

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN
ACCIDENT ON THE BOSTON & MAINE RAILROAD AT WEST CONCORD,
MASS., ON SEPTEMBER 11, 1933.

January 5, 1934.

To the Commission:

On September 11, 1933, there was a collision between a freight train making a back-up movement and a portion of another freight train engaged in switching on the Boston & Maine Railroad at West Concord, Mass., which resulted in the death of 1 employee.

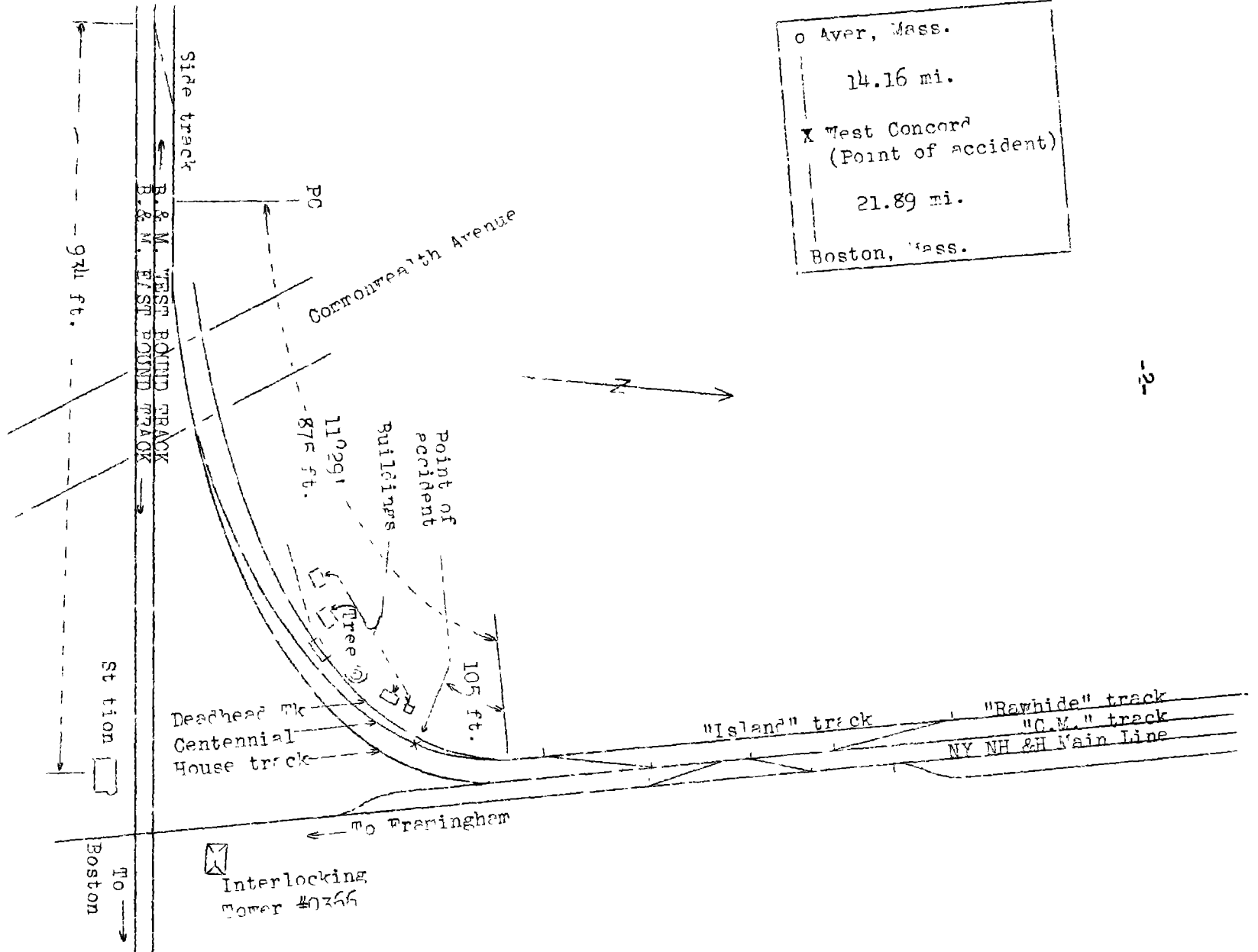
Location and method of operation

This accident occurred on that part of the Terminal Division extending between Boston and Ayer, Mass., a distance of 36.05 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, supplemented by an automatic train-stop of the continuous-inductive type. The accident occurred on a wye track known as the centennial track, which is one of several tracks connecting the Boston & Maine Railroad with the New York, New Haven & Hartford Railroad; the tracks of the B&MRR extend east and west, while those of the NYNH&HRR extend north and south, crossing each other at grade, the wye track involved being located in the northwest angle of the intersection. The station at West Concord, located in the southwest angle of the intersection, is operated jointly and the movement of trains and cars in and about the station are made by crews of both railroads under their respective rules; there are no designated yard limits.

