

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3190
THE PENNSYLVANIA RAILROAD COMPANY
REPORT IN RE ACCIDENT
NEAR PLEASANT GAP, PA., ON
JUNE 22, 1948

SUMMARY

Railroad: Pennsylvania
Date: June 22, 1948
Location: Pleasant Gap, Pa.
Kind of accident: Head-end collision
Equipment involved: Engine with cars : Engine with cars
Engine numbers: 1422 : 1742
Consists: 3 cars, cabooses : 9 cars, cabooses
Speeds: 5 m. p. h. : 15 m. p. h.
Operation: Timetable, train orders and manual-block system; yard limits
Track: Single; 8°39' curve; 0.61 percent descending grade westward
Weather: Cloudy
Time: 4:25 p. m.
Casualties: 2 killed; 5 injured
Cause: Admitting opposing train to occupied manual block under clear-block authority

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3190

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

THE PENNSYLVANIA RAILROAD COMPANY

August 30, 1948

Accident near Pleasant Gap, Pa., on June 22, 1948
caused by admitting an opposing train to an
occupied manual block under clear-block
authority.

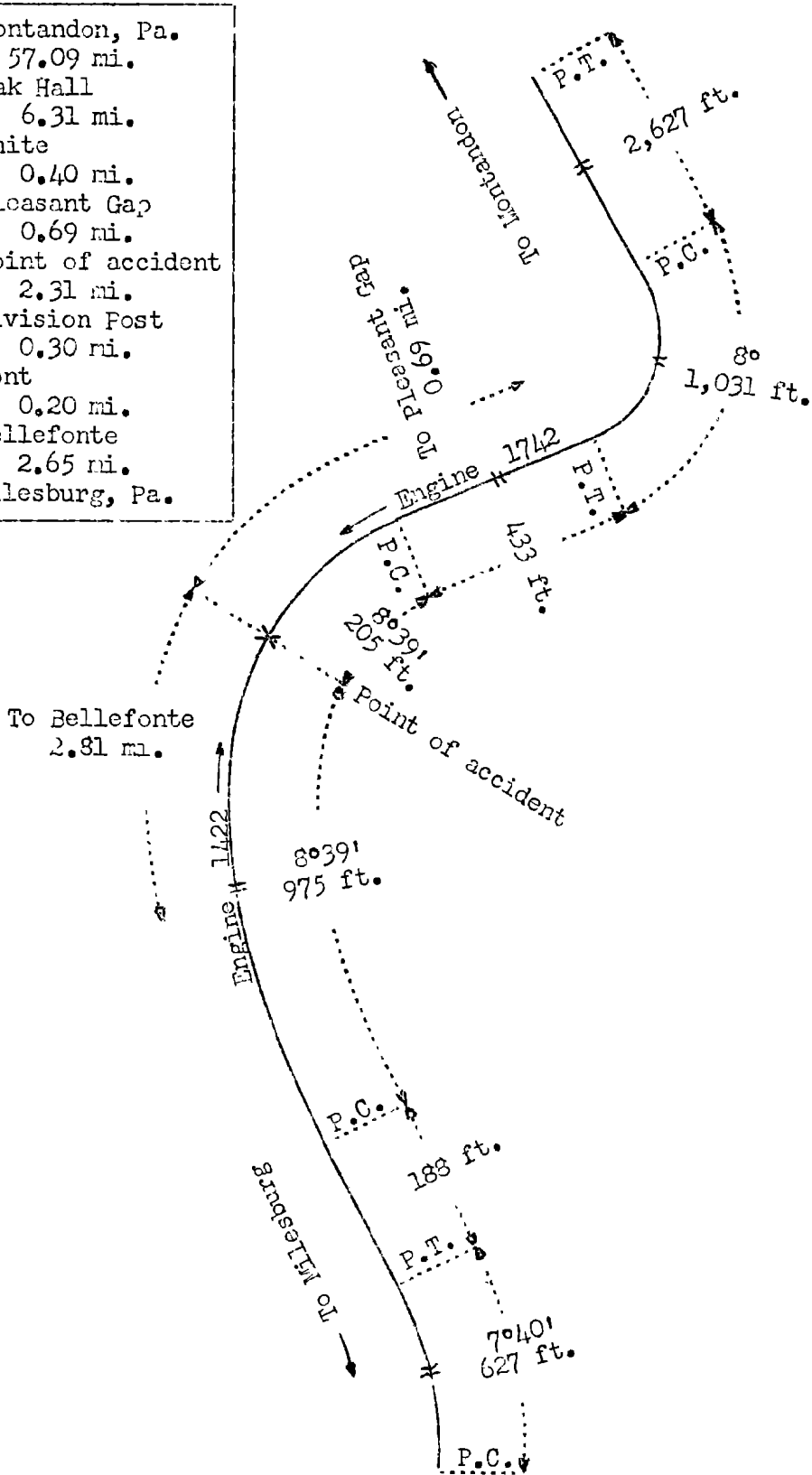
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On June 22, 1948, there was a head-end collision between two yard engines with cars on the Pennsylvania Railroad near Pleasant Gap, Pa., which resulted in the death of two employees and the injury of three 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.

