

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE  
BOSTON & MAINE RAILROAD NEAR ERVING, MASS., ON DECEMBER  
5, 1920.

February 18, 1921.

On December 5, 1920, there was a derailment of a freight train on the Boston & Maine Railroad near Erving, Mass., resulting in the death of 3 employees. The wreckage was struck by a light engine running in the opposite direction on an adjoining track, but no further casualties resulted. This accident was investigated in conjunction with representatives of the Public Service Commission of the State of Massachusetts. As a result of this investigation the Chief of the Bureau of Safety reports as follows:

This accident occurred on the Fitchburg Division, which in the vicinity of the point of accident is a double-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. Beginning at the depot at Erving, approximately 5,000 feet west of the point of accident, and proceeding eastward, the track is tangent for 2,838 feet, followed by a curve of  $2^{\circ} 23'$  to the left 1,050 feet in length and about 1,100 feet of tangent to the point of accident. There are slight variations in the grade, followed by approximately 700 feet of level track extending to the point of accident. The track is laid with 100-pound rails, 33 feet in length, with an average of 20 ties to the rail-length. At the point of accident the track is on a fill, running along the north bank of Millers River,

the normal level of which is 30 feet below the track. At the time of the accident the weather was cloudy.

Eastbound freight train HA-4, en route from Northampton, Mass., to Ayer, Mass., consisted of 30 cars and a caboose, hauled by engine 2730, and was in charge of Conductor Pecord and Engineman Clark. It left East Deerfield, Mass., at 9.40 p.m., passed Erving at 10.36 p.m. and ran into a wash-out at a point about 1 mile east of Erving while running at a speed estimated to have been between 18 and 20 miles an hour.

Engine 2730 and the first four cars dropped into the opening made by the wash-out, the engine being almost entirely submerged, the next three cars were also derailed, the first of these fouling the westbound track. The employees killed were the engineman, fireman and head brakeman.

Westbound extra 2634, consisting of a light engine, en route from East Gardner, Mass., to East Deerfield, was in charge of Engineman Holman. It left Athol at 10.35 p.m., and collided with the wreckage of train HA-4 while traveling at a speed estimated to have been about 20 miles per hour. The engine was derailed and its left side was considerably damaged.

Conductor Pecord, Flagman Burnett and Brakeman Amburg were riding in the caboose of train HA-4 at the time of the accident, their first knowledge of anything wrong being when the train came to a sudden stop. Conductor Pecord said that as he got off the caboose he heard the crash of extra 2634 colliding with the wreckage on the westbound track.

Engineman Holman, in charge of extra 2634, received a caution indication at the first signal east of the point of accident and made an application of the air brakes for the purpose of reducing the speed, which at this time was about 25 or 30 miles an hour. When he came in sight of the next westbound signal, which is located at a short distance west of the point of accident, he saw that it was displaying a caution indication, which soon changed to clear, he did not see the wreckage obstructing the westbound track until he was within about 50 feet of it, when he applied the air brakes in emergency. His statements were substantiated by those of Fireman Hathaway and Flagman Nolan. The evidence indicated that there had been no opportunity for any of the surviving members of the crew of train HA-4, all of whom were in the caboose, to flag extra 2634 and prevent its colliding with the wreckage.

The dam for supplying water power to the Irving Paper Mills is located a few feet west of the point of accident. On the northern end of this dam there are several sluice gates used for the purpose of controlling the flow of the water. These sluice gates were found to be inadequate and in August, 1920, a coffer dam was erected in connection with the installation of new gates. The flash boards of this coffer dam were carried a distance of 7 feet into the embankment on which the tracks of the railroad are laid. The work had been completed and the contractor was awaiting an opportunity of removing the coffer dam. There had been a very heavy

rain fall on the night of December 4 and in the forenoon of December 5th, causing the water to rise abnormally high and resulting in the giving way of from 30 to 35 feet of that part of the coffer dam adjoining the railroad embankment and in the water flowing against the embankment with sufficient force to wash out the dirt under the eastbound track and under the south rail of the westbound track for a distance of approximately 80 feet and extending in depth from the rails to a point below the surface of the water.

F. S. Saunders, contractor in charge of the work being done at the dam, said he visited the coffer dam four times during the day of December 5, his last visit being at 7.30 p.m., at which time his measurements showed a rise in the water of only  $\frac{3}{8}$  to  $\frac{1}{2}$  inch in the preceding  $2\frac{1}{2}$  hours. At that time the water was 13 inches below the top of the coffer dam. The last eastbound train to pass the point of accident was train No. 62 which passed at about 9.27 p.m. The last westbound train to pass was a freight train, extra 2716, which, according to the train sheet, passed the point of accident at about 10.35 p.m. or only a few minutes before train HA-4 ran into the wash-out. The last time the track walker passed over this section of the road was at about 2.00 p.m., at which time he noted nothing wrong in the vicinity of the coffer dam.

This accident was caused by a wash-out.

The evidence indicated that there had been a heavy rain fall in the territory drained by Millers River, this rain fall causing the river to rise to such an extent as to wash out the embankment supporting the railroad track and to result in the derailment of train HA-4. It was not determined when the splash boards of the coffer dam gave way or when the embankment was washed out.

None of the employees involved had been on duty in violation of any of the provisions of the hours of service law.