

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

PENNSYLVANIA RAILROAD

SPRINGDALE, PA.

DECEMBER 2, 1936

INVESTIGATION NO. 2124

SUMMARY

Inv-2124

Railroad: Pennsylvania
Date: December 2, 1936
Location: Springdale, Pa.
Kind of accident: Collision
Trains involved: Freight : Freight
Train numbers: ED-4 : Extra 2925 (shifter)
Consist: 63 cars, caboose : 7 cars, caboose
Speed: 20-50 m.p.h. : 18-25 m.p.h.
Track: Compound left curve 4,740 feet, tangent
1,145 feet, then 3rd left curve for 135
feet to point of accident and beyond;
grade level; view obstructed across in-
side of curve by trees and buildings;
automatic signals
Weather: Sleet
Time: 12:47 to 12:51 p.m.
Casualties: 2 injured
Cause: Shifting engine attempted to make un-
authorized and unprotected cross-over
movement directly ahead of approaching
train.

Inv-2124

January 30, 1937.

To the Commission:

On December 2, 1936, there was a collision between two freight trains on the Pennsylvania Railroad at Springdale, Pa., which resulted in the injury of 2 employees.

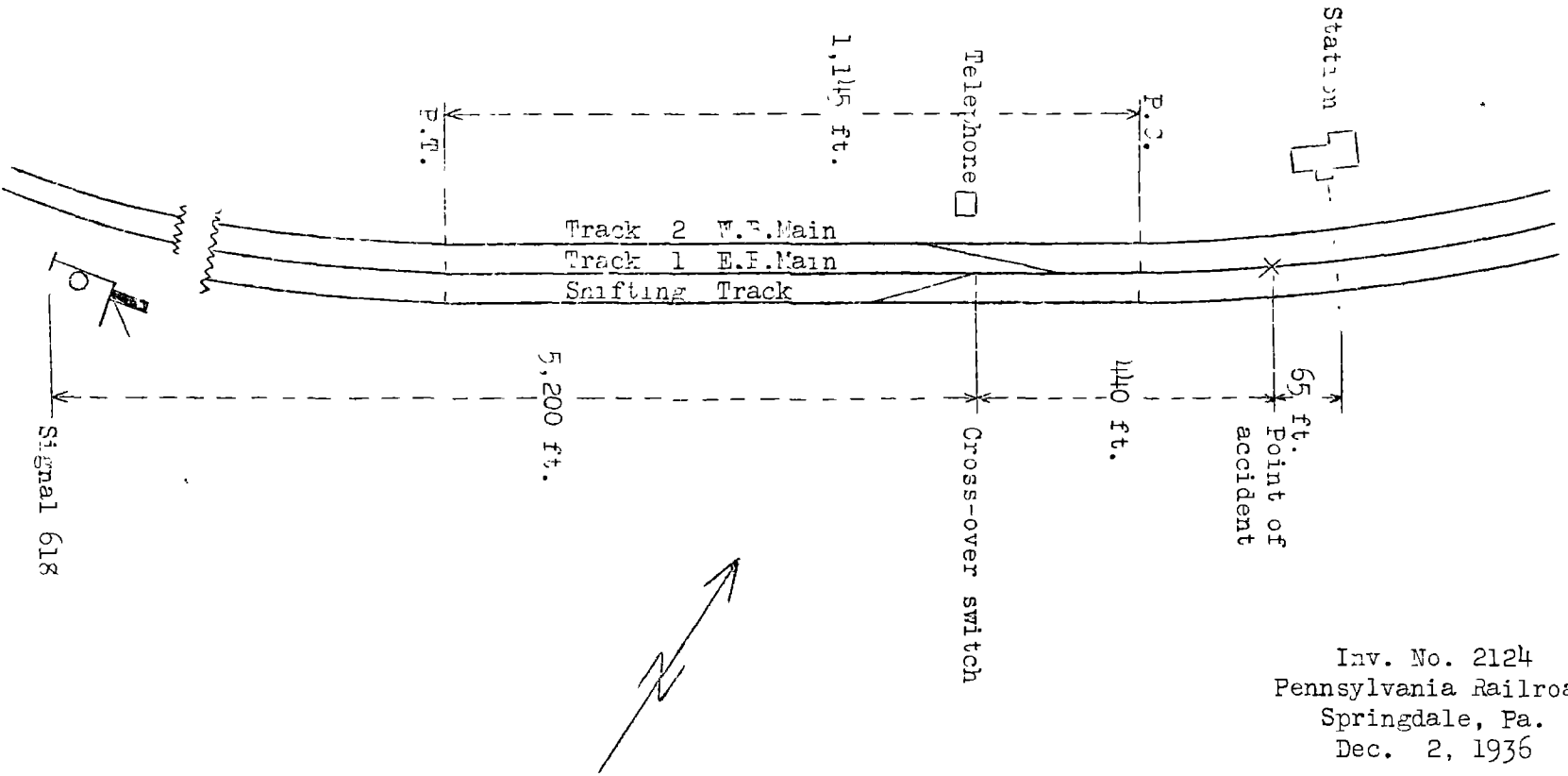
Location and method of operation

This accident occurred on that part of the Conemaugh Division extending between Conpitt Junction and Federal Street, Pittsburgh, Pa., a distance of 79.2 miles; 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-signal system. The accident occurred on the east-bound main track at a point 65 feet west of the station at Springdale; approaching this point from the west there is a compound curve to the left 4,740 feet in length, the curvature varying from $0^{\circ} 45'$ to 3° , then the track is tangent a distance of 1,145 feet, followed by a 3° curve to the left 1,060 feet in length, the accident occurring on the last mentioned curve at a point 135 feet from its western end. The grade is practically level.

At Springdale a shifting track, locally known as the glue track, parallels the main tracks on the south; the shifting track connects with the east-bound main track through a cross-over about 135 feet in length, the east or main track switch thereof being a trailing-point switch located 505 feet west of the station. A second trailing-point cross-over, about 200 feet in length, connects the two main tracks, the east switch of which is located 374 feet west of the station. The latter cross-over has a mechanical center-locking device operated from the ground and connected to the signal circuit on both main tracks; the cross-over between the shifting track and the east-bound main track is not equipped with such a locking device. All of the switches are hand-operated and so arranged that any movement of the switch levers from normal position, or a movement of the center locking device of the main track cross-overs, shunts the track circuit and causes east-bound automatic block signal 618 to assume stop position. This signal is located 5,200 feet west of the east switch of the shifting track.

