SI 983.

SUPPLEMENTAL 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 READVILLE, MASS , ON SEPTEMBER 11, 1923.

October 1, 1924.

To the Commission:

A supplemental investigation has been made in connection with the derailment of a passenger train which occurred September 11, 1923, on the New York, New Haven & Hartford Railroad at Readville, Mass., resulting in the death of 2 employees, and the injury of 48 passengers and 1 employee.

Summary of report of October 10, 1923.

This accident occurred on that part of the Boston Division extending between Readville Transfer and Boston, a four-track line on which the controlled-manual block-signal system is in use. On account of maintenance work being done on track 2 at a point east of tower 181, trains moving eastward on track 2 were being diverted to track 4 at the tower, this movement being made through a No. 8 crossover. With the switches lined for this crossover movement, approaching eastbound trains on track 2 would receive caution and stop interlocking signal indications, and a caution signal indication at a dwarf signal, authorizing the crossover movement to be made at a speed not in excess of 15 miles an hour. Such indications were displayed when passenger train No. 3102 approached, moving at a speed variously estimated to have been between 30 and 50 miles an hour, and this train was derailed as it entered the west switch of the crossover. The accident resulted in the death of the engineman and fireman, and the coroner reported that the engineman was suffering from an oedema of the brain, which would result in temporary mental lapses; the circumstances of the accident indicated that the engineman might have been so afflicted at the time he approached the crossover at a high rate of speed in disregard of signal indications.

This accident was similar in character to those which occurred on this road at Bridgeport in 1911 and at Westport in 1912. The Bridgeport accident involved a crossover movement from track 2 to track 4 to a No. 8 double-slip switch, and the Westport accident involved a crossover movement from track 1 to track 3 at a No. 10 crossover, at both points the speed being restricted by timetable rule to 15 miles per hour. In each distance, however, the train was running at high speed when it entered the crossover and was derailed

In the reports following the Commission's investigations of these accidents recommendations were made that longer crossovers be used, and that until such crossovers were installed high-speed trains should be brought to a stop before being authorized to make crossover movements.

The investigation of the Readville accident disclosed that the railroad company was still using short crossovers for the diversion of high-speed trains from one track to another in four-track territory and that such trains were not being brought to a stop before making such movements; also that the physical condition of the engineman at fault was such that he probably was suffering from a mental lapse immediately prior to the occurrence of the accident.

The supplemental investigation was made for the purpose of ascertaining what action had been taken by the responsible operating officials toward remedying these conditions and to provide for greater safety in train operation.

Facts developed by supplemental investigation.

After the occurrence of the Westport accident instructions were issued by the president of the railroad requiring all trains having a scheduled speed in excess of 15 miles an hour to stop before making cross-over movements, and towermen were directed not to set switches for the movement until the train had stopped: instructions were also issued to install No. 20 crossovers wherever practicable. Both of these orders applied to those portions of the railroad on which four main tracks were in use. No formal order was subsequently issued authorizing deviation from these instructions, but modifications were made from time to time in the order requiring the stopping of trains, this being for the purpose of making the requirements of the original order more in line with operating conditions as they existed at various points. In 1914 a new rule was published in the rule book authorizing a speed of 15 miles an hour over routes governed by dwarf signals, while exceptions to this rule were published in subsequent time-tables, these consisting of certain points where trains were required to stop before crossing over; such exceptions, however, did not cover the crossovers at Readville at the time of that accident, but were afterwards extended to cover that point by instructions issued under date of November 13, 1923, and were also included in the time-table, effective June 15, 1924, as follows:

"First class trains, passenger extras and light engines must be stopped before facing switch is set and signal cleared for movements through slow speed crossovers at the following locations:

x x x x x xx x x

"SS 181-Readville:- All trains making main line crossover movements except movements to and from the Dedham Branch or Midland Division main tracks".

Considerable progress was made in the work of installing longer crossovers after the occurrence of the Westport accident, and in a statement prepared by the general manager there are shown 17 points at which 46 No. 20 crossovers have been installed, 22 of which were new installations. There were also shown 19 points at which 28 No. 15 crossovers were installed, 13 of which were new. No 20 crossovers are in use at the location of the Bridgeport accident, while the No. 10 crossovers at Westport have been abandoned and a new interlocking plant placed in service equipped with No. 20 crossovers. No changes have been made at Readville, except as regards the stopping of trains, previously mentioned; as to the question of installing longer crossovers at this point, however, information was received to the effect that it is the intention to extend the four-track system beyond Readville Transfer, in doing which it will be necessary to make changes in the interlocking plant at tower 181 and therefore it was not thought advisable to make extensive alterations at the present time and then have to make more changes at a later date.

At the time of the investigation of the Readville accident it could not be ascertained that the engineman involved had been examined physically during the preceding 15 years, at which time his heart action, blood pressure, and kidneys must have been in proper condition or he would not have been approved for the insurance which the records show was granted. After the Readville accident an agreement was reached between the management and a committee representing the enginemen, effective March 1, 1924, providing for physical examinations of enginemen upon reaching the age of 55 years, and annually thereafter, these examinations to consist of blood pressure, heart action, and condition of lungs and kidneys; it was recommended that enginemen between the ages of 45 and 55 be examined every two years and every three years when under 45 years of age.

Conclusions.

This investigation disclosed that the officials of the New York, New Haven & Hartford Railroad have taken steps toward complying with the recommendation in former reports concerning the use of longer crossovers between high-speed

tracks; that they have adopted rules requiring trains to be brought to a stop before low-speed crossover switches are lined for a diverging route, applicable to points where the trains involved ordinarily would be moving at high speed; and that they have reached an agreement with the enginemen providing for physical examinations.

The subject of the physical examination of enginemen, except as applied to vision, color sense and hearing, is of substantially recent origin. But that it is of great importance is apparent from the fact that the physical condition of enginemen has been a factor in several recent accidents, while in many other instances the circumstances have been such that it has been impossible to determine why signal indications were disregarded by enginemen of long experience, who had good records and were considered to be among the best enginemen in service. The agreement now in force between the enginemen and the management of this railroad is a step in the right direction and should be of much value in assuring both employees and officials, as well as the traveling public, that the men charged with the duty of safely operating trains are physically capable of fulfilling their responsibilities.

Respectfully submitted,

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Director.