Middle Div.	o	Montandon, Pa.	57.09 mi.
	o	Oak Hall	6.31 mi.
	o	White	0.40 mi.
	o	Pleasant Gap	0.69 mi.
	X	Point of accident	2.31 mi.
	o	Division Post	0.30 mi.
	o	Font	0.20 mi.
	o	Bellefonte	2.65 mi.
	o	Milesburg, Pa.	
	Williamsport Div.	o	Montandon, Pa.
o		Oak Hall	6.31 mi.
o		White	0.40 mi.
o		Pleasant Gap	0.69 mi.
X		Point of accident	2.31 mi.



Inv. No. 3190
 Pennsylvania Railroad
 Pleasant Gap, Pa.
 June 22, 1948

Location of Accident and Method of Operation

This accident occurred on that part of the Williamsport Division extending between Division Post, near Bellefonte, and Montandon, Pa., 66.8 miles, a single-track line, over which trains are operated by timetable, train orders and a manual-block system. The accident occurred on the main track within yard limits at a point 2.81 miles east of Bellefonte and 0.69 mile west of Pleasant Gap. From the west there are, in succession, a 7°40' curve to the left 627 feet in length, a tangent 188 feet and an 8°39' curve to the right 975 feet to the point of accident and 205 feet eastward. From the east there are, in succession, a tangent 2,627 feet in length, an 8° curve to the right 1,031 feet, a tangent 433 feet and the curve on which the accident occurred. The grade is 0.61 percent descending westward. In the immediate vicinity of the point of accident the track is laid on a hillside cut. The cut rises to a height of about 20 feet above the level of the track, is about 24 feet horizontally distant from the centerline of the track, and is covered with vegetation.

The yard limits extend from Milesburg, 3.15 miles west of Division Post, to White, a distance of 6.55 miles. In this territory there are two blocks, one of which extends from Milesburg, an open station, to Font, a block-limit station, 2.85 miles, and the other from Font to White, a block-limit station, 3.7 miles. The accident occurred at a point 2.61 miles east of Font and 1.09 miles west of White. The block-limit station at Font is controlled by the operator in charge of the open block station at Milesburg, on the Middle Division, and the block-limit station at White is controlled by the operator in charge of the open block station at Montandon. The block-limit signal at Font is 7.5 feet north of the main track. The day aspect is the station sign "FONT" lettered in white on a black rectangular signboard 6 inches wide and 24 inches long and mounted vertically on a mast 5.5 feet above the level of the tops of the rails. The night aspect is mounted horizontally on the mast 9 feet 4 inches above the top of the rails, and consists of a metal box 7.5 inches high by 27 inches long in which there are a red lens and a yellow lens facing each direction of traffic. The yellow lens is located next to the track governed. A similar signal is provided at White, located 7.5 feet north of the main track, and bears the word "WHITE" in white letters on a black background. Telephone circuits are provided for control of the various blocks between Milesburg and Montandon. Telephones are connected to the block circuit at White, Font, Bellefonte, and at points 2,357 feet and 3,252 feet west of the block-limit station at Font.

The involved manual-block indications and corresponding names are as follows:

<u>Indication</u>	<u>Name</u>
Proceed; manual block clear.	Clear-block.
Stop.	Stop-signal.

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

DEFINITIONS

* * *

Block Systems

* * *

Manual Block System--A series of consecutive blocks governed by block signals controlled manually or by block-limit signals or both upon information by telegraph, telephone or other means of communication.

Pilot

Pilot--An employe assigned to a train when the engineman, conductor or both are not fully acquainted with the physical characteristics or rules of the railroad, or portion of the railroad, over which the train is to be moved.