The station at Springdale is located north of the tracks; opposite the cross-overs there is a telephone.

o	Compitt Jet., Pa.
	59.1 mi.
o	RA Block Station
	3.6 mi.
o	Springdale (P. of A.)
	2.1 mi.
o	Cheswick
	1.0 mi.
o	Denny
	1.1 mi.
o	Warmerville
	3.4 mi.
o	Blawnox
	2.0 mi.
o	Aspinwall
	0.2 mi.
o	UY Block Station
	2.2 mi.
o	OW Block Station
	4.5 mi.
o	Federal Street (Pittsburgh, Pa.)



Inv. No. 2124
 Pennsylvania Railroad
 Springdale, Pa.
 Dec. 2, 1936

Trees and buildings located on the inside and at the east end of the compound curve, restrict the view from the cab of an east-bound engine, to about 1,500 feet in the vicinity of the cross-over switches. The maximum authorized speed for freight trains is 45 miles per hour.

Sleet was falling at the time of the accident, which occurred between 12:47 and 12:51 p.m.

Description

Extra 2925, the Blawnox shifter, a turnaround freight run engaged in local switching service, was in charge of Conductor Higgins and Engineman Humas. This train departed from Island Avenue yard, near Federal Street, Pittsburgh, and completed the eastward leg of its trip at Springdale, 16.5 miles beyond, where it entered the shifting track and performed switching. When ready to depart the train consisted, from west to east, of engine 2925, headed west, seven cars and a caboose, and stood on the shifting track with the caboose just west of the cross-over, ready to back to the east-bound main track and move westward through the main-track cross-over to the west-bound main track. The conductor stepped to the telephone and received a line-up on approaching east-bound trains from the operator at UY block station, located 9.8 miles west of Springdale, and he also secured from the operator at PA block station, located 3.6 miles east of Springdale, permission to use the west-bound main track; however, he did not obtain required authority to make the cross-over movement. Just as his train had backed from the shifting track to the east-bound main track, Train ED-4 was observed approaching; Extra 2925 continued backing up in an attempt to back out of the way, and had attained a speed of about 18 to 25 miles per hour, when it was struck by Train ED-4 at a point 440 feet east of the east switch of the cross-over leading from the shifting track.

