INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2650

THE PENNSYLVANIA RAILROAD COMPANY

REPORT IN RE ACCIDENT

NEAR PENN, PA., ON

NOVEMBER 19, 1942

SUMMARY

Railroad:	Pennsylvania	
Date:	November 19, 1942	
Location:	Penn, Pa.	
Kind of accident:	Rear-end collision	
Trains involved:	Passenger	: Passenger
Train numbers:	Passenger Extra 3655	: 36
Engine numbers:	3655	: 3880
Consist:	11 cars	: 9 cars
Speed:	Standing	: 4-20 m. p. h.
Operation:	Automatic block and cab-signal system	
Track:	Four tracks; 3° curve to left; 0.22 percent descending grade eastward	
Weather:	Dense fog	
Time:	About 12:31 a. m.	
Casualties:	28 injured	
Cause:	Accident caused by failure properly to provide flag protection for preceding train and by failure to operate following train in accordance with signal indication	

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2650

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

THE PENNSYLVANIA RAILROAD COMPANY

December 30, 1942.

Accident near Penn, Pa., on November 19, 1942, caused by failure properly to provide flag protection for preceding train and by failure to operate following train in accordance with signal indication.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On November 19, 1942, there was a rear-end collision between two passenger trains on the Pennsylvania Railroad near Penn, Pa., which resulted in the injury of 24 passengers, 3 Pullman employees and 1 express messenger.

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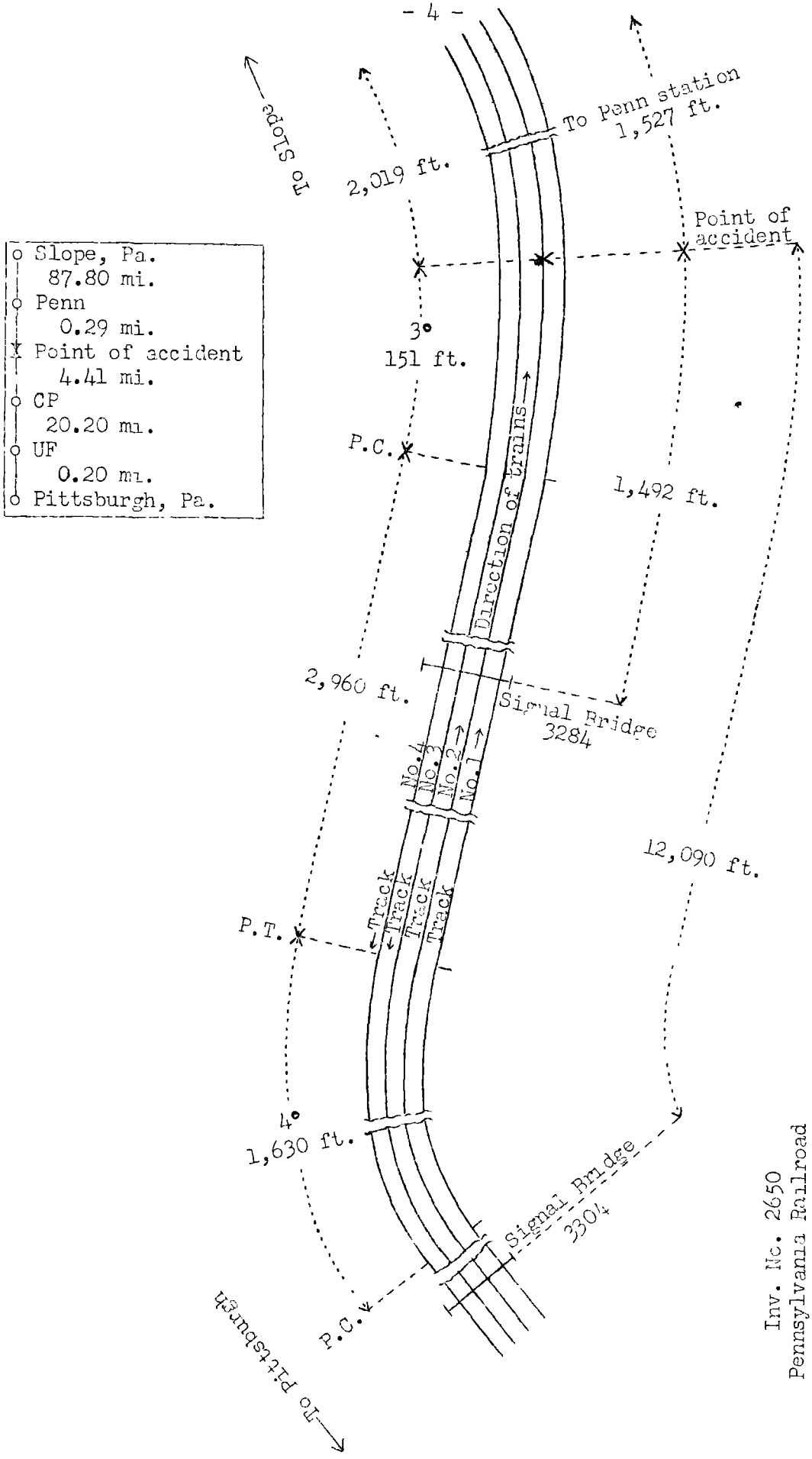
[1]Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Inv. No. 2650
Pennsylvania Railroad
Penn, Pa.
November 19, 1942

