

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 2564
THE ERIE RAILROAD COMPANY
REPORT IN RE ACCIDENT
NEAR BIPPUS, IND., ON
JANUARY 27, 1942

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SUMMARY

Railroad: Erie

Date: January 27, 1942

Location: Bippus, Ind.

Kind of accident: Rear-end collision

Trains involved: Freight : Passenger

Train numbers: Extra 3123 East : 8

Engine numbers: 3123 : 2932

Consist: 82 cars, caboose : 8 cars

Estimated speed: 3-8 m. p. h. : 60 m. p. h.

Operation: Automatic block-signal system

Track: Double; tangent; 0.2 percent
descending grade eastward

Weather: Dense fog

Time: About 12:42 a. m.

Casualties: 2 killed; 16 injured

Cause: Accident caused by failure to operate
following train in accordance with
automatic block-signal indications
and by failure to obey flagman's
signals

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2564

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

THE ERIE RAILROAD COMPANY

February 27, 1942.

Accident near Bippus, Ind., on January 27, 1942, caused by failure to operate following train in accordance with automatic block-signal indications and by failure to obey flagman's signals.

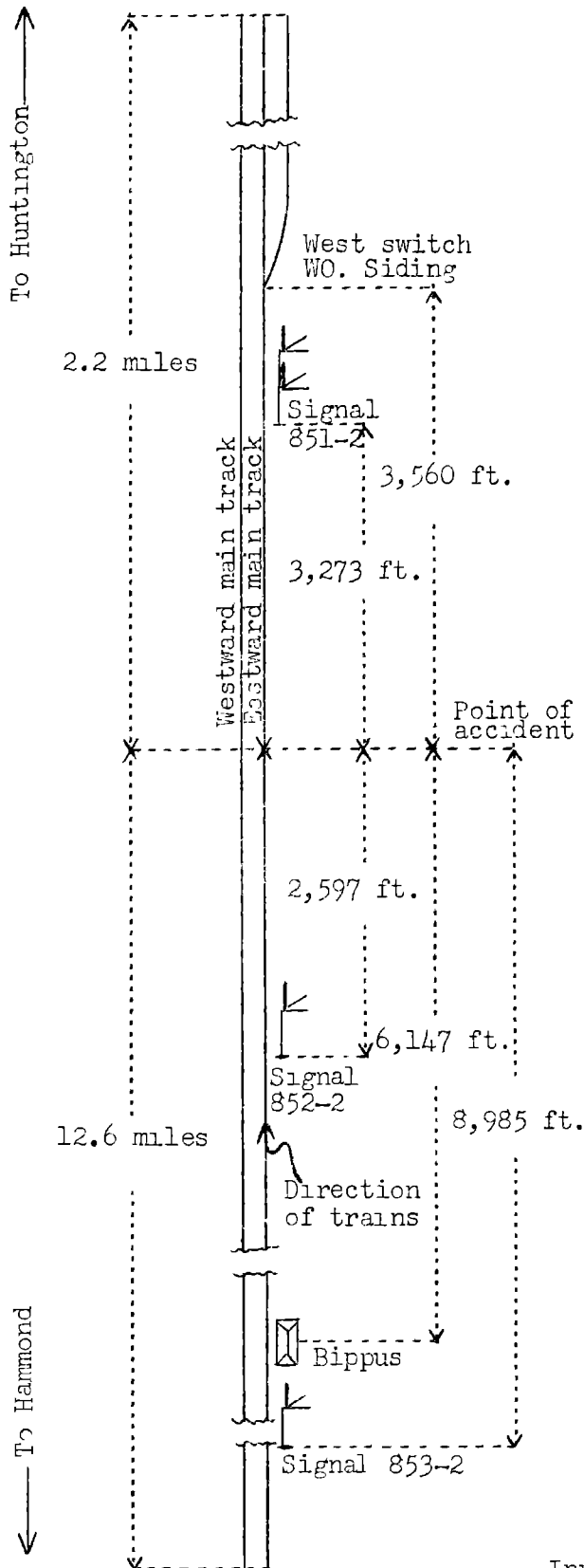
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On January 27, 1942, there was a rear-end collision between a freight train and a passenger train on the Erie Railroad near Bippus, Ind., which resulted in the death of 2 train-service employees, and the injury of 11 passengers, 3 dining-car employees and 2 train-service employees. This accident was investigated in conjunction with a representative of the Public Service Commission of Indiana.

¹Under 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.

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|---|-------------------|------------|
| o | Huntington, Ind. | 7.74 mi. |
| X | Point of accident | 1.16 mi. |
| o | Bippus | 8.80 mi. |
| o | Bolivar | 104.30 mi. |
| o | Hammond, Ind. | |



Inv. No. 2564
 Erie Railroad
 Bippus, Ind.
 January 27, 1942

Location of Accident and Method of Operation

This accident occurred on that part of the Marion Division designated as the Second Sub-division, which extends between Hammond and Huntington, Ind., a distance of 122 miles. In the vicinity of the point of accident this is a double-track line over which trains are operated with the current of traffic by an automatic block-signal system, the indications of which supersede time-table superiority. The accident occurred on the eastward main track at a point 6,147 feet east of the station at Bippus. As the point of accident is approached from the west there is a tangent a distance of 12.6 miles to the point of accident and 2.2 miles beyond. At the point of accident the grade for east-bound trains is 0.2 percent descending.

