

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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INVESTIGATION NO. 2681  
THE PENNSYLVANIA RAILROAD COMPANY  
REPORT IN RE ACCIDENT  
NEAR WILMINGTON, DEL., ON  
FEBRUARY 23, 1947

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SUMMARY

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Railroad: Pennsylvania  
Date: February 23, 1943  
Location: Wilmington, Del.  
Kind of accident: Rear-end collision  
Trains involved: Passenger : Passenger  
Train numbers: 457 : Extra 5193 South  
Engine numbers: 3677 : 5193  
Consist: 11 cars : 2 cars  
Speed: Standing : 20 m. p. h.  
Operation: Interlocking  
Track: Double; tangent; level  
Weather: Clear  
Time: 11:35 p. m.  
Casualties: 101 injured  
Cause: Accident caused by failure properly to control speed of following train in accordance with signal indication

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 2681

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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April 14, 1943.

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Accident near Wilmington, Del., on February 23, 1943, caused  
by failure properly to control speed of the following  
train in accordance with signal indication.

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

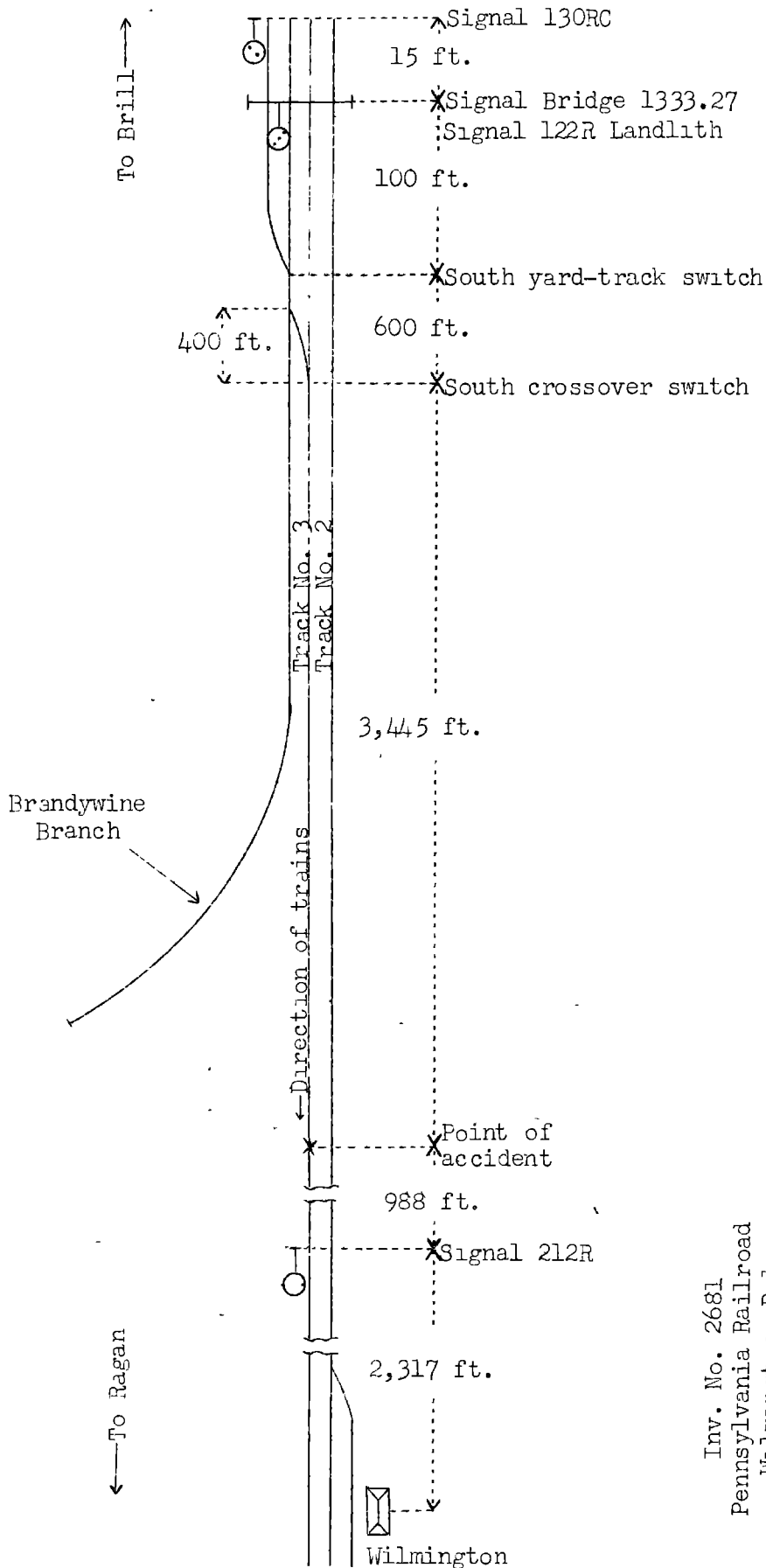
PATTERSON, Commissioner:

On February 23, 1943, there was a rear-end collision between two passenger trains on the Pennsylvania Railroad near Wilmington, Del., which resulted in the injury of 87 passengers, 5 railway-mail clerks, 1 Pullman employee, 6 employees on duty and 2 employees off duty.

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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.

- o Brill, Pa. 17.9 mi.
- o Bellevue, Del. 3.2 mi.
- o Landlith 0.8 mi.
- X Point of accident 0.6 mi.
- o Wilmington 2.7 mi.
- o Ragan, Del.



Inv. No. 2681  
 Pennsylvania Railroad  
 Wilmington, Del.  
 February 23, 1943

Location of Accident and Method of Operation

This accident occurred on that part of the Maryland Division extending between Brill, Pa., and Ragan, Del., 25.2 miles. In the immediate vicinity of the point of accident this is a double-track line over which trains are operated in either direction by operating rules and signal indications. The tracks from west to east are track No. 3, southward passenger, and track No. 2, northward passenger. At Landlith interlocking, 1.4 miles north of the station at Wilmington, the Brandywine Branch parallels track No. 3 on the west. A trailing-point crossover connects track No. 3 with the Brandywine Branch. The north and south switches of this crossover are located, respectively, 300 and 700 feet south of Landlith interlocking signal bridge 1333.27. A yard track extending northward from a switch located 100 feet south of signal bridge 1333.27 parallels the Brandywine Branch on the west. The accident occurred within interlocking limits on track No. 3 at a point 4,145 feet south of signal bridge 1333.27 and 3,305 feet north of the station at Wilmington. From the south crossover-switch southward on track No. 3 there is a tangent 3,445 feet to the point of accident and 212 feet beyond. At the point of accident the grade is level.

Signal 130RC, which governs south-bound movements from the yard track to the Brandywine Branch and through the crossover to track No. 3, is located 4,160 feet north of the point of accident. Signals 122R and 212R, which govern south-bound movements on track No. 3, are located, respectively, 4,145 feet north and 988 feet south of the point of accident. These signals are of the position-light type, continuously lighted, and are controlled from the station at Wilmington. The involved aspects and corresponding indications and names of these signals are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
122R	Three white lights, diagonal	Proceed prepared to stop at next signal. Train exceeding medium speed must at once reduce to that speed	Approach
212R	Three white lights, horizontal	Stop	Stop-signal
130RC	Two white lights, diagonal	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:

D-93. On portions of the railroad and within designated limits so specified on the timetable, the main track may be used with the current of traffic by proper signal indication or permission of the operator without protecting against following movements on the same track. Within these limits, trains and engines must move at reduced speed, unless the track ahead upon which the movement is to be made, is known to be clear.

\* \* \*

Brake and train air signal instructions read in part as follows:

43. Back Up Hose-- \* \* \* This is a device, \* \* \*, by means of which the trainman on the leading car is enabled to apply the brakes either in service or emergency applications, \* \* \*

\* \* \*

When cars are pushed by an engine, the trainmen in charge of the movement must know that the air brake and train air signal are coupled through from the front of the leading car to the engine, and in an operative condition; that the Back Up Hose is coupled to the front end of the leading car, and is in good working order. The trainman riding the leading car will then take a conspicuous position on the front end, and signal the engineman by the use of both communicating air signals and hand signals.

The engineman will control the movement in accordance with signals from the trainman on the front end of the leading car.

When necessary to stop, the trainman on the front end of the leading car will signal to the engineman by means of the communicating air signal. If the engineman does not quickly respond to this signal, the trainmen will be held responsible for stopping the movement at once by opening cut out cock; also to stop the movement in emergencies.

\* \* \*

When the train air signal is inoperative, or when \* \* \* not equipped with the train air signal \* \* \* be governed by hand signals only. When the stop signal is not acted on promptly by the engineman, the trainmen on the front end of the leading car must stop the train (apply the brakes) by the use of valve \* \* \*.

