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 FALL RIVER, MASS., ON FEBRUARY 14, 1929.

May 21, 1929.

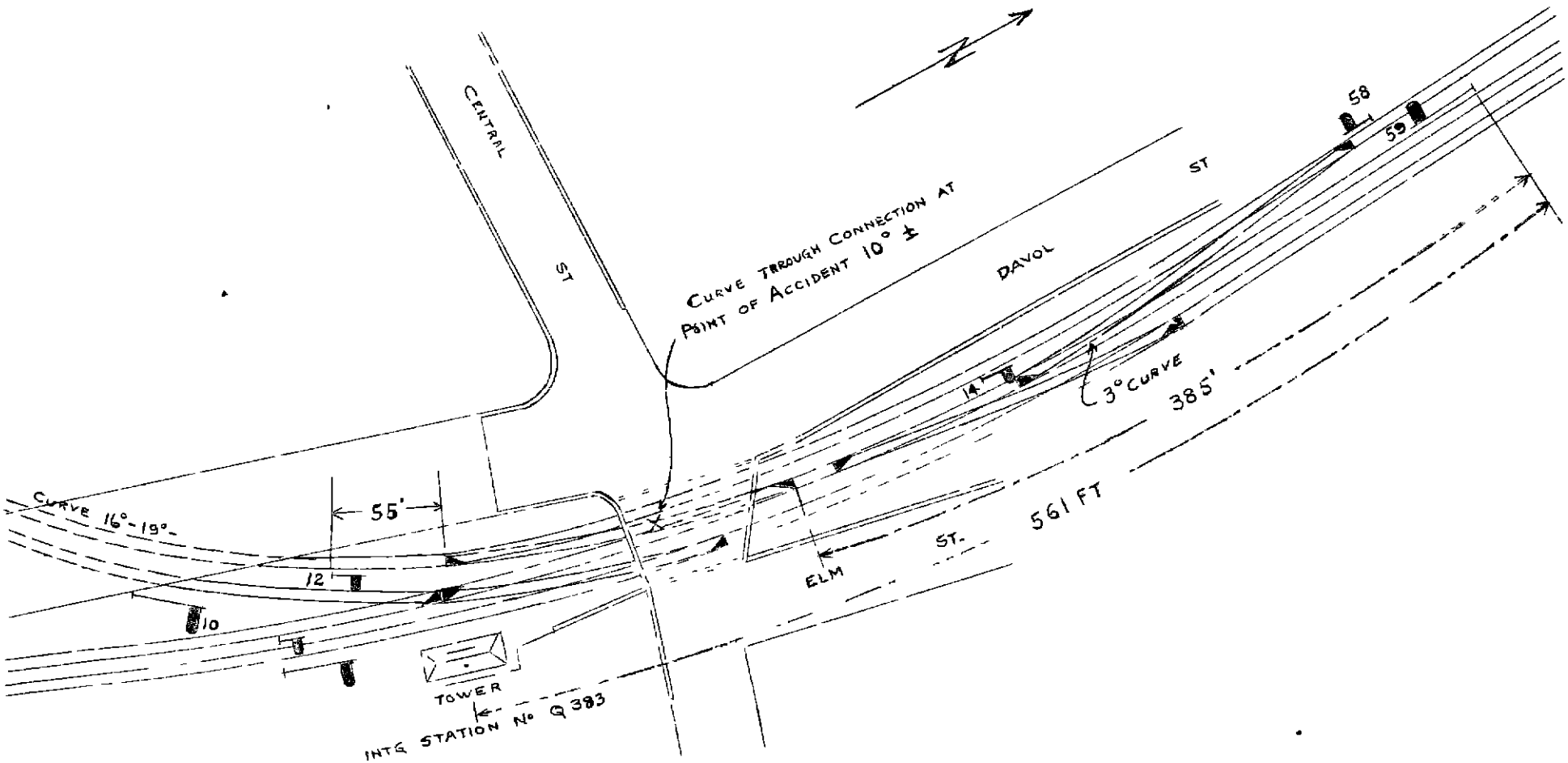
To the Commission:

On February 14, 1929, there was a side collision between a switch engine and some runaway cars constituting the rear portion of a freight train on the New York, New Haven & Hartford Railroad at Fall River, Mass., resulting in the death of one employee and the injury of one employee. This accident was investigated in conjunction with representatives of the Massachusetts Department of Public Utilities.

