

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3234
THE PENNSYLVANIA RAILROAD COMPANY
REPORT IN RE ACCIDENT
AT BURGETTS, PA., ON
FEBRUARY 19, 1949

SUMMARY

Railroad: Pennsylvania
Location: Burgetts, Pa.
Date: February 19, 1949
Kind of accident: Rear-end collision
Trains involved: Freight : Passenger
Train numbers: Extra 6737 West : 11
Engine numbers: 6737 : Diesel-electric
units 5841A
and 5861A
Consists: Caboose : 14 cars
Speeds: Standing : 38 m. p. h.
Operation: Automatic block and cab-signal
systems
Tracks: Three; 2°30' curve; 1 percent
descending grade westward
Weather: Clear
Time: 10:20 a. m.
Casualties: 26 injured
Cause: Failure to operate following train
in accordance with signal
indications

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3234

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

THE PENNSYLVANIA RAILROAD COMPANY

April 13, 1949

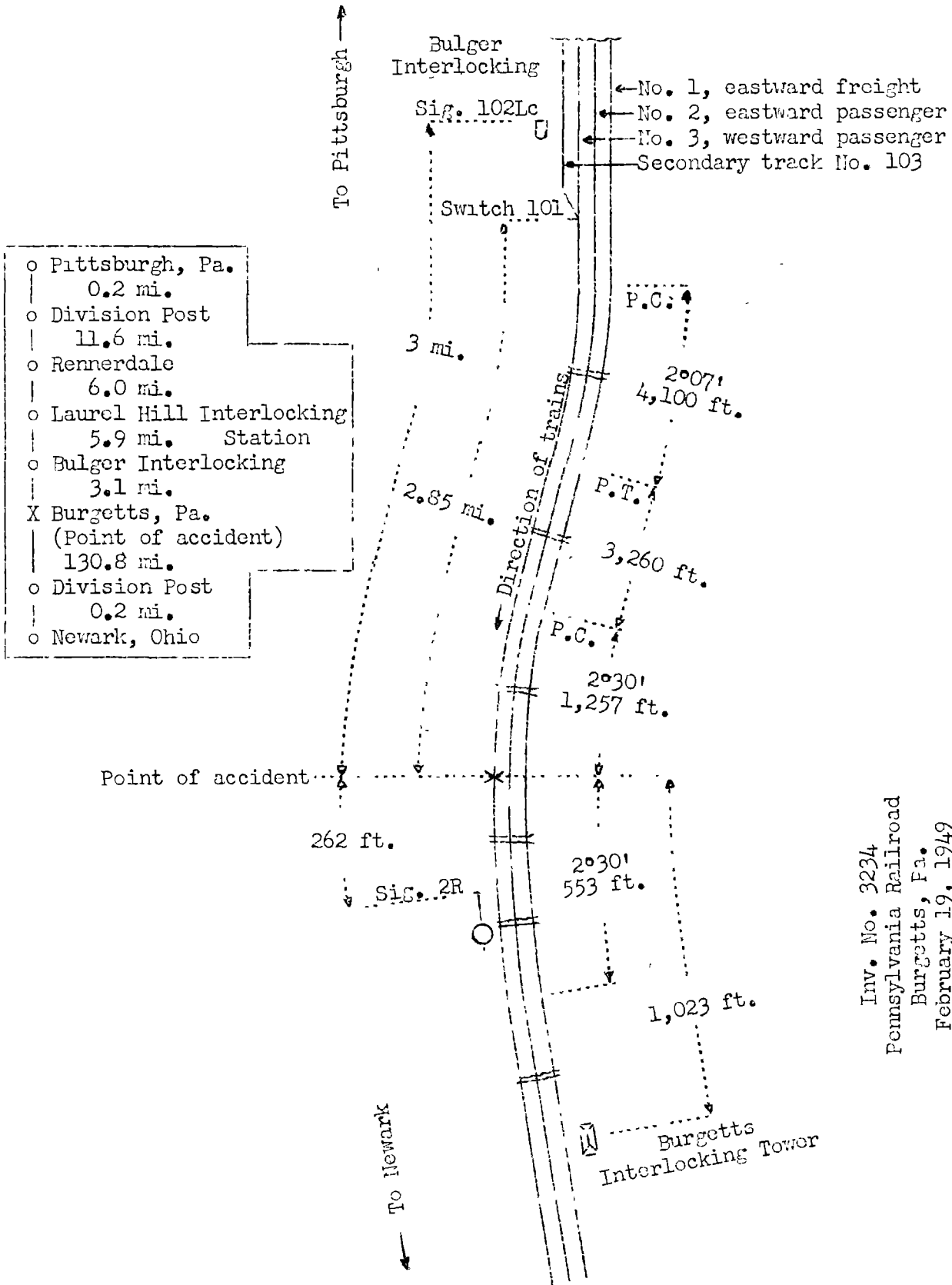
Accident at Burgetts, Pa., on February 19, 1949, caused
by failure to operate the following train in
accordance with signal indications.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On February 19, 1949, there was a rear-end collision between a freight train and a passenger train on the Pennsylvania Railroad at Burgetts, Pa., which resulted in the injury of 15 passengers, 8 railway-mail clerks and 2 train-service employees. This accident was investigated in conjunction with a representative of the Pennsylvania Public Utility Commission.

