

## INTERSTATE COMMERCE COMMISSION.

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE  
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON  
THE NEW YORK, NEW HAVEN & HARTFORD RAILROAD  
AT MEDFIELD JUNCTION, MASS., ON OCTOBER  
22, 1923.

December 10, 1923.

To the Commission:

On October 22, 1923, there was a derailment of a freight train on the New York, New Haven & Hartford Railroad at Medfield Junction, Mass., resulting in the death of two employees and the injury of four employees.

Location and method of operation.

This accident occurred on that part of the Old Colony Division extending between Lovell and Mansfield, Mass., a distance of 50.3 miles; in the vicinity of the point of accident this is a double-track line over which trains are operated by time-table and train orders, between 6 p.m. and 7 a.m., during which time this accident occurred there is no block-signal system in use, a five-minute spacing rule being used for following movements. The accident occurred within the interlocking limits at Medfield Junction, at a split-rail derail, located on the east rail of the northbound main track, at a point 358 feet south of the Midland Division crossing of this railroad. Approaching this point from the south there is a curve of  $1^{\circ} 50'$  to the right 1,646 feet in length, the accident occurring on this curve at a point 112 feet from its northern end. The grade is level or descending for northbound trains, for more than 1 mile, being 0.716 per cent at the point of accident. The track is laid with 80-pound rails, 33 feet in length, single-spiked, with about 18 ties to the rail-length, and ballasted with gravel; the track is well maintained.

The switches and signals in this vicinity are operated from the station at Medfield Junction, which is located immediately southeast of the crossing, and contains a 28-lever Saxby & Farmer machine. The signals involved are of the one-arm, lower-quadrant type; with the route set up for an east-bound movement across the Midland Division, which was the condition existing in this instance, a northbound train on the Old Colony Division would encounter the following signal indications, a caution indication at distant signal 1, which is 1,331 feet south of the derail at which the accident occurred, and a stop indication at home signal 2, which is 241 feet south of the derail, the view of these signals is unobstructed. The weather was clear at the time of the accident, which occurred at about 5.55 a.m.

### Description

Northbound freight train extra 278 consisted of 27 cars and a caboose, hauled by engines 278 and 299, and was in charge of Conductor Noyes and Enginemen Taylor and Coughlin. This train left Mansfield, 1367 miles from Medfield Junction, at 6.30 a.m., passed Walpole, 8.5 miles beyond, at 6.45 a.m., passed distant signal 1, which was displaying a caution indication, passed home signal 2, which was displaying a stop indication, and ran through the open derail while traveling at a speed estimated to have been between 10 and 12 miles an hour.

Engine 278 came to rest on its right side, considerably damaged, engine 299 was derailed but remained upright, east of and at right angles to the tracks. The first five cars and the forward truck of the sixth car were derailed and badly damaged, three of them coming to rest directly across the tracks, while all of the derailed equipment was between the split rail derail and a point 125 feet north thereof. The employees killed were the engineman of the lead engine, and the head brakeman, who was also riding on engine 278.

### Summary of evidence.

Signalman McMurray and Baggage-car Moore, on duty at Medfield Junction at the time of the accident, stated that the annunciator bell gave warning of the approach of an east-bound train on the Midland Division, and the route was set up accordingly, while shortly afterwards extra 278 rang in on the Old Colony Division. After a short interval Signalman McMurray looked out of the window and noticed that extra 278 was approaching home signal 2 at a speed of about 15 miles an hour, and while the train apparently was drifting, he thought it was going to pass the home signal, and his first idea was to take the route away from the passenger train, close the derail for extra 278, and permit it to proceed over the crossing, but the passenger train was too near the crossing to permit of this being done, and the engine of this train was just going over the crossing as extra 278 ran through the derail. Signalman McMurray stated that had he closed the derail, extra 278 would have struck about the center of the passenger train.

Fireman Imondi, who was on the lead engine, stated that when it was approaching distant signal 1 the train was drifting at a speed of about 20 miles an hour, but he was putting in a fire and did not notice the indication displayed by this signal. However, he heard Head Brakeman Russell call Engineman Taylor's attention to a caution indication, the engine-man answering him and applying the air brakes before reaching a road crossing which is south of the distant signal. Just before the engine reached the home signal, Fireman Imondi saw

that it was displaying a stop indication, at about which time the air brakes were applied in emergency. Fireman Imondi also stated that the air brakes had worked properly en route, no trouble being experienced in making the various stops.

Engineman Coughlin in charge of the second engine, stated he had made only one previous trip over this particular part of the road, in 1915. When he came in view of distant signal 1, which was displaying a caution indication, the speed was about 15 or 20 miles an hour; he then shut off steam and just before reaching the distant signal he applied the independent engine brake, this being the only brake under his control. At about the time the distant signal was reached he saw the home signal displaying a stop indication, and while he did not notice any air-brake application made either just prior to or after he applied the independent brake, he said that the speed was about 5 or 6 miles an hour when passing the home signal, but he did not know what slowed down the train between the distant and home signals, on the descending grade, and took no notice of the gauge. Engineman Coughlin saw Engineman Taylor sitting on his seat box, with his arm out of the cab window, when passing home signal 2, and he saw him look up, but at this time it was too late to avert the accident. Engineman Coughlin further stated he was not familiar with the conditions at this point, nor did he know about the derail or where it was located, that he depended on Engineman Taylor to bring the train to a stop, and that when he knew definitely the train was not going to be brought to a stop, in obedience to the indication displayed by the home signal, it was too late for him to take proper action to avert the accident.