Interlocking tower 0366, governing movements over the crossing, is located in the northeast angle of the intersection. At a point 934.5 feet west of the station on the B&MRR, on the west-bound track, there is a trailing-point cross-over switch leading to a side track and thence to the centennial track; this cross-over switch was unlocked from the tower so that the trains involved could make back-up movements off the west-bound main track to the side track and thence around the wye. No fixed signals were involved.

Approaching the point of accident from the west, beginning at the cross-over switch, the track is tangent for a distance of about 350 feet, and then there is an $11^{\circ} 29'$ curve to the left about 875 feet in length, the accident occurring on this curve at a point about 770 feet from its western end; the grade is descending, varying from 0.04 to 1.0 percent, and is at its minimum at the point of accident. Other tracks known as the rawhide track, the island track and the C.M. track parallel the main line of the NYNH&HRR on the west, at the north end of the wye, and there is a house track on the south side of the centennial

Inv. No. 1855
 Boston & Maine P.R.
 West Concord, Mass.
 Sept. 11, 1933



o	Aver, Mass.
	14.16 mi.
x	West Concord (Point of accident)
	21.89 mi.
	Boston, Mass.

track and another track parallel to it on the north side, known as the deadhead track.

The view across the inside of the curve of the centennial track was considerably restricted by numerous buildings and a large tree, as well as by a box car that stood on the deadhead track about 250 feet west of the point of collision.

The weather was clear at the time of the accident, which occurred about 8:15 a.m.

Description

West-bound local freight train extra 2686, symbol B-7, consisted of 11 cars and a caboosc, hauled by engine 2686, and was in charge of Conductor Landers and Engineman Ray. It arrived at West Concord at 8:02 a.m.; pulled by the crossing, and then a back-up movement was made through the cross-over switch to the siding and thence around the centennial track to the C.M. track. A cut was made behind the two head cars, following which six cars were picked up from the rawhide track. Engine 2686 then headed south, attaining a speed estimated to have been between 2 and 8 miles per hour, pulling the cut of eight cars over the island track and then on to the centennial track, it being intended to clear the north switch of the wye and switch the four rear cars of the cut on to that portion of the train left standing on the C.M. track, and it was while the movement southward was being made that engine 2686 collided with the rear end of extra 1435 which was backing around the wye; engine 2686 had either stopped or was just barely moving when the accident occurred.

West-bound local freight train extra 1435, symbol B-1, consisted of 17 cars and a caboosc, hauled by engine 1435, and was in charge of Conductor G.H. Barrett and Engineman Ivester. It arrived at West Concord at 8:12 a.m. and started a back-up movement through the cross-over switch to the siding and thence to the centennial track, similar to the movement previously made by extra 2686, it being intended to back the train clear of the house track and then set off the head car; while this movement was being made the caboosc collided with engine 2686 while traveling at a speed estimated to have been between 2 and 5 miles per hour.

The caboosc of extra 1435, which was of steel-underframe construction with a wooden superstructure, was crushed between the loaded steel coal car ahead of it and engine 2686; the coal car overrode the front end of the caboosc, while the rear end of the caboosc rode up on to engine 2686, considerably damaging the front end of the engine. The employee killed was the conductor of extra 1435, who was riding on the caboosc.

Summary of evidence

Engineman Ray, of extra 2686, stated that the air brakes were coupled and in working order on the two head cars of the cut he was handling, but not on the six rear cars. He was moving at a speed of about 2 or 3 miles per hour, working steam on the up grade, and when his engine was directly over or in the immediate vicinity of the switch at the north end of the centennial track he observed the other train backing around the wye, closed the throttle and applied the independent engine brake, when from four to six car lengths from the caboose, and opened the sanders, and on definitely realizing that a collision was imminent he shouted a warning of danger and tried to reverse the engine; he did not use the automatic brake. Engineman Ray said that these two trains back around the wye at West Concord practically every day and perform switching, and that the speed of the train backing is generally regulated by the number of cars in the train; when there are 15 or 16 cars it is customary to use a back-up hose, each crew watching out for the other train. On this occasion, Engineman Ray said that extra 1435 was backing faster than usual, about 5 or 6 miles per hour; he saw a man, presumably the conductor of extra 1435, just inside the door of the caboose with his back toward the north, and then the man went out of sight, and the engineman thought he had seen engine 2686 and was going to open the conductor's emergency valve. Engineman Ray considered that his own engine was moving under proper control, and said that everything happened so quickly he was not positive whether it had stopped at the time of the accident, but he thought that it had.

Fireman Murray was sitting on his seat box, looking ahead around the outside of the curve, and did not see extra 1435 prior to the accident; he estimated the speed of his engine to have been about 2 or 3 miles per hour and was positive that it stopped before the accident occurred, saying that the impact was about the same as when an engine couples to a string of coal cars.