Train ED-4, an east-bound freight train, consisted of 63 loaded cars and a caboose, hauled by engine 6905, and was in charge of Conductor Gaughn and Engineman Crosby. This train passed UY block station, the last open office, at 12:33 p.m., according to the train sheet, passed signal 613, which was displaying a proceed indication, according to the statements of three members of the crew who were on the engine, and collided with Extra 2925 while traveling at a speed variously estimated from 20 to 50 miles per hour.

The front end of engine 2925 was slightly damaged; it was derailed and stopped upright on the roadbed in line with the track, separated from engine 6905 by a distance of 350 feet.

None of the cars in Extra 2925 was derailed. Engine 6905, its tender and the first 9 cars in Train ED-4, were derailed and stopped at various angles, on and across the tracks; one of these cars struck and damaged the southeast corner of the station roof. The employees injured were the fireman and head brakeman of Train ED-4.

Summary of evidence

Conductor Higgins, of Extra 2925, stated that he went on duty at 6:15 a.m. and at that time compared his watch with a standard clock and also with his engineman. His train arrived at Springdale, completing the eastward portion of the trip at about 12:05 p.m., and entered the shifting track. He was busy after this but intended to go to the telephone at any time to get information in regard to making a cross-over movement. When his train was ready to move from the shifting track and depart westward on the west-bound main, he telephoned Operator Smith at UY block station and received a line-up on east-bound trains. Operator Smith informed him that Train ED-4 had passed UY at 12:38 p.m., closely followed by two other trains. He telephoned Operator Hummel at RA block station, located east of Springdale, and obtained authority to enter the west-bound main track. After consulting his watch, Conductor Higgins figured that there was time for his train to move from the shifting track to the west-bound main track ahead of Train ED-4, saying that the average running time of similar freight trains is 15 minutes between UY block station and Springdale. He motioned to his crew to back out of the shifting track, then walked to the center locking device between the main-track cross-over and threw it to unlock the cross-over switches and at the same time to place signal 618 in the stop position against Train ED-4 in the event that train was close. The head brakeman handled the inside switch of the shifting track cross-over and then started westward to flag east-bound trains; the flagman opened the other switch of the shifting track cross-over while Conductor Higgins threw the west switch of the main-track cross-over. By this time his train had moved out upon the east-bound main track and Conductor Higgins had just started walking in the direction of the east switch of the main-track cross-over when he saw Train ED-4 approaching about 1,500 feet away and running at what appeared to be a higher rate of speed than usual. He immediately shouted to his engineman to back out of the way as fast as possible and estimated that his train had attained a speed of 20 or 25 miles per hour when struck by Train ED-4. He estimated the speed of Train ED-4 to have been between 40 and 50 miles per hour at the time of collision which he placed at 12:47 p.m.

He did not hear the whistle of Train ED-4 sounded in answer to a flag and he thought that this train had not yet passed signal 618 at the time he threw the center locking device between the main track cross-over switches, basing this belief on the time elapsed and the movements made between the time he threw the device and the time of the accident; he estimated this must have been at least two minutes and he did not think Train ED-4 would have used 2 minutes in moving from signal 618 to the point of accident at the rate of speed it was running. Conductor Higgins stated that he not only failed to notify the operator at UY block station when his train first cleared the east-bound track at Springdale, but he also failed to obtain permission to re-enter that track, although he knew that the rules required such report to be made and such permission to be obtained. None of the other members of his crew was aware that he had not obtained proper authority to make the cross-over movement, and he realized that Train ED-4 might be close, but he still thought he could make the movement to the west-bound track and took a chance in making it ahead of that train. He was the regular conductor on this run, was thoroughly familiar with all conditions in this territory and fully understood the rules and instructions; he said that he had never before attempted to make a cross-over movement in this manner.

