

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3316

THE PITTSBURGH AND LAKE ERIE
RAILROAD COMPANY

IN RE ACCIDENT

NEAR MCKEE'S ROCKS, PA., ON

MARCH 21, 1950

SUMMARY

Date: March 21, 1950

Railroad: Pittsburgh and Lake Erie

Location: McKees Rocks, Pa.

Kind of accident: Rear-end collision

Equipment involved: Passenger train : Engine

Train number: 86 :

Engine numbers: Diesel-electric : 206
unit 4207

Consist: 7 cars :

Speed: Standing : 22 m. p. h.

Operation: Signal indications

Tracks: Four; tangent; 0.16 percent
ascending grade eastward

Weather: Cloudy .

Time: 9:11 p. m.

Casualties: 1 killed; 43 injured

Cause: Failure to operate following
movement in accordance with
a signal indication

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3316

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

THE PITTSBURGH AND LAKE ERIE RAILROAD COMPANY

May 17, 1950

Accident near McKees Rocks, Pa., on March 21, 1950, caused
by failure to operate the following movement in
accordance with a signal indication.

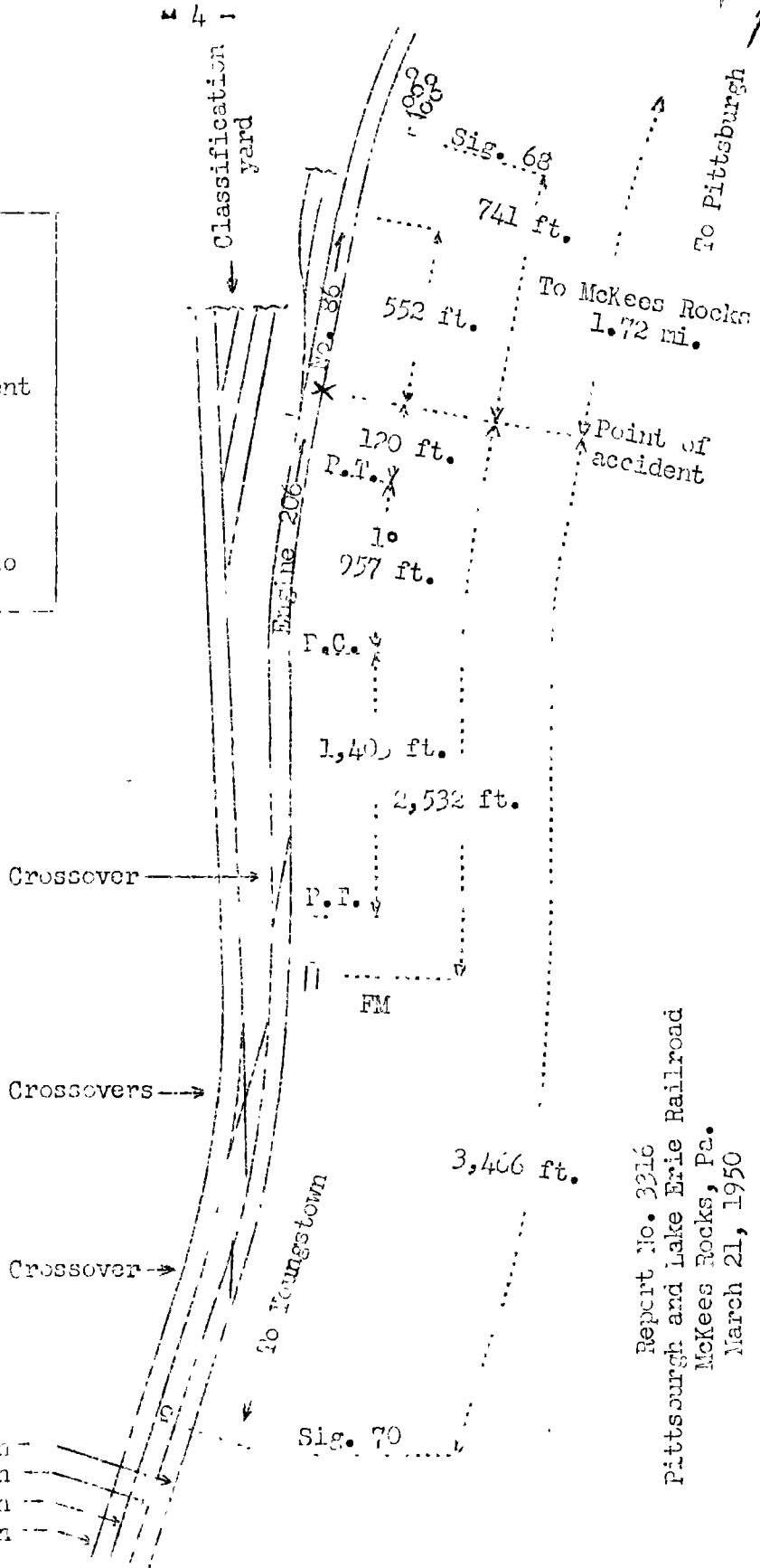
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On March 21, 1950, there was a rear-end collision between a passenger train and an engine on the Pittsburgh and Lake Erie Railroad near McKees Rocks, Pa., which resulted in the death of 1 dining-car employee, and the injury of 30 passengers, 1 employee not on duty, 1 Pullman employee, 4 dining-car employees, and 7 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. | 3.50 mi.
- o McKees Rocks | 1.72 mi.
- X Point of accident | 0.48 mi.
- o FM | 41.60 mi.
- o New Castle, Pa. | 17.60 mi.
- o Youngstown, Ohio



