INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2552

THE PITTSBURGH & WEST VIRGINIA RAILWAY COMPANY

REPORT IN RE ACCIDENT

AT SMITHFIELD, OHIO, ON

DECEMBER 20, 1941

SUMMARY

Railroad:	Pittsburgh & West Virginia	
Date:	December 20, 1941	
Location:	Smithfield, Ohio	
Kind of accident:	Head-end collision	
Trains involved:	Freight	:Freight
Train numbers:	First 92	:Extra 925 West
Engine numbers:	6015	:925
Consist:	35 cars, caboose	:14 cars, caboose
Estimated speed:	15-25 m.p.h.	:Standing
Operation:	Timetable and train orders	
Track:	Single; 2°30' curve; 0.62 percent ascending grade westward	
Weather:	Clear	
Time:	About 5:37 a.m.	
Casualties:	1 killed; 7 injured	
Cause:	Accident caused by an inferior train occupying the main track on the time of an opposing superior train and then by failure to furnish flag protection.	
Recommendation:	That the Pittsburgh & West Virginia Railway Company establish an adequate block system on the line involved in this accident.	

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2552

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

THE PITTSBURGH & WEST VIRGINIA RAILWAY COMPANY

February 6, 1942.

Accident at Smithfield, Ohio, on December 20, 1941, caused by an inferior train occupying the main track on the time of an opposing superior train and then by failure to furnish flag protection.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On December 20, 1941, there was a head-end collision between a Pittsburgh & West Virginia Railway freight train and a Wheeling & Lake Erie Railway freight train on the line of the Pittsburgh & West Virginia Railway at Smithfield, Ohio, which resulted in the death of one employee and the injury of seven employees.

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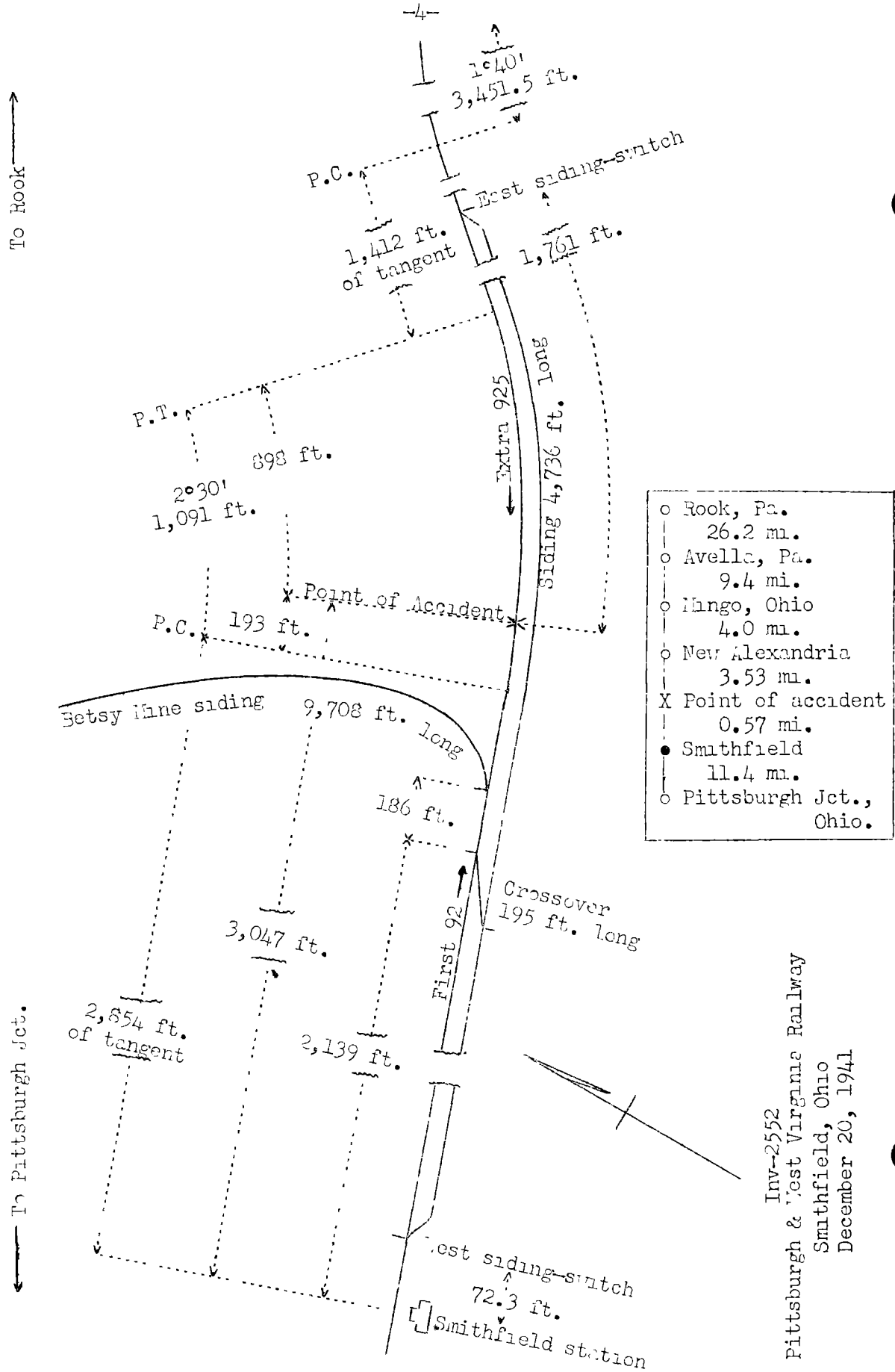
[1]Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Inv-2552
Pittsburgh & West Virginia Railway
Smithfield, Ohio
December 20, 1941