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.



- o Pittsburgh, Pa. 0.2 mi.
- o Division Post 11.6 mi.
- o Rennerdale 6.0 mi.
- o Laurel Hill Interlocking Station 5.9 mi.
- o Bulger Interlocking 3.1 mi.
- X Burgetts, Pa. (Point of accident) 130.8 mi.
- o Division Post 0.2 mi.
- o Newark, Ohio

Inv. No. 3234
 Pennsylvania Railroad
 Burgetts, Pa.
 February 19, 1949

Location of Accident and Method of Operation

This accident occurred on that part of the Panhandle Division extending between Division Post, Pittsburgh, Pa., and Division Post, Newark, Ohio, 157.4 miles. In the vicinity of the point of accident, this is a three-track line, over which trains moving with the current of traffic are operated by automatic block-signal and cab-signal indications. The main tracks from south to north are designated as No. 1, eastward freight, No. 2, eastward passenger, and No. 3, westward passenger. Between Laurel Hill and Bulger interlocking stations, located, respectively, 17.8 and 23.7 miles west of Pittsburgh, secondary track No. 103, for west-bound movements, parallels the main tracks on the north. The east switch of this track connects with track No. 3 within the limits of Laurel Hill interlocking, and the west switch connects with track No. 3 within the limits of Bulger interlocking. Track No. 103 is not signaled. The accident occurred on track No. 3 at a point 26.6 miles west of Pittsburgh, and 1,023 feet east of Burgetts Interlocking Tower. From the east there are, in succession, a 2°07' curve to the right 4,100 feet in length, a tangent 3,260 feet and a 2°30' curve to the left 1,257 feet to the point of accident and 553 feet westward. The grade is 1 percent descending westward a distance of 2.82 miles to the point of accident and 173 feet beyond.

Semi-automatic signal 102Lc, governing west-bound movements from track No. 103 to track No. 3 at Bulger interlocking, and semi-automatic signal 2R, governing west-bound movements on track No. 3 at Burgetts interlocking, are, respectively, 3 miles east and 262 feet west of the point of accident. These signals are of the position-light type and they are continuously lighted. Signal 102Lc displays four aspects, and signal 2R displays seven aspects. Signal 102Lc and power-operated switch 101, the west switch of track No. 103, are controlled from Laurel Hill.

The cab signals are of the four-indication position-light type. Each locomotive is equipped with two cab signals, which are so arranged that their aspects may be observed by the enginemen from their accustomed position in the cab. 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>
102Lc	Two amber lights arranged in a diagonal position to the left.	Proceed at Restricted speed.	Restricting.
2R	Three amber lights arranged in a horizontal position.	Stop.	Stop.
Cab Signal	Two white lights arranged in a diagonal position to the left.	Proceed at Restricted speed.	Restricting.

The controlling circuits of signal 102Lc are so arranged that this signal indicates Restricting for a following train to enter the occupied block of the signal. The cab signals of a following train are arranged to indicate Restricting while that train is moving in an occupied block.

This carrier's operating rules read in part as follows:

DEFINITIONS

Cab Signal--A signal located in enginemen's compartment or cab indicating a condition affecting the movement of a train or engine.

Fixed Signal--A signal of fixed location indicating a condition affecting the movement of a train or engine.

Restricted Speed--Not exceeding 15 miles per hour prepared to stop short of train, obstruction * * *

Use of Signals

35. The following signals will be used by flagmen:

Day Signals--A red flag, torpedoes and fuses.

* * *

Movement of Trains

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 fuses.

* * *

When conditions require, he will leave the torpedoes and a lighted fusee.

* * *

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.

SIGNAL RULES

Movement of Trains in the Same Direction by Block Signals

251. On portions of the railroad and on designated tracks so specified on the time-table, trains will run with reference to other trains in the same direction by block signals whose indications will supersede the superiority of trains.

Cab Signals

295. Cab signal aspects, indications and names correspond to those shown for fixed signals * * *

Automatic Block System

501. Block signals, cab signals or both govern the use of the blocks but unless otherwise provided, do not supersede the superiority of trains nor dispense with the use and the observance of other signals whenever or wherever they may be required.

* * *

514. When cab signal indication changes to Restricting, a train or engine must reduce speed at once to not exceeding Restricted speed.

Supplemental instructions to operating, signal and interlocking rules read in part as follows:

Engine and Train Crews Calling Signal Indication to Each Other by Name

4045 * * * all members of engine and train crews must, when practicable, communicate to each other by its name the indication of each signal affecting the movement of their train or engine.