- Track No. 1, eastward main
- Track No. 2, eastward main
- Track No. 3, westward main
- Track No. 4, westward main

Report No. 3216
 Pittsburgh and Lake Erie Railroad
 McKees Rocks, Pa.
 March 21, 1950

Location of Accident and Method of Operation

This accident occurred on that part of the P. & L. E. Division extending between Youngstown, Ohio, and Pittsburgh, Pa., 64.9 miles. In the vicinity of the point of accident this is a four-track line, over which trains moving with the current of traffic are operated by an automatic block-signal system supplemented by an intermittent inductive automatic train-stop system. The main tracks from south to north are designated as No. 1, eastward main; No. 2, eastward main; No. 3, westward main; and No. 4, westward main. Within interlocking limits at FM, 59.2 miles east of Youngstown, trailing-point crossovers connect tracks Nos. 3 and 2, and tracks Nos. 2 and 1. Interlocking limits on track No. 1 extend eastward a distance of 935 feet from the interlocking station. The accident occurred within yard limits on track No. 1, at a point 2,552 feet east of FM interlocking station and 1.72 miles west of the station at McKees Rocks. In the immediate vicinity of the point of accident, the tracks of a classification yard are located between tracks Nos. 2 and 3. From the west on track No. 1 there are, in succession, a tangent 1,400 feet in length, a 1° curve to the right 937 feet, and a tangent 120 feet to the point of accident and 552 feet eastward. The grade is 0.16 percent ascending eastward.

Interlocking signal 70, governing east-bound movements from track No. 3 through the routes of FM interlocking, and automatic signal 68, governing east-bound movements on track No. 1, are located, respectively, 3,456 feet west and 741 feet east of the point of accident. Signal 70 is a dwarf signal of the color-light type. It displays two aspects and is continuously lighted. Signal 68 is of the three-unit color-light type. It displays five aspects and is approach lighted. The aspects applicable to this investigation and their corresponding indications are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>
70	Yellow	Proceed at Restricted Speed.
68	Green-over-red staggered	Proceed.

The controlling circuits of signal 70 are so arranged that this signal indicates Proceed at Restricted Speed when the route is lined for an east-bound movement from track No. 3 through the interlocking whether the track in advance of the signal is occupied or unoccupied.

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

17. * * *

When an engine is running backward a white light must be displayed by night on the rear of the tender.

55. The following signals will be used by flagmen:

* * *

Night signals--A red light,
A white light,
Torpedoes,
Fuses.

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 recalled and safety to the train will permit, he may return.

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

* * *

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 fuses 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.

102a. When a train is * * * stopped suddenly by an emergency application of the brakes * * * adjacent tracks * * * that are liable to be obstructed must at once be protected until it is ascertained they are safe and clear for the movement of trains.

SIGNAL DEFINITIONS.

Slow Speed.--A speed not exceeding fifteen miles per hour.

Restricted Speed.--A speed not exceeding that which will enable a train to stop short of train ahead, obstruction, or switch not properly lined, look out for broken rail, and not exceeding slow speed.