S-93. Within yard limits, movements not authorized by time-table schedule or train order may be made on the main track by proper signal indication or permission of the operator without protecting against extra trains or engines.

* * *

Extra trains and engines must move within yard limits prepared to stop short of other yard movements, trains and obstructions unless the main track is known to be clear.

* * *

Note--Where block signal rules are in effect "known to be clear" includes when track is known to be clear by signal indication.

* * *

Manual Block System

Note--Rules 305 to 373 inclusive will not be effective except by special instructions.

305. * * *

At a block-limit station trains will be governed in their use of the block by instructions of the signalman in charge of the block-limit station as indicated on the time-table.

315. A block record must be maintained for each block station and block-limit station.

317. (For absolute block for opposing movements and permissive block for following movements on the same track.)

Before admitting a train to a block under Clear-block signal, the signalman in charge of the block station or block-limit station at the entrance of the block must know that the block is clear of all trains and that no other train has been given permission or a signal to enter the block. * * * The signalman in charge of a block-limit station may give a train at that block-limit station verbal permission to enter one block. The signalman, when authorized by the superintendent, will issue Clearance Card (Form K) to a train to pass one or more block-limit stations as though clear-block signal were displayed.

361b. Unless otherwise provided, trains must stop at block-limit stations and the conductor or engineman must communicate with the signalman in charge as to the condition of the next block. After clearing a block at a block-limit station the conductor, engineman or member of their crew when authorized by the conductor or engineman, must report clear unless otherwise provided.

Clearance Card Form K reads in part as follows:

.....Block Station.....M.,.....19.....

To Conductor and Engineman:

Train.....Engine.....

Proceed at.....

As though.....block signal were displayed.

Do not report clear at.....

.....
Signalman.

The signalman may issue this card only when authorized by the superintendent. Before issuing it, the signalman must have proper understanding with other signalmen, if any, having authority over blocks mentioned, and must know that blocks mentioned above are clear of opposing trains, and clear of trains that may not be followed in the same block by the train addressed.

The conductor and engineman receiving this card properly filled out and signed, or authorized by the signalman to fill it out, may proceed as directed above.

When delivered by telephone, the signalman will show on his office copy the name of the person to whom delivered.

Time-table special instructions read in part as follows:

BELLEFONTE BRANCH

* * *

Block-Limit Stations--Remote controlled by open Block Stations:

Block-Limit Station	Controlled by
* * *	* * *
White Font	Montandon Milesburg
* * *	

MANUAL BLOCK SYSTEM

2801. Rules 505 to 373, inclusive, are in effect as follows, except that Rules * * * 317 will apply only on portions of the Division as specified:

	Track	Between	And
* * *	* * *	* * *	* * *
Bellefonte Branch	Single	Montandon	Bellefonte
* * *	* * *	* * *	* * *

2803. Rule 317 will apply:

On single track portion of the Division * * *.

* * *

Time-table special instructions prescribe the maximum authorized speed for all trains on the curve involved as 20 miles per hour.

Description of Accident

Yard engine 1422, headed east and pulling three cars and a caboose, departed eastward from Bellefonte about 4:12 p. m., passed the block-limit station at Font, as though clear block signal was displayed, and while moving at an estimated speed of about 5 miles per hour it collided with engine 1742 at a point 2.61 miles east of Font and 3,655 feet west of the station at Pleasant Gap.

Yard engine 1742, headed east and pulling a caboose and nine cars westward, entered the main track about 160 feet west of the block-limit station at White and departed westward about 4:20 p. m. While moving at an estimated speed of 15 miles per hour it collided with engine 1422.

Engine 1742, the caboose and the first car of this movement and engine 1422 were derailed but remained in line with the track. Engine 1742 and its tender, and the first car were badly damaged, and the caboose was demolished. Engine 1422 and its tender were badly damaged, and the caboose of this movement was slightly damaged.

The conductor and a brakeman of engine 1742 were killed. The fireman and a brakeman of engine 1742, and the fireman of engine 1422 were injured.

The weather was cloudy at the time of the accident, which occurred about 4:25 p. m.

