a time it was thought the main track could be cleared in time to allow trains Nos. 19 and 5 to pass, but when it finally developed that this could not be done orders were issued for those trains to be detoured via the eastbound main track, these orders, as is customary, being put out to the trains concerned at Weverton, the point where the detour movement was to be begun. Train No. 19 was detoured, after which engine 6141 arrived at Weverton with some damaged cars at 4.11 p.m., moving eastward on track 1 and coming to a stop with the engine a short distance east of the station, at which point it was standing when train No. 5 approached Weverton on track 1.

After train No. 19 had passed through the crossovers to track 2, Operator Marquette changed the position of the switches and signals in the expectation that the crossovers would be used by the engine of the relief train, engine 6147, prior to the arrival of train No. 5. Freight trains are required to clear the time of train No. 5 by 20 minutes and when the engine of the relief train did not reach Weverton in time to make the movement through the interlocking plant, Operator Marquette changed the route back for the crossover movement of train No. 5, this being approximately 10 minutes prior to its arrival. Train order No. 39, on Form 19, giving train No. 5 rights over opposing trains on track 2, was completed to Operator Marquette at 4:07 p.m. Under the rules, where the home interlocking signal is also used as a block signal a red flag is displayed from the tower when there are orders to be delivered, and after the calling-on signal is placed in the caution position the train may proceed only as far as the interlocking station at which point it must be prepared to stop unless otherwise directed by Form A, which is similar to a clearance card. Operator Marquette said he had not taken down the red flag after train No. 19 passed and that it was still displayed when the approach of train No. 5 was indicated by the annunciator bell. He told Trackman Moss to place signal 47, the slow-speed signal, in the caution position, at about the approach of the train was announced. Trackman Moss who had been detailed to assist Operator Marquette on account of the cold weather prevailing at the time, then left the tower to be in readiness to deliver the order with his accompanying Form A. When the train came in sight, moving at a speed he estimated to have been about 40 miles an hour, Operator Marquette realized that it would not be able to make the crossover movement in safety, and he said he threw signal 47 back to the stop position, but apparently this was not done in time to be seen by the engineman of train No. 5.

Engineer Ross, of train No. 5, said the speed of his train was about 40 miles an hour approaching the distant signal, the top arm of which was displaying a caution indication, that he applied the air brakes, making a 15-pound reduction, and had reduced the speed to about 35 miles an hour when the fireman told him that signal 47 was at caution and that there was a man on the ground in readiness to deliver orders. He then released the brakes and allowed the train to drift and on reaching the straight track saw the signal displaying the indication as announced by the fireman, and he also saw a man in the middle of the track apparently in readiness to hand on the orders. While he knew signal 47 was a slow-speed signal he said he had never operated his train through this particular crossover and it did not occur to him that his train might be so diverted on this occasion, the only thought that was in his mind being that he would receive orders. When the engine entered the switch he was

thrown away from the brake valve and was therefore unable to apply the brakes. Engineman Ross did not see the indication of signal 47 change from caution to stop, neither did he see any one signalling him to stop, nor did he see engine 6141 standing ahead of him on track 1 between the crossover switch and the station. Engineman Ross also said that if he had not seen some one on the ground with orders he would have been able to stop his train, in accordance with the rules, before proceeding beyond the tower. Engineman Ross made a further statement that if he had received an indication at the distant signal that his train was to be crossed over then of course he would have known of the movement to be made. This statement however was based on an erroneous impression that such an indication, caution on the top arm and proceed on the bottom arm, could be displayed at the distant signal; he said he did not know that the bottom arm was fixed. In this connection it might be said that such an indication as was described by Engineman Ross can be displayed governing the movements of eastbound trains approaching Weverton interlocking plant on track 2.

Baggagemaster Baldwin, who was riding in the second car, said he had not felt an application of the air brakes as the train approached Weverton and that his first knowledge of anything wrong was when he felt a jar which threw him to one side so that he could not reach the emergency cord. Conductor Huffman and Flagman Gray, who were riding in the tenth and eleventh cars, respectively, also said that they had not noticed any application of the air brakes prior to the occurrence of the accident.

Conductor Strailman, of extra 6141, the relief train, had left Flagman Moler at Weverton to protect the return of his train on track 1. Conductor Strailman said he returned at about 4.05 p.m., stopped with the engine a short distance east of the station at Weverton and went to the tower, being in the tower at the time train No. 5 approached. Flagman Moler said he was standing on track 1, about five or six car-lengths west of the east crossover switch, when he realized that train No. 5 was approaching too rapidly to enter the crossover in safety and he said he began to give stop signals. At this time the engine of train No. 5 was on the tangent track and within 15 or 18 car-lengths of the switch, and he thought Engineman Ross could have seen him without difficulty. Engineman Staub, of extra 6141, had been in the tower, but was outside on the ground when he saw train No. 5 approaching, and he said he saw Flagman Moler giving stop signals. Neither Engineman Staub nor Flagman Moler saw any one on the engineman's side of the engine of train No. 5.

Division Engineer Crites stated that there were no marks of any kind on the crossover up to the point of the frog. There was a mark where a flange had apparently struck the

point of the frog and then had gone over it and had continued along the outside of the crossover rail, while there was another mark indicating that a wheel had run along on the main track side of the frog for a distance of about 10 feet before being pulled across that rail to the left toward the crossover. Beginning a short distance beyond the frog the track was torn up for a considerable distance.

Conclusions

This accident was caused by the failure of Engineman Ross, of train No. 5, properly to obey signal indications.

Engineman Ross saw the distant signal displaying a caution indication and the home signal at stop, with the calling-on or slow-speed signal in the caution position. This slow-speed signal governs movements to all routes, but when Engineman Ross saw that orders were to be delivered it did not occur to him that his train might also be crossed over to another track and consequently he failed to reduce its speed so that it could move through the crossovers in safety. It further appeared from the statements of Engineman Ross that he had never operated his train through this particular crossover and he thought that if his train were to be crossed over to another track an indication to that effect would have been displayed at the distant signal, as is the case at some of the other interlocking plants on this division. Regardless of this fact, the only signal indication he received which authorized him to proceed was by the slow-speed all-route signal, and he is at fault for his failure to control the speed of his train in accordance with its indication. In this connection it might be pointed out that not only did the two speed recorder tapes indicate a speed of 48 miles an hour at the time of the accident, but they failed to show that any reduction in speed was made in the vicinity of or after passing the distant signal.

This accident would have been prevented had an adequate automatic train-control device been installed.

Engineman Ross was employed as a fireman in 1899 and was promoted to freight engineman in 1904 and to passenger engineman in 1917; he was considered to be one of the best enginemen on the division. The engine crew of train No. 5 had been on duty about 2 hours, after 29 hours off duty; the train crew had been on duty about 3½ hours, previous to which they had been off duty about 26½ hours.

Respectfully submitted,

W. P. BORLAND,

Director.