

Inv-2384

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

ACCIDENT OF THE
PENNSYLVANIA RAILROAD

PARITTSBURG, PA.

SEPTEMBER 27, 1930

INVESTIGATION NO. 2384

SUMMARY

Inv-2384

Railroad: Pennsylvania
Date: September 27, 1939
Location: Parkesburg, Pa.
Kind of accident: Rear-end collision
Trains involved: Freight : Freight
Train numbers: Extra 4784 East : Extra 4772 East
Engine numbers: 4784 : 4772
Consist: 61 cars and : 66 cars and
caboose : caboose
Speed: Standing : 10-12 m. p. h.
Operation: Timetable, train orders, and auto-
matic block and cab-signal systems;
train orders and manual block system
for movements against current of
traffic
Track: Double; 4° curve; 0.175 percent
ascending grade eastward
Weather: Misty, with fog pockets
Time: 4:30 a. m.
Casualties: 1 killed, 2 injured
Cause: Failure to provide adequate flag
protection for the first train;
failure to control speed of second
train in compliance with permissive-
block indication

October 27, 1939

To the Commission:

On September 27, 1939, there was a rear-end collision between two freight trains on the Pennsylvania Railroad at Parkesburg, Pa., which resulted in the death of one employee and the injury of two employees.

Location and Method of Operation

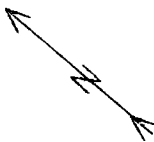
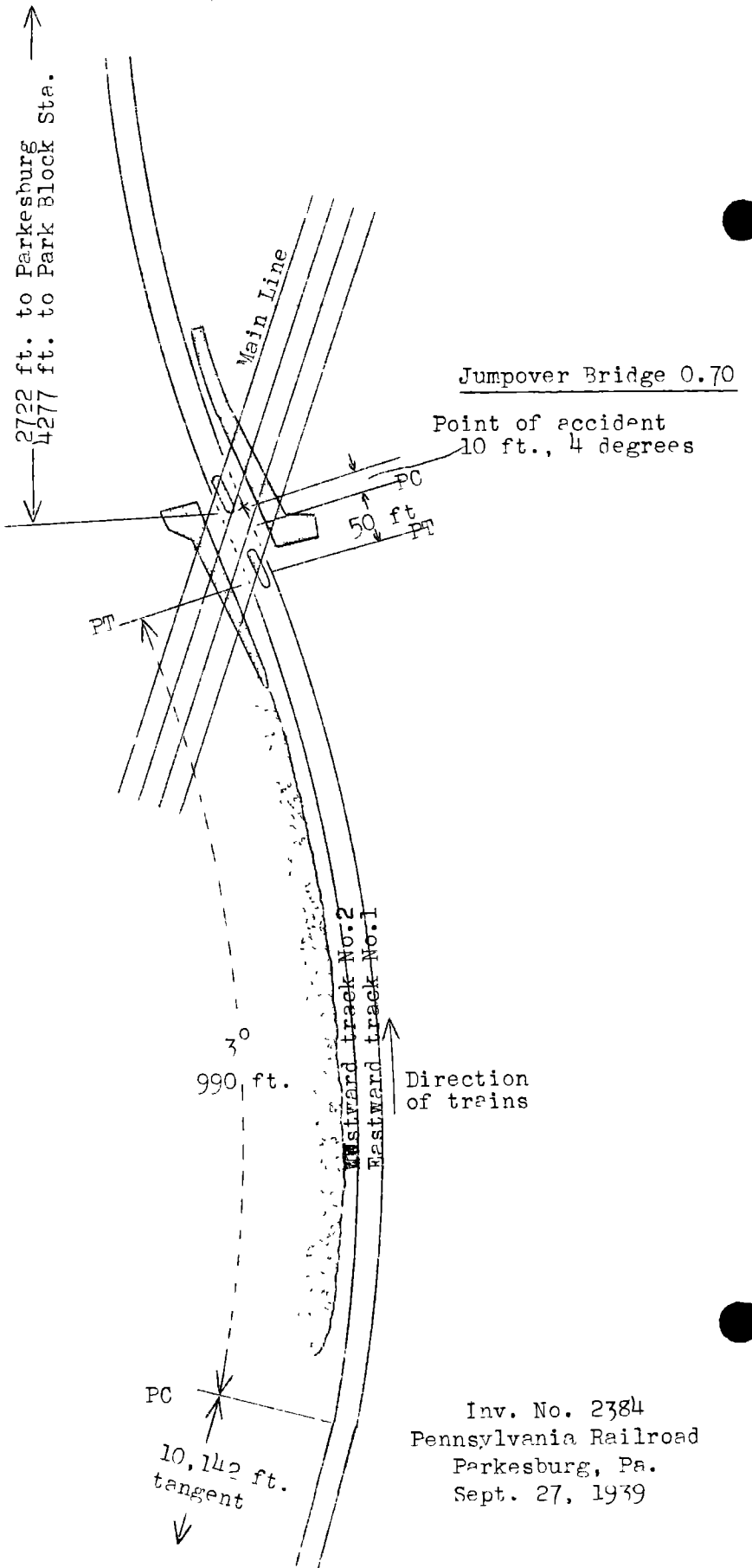
This accident occurred on that part of the Philadelphia Division designated as the Atglen and Susquehanna Branch which extends between Wago Junction and Park block station, Parkesburg, Pa., a distance of 50.6 miles. This line is equipped with an overhead catenary system for electric propulsion of trains. In the vicinity of the point of accident this is a double-track line over which trains are operated by timetable, train orders, and an automatic block and cab-signal system; trains moving against the current of traffic are operated by train orders and a manual block system. The accident occurred on the westward track 2,722 feet west of Parkesburg station. Approaching from the west there is a tangent approximately 1-3/4 miles in length followed in succession by a 3° curve to the left 991 feet in length, a tangent 50 feet in length, over which is Jumpover Bridge C.70, a 4° curve to the right extending 10 feet to the point of accident and approximately 650 feet beyond. The grade for east-bound trains is 0.3 percent ascending on the 1-3/4 miles of tangent and then varies from 0.045 to 0.175 percent ascending to the point of accident. The block in which this accident occurred is 22.2 miles in length and extends between Smith and Park. Both trains involved were being operated eastward on the westward track under train order authority and under these conditions the cab-signal system did not function.