Location and method of operation

This accident occurred on that part of the Old Colony Division extending between Weir Junction, Mass., and Newport, R.I., a distance of 32.70 miles, within yard and interlocking limits. Tower Q-383 is located 4,190 feet south of the Fall River passenger station, on the east side of the two main tracks, Central Street bridge spans the tracks at a point about 100 feet north of the tower and the accident occurred under the bridge, at the fouling point of a facing-point crossover which connects the southbound main track with a siding paralleling the main tracks on the west. The south switch of the crossover marks the junction of the siding with a wharf track which is merely a continuation of the siding and extends around a curve toward the southwest, in its normal position the south crossover switch is lined for the siding, thus providing a switching lead to an engine working on the wharf track as well as acting as a derail to protect the southbound main track.

Interlocking home signal 59, which governs movements on the southbound main track, is located 561 feet north of tower Q-383, between the siding and the southbound main track, the north switch of the crossover is located on the southbound main track at a point 385 feet south of signal 59, while dwarf signal 13, which normally displays a stop indication and governs back-up movements northbound from the wharf track either to the siding or through the crossover, is located 55 feet south of the south switch of the crossover and on the east side of the wharf track.


CENTRAL
ST
CURVE THROUGH CONNECTION AT
POINT OF ACCIDENT 10° ±
DAVOL
ST
58
59
14
3° CURVE
385'
CURVE 16°-19°
55'
12
10
ELM
ST.
561 FT
TOWER
INTG STATION No Q 383

Approaching the crossover from the north the track is practically tangent for a considerable distance, while the grade for southbound trains is descending, varying from 0.5 to 0.8 per cent, being at its maximum in the vicinity of signal 59, the point from which the runaway cars started, and at its minimum in the vicinity of the crossover, where the collision occurred.

Symbol train PF-2 operates regularly between Providence, R.I., and Fall River, Mass., and usually it has several cars of boat freight for delivery to the Fall River wharf yard. It is the practice on its arrival, southbound, at signal 59 to bring the train to a stop on the descending grade and cut off the head cars for delivery to the wharf yard. The engine then hauls them ahead on the southbound main track to a point beyond the crossover and south of tower Q-383, the rear portion of the train being left standing north of signal 59. The route is then lined for the switch engine so that it can move out on the main track from the wharf track, through the crossover, after which it moves ahead and couples to the north end of the cars which have been cut off for delivery, and returns with them to the wharf yard via the same route. The freight engine then makes a back-up movement, couples to the rear portion of its train, and proceeds. The switch engine is occasionally routed northward from the wharf track to the siding and is then crossed over from the siding to the southbound main track through a trailing-point crossover, which is located between signal 59 and Central Street.

On the day of the accident switch engine 2432 had been working on the wharf track prior to the arrival of train PF-2, therefore, dwarf signal 12 was permitted to remain in proceed position, so that the operator would not have to change the indication every time the switch engine backed by the signal, the south switch of the crossover was in normal position, lined for the siding. In making a back-up movement northward around the wharf track a tender of the type involved obscures the view of the indication displayed by dwarf signal 12 from the engineman's side of the cab when the rear end of the tender reaches a point 70 feet south of that signal, the indication displayed, however, can then be seen from the fireman' side of the cab, on the outside of the curve.

There was a light snow falling at the time of the accident, which occurred at about 4.38 p.m.

## Description

Southbound Symbol freight train PF-2 consisted of 29 cars and a caboose, hauled by engine 3006, and was in

charge of Conductor Dorgan and Engineman Adams. This train was brought to a stop on the southbound main track at about 4.36 p.m., after which the first five cars were cut off for delivery and moved ahead as usual. Shortly afterwards, however, while the route was being lined for the movement of the switch engine, the rear portion of train PF-2 started to move of its own accord, ran down the southbound main track, entered the crossover switch, which had been opened, and on reaching the fouling point of the siding with the crossover the leading car cornered the left side of switch engine 2432.

Switch engine 2432, headed south, was in charge of Yard Conductor Smith and Engineman Gilman, who was acting as fireman, while Fireman Mason, a qualified engineman, was operating the engine. This engine made a back-up movement northward on the wharf track, passed dwarf signal 12, which at the time probably was displaying a stop indication, this indication having been changed after the signal became obscured from the view of Fireman Mason, entered upon the siding and was then struck by the cut of runaway cars while traveling at a low rate of speed.