Location of Accident and Method of Operation

Trains of the Wheeling & Lake Erie Railway, hereinafter referred to as the W.& L.E., are operated over the line of the Pittsburgh & West Virginia Railway, hereinafter referred to as the P.& W.V. This accident occurred on the Pittsburgh Division, which extends between Pittsburgh Jct., Ohio, and Rook, Pa., a distance of 55.1 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders. There is no block system in use. At Smithfield a siding 4,736 feet in length parallels the main track on the south. The east siding-switch and the west siding-switch are, respectively, 4,808.4 feet and 72.3 feet east of the station. A facing-point cross-over for west-bound movements connects the main track and the siding at a point 2,211 feet east of the station. A spur-track switch leading to a mine is located 186 feet east of the crossover and is trailing-point for west-bound movements. The accident occurred on the main track at a point 3,047 feet east of Smithfield station. As the point of accident is approached from the west there are, in succession, a 2° curve to the left 2,108 feet in length, a tangent 3,090.6 feet, and a 2°30' curve to the left 193 feet to the point of accident and 898 feet beyond. As the point of accident is approached from the east there are, in succession, a 1°40' curve to the left 3,451.5 feet in length, a tangent 1,412 feet and the curve on which the accident occurred. The grade for west-bound trains varies between 0.62 and 0.7 percent ascending throughout a distance of several miles, and is 0.62 percent at the point of accident. Starting at a point about 100 feet east of the point where the accident occurred and extending 1,000 feet eastward, the north bank of a cut rises abruptly to a height of 50 feet. Starting at a point 75 feet west of the point where the accident occurred and extending about 500 feet westward, a bank 15 feet in height parallels the main track on the north.

Operating rules read in part as follows:

> 3. Watches of conductors, enginemen * * * will be compared before commencing each day's work, with a clock designated by time-table as a standard clock. * * *
>
> Conductors and enginemen will compare time with each other before commencing each day's work and trip. Conductors will compare with trainmen, and enginemen with firemen, as soon as practicable, * * *

5. * * *

The time applies to the switch, where an inferior train enters the siding; * * *

44. Extra trains are inferior to regular trains.

51. An inferior train will keep out of the way of opposing superior trains and failing to clear the main track by the time required by rule will be protected as prescribed by Rule 99.

Extra trains will clear the time of opposing regular trains not less than five minutes unless otherwise provided, * * *

99. * * *

The front of a train will be protected in the same way when necessary by the front trainman, * * *

FORMS OF TRAIN ORDERS.

E.
Time Orders

* * *

4. Nos One 1 Eng 331 and Three 3 Eng 340 wait at Avella until nine fifty-nine 959 A M. * * *

The * * *, or trains, named will not pass the designated points before the times given. Other trains receiving the order are required to run with respect to the time specified at the designated points or any intermediate station where schedule time is earlier than the time specified in the order as before required to run with respect to the schedule time of the train, or trains, named.