Location of Accident and Method of Operation

This accident occurred on that part of the Pittsburgh Division which extends between Pittsburgh and Slope, Pa., a distance of 112.9 miles. In the vicinity of the point of accident this is a 4-track line over which trains moving with the current of traffic are operated by an automatic block and cab-signal system, the indications of which supersede time-table superiority. The main tracks from south to north are, No. 1, eastward passenger, No. 2, eastward freight, No. 3, westward freight, and No. 4 westward passenger. The accident occurred on track No. 2 at a point 1,527 feet west of the station at Penn. Approaching from the west there are, in succession, a 4° curve to the right 1,630 feet in length, a tangent 2,960 feet in length, and a 3° curve to the left 151 feet to the point of accident and 2,019 feet beyond. The grade for east-bound trains varies between 0.34 percent and 0.87 percent ascending a distance of 3,600 feet, then there is a vertical curve 1,200 feet in length, which is followed by a 0.22-percent descending grade 80 feet to the point of accident and a considerable distance beyond.

Automatic signals 3304 and 3284, governing east-bound movements on track No. 2, are located, respectively, 12,090 and 1,492 feet west of the point of accident. These signals are of the 3-indication, position-light type, and are approach-lighted. The involved aspects and corresponding indications and names of these signals are as follows:

Aspect	Indication	Name
45 degrees	Proceed prepared to stop at next signal. Train exceeding medium speed must at once reduce to that speed.	Approach
Horizontal	Stop; then proceed at restricted speed.	Stop-and-proceed

Operating rules read in part as follows:

DEFINITIONS

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.

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

14. Engine Whistle Signals

Note--The signals prescribed are illustrated by "o" for short sounds; "___" for longer sounds.
* * *

* * *

(c) ___ o o o Flagman protect rear of train.

* * *

(g) o o Answer to any signal not otherwise provided for.

* * *

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 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.

* * *

In the vicinity of the point of accident the maximum authorized speed on track No. 2 is 70 miles per hour, and on the curve involved, 60 miles per hour.

Description of Accident

Passenger Extra 3655 East, an east-bound passenger train, consisted of engine 3655, one passenger-baggage car, four coaches and six Pullman sleeping cars, in the order named. All cars were of steel construction. After a terminal air-brake test was made, this train departed from UF, Pittsburgh, 24.9 miles west of Penn, at 11:44 p. m., November 18, according to the dispatcher's record of movement of trains, passed CP, 4.7 miles west of Penn and the last open office, at 12:20 a. m., November 19, and, because of low steam pressure, stopped at 12:28 a. m. with its rear end standing 1,492 feet east of signal 3284. About 3 minutes later the rear end was struck by No. 36.

No. 36, an east-bound first-class passenger train, consisted of engine 3880, three express cars, one passenger-baggage car, one coach, and four Pullman sleeping cars, in the order named. All cars were of steel construction. At Pittsburgh a terminal air-brake test was made. The brakes were used to control the speed of the train at various points en route and they functioned properly. This train departed from UF at 11:48 p. m., November 18, according to the dispatcher's record of movement of trains, 13 minutes late, passed CP at 12:24 a. m., November 19, 16 minutes late, passed signal 3304, which displayed approach, stopped at signal 3284, which displayed stop-and-proceed, then proceeded and while moving at a rate of speed variously estimated as 4 to 20 miles per hour it collided with the rear end of Passenger Extra 3655.

The rear truck of the rear car of Passenger Extra 3655 was derailed and the rear end was damaged. Engine 3655 was separated from its train by the impact and stopped about 10 feet east of the first car. The engine truck of engine 3880, of No. 36, was derailed and the front end was badly damaged.

A dense fog prevailed at the time of the accident, which occurred about 12:31 a. m.