Discussion

In the territory involved trains are operated by timetable, train orders and a manual-block system. The manual-block system consists of a series of consecutive blocks controlled by operators at open stations, where manually-controlled block signals confer authority for trains to enter a block at the open stations. In addition, there are one or more unattended block-limit stations between open stations, where authority is conferred either orally or by means of clearance card Form K, filled out by the conductor or the engineer when authorized orally by the operator in charge of the block-limit station. Oral authority may be granted at a block-limit station to pass one block-limit station only. Authority to pass more than one block-limit station may be obtained only by clearance card Form K. Block records must be maintained at each block station of all movements within all blocks controlled by the operator at that station. The records must contain the time that block authority is given or received from the next open station, the time the movement departed from a block or block-limit station, the indication displayed, the points between which the movement is being made, and the time the block is cleared. Before any movement is admitted to a block under clear-block authority, the operator in charge of the block must know that the block is clear of all trains, engines or cars, and that no other movement has been granted authority to enter the block. Unless otherwise instructed, the crew of any movement which has cleared a block must report that information to the operator. The yard-limit rule in effect in this territory provides that when any movement is being operated on the main track within yard limits under clear-block authority, such movement is authorized to proceed within yard limits as though the main track is known to be clear of other movements.

At 1:22 p. m. the operator at Milesburg granted block authority to the crew of engine 1742 for that engine to proceed from Font to White and to return to Font as though a clear-block signal was displayed at Font for the east-bound movement and a clear-block signal was displayed at White for the west-bound movement. However, at 2:41 p. m., the conductor of engine 1742 reported by telephone to the operator at Milesburg that engine 1742 was into clear at White to perform switching service on an auxiliary track. At this time the operator at Milesburg annulled to the crew of engine 1742 the return clear-block authority for movement of the engine from White to Font. However, authority for engine 1742 to move from White to Font had not been entered on the Milesburg block record. The block record at Montandon bore proper entry for the round-trip clear-block authority for engine 1742 from Font to White and return to Font, and bore the time of annulment of the westward block authority as 2:45 p. m. The operators concerned said that it was practice of long standing to issue orally round-trip clear-block authority authorizing such movements. About 3:00 p. m. the crew of yard engine 1422 was instructed to move three cars from Bellefonte to Oak Hall, about 6 miles east of the yard-limit sign at White. No member of the crew was qualified for the intended movement east of White, and a pilot was called to take charge of the movement from Bellefonte station to Oak Hall. The pilot who was assigned had operated over this line as a fireman. He had qualified as an engineer, but had not operated an engine over this portion of the railroad. About 3:35 p. m., engine 1422 stopped on the main track at a telephone booth located about 3,200 feet west of the block-limit station at Font, from which point the conductor communicated by telephone with the operator at Milesburg and requested block authority for movement from Font to White. The operator at Milesburg granted authority to proceed from Font as though a clear-block indication was displayed, and the conductor told the operator to record engine 1422 as having departed from Font at 3:40 p. m. The operator at Milesburg and the operator at Montandon each recorded engine 1422 as having departed from Font at 3:40 p. m. About 3:50 p. m. engine 1422 stopped on the main track at Bellefonte, 586 feet west of Font, where the pilot was to take charge of the movement eastward. The pilot was informed by the conductor that clear-block authority for the movement from Font to White had been obtained. However, no train-order had been issued authorizing the movement beyond yard limits east of White, which was required by the rules. The conductor then communicated by telephone with the operator at Montandon, who was in charge of the block-limit station at White, instead of with the operator at Milesburg, who was in charge of the block-limit station at Font, and requested

a train order authorizing the movement east of White. The operator at Montandon then requested an order from the dispatcher. An order was issued and made complete to Montandon at 4:03 p. m. The operator at Montandon then transmitted the order to the conductor of engine 1422. The order was addressed to "C. & E. engine 1422 at White via Montandon." The conductor experienced some difficulty in receiving the order, and before the order was completed, during an intermission in the conversation with the operator, the conductor requested the pilot to handle the remainder of the order, but the operator was not so informed and was not aware, when the order was being repeated, that he was not talking to the conductor, and then made the order complete at 4:10 p. m. The operator was not aware that a pilot had been assigned for the intended movement. The copy of the order in possession of the crew of engine 1422 was addressed to "C and E Eng 1422, at Font; Opr: White via Montandon." During the repetition the operator did not observe that the order was so addressed. At 4:11 p. m., clear-block authority was granted by the operator at Montandon for the movement from White to Oak Hall and return to White. The operator at Montandon said that the person who received the order said to mark the movement by at 4:12 p. m., and, as he did not know that engine 1422 was at Bellefonte but understood that it was at White, he accordingly recorded Extra 1422 East by White at 4:12 p. m. The pilot did not request a clearance card Form K, which was required for authority to enter the block east of White without stopping at that block-limit station for further block authority. Engine 1422 departed eastward from Bellefonte about 4:12 p. m. About 4:17 p. m. the conductor of engine 1742 again communicated by telephone with the operator at Montandon, and requested block authority for movement from White to Font. The operator at Montandon immediately requested block authority from White to Font from the operator at Milesburg. Before the latter operator granted the authority, he reminded the operator at Montandon that engine 1422 had occupied the block at 3:40 p. m., and that he had no record that engine 1422 had cleared the block at White. When informed by the operator at Montandon that engine 1422 had reported clear at White at 4:12 p. m., he granted clear-block authority from White to Font for engine 1742, which departed westward from White at 4:20 p. m.