Time-table instructions read in part as follows:

2410. Rule D-93 in effect as follows:

Main Line--Between Ragan and Bellevue.

\* \* \*

Ragan and Bellevue are, respectively, 2.7 miles south and 4.6 miles north of Wilmington.

### Description of Accident

No. 457, a south-bound first-class passenger train, consisted of engines 3677, one baggage car, one express car, two mail cars, one baggage-mail car, five coaches and one Pullman sleeping car, in the order named. All cars were of steel construction. This train, moving on track No. 3, passed Bellevue, the last open office, at 11:26 p. m., according to the station record of train movements, 18 minutes late, passed signal 122R, which displayed approach, and stopped about 11:32 p. m. with the rear end standing 988 feet north of signal 212R. About 3 minutes later the rear end was struck by Extra 5193 South.

Extra 5193 South consisted of two coaches, of steel construction, and engine 5193, headed north, in the order named. The coaches were occupied by passengers and were to be coupled to the rear end of No. 457 at Wilmington. Soon after No. 457 passed Landlith, Extra 5193 departed southward on the yard track, passed signal 130RC, which displayed proceed-at-restricted-speed, entered the Brandywine Branch, then proceeded through the crossover to track No. 3 and while moving at a speed of about 20 miles per hour it struck No. 457 at a point 4,160 feet south of signal 130RC.

The rear six cars of No. 457 were considerably damaged. The front truck of the first car was derailed. The rear end of the tender of engine 3677, the first car and the third car were slightly damaged. Both cars of Extra 5193 and the tender and the cab of the engine were considerably damaged. The rear truck of the car next to the engine was derailed.

It was clear at the time of the accident, which occurred about 11:35 p. m.

The employees injured were the conductor, the baggageman and the fireman of No. 457, and the conductor, the engineer, the fireman of Extra 5193, and a fireman and a brakeman who were deadheading on engine 5193.

### Discussion

The rules governing operation in this territory provide that movements in either direction on the main tracks may be made when authorized by proper signal indication. Flagging protection against following movements is not required. Trains moving under authority of a proceed-at-restricted-speed indication must not exceed a speed of 15 miles per hour and must be prepared to stop short of a train or obstruction. When cars



are pushed by an engine, a back-up hose must be connected to the air-brake hose at the front end of the first car. The trainman on the front car must stop the movement, when necessary, by the use of the valve on the back-up hose.

About 3 minutes after No. 457 had stopped in compliance with a stop indication displayed by signal 212R, its rear end was struck by Extra 5193 South. Under the rules, No. 457 was not required to provide flag protection. Extra 5193 was moving under authority of a proceed-at-restricted-speed indication displayed by signal 130RC and was required to stop short of any obstruction.

Extra 5193 consisted of two coaches, which were being pushed ahead of the engine. The engine was in backward motion. The air brakes had been tested previously and functioned properly. The crew consisted of the conductor, the engineer and the fireman. These employees understood that the indication displayed by signal 130RC required the speed of their train to be so controlled that it could be stopped short of any obstruction. The engine was not equipped with a train air-signal whistle, and the conductor, who was at the south end of the first car, was required to control the movement either by hand signals or by the use of the valve of the back-up hose. The enginemen said they were maintaining a lookout toward the front of their train, which was moving at a speed of about 20 miles per hour. No hand signals were given and the first they knew of anything being wrong was when the collision occurred. The conductor said that because some passengers were on the platform of the front vestibule of the first car, he had closed the trap doors and the left vestibule door, and was holding the right vestibule door slightly open. From this position he was maintaining a lookout ahead. He saw the lighted markers of No. 457 but because the headlight of a north-bound train moving on track No. 2 obscured his vision he did not observe that No. 457 was stopped until his train was about 350 feet north of it. He immediately opened the right vestibule door and attempted to reach the valve of the back-up hose, which was hooked to the vertical handhold on the post of the right front vestibule door, but because the valve was suspended below the level of the trap door he was unable to reach it. Then he entered the coach in an effort to apply the brakes by opening the conductor's valve, but the accident occurred before he had reached the location of the valve.

The coach involved was equipped with standard safety end-gates. The valve of the back-up hose could have been attached to the front end-gate instead of the handhold, and it would have been accessible to the conductor from his position in the

coach. If the valve of the back-up nose had been placed in an accessible location, Extra 5193 could have been stopped in time to avert this accident.

Cause

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

Dated at Washington, D. C., this fourteenth day of April, 1943.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.