Discussion

The rules governing operation on the line involved provide that 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. At night, lighted red fusees must be thrown off at proper intervals. A

fusee burning red on the track requires a train to stop, then it may proceed but must be prepared to stop short of a preceding train. 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. Under the rules governing operation in automatic block-signal territory, a stop-and-proceed indication requires a train to stop at the signal, then it may proceed at a speed not exceeding 15 miles per hour but must be prepared to stop short of a preceding train or obstruction.

When Passenger Extra 3655 East was approaching the point where the accident occurred, the speed was gradually reduced and the train stopped at 12:28 a. m. with its rear end about 1,500 feet east of signal 3284. About 12:31 a. m. the rear end was struck by No. 36.

As No. 36 was approaching the point where the accident occurred, the headlight was lighted, the fireman was operating the engine, and both enginemen were maintaining a lookout ahead. Dense fog restricted visibility to a distance of about 350 feet. No. 36 stopped at signal 3284, which displayed stop-and-proceed. The cab signal indication corresponded with the wayside signal indication. After two blasts of the engine whistle were sounded, this train proceeded at a speed estimated by the engine crew as 8 miles per hour. When the engine was about 120 feet west of the point where the accident occurred a torpedo was exploded and the fireman closed the throttle. At the same time the engineer observed a lighted marker and called a warning to the fireman, who placed the brake valve in emergency position, but the distance was insufficient for No. 36 to stop short of the preceding train. The brakes of No. 36 had functioned properly during the trip. According to the statements of both enginemen, neither of them saw the flagman until after the accident occurred. Both enginemen understood that a stop-and-proceed indication requires a train to be operated so that it can be stopped short of a preceding train, but it is apparent from the results in this case that No. 36 was being operated at excessive speed under the prevailing conditions.

Flag protection was required for Passenger Extra 3655 when the speed was being reduced and after it stopped. According to the statement of the flagman of Passenger Extra 3655, when the speed of his train was being reduced he was in the rear car. Because of the automatic signals to the rear of his train he did not think it necessary to drop off lighted fusees. About 30 seconds after his train stopped he proceeded to the

rear to provide flag protection and at that time he observed that both markers were lighted. He had in his possession a lighted white lantern, a lighted red lantern, two torpedoes and one fusee. He stationed himself at a point about 120 feet to the rear of his train. At that point the view of the markers was obscured by fog. He was not able to light the fusee which he had, and when he saw the headlight of No. 36 at a distance of about 150 feet he gave stop signals with his lanterns and placed torpedoes on the rail. He said that the engine whistle was sounded in acknowledgment of his signals; however, both enginemen of No. 36 said that at signal 3284, located 1,492 feet west of the rear of Passenger Extra 3655, two short blasts of the engine whistle were sounded as a signal to proceed. Only one torpedo was exploded, and neither of the enginemen saw the flagman's signals. The flagman said that the speed of No. 36 was about 25 miles per hour at the time of the collision; however, judging from the resultant damage, the speed probably was somewhat less. From the time Passenger Extra 3655 stopped until the collision occurred not less than 3 minutes was available in which to provide protection. The flagman had an adequate supply of fusees on the train. If the flagman of Extra 3655 had dropped off a lighted fusee when the speed of his train was reduced, or if he had proceeded to the rear as far as possible in the time at his disposal after his train stopped and had displayed lighted fusees, this accident could have been prevented.

The investigation disclosed that dependence is placed upon automatic block signals in providing flag protection. The engineer of Passenger Extra 3655 said that his train proceeded a considerable distance east of signal 3284 before it stopped so that sufficient protection would be provided. The flagman said that he did not drop off lighted fusees before his train stopped as he expected stop-and-proceed signal indications to provide protection. The rules provide that automatic block signals do not dispense with the use and the observance of other signals whenever and wherever they may be required. The flagging rule was not modified in any respect, but the foregoing facts indicate that it is not the practice in this territory to provide flag protection as specified by the rules. If the employees on each train had complied with the rules pertaining to the operation of their respective trains instead of depending upon the employees of the other train to obey the rules pertaining to the movement of that train, this accident would have been prevented. The conditions disclosed by this investigation direct attention to the need for more effective enforcement of operating rules by responsible officers of this railroad.

Cause

It is found that this accident was caused by failure properly to provide flag protection for the preceding train and by failure to operate the following train in accordance with signal indication.

Dated at Washington, D. C., this thirtieth day of December, 1942.

By the Commission, Commissioner Patterson.

W. P. BARTEL,

(SEAL)

Secretary.