The first two cars in the cut were derailed toward the east and damaged, while the cab of switch engine 2432 was destroyed. The employee killed was the regular engineman of the switch engine.

Summary of evidence

Fireman Mason, who was operating engine 2432, stated that when train PF-2 arrived Yard Conductor Smith instructed those on the engine to go over to the main line and get the cars of boat freight. When dwarf signal 12 came into view it was displaying a proceed indication and he said it continued to do so until it was obscured by the tender, he called the indication to the engineman, who repeated it. Fireman Mason then began to look for the position of the switch points of the south switch of the crossover and on seeing them lined for the siding presumed that his engine was going to use the other crossover. He estimated the speed of his engine to have been about 6 miles per hour when the collision occurred. Yard Brakeman Sullivan, the only member of the switch crew accompanying the engine at the time of the accident besides the fireman and engineman, stated that he was riding on the front footboard on the left side of the engine and the first he knew of anything wrong was on seeing the runaway cars just before the collision occurred, he jumped off, waved his hands and shouted a warning of danger. Yard Conductor Smith and Yard Brakemen Como and Neveu were working in the wharf yard and were unaware of anything wrong prior to the accident.

Engineman Adams, of train PF-2, stated that at Taunton, 14.11 miles north of Fall River, the last place where cars were set out and others picked up, a terminal test was made of the air brakes and he was notified by the car inspector that all of the brakes were working, at that point 4 cars were set out and 23 picked up. The brakes worked properly at North Dighton, 10.65 miles from Fall River, and on arrival at Fall River he brought his train to a stop at signal 59 with one air-brake application, consisting of two brake-pipe reductions, and also used the independent brake, the brakes again worked properly at this point. Engineman Adams was not certain whether he released the train brakes before the cut was made behind the first five cars. He understood the requirements with respect to leaving the power and hand brakes applied on cars left standing on a grade when the engine is cut off, but he did not know whether hand brakes had been set on the cars left standing or whether the head brakeman had opened the angle cock on the south end of the sixth car long enough to set the power brakes on the rear portion of the train. Engineman Adams said that he had never conferred with the conductor or brakeman with respect to applying hand brakes but was simply following the practice which had been in use practically every day for the last 20 months, the last 6 of which had been with the same head brakeman, of relying on the head brakeman to open the angle cock sufficiently to apply the power brakes on the rear portion of the train, saying that the head brakeman had never depended on him to set the air.

Head Brakeman Petty, of train PF-2, stated that he dropped off on the engineman's side and was about opposite the second car when the train came to a stop, he walked back and closed the angle cocks between the fifth and sixth cars, parted the air hose, then opened the angle cock on the south end of the sixth car and kept it open five seconds or more to apply the power brakes on the cars left standing on the grade, closed it, gave the engineman a proceed signal, boarded the right rear sill step of the fifth car and looked back to ascertain whether the cars remained standing, which was the case when he last saw them. Head Brakeman Petty was aware of the requirements of the rules relative to applying a sufficient number of hand brakes on cars left standing on a grade to prevent them from moving while the engine is cut off, but said that he had never done this during the six months he had been on this run, having followed the customary method of depending on the air brakes to hold the cars.

Conductor Dorgan, of train PF-2, stated that when the train was brought to a stop at Fall River he was at the desk in the caboose, he looked at the air gauge and

it registered 70 pounds pressure. Shortly afterwards the train began to move and then stopped again, as a result of the collision, and when he looked at the air gauge at this time the pointer was going toward zero. Conductor Dorgan said that no hand brakes had been applied on the cars at the rear end of the train and that he had not instructed the flagman to do so; the customary procedure was being followed on this occasion and he was also following the usual custom in depending on the engineman and head brakeman to make the delivery of the wharf cars. Conductor Dorgan further stated that he had never issued any instructions about setting hand brakes on the cars before cutting off the engine and had never conferred with the engineman in respect thereto; he said there was no reason why he could not have ridden the head end of the train into Fall River, that he never anticipated such an accident would happen, and that had hand brakes been applied as required by the rules the accident would not have occurred.

