

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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INVESTIGATION NO. 3037  
THE PENNSYLVANIA RAILROAD COMPANY  
REPORT IN RE ACCIDENT  
NEAR EAST CONWAY, PA., ON  
NOVEMBER 15, 1946.

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SUMMARY

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Railroad: Pennsylvania  
Date: November 15, 1946  
Location: East Conway, Pa.  
Kind of accident: Rear-end collision  
Trains involved: Passenger : Freight  
Train numbers: Passenger Extra : Extra 4329 West  
3728 West  
Engine numbers: 3728 : 4329  
Consists: 5 cars : 86 cars, caboose  
Estimated speeds: Standing : 5 m. p. h.  
Operation: Signal indications  
Tracks: Four; tangent; 0.08 percent  
descending grade westward  
Weather: Foggy  
Time: 6:33 a. m.  
Casualties: 28 injured  
Cause: Failure to operate following  
train in accordance with  
signal indication

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 3037

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

THE PENNSYLVANIA RAILROAD COMPANY

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December 26, 1946

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Accident near East Conway, Pa., on November 15, 1946, caused  
by failure to operate the following train in accordance  
with signal indication.

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REPORT OF THE COMMISSION<sup>1</sup>

PATTERSON, Commissioner:

On November 15, 1946, there was a rear-end collision between a passenger train and a freight train on the Pennsylvania Railroad near East Conway, Pa., which resulted in the injury of 19 passengers, 2 Pullman employees and 7 dining-car employees.

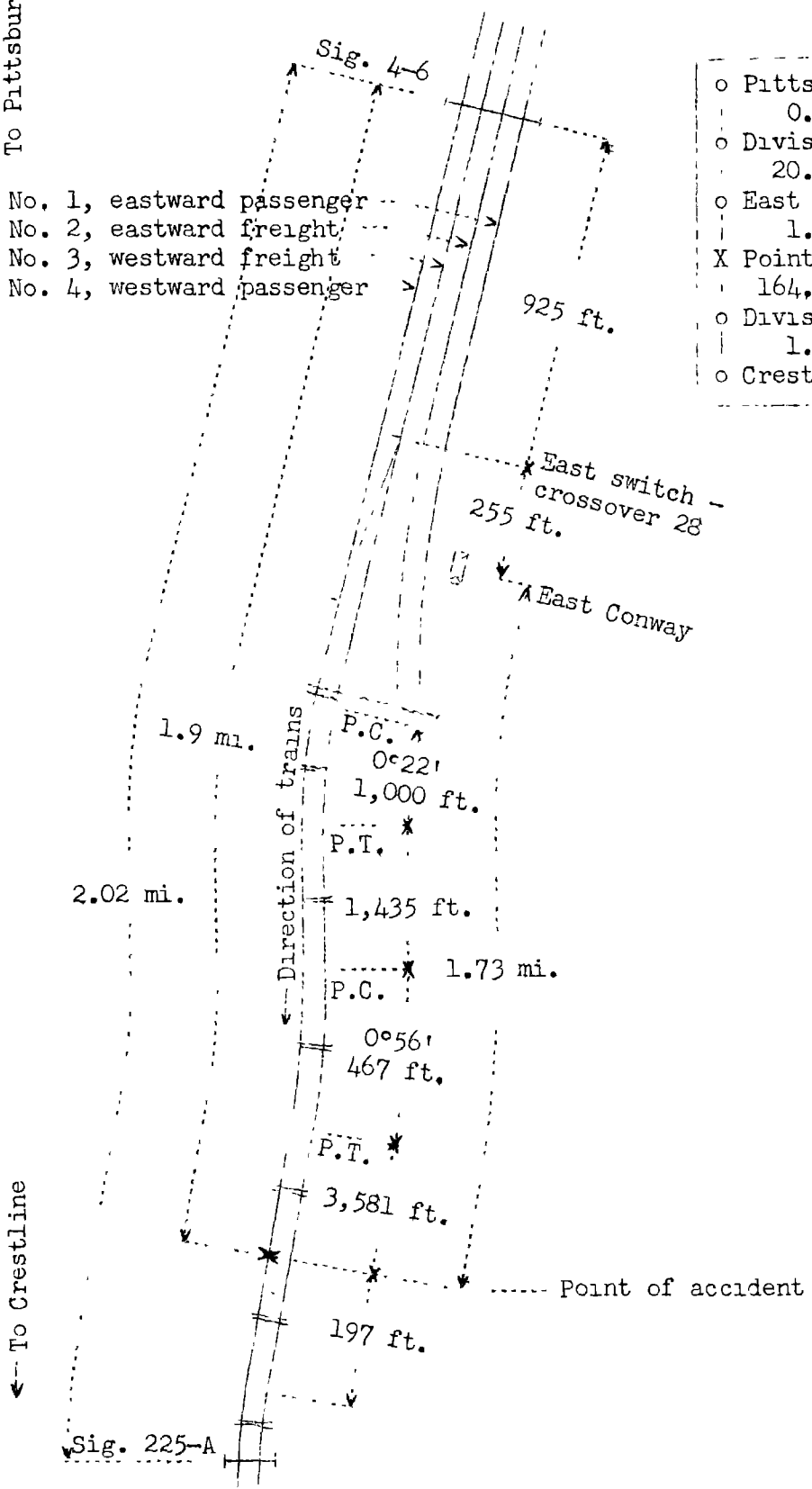
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<sup>1</sup>Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.