PASSENGER BRAKEMEN.

917. The proper place for the rear brakeman, while the train is in motion, is at the rear of the train, except when the rear car is a private or business car, or occupied observation car, he will ordinarily ride in the next car forward.

Timetable special instructions read in part as follows:

19. MARKERS.

On passenger, mail, express and milk trains * * * a RED light by night will be used to indicate the rear of the train.

* * *

93. YARD LIMITS.

* * *

Within yard limits, the main tracks may be used, protecting against all trains and engines * * *

* * *

99. PROTECTION OF TRAINS.

* * *

When main track is used, protection must be provided against all trains and engines * * *

* * *

The maximum authorized speed for the passenger train was 70 miles per hour, but it was restricted to 65 miles per hour in the vicinity of the point of accident. The maximum authorized speed for the engine in backward motion was 20 miles per hour.

Description of Accident

No. 86, an east-bound first-class passenger train, consisted of Diesel-electric unit 4207, one baggage car, two coaches, one dining car, one coach, one sleeping car, and one baggage car, in the order named. All cars were of steel construction. This train passed FM interlocking on track No. 1 at 9:08 p. m., 5 minutes late, and stopped with the rear end 2,532 feet east of FM interlocking station. About 2 minutes later it was struck by engine 206.

Engine 206, headed westward, stopped on track No. 3 at signal 70 at 9:03 p. m. After No. 86 passed through the interlocking, the operator lined the route for engine 206 to move eastward through the interlocking to track No. 1. The engine immediately moved eastward, passed signal 70, which indicated Proceed at Restricted Speed, entered track No. 1, and while moving at a speed of 22 miles per hour it struck the rear end of No. 86.

No. 86 was moved eastward a distance of 38 feet by the force of the impact. The east truck of the rear car and the east pair of wheels of the west truck of the second rear car were derailed. A separation occurred between these cars, and both cars were badly damaged. The other cars of the train were slightly damaged. The tender of engine 206 was somewhat damaged.

The conductor, the ticket collector, the baggageman, and a student fireman of No. 86, and the engineer and the fireman of engine 206 were injured.

The weather was cloudy at the time of the accident, which occurred about 9:11 p. m.

Discussion

Extra 194 East, an east-bound freight train consisting of engine 194, 99 cars, and a caboose, was diverted from track No. 1 to track No. 2 at FM and passed that station at 8:49 p. m. The engineer initiated a service brake application as the train approached McKees Rocks, and an undesired emergency brake application occurred. The train stopped with the rear end about 3,000 feet east of FM interlocking station. The conductor immediately proceeded toward the front of the train to ascertain whether track No. 1 was obstructed, and the flagman proceeded westward to provide protection against east-bound movements. When the flagman reached a point about 900 feet west of the rear of his train, he observed that No. 86 was approaching. He gave stop signals with a fusee, and No. 86 stopped with the front end 134 feet west of signal 68, which indicated Proceed, and the rear end 2,532 feet east of FM interlocking station. The flagman then proceeded toward the front end of No. 86 to warn the engineer that track No. 1 might be obstructed. Before he reached the front end of the train, the rear end was struck by engine 206.

As No. 86 was approaching the point where the accident occurred, the engineer, the fireman, and a student fireman were in the control compartment at the front of the Diesel-electric unit, the brakeman was in the third car, the flagman was in the fifth car, and the conductor was in the sixth car. When the train stopped, the conductor proceeded through the train toward the front end, and the flagman proceeded to the rear of the sixth car. After obtaining flagging equipment, which was in the rear vestibule of the sixth car, the flagman alighted on the south side of the train and proceeded westward. The collision occurred before he had reached the rear end of the train. None of the members of the crew of No. 86 observed the approach of engine 206.

When No. 86 stopped, three members of a yard crew were in the vicinity of the rear end of the train and on the north side of track No. 2. A short time after No. 86 stopped, they observed that engine 206 was approaching at a speed which indicated that the engine probably would collide with the rear end of No. 86. Two members of the crew immediately gave stop signals with white lanterns. The third member of the crew ran toward the approaching engine and gave stop signals with a red lantern. He had reached a point about 175 feet west of the rear end of No. 86 when engine 206 passed.