Approaching the point of accident the view is materially restricted by the walls of a rock cut 10.5 to 15 feet high and 10 to 14 feet from the rail on both sides of the track. This cut extends the full length of the 991-foot curve and beyond to the point of accident.

Rules 99 and 280 of the operating rules read in part as follows:

Rule 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. * * * .

o	Park, Pa.
	0.2 mi.
o	Parkesburg
x	Point of accident
	22.2 mi.
o	Smith
	23.2 mi.
o	Shocks
	9.4 mi.
o	Cly
	15.9 mi.
o	Enola, Pa.



Inv. No. 2384
 Pennsylvania Railroad
 Parkesburg, Pa.
 Sept. 27, 1939

When a train is moving under circumstances under which it may be overtaken by another train, the flagman must take such action as may be necessary to insure full protection. By night, or by day when the view is obscured, lighted fuseses must be thrown off at proper intervals. * * * .

Rule 280 describes a permissive-block signal as follows:

Aspect:	Yellow
Name:	Permissive-block-signal
Indication:	For passenger trains stop * * * . For other trains proceed with caution prepared to stop short of train or obstruction.

Rule 317b of the operating rules provides that a train other than a passenger train may follow a train other than a passenger train into a block under a permissive block-signal.

Rule 334 of the operating rules reads in part as follows:

Rule 334: * * * Signalmen will use hand signals for blocking trains moving against the current of traffic.

Special instruction No. D2304 of the current timetable reads in part as follows:

Rule 317b will apply * * * for all movements against the current of traffic.

The maximum authorized speed for freight trains between Smith and Park was 35 miles per hour.

The weather was misty with fog pockets at the time of the accident, which occurred at 4:30 a. m.

Description

Extra 4784 East consisted of 1 empty and 60 loaded cars, and a caboese, hauled by electric locomotive 4784, and was in charge of Conductor Shuler and Engineer Lowery. This train left Harrisburg at 12:55 a. m. and entered the Atglen and Susquehanna Branch at Shocks at 1:37 a. m. At Smith, 23.2 miles east of Shocks, authority was received by train order to operate over the westward track from Smith to Park. It passed Smith at 3:20 a. m., according to the train sheet, and arrived at Park at 4:25 a. m. About five minutes later the rear end was struck by Extra 4772 East.

Extra 4772 East, designated as ET-2, consisted of 63 loaded and 3 empty cars, and a caboose, hauled by electric locomotive 4772, and was in charge of Conductor Wenerick and Enginemen Conklin. This train left Enola at 12:20 a. m., operating over the York Haven Line, passed Cly, 15.9 miles east of Enola, at 12:51 a. m., where it was routed to the Atglon and Susquehanna Branch. At Smith, 31.6 miles east of Cly, authority was received by train order to operate over the westward track, Smith to Park, and a permissive block indication was displayed for this train; it passed Smith at 3:34 a. m., according to the train sheet, and while moving at a speed of 10 to 12 miles per hour collided with the rear end of Extra 4784 East.