To Pittsburgh -->

- Track No. 1, eastward passenger
- Track No. 2, eastward freight
- Track No. 3, westward freight
- Track No. 4, westward passenger

- o Pittsburgh, Pa. 0.30 mi.
- o Division Post 20.50 mi.
- o East Conway, Pa. 1.73 mi.
- X Point of accident 164.47 mi.
- o Division Post 1.80 mi.
- o Crestline, Ohio



<-- To Crestline

Inv. No. 3037  
 Pennsylvania Railroad  
 East Conway, Pa.  
 November 15, 1946

Location of Accident and Method of Operation

This accident occurred on that part of the Eastern Division extending between Division Post, near Pittsburgh, Pa., and Division Post, near Crestline, Ohio, 186.7 miles. In the vicinity of the point of accident this is a four-track line. The main tracks from south to north are designated as No. 1, eastward passenger; No. 2, eastward freight; No. 3, westward freight; and No. 4, westward passenger. Tracks Nos. 1 and 2 are some distance to the south of tracks Nos. 3 and 4. Trains moving with the current of traffic on tracks Nos. 1, 2, 3 and 4 are operated by signal indications. The accident occurred on track No. 4, at a point 20.53 miles west of Pittsburgh and 1.73 miles west of the tower at East Conway. From the east on track No. 4 there are, in succession, a 0°23' curve to the left 1,000 feet in length, a tangent 1,435 feet, a 0°53' curve to the right 467 feet and a tangent 3,581 feet to the point of accident and 197 feet westward. The grade is 0.08 percent descending westward.

Within interlocking limits at East Conway, west-bound movements from track No. 3 to track No. 4 are made through crossover 28. The east switch of this crossover is 255 feet east of the tower.

Semi-automatic signal 4-5, governing west-bound movements from track No. 3 through crossover 28 thence westward on track No. 4 to automatic signal 225-A, 3.02 miles westward, is 925 feet east of the east switch of crossover 28 and 1.9 miles east of the point of accident. This signal is of the position-light type and is controlled from the tower at East Conway. The involved aspects of this signal and corresponding indications and names are as follows:

<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
Three white lights in horizontal position	Stop.	Stop-signal
Three white lights in horizontal position over white marker	Stop; then proceed at Restricted speed.	Stop-and-proceed.

The controlling circuits are so arranged that, when a west-bound train is occupying track No. 4 in the block immediately west of signal 4-6 and the route is lined for movement from track No. 3 through crossover 28 to track No. 4, signal 4-6 displays stop-then-proceed-at-restricted-speed.

Operating rules read in part as follows:

DEFINITIONS

\* \* \*

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.

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. \* \* \*

\* \* \*

19. The following signals will be displayed, one on each side of the rear of every train, as markers, to indicate the rear of the train:

\* \* \*

By night, on engines and cars, marker lamps lighted showing red to the rear \* \* \*

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 flagmen 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 flagmen 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.

\* \* \*

Note--When trains are operating under Automatic Block System Rules, the requirements of Rule 99, in so far as protecting against following trains is concerned, will have been complied with when full protection is afforded against trains moving at Restricted speed.

501a. Interlocking home signals governing the use of routes leading to a block will in addition govern the use of the block in direction for which traffic has been established for a train to the next block signal.

In this territory the maximum authorized speed for passenger trains on track No. 4 is 70 miles per hour and for freight trains, 50 miles per hour.

