

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 2774
THE PENNSYLVANIA RAILROAD COMPANY
REPORT IN RE ACCIDENT
NEAR ROXTON, PA., ON
FEBRUARY 13, 1944

SUMMARY

Railroad: Pennsylvania
Date: February 13, 1944
Location: Roxton, Pa.
Kind of accident: Rear-end collision
Trains involved: Freight : Freight
Train numbers: Extra 4774 West ; Extra 4770 West
Engine numbers: 4774 : 4770
Consist: 70 cars, caboose : 90 cars, caboose
Speed: Standing : 30 m. p. h.
Operation: Automatic block and cab-signal system
Track: Double; tangent; 0.27 percent descending grade westward
Weather: Clear
Time: 1:09 a. m.
Casualties: 2 killed; 3 injured
Cause: Failure properly to control speed of following train in accordance with signal indications

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2774

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE PENNSYLVANIA RAILROAD COMPANY

March 3, 1944.

Accident near Roxton, Pa., on February 13, 1944, caused by failure properly to control the speed of the following train in accordance with signal indications.

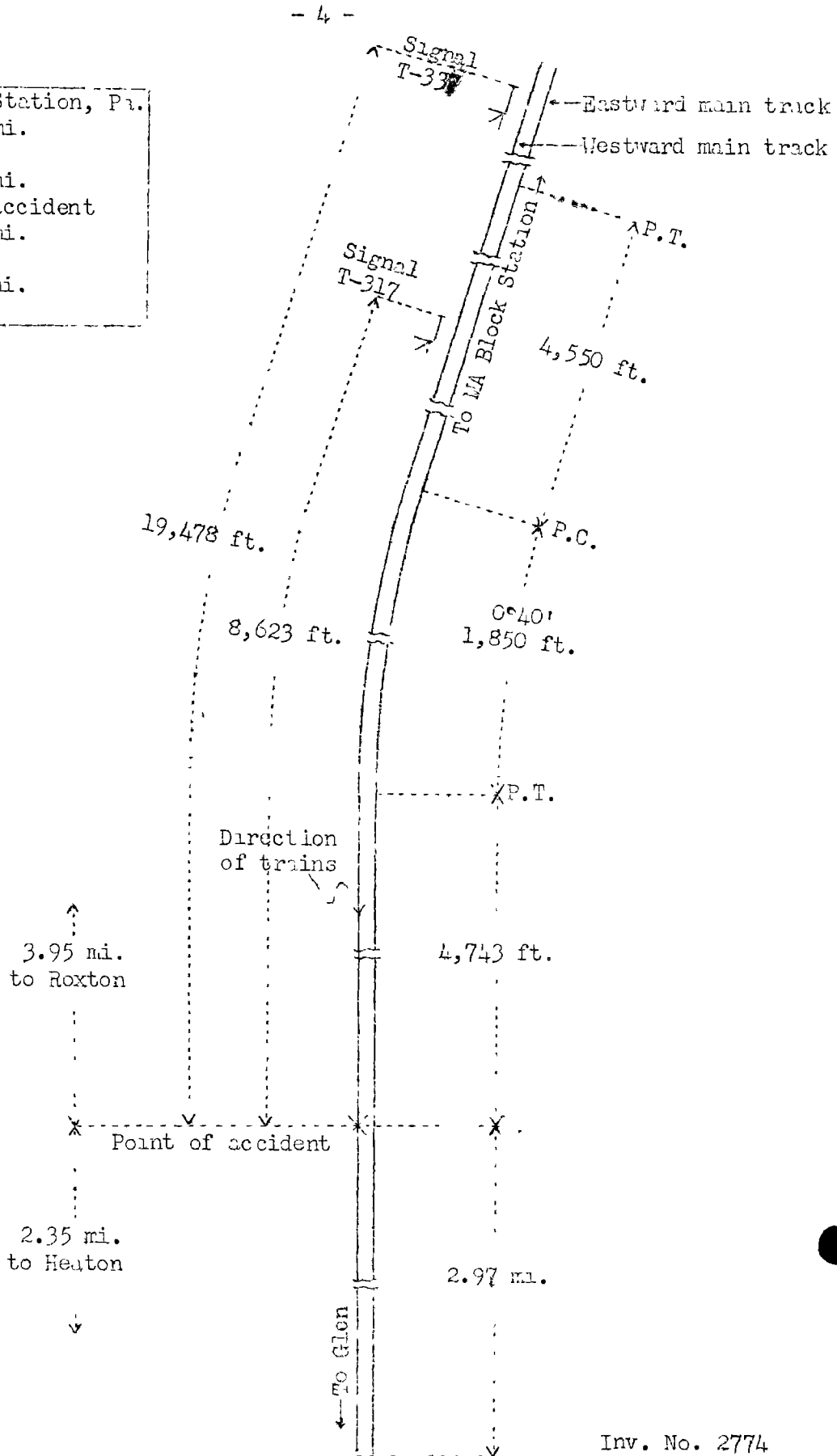
REPORT OF THE COMMISSION¹

PATTERSON, Chairman:

On February 13, 1944, there was a rear-end collision between two freight trains on the Pennsylvania Railroad near Roxton, Pa., which resulted in the death of two employees and the injury of three employees. This accident was investigated in conjunction with representatives of the Pennsylvania Public Utility Commission.

¹Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Chairman Patterson for consideration and disposition.

- o MA Block Station, Pa. 7.50 mi.
- o Roxton 3.95 mi.
- X Point of accident 2.35 mi.
- o Heaton 27.50 mi.
- o Glen, Pa.



Inv. No. 2774
 Pennsylvania Railroad
 Roxton, Pa.
 February 13, 1944

Location of Accident and Method of Operation

This accident occurred on that part of the Philadelphia Division designated as the Trenton Branch and extending between MA Block Station and Glen, Pa., 41.3 miles. This was a double-track line equipped with an overhead catenary system for the electric propulsion of trains. In the vicinity of the point of accident trains moving with the current of traffic were operated by an automatic block-signal and cab-signal system. The accident occurred on the westward main track 3.95 miles west of Roxton. From the east there were, in succession, a tangent 4,550 feet in length, a 0°40' curve to the left 1,850 feet and a tangent 4,743 feet to the point of accident and 2.97 miles beyond. The grade for west-bound trains was 0.27 percent descending.