Signal Station Operator Fisher, on duty at tower Q-383, stated that switch engine 2432 was backing northward on the wharf track and was about 100 feet south of dwarf signal 12 when he changed its indication from proceed to stop. He did not wait to see whether the switch engine was going to stop at the dwarf signal but opened the north switch of the crossover and then found that he could not line the south switch of the crossover because of the fact that the switch engine had passed the dwarf signal. Operator Fisher said that when the switch engine passed the dwarf signal he heard Yard Brakeman Sullivan, of that engine, shouting a warning of danger and saw him pointing toward the north and on looking in that direction the operator saw the runaway cars. He attempted to close the north switch of the crossover but it was then too late to accomplish this as the runaway cars were on the lock. Operator Fisher said that although the normal position of dwarf signal 12 is at stop it is the practice to leave it in the proceed position in order to speed up the work of switching.

Car Inspector Hardwick stated that he began his inspection of the cars in the rear portion of train PF-2 at 5.32 p.m., about three-fourths of an hour after the accident. The first two cars were damaged as a result of the accident, on the remaining 22 cars and caboose he found that the air and hand brakes were then applied on 6 cars and the caboose, the air brakes only on 9 of the cars, the hand brakes only on 3 cars, and on 4 cars none of the brakes was applied. A subsequent test made by the Commission's inspectors of the entire train, with the exception of the two damaged cars, showed that the air brakes were 100 per cent operative.

## Conclusions

This accident was caused by failure to apply the power brakes and also a sufficient number of hand brakes to hold the rear portion of train PF-2 on a descending grade after the engine had been detached, the responsibility therefor being shared by Engineman Adams, Conductor Dorgan and Head Brakeman Petty.

Engineman Adams, after bringing the train to a stop, should not have released the air brakes until after the head brakeman had closed the angle cocks preparatory to cutting off the cars at the head end of the train. He said he used the automatic brake in making the stop but did not remember whether he released the brakes before the brakeman made the cut, depending on the brakeman to open an angle cock and thus make certain that the air brakes were set on the rear portion of the train. The head brakeman said that after making the cut he opened the angle cock at the head end of the sixth car and held it open about five seconds for the purpose of applying the air brakes on the rear portion of the train, and that apparently the cars were standing properly when he proceeded southward with the head portion of the train. The conductor remained in the caboose, following the usual practice at this point of depending on the engineman and head brakeman to do the necessary work at the head end of the train. It also appeared from the conductor's statements that the gauge in the caboose showed a brake-pipe pressure of 70 pounds after the train had come to a stop; this is in conflict with the statement of the engineman that he used the automatic brake in bringing the train to a stop, and a consideration of the events which transpired precludes the supposition that the engineman had had time to recharge the train line before the cut was made. None of these employees paid any attention to the rule requiring the application of hand brakes before cutting off an engine from cars left standing on the main track on a descending grade.

The conductor and engineman are primarily responsible not only for the safety of their train but for the proper observance of the rules, Engineman Adams should have known that the cut had been made before releasing the air brakes, and both he and Conductor Dorgan should have seen to it that a sufficient number of hand brakes had been set to hold the train. Head Brakeman Petty, who was an experienced man, failed to apply any hand brakes and did not make sure that the air brakes were applied before the engine was cut off from the train.

While the signal station operator is in no way responsible for this accident it might be well to point out that the normal position of signal 12, which governs movements from the wharf track either to the siding or to the crossover leading to the main track, is at stop. To facilitate switching in the wharf yard, however, this signal is as a matter of practice left in the proceed position, with the switch lined for a movement to the siding. Had this signal been left in its normal stop position the switch engine would have been stopped before fouling the switch.

This accident is an example of the result of the development of a practice contrary to the rules. It should be pointed out, however, that the superintendent of this division had been in charge for a period of only five months. He stated that as a result of conferences held by him with subordinate staff officials they began taking up with telegraph and signal operators general matters of safety with respect to blocking, switching movements, etc., and in the case of train crews particular emphasis was placed on the rules requiring the use of hand brakes to hold the rear portions of trains when left standing on grades, a record being kept showing the date of such interviews and the general subjects discussed. Conductor Dorgan had not been reached in this series of interviews but the superintendent stated that he personally had interviewed the signal station operator in September, 1928.

All the employees involved were experienced men and at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,

Director.