About 8:55 p. m. Extra 206 West, a west-bound freight train, stopped on track No. 3 between McKees Rocks and FM. Engine 206 was detached from the train, moved westward through FM interlocking, and stopped on track No. 3 west of signal 70, which was indicating Stop. After No. 86 passed through the interlocking, the operator lined the route for engine 206 to move eastward from track No. 3 to track No. 1, en route to the engine-house at McKees Rocks. As soon as signal 70 indicated Proceed at Restricted Speed, the fireman and the front brakeman called the indication to the engineer. The engine then moved eastward and entered track No. 1. The engineer and the fireman were maintaining a lookout in the direction of movement from their respective positions on the engine, and the front brakeman was seated behind the fireman. A white light was displayed at the rear or leading end of the tender. After the engine entered the curve to the right immediately west of the point of accident, the tender, which was about 37 feet in length and 11 feet 6 inches in height, obscured the view of the track ahead from the engineer's side of the cab, and it was necessary that the engineer depend upon the fireman to maintain a lookout in the direction of movement. When the engine reached a point about 1,550 feet east of FM interlocking station, the fireman and the front brakeman called the indication of signal 68, which indicated Proceed. No. 86 was then standing on track No. 1 west of signal 68, but the rear end was not at that time visible to the employees on engine 206. The engineer of engine 206 first observed the stop signals given by the members of the yard crew when the engine was closely approaching these employees. When he observed these signals, he placed the brake valve in emergency position. The collision occurred a few seconds later.

The rear car of No. 86 was a baggage car, and the flagman had placed his flagging equipment in the rear vestibule of the sixth car. Flag protection was not required on the station tracks at Pittsburgh, and it was customary for the flagman, when instructed by the conductor, to assist passengers from the train at that point. When the train was in the vicinity of FM, the flagman proceeded into the fifth car to ascertain whether his assistance would be required on arrival at Pittsburgh. After the train stopped, it was necessary for him to go back to the rear of the sixth car to obtain flagging equipment before he alighted from the train. A number of passengers with their luggage were in the aisle of the sixth car making preparations to leave the train at Pittsburgh, the next scheduled stop, and the flagman was delayed in making his way through the car. He did not alight from the car until a few seconds before the collision occurred.

The red lantern which was used as a marker on No. 86 was broken as a result of the collision. The employees who had an opportunity to observe this lantern immediately prior to the time of the collision were not positive that it was lighted. The fireman of engine 206 said he did not see it, and the flagman of Extra 194 East and the members of the yard crew could not recall having observed it. The operator at FM thought that it was lighted when the train passed the interlocking station. The flagman of No. 86 said that it was lighted when the train stopped at New Castle, 42.08 miles west of the point of accident, but he did not have an opportunity to observe it after the train left that station.

In the vicinity of the point of accident, trains moving with the current of traffic are operated by signal indications. The rules provide that when a train stops in this territory under circumstances in which it may be overtaken by another train the flagman must go back immediately a sufficient distance to insure full protection against trains moving at restricted speed. The assistant superintendent said flagmen had been instructed that full protection against trains moving at restricted speed is provided when a flagman is not less than 1,000 feet back of the rear of his train, if conditions are favorable, and further if conditions require. The conductor and the flagman of No. 86 understood that the flagman was required to remain near the rear of the train while it was in motion and to provide protection immediately if it stopped under circumstances in which it might be overtaken by another train.

The fireman of engine 206 said that after the engine passed signal 70 he maintained a constant lookout in the direction of movement but he did not observe stop signals given by anyone before the collision occurred and he did not observe the rear end of No. 86 until after the brakes of his engine were applied. The front brakeman was seated behind the fireman and facing the engineer, from which position he could not maintain a lookout in the direction of movement. The engineer said he was maintaining a lookout in the direction of movement, facing away from the speed indicator, and he did not look at it after the engine departed from FM. He said he thought that the engine was being operated at restricted speed and in accordance with the indication of signal 70. The rules provide that a train may enter a block under authority of a Proceed at Restricted Speed signal indication at a speed not exceeding 15 miles per hour but it must also be so controlled that the train can be stopped

short of a preceding train. According to the tape of the speed recording device, engine 206 had attained a speed of 24 miles per hour when the brakes were applied and the speed was only slightly reduced when the collision occurred.

Cause

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

Dated at Washington, D. C., this seventeenth day of May, 1950.

By the Commission, Commissioner Patterson.

(SEAL)

W. F. BARTEL,
Secretary.