A siding at WO. Siding is parallel to the eastward main track on the south and its west switch is 9,707 feet east of the station at Bippus and 3,560 feet east of the point of accident.

Automatic signals 853-2 and 852-2, which govern east-bound movements on the eastward main track, are mounted on masts located 8 feet 4 inches south of the right rail of the eastward track at points, respectively, 8,985 feet and 2,597 feet west of the point of accident. These signals are of the one-arm, three-position, upper-quadrant, semaphore type, and are oil lighted. The lights are 24 feet 8 inches above the level of the rail. The aspects and corresponding indications and names of these signals are as follows:

<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
Green	Proceed	Clear
Yellow	Prepare to stop at next signal train exceeding medium speed must at once reduce to that speed	Approach
Red	Stop then proceed * * *	Stop and Proceed

Signal 851-2 is located 3,273 feet east of the point of accident. This signal is of the two-arm, three-position, upper-quadrant, semaphore type, and is oil lighted. The top arm is a semiautomatic block signal and its aspects, indications and names correspond to those of signals 852-2 and 853-2. The lower arm of signal 851-2 is designated as a telephone-train-order signal and is controlled by the train dispatcher at Huntington, 7.1 miles east of WO. Siding. The involved aspect and corresponding indication and name are as follows:

<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
Yellow	Take siding and when clear of the main track report for instructions * * *	Telephone Train Order Signal

Operating rules read in part as follows:

DEFINITIONS

Medium Speed.--One-half maximum authorized speed at point involved, but not to exceed thirty miles per hour unless otherwise provided.

Restricted Speed.--Proceed prepared to stop short of train, obstruction, or anything that may require the speed of a train to be reduced.

11. A train, other than a freight train on ascending grades governed by grade signals, finding a fusee burning red on or near its track, must stop * * * and then proceed at restricted speed. * * *

15. The explosion of two torpedoes is a signal to proceed at restricted speed. * * *

* * *

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, * * *, lighted fusees must be thrown off at proper intervals.

* * *

Time-table special instructions read in part as follows:

SUPERIORITY OF TRAINS

Trains operating in automatic block signal districts governed by telephone train order signals, may run with the current of traffic upon signal indication, which signal indication supersedes time table superiority.

In the vicinity of the point of accident the maximum authorized speed for passenger trains is 75 miles per hour and for freight trains, 50 miles per hour.

Description of Accident

Extra 3123 East, an east-bound freight train, consisted of engine 3123, 1 auxiliary water car, 81 loaded cars and a caboose. After an air-brake test was made this train departed from Hammond, 113.1 miles west of Bippus, at 8:10 p. m., January 26, according to the dispatcher's record of movement of trains, passed Bolivar, 8.8 miles west of Bippus and the last open office, at 12:07 a. m., passed signal 852-2, which was displaying approach, stopped at signal 851-2, which was displaying an indication that required the train to take siding, and several minutes later while it was entering the siding and moving at an estimated speed of 3 to 8 miles per hour its rear end was struck by No. 8.

No. 8, an east-bound first-class passenger train, consisted of engine 2932, three express cars, one baggage car, one mail car, one coach, one Pullman sleeping car and one lounge-dining car, in the order named. The first two cars were of steel-underframe construction and the remainder were of all-steel construction. After a terminal air-brake test was made at Chicago, 134 miles west of Bippus, this train departed at 10 p. m., January 26, according to the dispatcher's record of movement of trains, on time. Soon after it departed from Chicago a running test of the brakes was made. The brakes were used to control the speed at several points en route, and they functioned properly. This train passed Bolivar at 12:33 a. m., 6 minutes late, and while moving at an estimated speed of 60 miles per hour it collided with the caboose of Extra 3123 East.

The caboose of Extra 3123 East was demolished and the wreckage stopped south of the eastward main track at a point 100 feet east of the point of accident. The rear four cars were demolished and the wreckage of these cars stopped in various positions across the eastward main track. The center sill of the fourteenth car ahead of the caboose was buckled. Engine 2932, of No. 8, was derailed and stopped on its right side north of the westward main track and parallel to it, with the front end of the engine 280 feet east of the point of collision. The engine truck was detached and stopped on the eastward main track. The pilot, the smoke box and the cab were demolished. The left cylinder and the engine frame were broken. The trailing truck was torn loose and stopped about 20 feet north of the engine. The tender was torn loose from the engine and the cistern stopped south of the eastward main track and at right angles to it. The tender frame stopped adjacent to the cistern. The first car stopped on top of the tender frame, across both main tracks and at an angle of 45 degrees to them. The front end of the second car telescoped the rear end of the first car and stopped across both main tracks. The trucks of the first and second cars were torn loose and these cars were demolished. The front truck of the third car was derailed and the car was slightly damaged. The fourth and fifth cars were slightly damaged.