The maximum authorized speed was 60 miles per hour for the passenger train.

Description of Accident

Extra 6737 West consisted of engine 6737 and a caboose. At 10:07 a. m. this train stopped at signal 2R, which indicated Stop. About 13 minutes later and while standing at that location, it was struck by No. 11.

No. 11, a west-bound first-class passenger train, consisted of Diesel-electric units 5841A and 5861A, coupled in multiple-unit control, eight mail-storage cars, one baggage-mail car, one mail-storage car, two coaches, and two mail-storage cars, in the order named. The first to the eleventh cars, inclusive, were of standard steel construction and the remainder were of lightweight steel construction. This train departed from Pittsburgh at 9:35 a. m., 25 minutes late, and passed Laurel Hill, the last open office, at 10:07 a. m., 27 minutes late, where it was diverted to track No. 103. This train passed signal 102Lc, which indicated Restricting, entered track No. 3 at switch 101, passed the flagman of Extra 6737 West, and while moving at a speed of 38 miles per hour it struck the caboose of Extra 6737 West.

The force of the impact moved engine 6737 westward a distance of about 260 feet, and it stopped on its left side and fouled track No. 2. The tender remained coupled to the engine and leaned at an angle of approximately 60 degrees to the south. The engine and the tender were considerably damaged. The caboose telescoped the cistern of the tender, and it was demolished.

Both units of the Diesel-electric locomotive and the first three cars of No. 11 were derailed, but remained upright and in line with the track. They were slightly damaged.

The engineer and the conductor of No. 11 were injured.

The weather was clear at the time of the accident, which occurred at 10:20 a. m.

Discussion

At 10:07 a. m. Extra 6737 West stopped 262 feet east of signal 2R at Burgetts. This signal was indicating Stop, because the block was occupied by a preceding train. When Extra 6737 West stopped at Burgetts the engineer and the fireman were in the cab of the engine and the train crew were in the caboose. The independent brake was applied. The flagman obtained flagging equipment and proceeded eastward to provide protection. About 10:19 a. m. the preceding train cleared the limits of the interlocking at Burgetts. At that time the flagman had reached a point about 700 feet east of the caboose. He observed a west-bound train approaching on track No. 3, and gave stop signals with a red flag. Immediately before the engine passed the flagman, the engineer of the approaching train sounded the pneumatic horn. The conductor of Extra 6737 West first saw the approaching train at a distance of about 500 feet. He and the front brakeman alighted from their caboose immediately before the collision occurred.

No. 11 departed from Pittsburgh at 9:35 a. m., 25 minutes late. At Rennerdale, 11.8 miles west of Pittsburgh, the fireman observed that the steam pressure of the train-heating system was about 200 pounds, and he proceeded to the engine room to make necessary adjustments. Soon afterward he returned to the control compartment at the front of the first unit. This train was diverted to track No. 103 at Laurel Hill. The governing signal indicated Restricting. The operator at Laurel Hill signaled with a green flag, which signal indicated to the enginemen that the secondary track was unoccupied. Soon afterward, the fireman observed that the steam pressure had risen to about 250 pounds. He so informed the engineer, and again proceeded to the engine room. The engineer observed that signal 102Lc at Bulger indicated Restricting. The speed of the train was reduced from 35 miles per hour to about 14 miles per hour while it was passing through the turnout to track No. 3. After the train had entered track No. 3 from track No. 103, the fireman returned from the engine room and informed the engineer that he was unable to make necessary adjustments. The engineer said he then thought that

steam was not being transmitted to the cars in the train, and both he and the fireman inspected the train to see if steam were escaping from between the cars. When the engineer satisfied himself that steam was being transmitted to the cars of the train, he observed that the speedometer was registering 60 miles per hour. He then made a service brake-pipe reduction, which was released when the speed had been reduced to 45 miles per hour. At that time he saw the caboose of the preceding train, looked at the cab signal, which indicated Restricting, placed the brake valve in the emergency position and sounded the pneumatic horn. The collision occurred immediately afterward. The brakes of this train had been tested at Pittsburgh and had functioned properly where used en route. Both the engineer and the fireman said that they did not observe the cab signals from the time their train passed Bulger to the time the engineer observed the caboose of Extra 6737 West at Burgetts. No member of the train crew was aware of anything being wrong until the brakes were applied in emergency.

The rules of this carrier provide that when trains are operating under automatic block-signal rules, as in the present case, the flagman is required to go back only a sufficient distance to provide protection against a following train moving under a signal indication requiring it to proceed at Restricted speed. The rules also provide that a train moving under a wayside or cab signal indicating Restricting must not exceed a speed of 15 miles per hour, and that the speed must be so controlled that the train can be stopped short of a train or obstruction. However, the tape of the speed-recording device with which the leading Diesel-electric unit of No. 11 was equipped indicated that the train was moving at a speed of 38 miles per hour when the collision occurred.

Cause

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

Dated at Washington, D. C., this thirteenth day of April, 1949.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.