In the vicinity of the point of accident the maximum authorized speed for freight trains is 40 miles per hour.

Description of Accident

Extra 925 West, a P.& W.V. west-bound freight train, consisted of engine 925, 1 loaded car and 13 empty cars and a caboose. Before this train departed from Avella, 17.5 miles

east of Smithfield, an air-brake test was made and the brakes functioned properly en route. At Avella the crew received, among others, copies of train order No. 20, Form 19, which read in part as follows:

> First 1st Ninety two 92 WLE Eng 6015
> Wait At Smithfield Station Until Five
> Thirty Five 535 am Mingo until Five
> Fifty 550 am * * *

Extra 925 departed from Avella at 4:50 a.m., according to the dispatcher's record of movement of trains, passed Mingo, 8.1 miles east of Smithfield and the last open office, at 5:23 a.m., stopped on the main track at a point 1,761 feet west of the east siding-switch at Smithfield, and immediately afterward it was struck by First 92. There was no condition of the engine of Extra 925 that distracted the attention of the crew or obscured their vision.

First 92, a W.& L.E. east-bound second-class freight train, consisted of engine 6015, 31 loaded and 4 empty cars and a caboose. At Brewster, 59 miles west of Smithfield, a terminal air-brake test was made and the brakes functioned properly en route. At Pittsburgh Jct., 11.4 miles west of Smithfield, the crew received, among others, copies of train order No. 20, Form 19, previously quoted. First 92 departed from Pittsburgh Jct. at 5:14 a.m., according to the dispatcher's record of movement of trains, 1 hour 54 minutes late, passed the station at Smithfield at 5:36 a.m., 1 hour 49 minutes late, and while moving at an estimated speed of 15 to 25 miles per hour it collided with Extra 925. There was no condition of the engine of First 92 that distracted the attention of the crew or obscured their vision.

The force of the impact moved engine 925 backward a distance of about 50 feet and the first 3 pairs of driving wheels and the front truck of the tender were derailed. The engine truck was demolished, the front-end engine frame, both cylinders and the smokebox were broken. The third car in Extra 925 was derailed and badly damaged. Engine 6015, of First 92, was derailed to the south and stopped practically upright, with the front end of the engine about 50 feet east of the point of collision. The engine truck was demolished, and the front-end engine frame was broken. Steam pipes in the cab were broken. The front truck of the tender was derailed. The first to the fifth cars, inclusive, stopped, badly damaged, in various positions across the main track and the siding.

The weather was clear at the time of the accident, which occurred about 5:37 a.m.

The employee killed was the engineer of First 92. The employees injured were the fireman and the front brakeman of First 92, and the engineer, the fireman, the front brakeman, the conductor and the flagman of Extra 925 West.

Data

During the 30-day period preceding the day of the accident, the average daily movement over the territory involved was 13.8 trains.

Discussion

The rules governing operation on the line involved require an inferior train to keep out of the way of an opposing superior train. An extra train must clear the time of an opposing regular train by not less than 5 minutes or, failing to comply with this requirement, it must furnish flag protection. A train directed by a wait order to wait at a designated point until a specified time must not pass that point until the time has expired. All surviving members of both crews except the conductor of Extra 925 understood the requirements of these rules.

The crew of First 92, an east-bound second-class train, and the crew of Extra 925 West held copies of a train order which required First 92 to wait at the station at Smithfield until 5:35 a.m. and at Mingo, 8.1 miles east of Smithfield, until 5:50 a.m. Under the rules Extra 925 was required to be into clear at Smithfield not later than 5:30 a.m. if it proceeded to that point to clear for First 92.

Before First 92 departed from Brewster all members of the crew compared watches with a standard clock. Between Pittsburgh Jct. and Smithfield, the engineer, the fireman and the front brakeman compared their watches, which indicated approximately the same time. All members of this train had read train order No. 20 and understood that their train was required not to pass the station at Smithfield prior to 5:35 a.m. As this train was approaching Smithfield the engineer made a brake-pipe reduction and the speed was reduced to 5 or 10 miles per hour. According to the statements of the front brakeman, the flagman and the conductor, when the engine was a short distance west of the station the time was 5:35 a.m. and the speed of the train was gradually increased. According to the statement of the fireman, the train stopped momentarily and then proceeded. The operator at Smithfield said that the rear end of First 92 passed his station at 5:36 a.m., at which time the speed of that train was about 10 miles per hour. After the occurrence of the accident, the operator compared