Automatic signals T-337 and T-317, governing west-bound movements on the westward main track, were located, respectively, 19,478 feet and 8,623 feet east of the point of accident. These signals were of the three-indication, position-light type, and were continuously lighted. They displayed the letter "G" in black on a yellow disc. The cab signals were of the four-indication, position-light type. The involved aspects and corresponding indications and names of these signals were as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
T-337 and cab signal	Three white lights in diagonal posi- tion to the right.	Proceed prepared to stop at next signal. Train exceeding medium speed must at once reduce to that speed.	Approach.
T-317	Three white lights in horizontal position above one white light; letter "G" in black on yellow disc.	Stop; then proceed at restricted speed.	Stop-and- proceed.
Note - Freight trains of 90 or more cars * * * may proceed at restricted speed without stopping at signals displaying a yellow disc on which is shown the letter "G" in black.			
Cab signal	Two white lights in diagonal posi- tion to the left.	Proceed at restricted speed	Restricting.

DEFINITIONS

* * *

Speeds

Medium Speed--Not exceeding one-half the speed authorized for passenger trains but not exceeding 30 miles per hour.

Reduced Speed--Prepared to stop short of train or obstruction.

* * *

Restricted Speed--Not exceeding 15 miles per hour prepared to stop short of train, obstruction or switch not properly lined and to look out for broken rail.

Operating rules read in part as follows:

11. A train finding a fusee burning red on or near its track must stop and extinguish the fusee and then proceed at reduced speed.

15. Torpedoes

The explosion of two torpedoes is a signal to proceed at reduced speed. The explosion of one torpedo will indicate the same as two but the use of two is required.

* * *

35. The following signals will be used by flagmen:

* * *

Night signals--a red light, a white light, torpedoes and fusees.

99. When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes, and when necessary, in addition, displaying lighted fusees.

When recalled and safety to the train will permit, he may return.

When conditions require, he will leave the torpedoes and a lighted fusee.

* * *

When a train is moving under circumstances in which it may be overtaken by another train, the flagman must take such action as may be necessary to insure full protection. By night, or by day when the view is obscured, lighted fusees must be thrown off at proper intervals.

* * *

The maximum authorized speed for freight trains was 40 miles per hour.