Statements of Engineman Humes, Fireman Jones, Head Brake-man Cummings and Flagman Oberding, of Extra 2925, were to the effect that they did not know Conductor Higgins had not obtained proper authority to make the cross-over movement or that Train ED-4 had passed UY block station. They saw the conductor leave the telephone booth and open the center locking lever between the main track cross-over switches, which they knew actuated the automatic block signals in each direction. Engineman Humes looked at his watch as the conductor was operating the locking device and it was then 12:45 p.m.; he estimated that he started to back his train about two minutes later and that an additional two minutes was consumed in backing from the shifting track to the main track. Head Brakeman Cummings opened the inside switch of the shifting track cross-over and gave the engineman a back-up signal, and Flagman Oberding opened the main track switch. As the engine passed the head brakeman at the inside switch, the engineman tossed a flag off for him and the head brakeman then closed the switch and started westward to flag, reaching a point about 3 or 4 car lengths away when he saw Train ED-4 approaching; he ran toward that train giving stop signals on the fireman's side with both arms, but the train passed without acknowledging his signals. Flagman Oberding boarded his caboose as it backed out of the shifting track, but got off at the station and ran to a place of safety when he realized that a

collision was imminent. Engineman Humes did not know there was anything wrong until he heard the conductor shout a warning of danger when his engine was at the east switch of the shifting track cross-over and he then saw Train ED-4 approaching; he fully opened the throttle and the sanders in an attempt to back his train out of the way, but to no avail. These employees estimated the speed of their train to have been increased to about 18 or 20 miles per hour at the time of the accident, and the speed of Train ED-4 to have been between 30 and 50 miles per hour at that time. Engineman Humes stated that the force of the impact broke the pipes on the front end of his engine and caused the air brakes to become applied in emergency, and his train was driven backward at least 10 car lengths with the air brakes set in emergency, indicating to him that Train ED-4 was traveling at a high rate of speed at this time; he placed the time of accident as occurring at 12:49 or 12:50 p.m.; after his engine stopped he got off and looked at his watch and it was then 12:51 p.m. The intended cross-over movement was one of almost daily occurrence and it was customary to accept the signal from the conductor as an indication that authority had been obtained to make the movement. Fireman Jones and Head Brakeman Cummings did not think that Train ED-4 was exceeding the authorized speed limit of 45 miles per hour.

Engineman Crosby, Fireman Covington and Head Brakeman Benjamin, of Train ED-4, gave testimony to the effect that the air brakes were tested and worked properly en route and that approaching Springdale the speed was between 40 and 50 miles per hour and was not what they would call excessive; all signals, including signal 613, displayed clear indications. Fireman Covington and Head Brakeman Benjamin were on their seat boxes looking ahead on the inside of the curve and the first they knew of anything wrong was on seeing the head brakeman of the shifter engine on their side of the track giving stop signals with both arms but no flag, about 6 to 10 car lengths ahead; they then looked down the track and saw the shifter engine headed west and at first thought it was on the adjacent track. On definitely realizing that it was on their own track they started to shout a warning of danger to the engineman; however, the engineman also saw the other engine and closed the throttle and applied the air brakes in emergency, but it was then too late to avert the accident. Engineman Crosby did not see any stop signals given; he looked at his watch when the head end of his train was passing UY block station and it was then 12:57 p.m.; when passing Cheswick, 2.1 miles west of Springdale, he again looked at his watch and to the best of his recollection it was 12:49 or 12:50 p.m.; however, he was not positive about this latter time. Fireman Covington said that this was his

first trip over the Conemaugh Division; Head Brakeman Benjamin had been on this division for about six weeks.

Conductor Gaughn and Flagman Micheletti were in the caboose and were not aware of anything wrong until the air brakes were applied in emergency, at which time the speed was about 40 or 45 miles per hour; then the train stopped. The conductor looked at his watch and it was 12:51 p.m., and the flagman said that his watch showed 12:50 p.m. The flagman estimated the speed to have been reduced to 20 miles per hour at the time of the collision. On going back to flag after the accident he observed signal 618 displaying a stop indication, and the following train stopped at that signal.

Operator Smith, at UY block station, stated that Conductor Higgins telephoned him at 12:45 p.m. for a line-up of east-bound trains, and was told that Train ED-4 had passed UY at 12:38 p.m. and not to delay that train. The conductor did not report his train clear of the east-bound track at Springdale and the operator thought it was still occupying that track and he did not know that the conductor was going to attempt a cross-over movement ahead of the east-bound trains. Conductor Higgins telephoned the operator at RA block station and obtained permission to use the west-bound main track at 12:47 p.m.; however, Operator Smith did not listen in on that conversation, but learned about it when the operator at RA told him to show the Blawnox shifter, engine 2925, on the west-bound main track at 12:47 p.m. Operator Smith next heard from Conductor Higgins at 12:48 p.m., when the conductor informed him of the accident. Train ED-4 was traveling at the usual rate of speed when it passed UY, which was not at an excessive rate.