time with the dispatcher, and the operator's watch indicated correct time. The dispatcher's record of movement of trains bore information that First 92 passed Smithfield at 5:36 a.m. As this train was approaching the point where the accident occurred, the speed was between 15 and 25 miles per hour, the headlight was lighted brightly, and the engineer and the front brakeman were maintaining a lookout ahead. The fireman was on the shoveling sheet of the tender adjusting the coal gates. Just as he returned to the left side of the cab, the engineer moved the brake valve to emergency position. At this time the front brakeman and the fireman were able to see the headlight of Extra 925 and immediately afterward the collision occurred. The front brakeman said that he thought the opposing train was on the siding until it was about 120 feet distant, then just as he became aware that it was on the main track the brakes were applied in emergency. Since the engineer of First 92 was killed in the accident, it could not be determined at what distance he was able to observe the approaching train, or if he thought that Extra 925 was in the clear on the siding.

According to the dispatcher's record of movement of trains, Extra 925 passed Mingo at 5:23 a.m., but according to the statements of the engineer and the conductor their train passed Mingo at 5:15 a.m. According to the engineer, when his train was at a point 0.7 mile east of the east siding-switch at Smithfield it was 5:29 a.m. As his train was approaching Smithfield, the headlight was lighted brightly, the speed was 35 or 40 miles per hour, and the fireman and he were maintaining a lookout ahead from their respective sides of the cab. Because of switching service to be performed at the mine spur at Smithfield, his train passed the east siding-switch and proceeded westward to enter the siding at the cross-over to clear for First 92. He understood that his train was required either to be into clear not later than 5:30 a.m. or to provide flag protection a distance sufficient to enable First 92 to stop short of the fouling point of the switch used by his train in entering the siding. He said that the front brakeman was on the side steps of the gangway prepared to open the switch and to provide flag protection. In his opinion, flag protection at the crossover switch would have been sufficient to stop First 92. The train brakes were applied and the speed was reduced in preparation for stopping at the cross-over. When his engine was at a point about 1,200 feet east of the crossover he observed the headlight of First 92 rounding the curve. He moved the brake valve to emergency position, and his train stopped at a point 908 feet east of the cross-over. Immediately afterward his engine was struck by First 92. The fireman of Extra 925 stated that at 5:29 a.m. his train was 1.7 miles east of the station at Smithfield. The conductor of Extra 925 thought the accident occurred between

5:31 and 5:32 a.m. He was of the opinion that his train was not required to be into clear at Smithfield prior to 5:35 a.m. The flagman said that at 5:30 a.m. his train was 1.7 miles east of the station at Smithfield. The fireman, the front brakeman and the flagman understood their train was required to be clear of the main track at 5:30 a.m. if it proceeded to Smithfield to clear for First 92; however, none of the employees discussed it with other members of the crew. Regardless of the discrepancy in the statements of the crew of Extra 925 concerning the movement of their train, all members were agreed that the speed between Mingo and Smithfield was between 35 and 40 miles per hour. The maximum authorized speed for this train was 40 miles per hour. Since the operator at Mingo stated that Extra 925 passed Mingo at 5:23 a.m. and since the speed throughout the distance of 7.2 miles between Mingo and the east siding-switch at Smithfield was about 40 miles per hour, Extra 925 could not have arrived at the east siding-switch earlier than 5:33 a.m. or 3 minutes later than the time it should have been into clear. The dispatcher said that when Extra 925 passed Mingo he expected that train to go into clear at New Alexandria, 4.1 miles east of Smithfield. If the members of this crew had taken action to provide flag protection against First 92 as soon as it became known to them that their train would not be clear of the main track by 5:30 a.m., this accident would have been averted.

Trains are operated on the line involved by timetable and train orders only. If an adequate block system had been in use on this line, this accident would not have occurred.

Cause

It is found that this accident was caused by an inferior train occupying the main track on the time of an opposing superior train and then by failure to furnish flag protection.

Recommendation

It is recommended that the Pittsburgh & West Virginia Railway Company establish an adequate block-signal system on the line involved in this accident.

Dated at Washington, D.C., this sixth day of February, 1942.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.