As a result of the issuance of clear-block authorities to engines 1422 and 1742 to enter the territory between Font and White in opposing movements, these trains collided at a point 2.61 miles east of Font and 1.09 miles west of White.

The view had by the members of the crews on the engines of both trains of the point where the collision occurred was restricted to a distance of about 200 feet. Action to stop their respective trains was taken by the engineers, but the collision occurred before either train could be stopped.

The investigation disclosed that it had been the practice to admit movements to block-limit territory under oral authority to pass two block-limit stations, although the rules require that, after proper authorization by the superintendent, block information will be written in the proper place on a clearance card Form K, when a movement is to be admitted to more than one block. The rules also require that, unless otherwise instructed, trains and engines must report clear of block-limit stations to the operator in charge of such stations. Under the practice of blocking round-trip movements in this territory, movements are not reported clear at the various block-limit stations, and the required entries in the station records as to the arriving and departing times are only approximations. In arranging block authority for a train or an engine to enter a block, the operators at both ends of the territory must confer with each other, and both must have the same information and make proper entries in the station records. In the present instance, when the conductor of engine 1422 requested by telephone that the operator at Milesburg issue block authority to pass the block-limit station at Font and to proceed eastward to White, the conductor said that the operator orally instructed him that engine 1422 could pass the block-limit stations at Font and at White, and could proceed to Oak Hall and return to White as though clear-block signals were displayed at each block-limit station. The operator at Milesburg said that, at this time, after consultation with the operator at Montandon, he issued block authority to engine 1422 from Font to White only. However, the station record maintained at Montandon shows that at 3:40 p. m., the operator at Montandon granted clear-block authority for engine 1422 to pass the block-limit stations at Font and White, and to proceed eastward to Oak Hall, then to return to White. Upon receiving the block authority the conductor of engine 1422 told the operator at Milesburg to record the departure of engine 1422 from Font as 3:40 p. m., and the operator entered this time on the station record. The operator said that the conductor told him engine 1422 was at Font at this time, but the conductor said that he did not tell the operator where his engine was located. When engine 1422 stopped at the station at Bellefonte to request by telephone from the operator at Montandon the running order to Oak Hall, the operator at Montandon understood the conductor of engine 1422 to say that his engine was at White, and the train dispatcher so addressed the order. The conductor said that although his engine was west

of the block-limit signal at Font he told the operator that his engine was at Font and wrote Font as the address on the order. Then, after the pilot made the order complete at 4:12 p. m., he told the operator at Montandon to record the departing time of engine 1422 at Font as being 4:12 p. m. However, the operator entered this as the time that engine 1422 cleared the block at White. When the operator at Montandon asked the operator at Milesburg for block authority for engine 1742 to move westward in the block between White and Font the operator at Montandon told the operator at Milesburg that engine 1422 had cleared the block at White at 4:12 p. m. Consequently, since there was no record of other movement in this block, clear-block authority was granted to engine 1742. The employees concerned did not have a definite and common understanding as to the identity and the occupation of the employee communicating with them by telephone, the exact location of the movements at the time block authority was granted and the time of clearing of the blocks involved, nor was proper entry of the required information made on the station records. The improper handling of the block authorities in this instance resulted in the misunderstanding concerning the block authority granted to engine 1742 to enter a block occupied by an opposing movement.

Under the method of operation in effect in this territory, safety depends upon strict adherence to the requirements of the rules. The deviations from prescribed practices that were disclosed by this investigation establish the fact that necessary supervision by responsible operating officers has been lax and inadequate. These conditions demand immediate correction.

Cause

It is found that this accident was caused by admitting an opposing train to an occupied manual block under clear-block authority.

Dated at Washington, D. C., this thirtieth day of August, 1948.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.