Operator Hummel, at RA block station, stated that Conductor Higgins telephoned him at 12:47 p.m. and asked for permission to use the west-bound main track, which was granted. The next conversation he heard from the conductor was while listening in on the telephone when the accident was being reported to the operator at UY block station, this conversation taking place between 12:49 and 12:50 p.m., closer to 12:49 p.m.

Supervisor of Telegraph and Signals Bauman stated that when the switch lever at either end of the shifting track cross-over is raised toward reverse position, the track circuit is immediately shunted on the east-bound main track before the switch points move. There is no mechanical locking device on the shifting track cross-over switches; they are hand operated and equipped with regular switch locks, and may be opened at any time. The main track cross-over, however, has a mechanical

center locking device which, as soon as operated shunts both the east-bound and west-bound track circuits, causing the signals in both directions to assume stop positions. There are no electrically locked switches at this point. After the accident tests of the switch and signal apparatus involved disclosed it to be in proper working order.

Discussion

Timetable special instructions D2504 read as follows:

D2504. In Automatic Block System territory, if, in connection with train using hand operated main tracks switches, the entire movement clears a block and the switches used that affect that block are restored to normal position, thereby clearing signals affecting that block, regardless of whether the train has or has not been reported clear of the block, it must not again enter that block without permission from the signalman, unless otherwise instructed by the Superintendent.

The intended movement from the shifting track to the west-bound main track was of practically daily occurrence, and the conductor fully understood the requirements of the rules and knew that it was necessary to obtain proper authority from the operators at UY and RA block stations before making the movement. In this instance, however, he did not secure the necessary authority from the operator at UY, nor did he see that proper flag protection was afforded before starting the movement; furthermore, he did not report to the operator at UY when his train was clear of the east-bound track at Springdale. When work was completed and his train was ready to depart westward, the conductor went to the telephone opposite the cross-overs and obtained merely a line-up from the operator at UY block station, being informed that Train ED-4 had passed that station at 12:33 p.m., followed by two other trains and was told not to delay Train ED-4; the conductor, however, did not secure permission to use the east-bound main track. He then called the operator at RA block station and obtained permission to use the west-bound main track, at 12:47 p.m. None of the other members of the crew was aware that the conductor had not obtained proper authority to make the cross-over movement. Nevertheless, the conductor decided to cross over ahead of Train ED-4, and immediately after he finished his telephone conversation with the operator at RA, he operated the mechanical center locking device of the main-track cross-over and depended upon signal 618, located 5,200 feet west of the cross-overs, for protection. The possibility that Train ED-4 might have passed

that signal did not occur to him when he opened the locking device and he assumed that the train was west of the signal at the time. While he was opening the cross-over switch on the west-bound main track, the head brakeman opened the inside switch of the shifting track cross-over and gave the engineman a back-up signal, and the flagman opened the east-bound main track switch. The train was then backed onto the east-bound main track and the head brakeman started westward to flag, reaching a point about 3 or 4 car lengths away when he saw Train ED-4 approaching; he gave stop signals with both arms from the fireman's side of the track. The engineman of Train ED-4 was on the outside of the curve and did not see the flagman's signals, and was not aware of the shifting engine until his own engine rounded the curve. He immediately closed the throttle and applied the air brakes in emergency, and the engineman of the shifting engine backed away as fast as possible, but it was then too late to avert the accident.

Some statements indicated a probability that the engine of Train ED-4 was west of automatic signal 618 when the conductor opened the locking device, and that the signal was passed while in stop position. The weight of evidence, however, was to the effect that Train ED-4 passed signal 618 under a clear indication, and that Conductor Higgins opened the locking device and attempted to make the cross-over movement directly ahead of that train.

Conclusions

This accident was caused by Extra 2925 entering a block without authority and the failure to provide adequate flag protection for that train before making a cross-over movement.

Respectfully submitted,

W. J. PATTERSON,

Director.