Fireman Miller, of the second engine, said the speed was not in excess of 20 miles an hour, that he saw the distant signal displaying a caution indication and called it to the engineman, who shut off steam and applied the independent brake, and that after passing the distant signal he felt the cars being punched by the brakes being applied by the engineman of the first engine. Fireman Miller estimated that the independent brake on the second engine was applied at a point about 500 feet south of the point of derailment, and that the speed was reduced to about 12 miles an hour. He also estimated the distance to the point of derailment from where the engineman of the second engine shut off steam to have been about 30 car lengths, which estimate, if accurate, indicates that the second engine was in the immediate vicinity of the distant signal at that time. Fireman Miller further stated that he felt the air brakes being applied when passing the home signal, but could not say whether it was a service or an emergency application. Brakeman Beaudry, who was riding on the second engine, said he did not pay much attention to what was happening until he felt the air brakes applied and the engine began to run on the ties, at which time he jumped.

Conductor Noyes at first estimated the speed at 10 or 12 miles an hour when passing the distant signal, later said the train was drifting at a speed of 12 or 15 miles an hour, and finally said he did not think its speed was more than 20 miles an hour when descending the grade approaching the point of accident. He fixed the speed at 15 miles an hour, drifting, when he felt the slack bunched, just before reaching the distant signal, and said he then looked out and saw the signal displaying a caution indication, at this time the head end of the train had already passed the home signal, which was displaying a stop indication, and the speed was gradually being reduced. Conductor Noyes stated that after the slack was bunched it remained that way until the derailment occurred furthermore, he said that no emergency application of the air brakes was made, that he was not positive as to whether there was a service application, and he had not noticed whether the engines were working steam on the descending grade. It further appeared from the statements of Conductor Noyes that he had noticed no application of the air brakes while the train was descending the grade approaching the distant signal, also that the car inspectors at Providence, where the train originated, reported that the air brakes were cut out on 4 of the 53 cars which composed the train when leaving that point, and that with the exception of one car near the caboose he did not know whether or not these cars were among the 27 cars in the train at the time of the accident.

Flagman Start said the caboose was within three or four car lengths of the distant signal when he saw it displaying a caution indication, at which time the speed was 12 or 14 miles an hour. He was unable to say whether the air brakes had been applied, but said he felt a shock which caused him to think an air hose had broken, but that the speed was not reduced much until passing the distant signal.

An inspection of both engines involved, made soon after the accident by Road Foreman of Engines Road, disclosed that on engine 278 the throttle was closed, while the automatic brake valve was in the emergency position, on account of damage sustained, the position of the reverse lever could not be ascertained. The evidence also indicated that the air brakes had worked properly en route.

#### Conclusions.

This accident was caused by the failure of Engineman Taylor properly to observe and obey signal indications.

Although Fireman Imondi, of the lead engine, stated that the air brakes were applied before the distant signal was reached, the evidence is to the effect that no air-brake application was made at that time, with the exception of the independent brake on the second engine, Engineman Coughlin, of the second engine, saying he did not notice any application

just prior to or after he applied his independent brake, Conductor Woyes saying no emergency application was made just prior to the derailment and that he was not positive as to whether there was a service application, while the statements of Brakeman Beaudry and Flagman Starr indicate there was no application until just before the accident occurred. While Engineeran Coughlin stated that the speed was about 15 or 20 miles an hour when he came in view of the distant signal, and estimated it to have been only 5 or 6 miles an hour when his engine passed the home signal, he could not say what slowed the train down between the distant and home signals, on the descending grade. The condition of the wreckage, both engines, their tenders, and six cars being piled up within a distance of 125 feet, indicates that the speed must have been higher than Engineman Coughlin's estimate.

The evidence indicates that the air brakes were tested and worked properly en route, that Engineman Faylor was fully informed of the caution indication displayed by distant signal 1, and that he acknowledged its indication to the brakeman. The view of both of these signals is unobstructed, and Engineman Faylor was thoroughly familiar with their location, he was seen sitting on his seat box approaching the home signal, and looked up when passing this signal, evidently being in full possession of his faculties at this time, and just why he failed to obey the signal indications is not known.

This accident again calls attention to the inherent weakness of the human element, and to the necessity of adopting some form of automatic train-control device for the purpose of compelling obedience to fixed signal indications.

All of the employees involved were experienced men, at the time of the accident they had been on duty less than 64 hours, previous to which they had been off duty for periods ranging from about 33 hours to more than 3 days.

Respectfully submitted,

W. P. BORLAND,

Director.