#### Description of Accident

Passenger Extra 3728 West, a west-bound passenger train, consisted of engine 3728, one coach, three Pullman sleeping cars and one dining-car, in the order named. All cars were of steel construction. This train passed East Conway, the last open office, at 6:20 a. m. and stopped about 6:23 a. m. on track No. 4, with the rear end standing 1.9 miles west of signal 4-6. About 10 minutes later the rear end was struck by Extra 4329 West.

Extra 4329 West, a west-bound freight train, consisting of engine 4329, 85 cars and a caboose, stopped about 6:10 a. m. on track No. 3 immediately east of signal 4-6, which displayed stop. About 16 minutes later the route was lined for movement from track No. 3 through crossover 28 to track No. 4, and Extra 4329 West proceeded, passed signal 4-6, which then displayed stop-then-proceed-at-restricted-speed, and while moving on track No. 4 at an estimated speed of 5 miles per hour it struck Passenger Extra 3728 West.

The force of the impact moved Passenger Extra 3728 West forward a distance of 71 feet. The rear end of the rear car of Passenger Extra 3728 West and the front end of the engine of Extra 4329 West were slightly damaged.

There was a dense fog and it was dark at the time of the accident, which occurred about 6:35 a. m.

#### Discussion

Passenger Extra 3728 West passed the tower at East Conway at 6:20 a. m. and stopped on track No. 4 about 6:25 a. m., with the rear end standing 1.9 miles west of signal 4-6. About 6:25 a. m. the leverman at East Conway lined the route for Extra 4329 West to proceed from track No. 3 through crossover 28 to track No. 4. Signal 4-6 displayed stop-then-proceed-at-restricted-speed for Extra 4329 West. This train departed from East Conway about 6:23 a. m. and was moving at a speed of about 5 miles per hour when it struck the rear end of Passenger Extra 3728 West.

When Passenger Extra 3728 West stopped, the engineer sounded the engine whistle signal for the flagman to protect the rear of the train. Because the water in the boiler of the engine was foaming, the engineer went to an enginehouse located some distance south of track No. 4 to obtain a supply of boiler compound. He

had returned to the engine and had sounded the engine whistle signal recalling the flagman about 1 minute before the collision occurred. At that time the conductor and the front brakeman were in the vicinity of the front end of their train. The flagman said that he dropped a lighted 5-minute fusee from the car next to the rear car when the brakes were applied about 3/4 mile east of the point where his train stopped. When the train stopped, he proceeded eastward to provide flag protection and placed two torpedoes on the north rail of track No. 4 at a point which he thought was 2,000 feet east of the rear of his train. Then he proceeded westward and had reached a point a short distance east of the rear of his train when the whistle signal recalling him was sounded, and he placed a lighted red fusee on track No. 4. Soon afterward, he heard the explosion of two torpedoes and saw the following train approaching. He immediately gave stop signals with a lighted red lantern, but the signals were not acknowledged. He thought Extra 4329 West was moving at a speed of about 15 miles per hour and that the engine was working steam when it passed him.

The engineer of Extra 4329 West said that as his train was approaching the point where the accident occurred the throttle lever was in drifting position and the speed was about 12 miles per hour, in compliance with the proceed-at-restricted-speed indication displayed by signal 4-6. Because of dense fog, the view of the track ahead from the engine was restricted to a distance of about 200 feet. When the engine was about 500 feet east of the point where the collision occurred, two torpedoes were exploded and the engineer made a light brake-pipe reduction. Soon afterward the enginemen saw a lighted red fusee and the lighted red marker lamps of the preceding train, and the engineer moved the brake valve to emergency position, but the collision occurred before the train could be stopped. The brakes of this train had been tested and had functioned properly en route.

After the accident the remains of recently exploded torpedoes were found at points 460 feet and 472.5 feet east of the point where the collision occurred, and the remains of a burned fusee were found 71 feet east of the point of accident. Since an interval of at least 10 minutes had elapsed from the time the flagman dropped the lighted 5-minute fusee about 3/4 mile east of the point of accident until the time the accident occurred, it is evident that the fusee had been consumed before Extra 4329 West passed the location of that fusee.



Under the flagging rule of this railroad, "full protection" in automatic block-signal territory consists of providing flag protection a distance sufficient only for stopping a following train which is being operated under a proceed-at-restricted-speed indication. A train operating under this indication must not exceed a speed of 15 miles per hour, and the train must be so operated that it can be stopped short of a preceding train or an obstruction.

Cause

It is found that this accident was caused by failure to operate the following train in accordance with signal indication.

Dated at Washington, D. C. this twenty-sixth day of December, 1946.

By the Commission, Commissioner Patterson.

W. P. BARTEL,  
Secretary.

(SEAL)