Head Brakeman Buckley, of extra 2686, was riding on top of the fifth car in the cut, a box car, and saw the rear of extra 1435 about when the caboose and one car had passed the box car that was stored on the deadhead track. He also saw Conductor G. H. Barrett, who was on the rear caboose platform, run inside in an evident attempt to pull the air, and said that apparently his own engineman did not see them. Head Brakeman Buckley estimated the speed of his own engine to have been not more than 5 miles per hour at any point and thought it was just barely moving when the impact occurred.

Flagman Chosse was riding on the side ladder at the forward end of the rear car in the cut; he also saw extra 1435 backing around the curve when the caboose and one car had about passed the car that was stored on the deadhead track. He estimated

the speed of his own engine to have been not more than 8 miles per hour after starting, and said that as soon as he saw the other train he gave stop signals, intending them for his own engineman, but at that time the cut of cars was already being brought to a stop; he was not positive whether his own engine had stopped when the impact occurred, but he thought that it had. Conductor Landers was bleeding the air off the cars left standing on the C.M. track and was unaware of anything wrong until the accident occurred.

Flagman DeAvignon, of extra 1435, stated that when his train passed the interlocking tower prior to backing in on the wye he looked toward the north, saw extra 2686 switching in the vicinity of the island track, and as an extra precaution he remarked to Conductor G. H. Barrett that they were up there and to look out for them and be sure to pull the air if he got too close to them. Flagman DeAvignon said that when his train stopped preparatory to backing it on the wye, the conductor opened the main-line switch and the flagman opened the side-track switch, and then both of them boarded the caboose and rode on the rear platform. The flagman got off on reaching Commonwealth Avenue, just west of the house-track switch, so as to be ready to open that switch and set off the head car. When the flagman got off the speed was about 6 miles per hour and he immediately gave the engineman an "easy motion"; the speed then was reduced to about 4 miles per hour and the first the flagman knew of anything wrong was when the impact occurred, at which time he estimated the speed to have been about 2 miles per hour. Flagman DeAvignon thought that the air brakes on his train were applied from the rear practically at the time the collision occurred. He said that the conductor appeared normal in every respect on this trip, and that the movement of setting the head car off on the house track was one of regular occurrence; in making this movement the conductor would handle the train from the rear platform of the caboose by means of the conductor's valve while the flagman would get off the caboose at Commonwealth Avenue so as to be in position to signal the engineman when the train cleared the house track enough to set off the head car, and the head brakeman would attend to the cross-over and side track switches. The air brakes had been tested and worked properly en route. Engineman Ivester estimated the speed to have been about 4 or 5 miles per hour at the time of the impact and in his opinion the air brakes applied in emergency as a result of the accident.

Crossing Tender R. E. Barrett, a brother of the conductor, said extra 1435 was backing in at a speed of 5 or 6 miles per hour, and that the conductor was on the rear platform of the caboose. The speed remained constant and he did not notice any application of the brakes prior to the crash.

Trainmaster McGuane stated that it was the usual practice to depend on the man on the rear end to control the back-up movement around the wye at West Concord when the train consisted of seven or eight cars, or more, and to handle the movement by means of a tail hose; he also stated that the wye track is used

in both directions as a yard track. Superintendent W. E. Barrett in the course of the investigation said that subsequent to the accident the conductor's valve in the demolished caboose was found to be closed.

Conclusions

This accident was caused by failure to properly control the back-up movement of extra 1435 around the wye.

The contemplated movement was of regular occurrence, but there was conflict in the testimony as to the usual practice followed in making it. According to Trainmaster McCuane, as well as Engineman Ray and Flagman Chosse, of extra 2686, a back-up hose should have been used whereas Flagman DeAvignon, of extra 1435, said it was not customary to use a back-up hose at this point. The view across the inside of the sharp curve around the centennial track of the wye was considerably restricted, and the indications were that both trains were moving at very low rates of speed prior to the accident; when Engineman Ray saw extra 1435 he immediately applied the independent brake and his engine had either stopped or was barely moving when the impact occurred; extra 1435 was drifting down grade and apparently Conductor Barrett observed engine 2686 approaching and went inside the caboose in an endeavor to open the conductor's valve, but it was then too late to avert the accident. A back-up hose should have been used on the rear of extra 1435 while the movement was being made around the wye; this would have enabled Conductor Barrett to control the speed of his train when the view was obscured, and in this particular case he would have been able to apply the brakes immediately instead of losing valuable time in endeavoring to reach the conductor's valve.

The record also indicates there was a needless delay in stopping engine 2686; not only did Engineman Ray use the independent brake, thus losing the benefit of braking power on the first two cars back of the engine, which the evidence indicated were still coupled and under control of the automatic brake valve, but apparently he was not maintaining a proper lookout, otherwise the head brakeman on top of the fifth car and the flagman on the side of the eighth car, would not have seen the caboose of extra 1435 before Engineman Ray applied the brakes. In this particular case every second was valuable, and had Engineman Ray seen the caboose the moment it passed the box car on the deadhead track, 250 feet from the point of accident, and stopped his own engine immediately, it is probable Conductor Barrett would have had time to reach the Conductor's valve and avert the accident.

Respectfully submitted,

W. P. BORIAND,

Director.