There was a dense fog at the time of the accident, which occurred about 12:42 a. m., and visibility was restricted to a distance of about 100 feet.

The train-service employees killed were the engineer and the fireman of No. 8, and the train-service employees injured were the conductor and the brakeman of No. 8.

Signal Data

In tests made after the accident signals 852-2 and 853-2 functioned as intended.

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. By night lighted fusees must be thrown off at proper intervals. 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, an approach indication requires the speed of a train to be reduced to not exceeding 30 miles per hour and the train to be prepared to stop at the next signal. A fusee burning red on the track or

near it requires a train to stop and then to proceed prepared to stop short of a train or obstruction. The explosion of torpedoes requires a train to be operated at restricted speed. All surviving members of both crews understood the provisions of these rules.

On the night of the accident the telephone-train-order signal at the west end of WO. Siding displayed an indication which required Extra 3123 East to take siding. This train stopped at this signal about 12:35 a. m., and about 4 minutes later started to enter the siding. The engine had reached a point 300 feet east of the west siding-switch and the speed was 3 to 8 miles per hour when the rear end of this train was struck by No. 8.

According to the statements of all surviving members of both crews involved, as well as members of the crew of an extra freight train which followed No. 8, fog and frost prevailed so that signal indications were not visible a distance of more than 100 feet. From his usual position on the left side of the engine, the fireman of the last-mentioned train could not see the signals involved.

The flagman of Extra 3123 said that when his train began to reduce speed to stop at the west end of WO. Siding, he threw off a lighted 5-minute fusee at a point about 6,500 feet west of the point where the accident occurred. After the occurrence of the accident the remains of a freshly burned fusee were found at a point 6,837 feet west of the point where the accident occurred. As soon as the speed was reduced so that he could alight safely and when the rear of his train was about 3,000 feet west of the point where the accident occurred, he alighted with flagging equipment and went back to provide flag protection. He observed that both markers of his caboose displayed red to the rear. When he reached a point about 1,500 feet farther west he placed torpedoes on the rail, then proceeded westward, carrying a lighted red fusee. He observed that signal 852-2 displayed a red aspect. He heard an engine whistle sound the signal for a road crossing west of the station at Bippus and he started to run toward the approaching train. When he reached a point about 4,600 feet west of the point where the accident occurred he placed the lighted fusee on the eastward track, and lighted another fusee, which he held. At a short distance the headlight of No. 8 appeared out of the fog and he gave stop signals; however, his signals were not acknowledged and he was forced to step off the track to avoid being struck. As No. 8 passed him he continued to give stop signals; however, this train passed him at a speed of 70 or 75 miles per hour and steam was being used. There did not appear to be any unusual steam leak around the front of the engine. The conductor of Extra 3123 said that when the flagman dropped off a lighted fusee west of Bippus it disappeared from view in a distance of about 100 feet because of fog. After Extra 3123 started to enter the siding the conductor heard torpedoes explode and

soon afterward he observed the headlight of No. 8 appear out of the fog. He jumped off just before the collision occurred. He said the speed of No. 8 was about 60 miles per hour at the time of the collision.

According to the statement of the brakeman of No. 8, he observed a burning red fusee to the south of the eastward main track several seconds before the accident occurred and it seemed a considerable distance from that point to the point where the accident occurred. He said the speed of his train was about 60 miles per hour at the time of the collision.

The investigation disclosed that the automatic signals involved were functioning properly. The approach indication of the automatic signal located 1.7 miles west of the point of accident required No. 8 to reduce speed to not exceeding 30 miles per hour and to be operated prepared to stop short of the next signal; however, speed was not so controlled and No. 8 passed the flagman of the preceding train, who was giving stop signals with a lighted fusee a short distance east of the approach signal, exploded torpedoes which the flagman had placed on the rail, and passed the next automatic signal, which was displaying stop-and-proceed, without stopping. Surviving members of the crew of No. 8 said that the engineer of No. 8 sounded a signal for a highway crossing a short distance west of Bippus, and that the train brakes were applied in emergency several seconds before the collision occurred. Why action was not taken to control No. 8 in accordance with automatic signal indications and in obedience to the flagman's fusee and torpedo signals could not be determined as the engineer and the fireman were killed in the accident.

West of the point of accident the track is tangent a distance of more than 12 miles, but visibility was considerably restricted by fog, and the investigation disclosed that at the time the accident occurred the signal roundels were heavily coated by frost. The manner in which No. 8 was being operated indicates the probability that the engine crew did not see the indications which were displayed by either of the automatic block signals involved. If an automatic train control or cab-signal system had been in use on this line, the train could have been operated safely at authorized speed notwithstanding that aspects of wayside signals were obscured by adverse weather conditions.

Cause

It is found that this accident was caused by failure to operate the following train in accordance with automatic block-signal indications, and by failure to obey the flagman's signals.

Dated at Washington, D. C., this twenty-seventh day of February, 1942.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.