The rear end of Extra 4784 East stopped directly under Jumpover Bridge 0.70. The caboose, telescoping the car ahead of it, was demolished and the wreckage was crushed against the stone base of the east center pier of the bridge. The fifty-fourth and fifty-fifth cars were jammed together and the end sills were crushed.

The buffer beam, platform, and steps of the front end of locomotive 4772 were broken and the front cab windows were slightly damaged. The first car telescoped the rear end of this locomotive above the deck a distance of approximately 8 feet. The second and third cars were telescoped and the wreckage became wedged between the west abutment and the center pier of the bridge. The fourth car partially telescoped the cars ahead and the east end of the fifth car was crushed back a distance of 6 feet. All the wrecked equipment stopped practically in line with the track.

The employee killed was the front brakeman of Extra 4772. The employees injured were the engineman and the fireman of Extra 4772.

Summary of Evidence

Engineman Lowery, of Extra 4784 East, stated that at Smith he received a clear block indication and an order giving his train right over opposing trains on the westward track to Park. His train did not stop between Smith and Park. When approaching Park it was raining and foggy and he permitted his train to drift at a speed of 5 to 8 miles per hour to the dwarf signal, which was in stop position. The train stopped at Park at 4:25 a. m. and about 5 minutes later the accident occurred.

Fireman Russell and Front Brakeman Miller, of Extra 4784 East, corroborated in substance the testimony of their engineman.

Conductor Shuler, of Extra 4784 East, stated that when passing the last westward automatic signal west of the point of accident the speed of his train was about 35 miles per hour and after clearing the circuit of this signal it assumed a clear position, indicating to him that any following train was at least two signal spaces behind. Three or four minutes after passing this signal his train stopped at Park, at which point the caboose was about 1 mile east of the signal. His flagman had thrown off a lighted fusee when they felt the first run-in of slack, which was the first indication they had that their train might stop at Park. Immediately after stopping, his flagman started back with full flagging equipment and he observed that the fusee which the flagman had thrown off was burning and it seemed to be about 15 car lengths west of the caboose. He then started toward the front end of his train and after walking 15 car lengths he saw the reflection of a headlight in the cut; at this time his flagman was 12 to 14 car lengths west of the caboose. The flagman then lit another fusee and started to run toward the approaching train. He stated that the accident occurred at 4:28 a. m.

Flagman Shoop, of Extra 4784 East, stated that when entering the curve west of the point of accident the speed of his train was 25 to 30 miles per hour; while rounding this curve, the train gave a surge and slackened speed, and he threw off a lighted fusee. His train stopped at 4:25 a. m. and immediately he started back to flag but did not hurry as the fusee was still burning. Before reaching the burning fusee he observed the headlight of an approaching train, and by the time he reached the fusee he was certain that the approaching train was on the same track. He then lighted another fusee and began swinging it with one hand and his lanterns with the other; he received an acknowledgement by one short blast of the whistle. He continued swinging stop signals until after the engine had passed him and at this time he was near the location of the burning fusee. The speed of the train at that time was 25 miles per hour. He stated that the engineman had 30 car lengths in which to stop after coming in sight of his stop signals. He said that the accident occurred at 4:28 a. m. Immediately after the accident occurred he observed that the fusee which he had thrown off was still burning under the seventeenth car of Extra 4772 and he said he was opposite the twenty-first car.

Engineman Conklin, of Extra 4772 East, stated that before leaving Encla a terminal test of the air brakes was made and that the brakes functioned properly en route. At Smith he received an order giving his train right over opposing trains on the westward track to Park and he received

a permissive-block indication from the operator by means of a yellow-lantern hand-signal. He said that it was misty but the visibility was good. He had not seen the markers of the train ahead. The first sign of a preceding train was just after entering the curve west of the point of accident when he and the fireman saw the reflection of a fusee. Before entering the curve he had shut off the current and had made a light application of the independent brake, which checked the speed of his train to 15 miles per hour when entering the curve. He said that immediately after seeing the reflection of the fusee he saw the flagman of Extra 4784 swinging his lanterns and it appeared to him that the flagman then lighted another fusee and swung it from about the same location as the fusee on the track. Immediately after seeing the flagman he applied the air brakes in emergency, held the sander on as long as possible, and then got off the locomotive before striking the train ahead. The speed of his train was 10 or 12 miles per hour at the time of the collision. He said that, since he had not seen the rear end of the preceding train after passing Smith, he thought that if this train were stopped at Park the flagman would have had time to go back to a point where he could be seen from the tangent track.