Description of Accident

Extra 4774 West, a west-bound freight train, consisted of electric engine 4774, 70 cars and a caboose. This train departed from MA Block Station, 7.5 miles east of Roxton and the last open office, at 12:18 a. m., passed Roxton, and stopped about 12:54 a. m. with the rear end standing 8,623 feet west of signal T-317. About 15 minutes later the rear end was struck by Extra 4770 West.

Extra 4770 West, a west-bound freight train, consisted of electric engine 4770, 90 cars and a caboose. This train departed from MA Block Station at 12:41 a. m., passed signal T-337, which displayed approach, passed signal T-317, which displayed stop-and-proceed, and while moving at an estimated speed of 30 miles per hour it struck Extra 4774 West.

The caboose and the rear 4 cars of Extra 4774 were derailed and damaged. Engine 4770 stopped, badly damaged, 165 feet west of the point of collision, but was not derailed. The first 2 cars of Extra 4770 were derailed and damaged, and 22 other cars were knocked off center.

It was clear at the time of the accident, which occurred at 1:09 a. m.

The engineer and the fireman of Extra 4770 were killed. The conductor, the front brakeman and the flagman of Extra 4770 were injured.

In tests conducted after the accident signals T-337 and T-317 functioned properly.

Discussion

Under the rules of this carrier governing operation in automatic block-signal and cab-signal territory, an approach indication requires that the speed of a train must be reduced immediately to a speed not exceeding 30 miles per hour, and the train must be prepared to stop at the next signal. A way-side signal equipped with a yellow disc displaying the letter "G" in black and displaying a stop-and-proceed indication permits a train to pass the signal without stopping, but the speed of the train must be reduced immediately to a speed not exceeding 15 miles per hour and the train must be operated so that it can be stopped short of a train or an obstruction. A restricting indication displayed by a cab signal requires a train to be operated so that it can be stopped short of a train or an obstruction.

About 15 minutes after Extra 4774 West stopped, the rear end was struck by Extra 4770 West 8,623 feet west of signal T-317.

As Extra 4774 West was approaching the point where the accident occurred the flagman dropped a lighted 5-minute fusee on the westward main track about 1,600 feet east of the point where the train stopped. Soon after Extra 4774 stopped, the engine and the first 31 cars were detached and the members of the crew, except the flagman, were engaged in setting off the thirty-first car, because of an overheated journal, at Heaton, 2.35 miles west of the point where the accident occurred. When the train stopped, the flagman went back to provide flag protection, and had reached a point about 200 feet east of the rear of his train when he saw the reflection of the headlight of an approaching train. He lighted a fusee, proceeded toward the approaching train, and had reached a point 700 feet to the rear of his train, where he was giving stop signals with a lighted fusee, when Extra 4770 passed him. His signals were not acknowledged, and there was no indication that the air brakes of Extra 4770 had been applied before the collision occurred. The lighted fusee which had been dropped from the rear end of Extra 4774 had burned out prior to the approach of Extra 4770.

At MA Block Station, Extra 4770 West stopped a short distance east of the rear end of Extra 4774 West. The engine of Extra 4770 was uncoupled from its train and was used to assist Extra 4774 a distance of about 1 mile westward on an ascending

grade. Then engine 4770 returned to its train and, after a test of the train air-brake system was made, Extra 4770 departed. Soon afterward a speed of about 30 miles per hour was attained, and the speed was not reduced until the accident occurred. Why this train was not operated in compliance with the indications displayed by signals T-337 and T-317 and why the flagging signals were not acknowledged and acted upon could not be determined, as the engineer and the fireman were killed in the accident. The front brakeman, who was in the rear control compartment of the engine, was not in position to observe the enginemen, nor the indications displayed by the wayside signals. He said the cab signal in the rear control compartment displayed approach when the engine was in the vicinity of signal T-337, and it displayed restricting in the vicinity of signal T-317. In addition, the audible signal sounded and was acknowledged from the front control compartment when the engine was in the vicinity of each of these signals. Engine 4770 was equipped with a safety-control feature designed to shut off the power and to actuate the train air-brake system if the engineer became incapacitated. However, there was no indication that the brakes were applied before the collision occurred. After the accident, an inspection of the engine and cars disclosed no condition that would prevent the proper application of the train brakes.

Cause

It is found that this accident was caused by failure properly to control the speed of the following train in accordance with signal indications.

Dated at Washington, D. C., this third day of March, 1944.

By the Commission, Chairman Patterson.

(SEAL)

W. P. BARTEL,
Secretary.