Fireman Gingrich, of Extra 4772 East, stated that when entering the curve west of the point of accident the speed of his train was 25 miles per hour; he saw the reflection of a fusee in the cut and shortly afterward saw the flagman's lanterns at a point which he thought was a short distance east of the fusee on the track. He called these signals to his engineman and then got off, at which time the speed of his train was between 20 and 25 miles per hour. He said that when he first saw the flagman, the latter was about 15 car lengths west of the caboose and the engine was 10 or 12 car lengths west of the flagman.

Conductor Wenerick, of Extra 4772 East, stated that before leaving Enola an air-brake test was made and the brakes functioned properly en route. There was a light rain between Smith and Park. After the accident, while walking toward the front end of his train, and looking to the rear, he observed that the markers on his caboose could be seen when he was 50 car lengths distant. At the time of the accident he was in the caboose and the first brake application he felt was an emergency application, which was followed in a few seconds by two severe shocks and then a very rough stop; it was then 4:30 a. m. At the time of the emergency application the speed of his train was 20 or 25 miles per hour.

Flagman Sweigert, of Extra 4772 East, corroborated the testimony of Conductor Wenerick.

Train Dispatcher May stated that Extra 4702 East had stalled on the eastward track east of Smith and to expedite traffic he had authorized by train order the movement of Extras 4784 and 4772 on the westward track between Smith and Park.

Operator Trout, on duty at Park block station, stated that he had the route and signal set up for Extra 1014 East on the main line and had to hold Extra 4784 East as these trains used parts of the same route through his interlocking.

Power Directors Rhoads, of Zone 8, and Shultzbarger, of Zone 9, stated that the breakers, over which power is furnished to the section at the point of accident, automatically opened at 4:30 a. m.

Observations of Commission's Inspectors

The Commission's inspectors observed that visibility was considerably restricted by the deep rock cut and the 3^o curve west of the point of accident. The remains of the only fusee that could be found were located 415 feet west of the caboose; from this point the first view to be had by the engineman of an approaching train on the same track was at a point 332 feet west of the fusee, or 747 feet west of the caboose. From a point 332 feet west of the fusee, there was an unobstructed view of the tangent track west of the curve.

Discussion

According to the evidence, an east-bound freight train had stalled on the eastward track east of Smith and to expedite following movements, Extras 4784 and 4772 East were operated by train-order authority over the westward track from Smith to Park. Extra 4772 left Smith under a permissive-block indication, 14 minutes behind Extra 4784. Neither train stopped until reaching Park, where Extra 4784 was stopped at 4:25 a. m. because of conflicting movements on the main line. The preponderance of evidence was to the effect that the accident occurred at 4:30 a. m.

Under the rules the flagman of the preceding train was required to throw off burning fusees, approaching Park, when the speed of his train was reduced; he was also required to go back immediately with flagman's signals after his train stopped. He stated that he was about opposite the twenty-first car of the following train at the time of the accident. This would indicate that he had gone back from the rear of his train only about 840 feet. Had he gone about 200 feet farther west he would have been on tangent track and his signals could have been seen a sufficient distance to enable the engineman

of the following train to stop short of the preceding train. The flagman had not less than 4 minutes at his disposal. Proceeding at a speed of 3 miles per hour, he could have gone back a distance of not less than 1,056 feet, which would have placed him on tangent track. Had the flagman so stationed himself, undoubtedly this accident would have been averted.

Under the rules the following train, on account of operating under a permissive-block indication, was required to proceed with caution prepared to stop short of train or obstruction. The engineman of this train said that the speed of his train was 15 miles per hour when entering the curve on which the accident occurred; however, the preponderance of evidence was to the effect that the speed was between 20 and 25 miles per hour when entering this curve and 10 or 12 miles per hour at the time of the accident. The brakes on this train had been properly tested and they functioned properly en route. The engineman said he thought that if the preceding train stopped at Park the flagman would have time to go back to a point where he could be seen from tangent track. Had the following train been operated in accordance with the permissive-block indication this accident would not have occurred.

All the employes involved in this accident appeared to have a correct understanding of the operating rules applicable to this operation.

Conclusion

This accident was caused by failure to provide adequate flag protection for the preceding train and by failure to control the speed of the following train in compliance with a permissive-block indication.

Respectfully submitted,

S. N. MILLS,

Director.