

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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REPORT NO. 3564  
CINCINNATI UNION TERMINAL COMPANY  
IN RE ACCIDENT  
AT CINCINNATI, OHIO, ON  
APRIL 7, 1954

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SUMMARY

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Date: April 7, 1954

Railroad: Cincinnati Union Terminal

Location: Cincinnati, Ohio

Kind of accident: Side collision

Equipment involved: Locomotive                   : Locomotive

Engine numbers: N.Y.C. steam                   : P.R.R. Diesel-  
                  locomotive                    electric units  
                  3108                               5872A and  
  5842B

Estimated speeds: 5 m. p. h.                   : 5 m. p. h.

Operation: Operating rules

Tracks: Yard tracks; tangent, 0.28 percent  
          descending grade northward

Weather: Clear

Time: 7.55 a. m.

Casualties: 1 killed, 1 injured

Cause: Engineer of the Pennsylvania locomotive  
          accepting a hand signal which was  
          intended for another movement

INTERSTATE COMMERCE COMMISSION

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REPORT NO. 3564

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

CINCINNATI UNION TERMINAL COMPANY

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May 5, 1954

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Accident at Cincinnati, Ohio, on April 7, 1954, caused  
by the engineer of a Pennsylvania locomotive accepting  
a hand signal which was intended for another movement.

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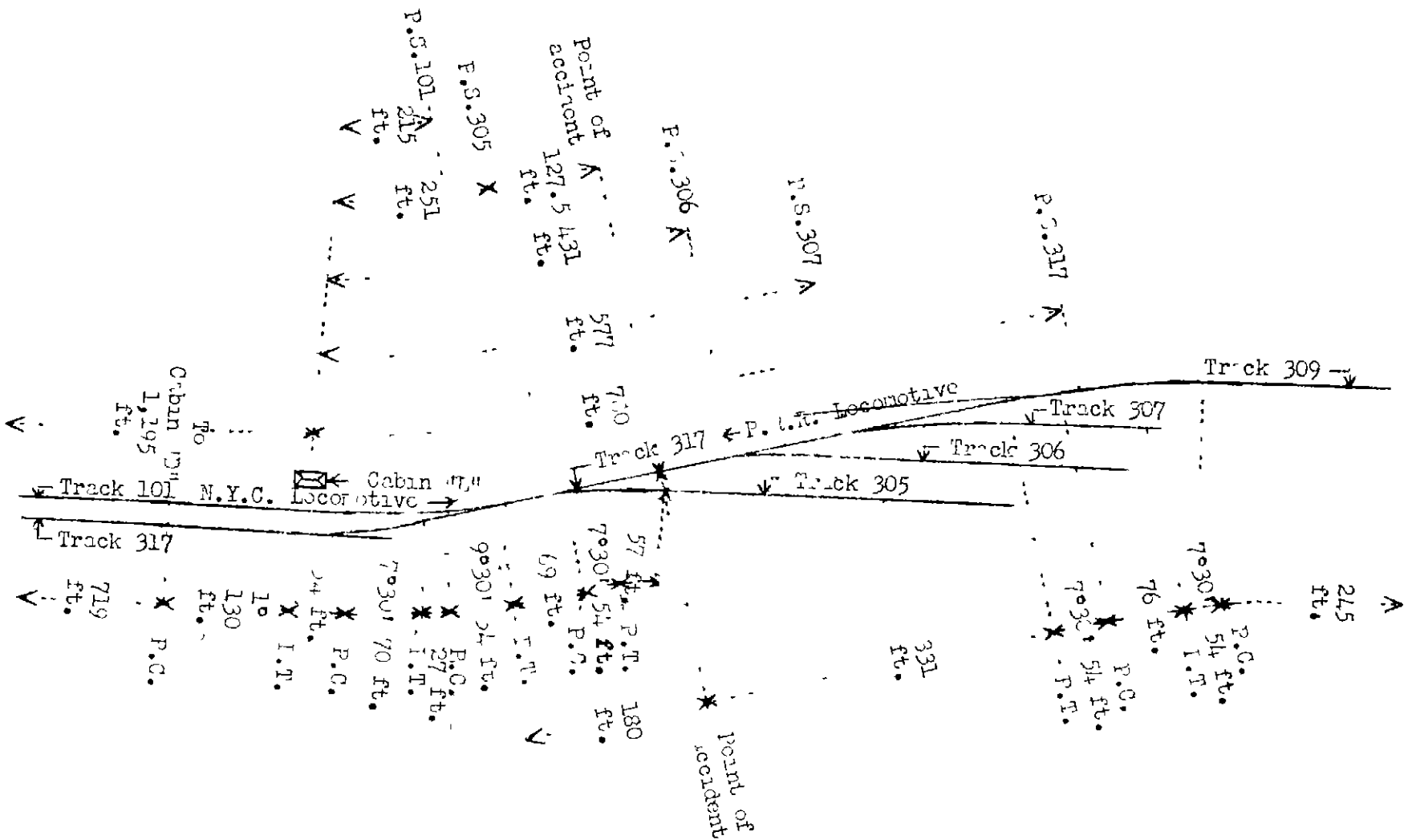
REPORT OF THE COMMISSION<sup>1</sup>

CLARKE, Commissioner.

On April 7, 1954, there was a side collision between two locomotives on the line of the Cincinnati Union Terminal Company at Cincinnati, Ohio, which resulted in the death of one train-service employee, and the injury of one train-service employee. This accident was investigated in conjunction with representatives of the Public Utilities Commission of Ohio.

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<sup>1</sup>  
Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Clarke for consideration and disposition.



Report No. 3564  
 Cincinnati Union Terminal Company  
 Cincinnati, Ohio  
 April 7, 1954

Location of Accident and Method of Operation

This accident occurred on the tracks of the Cincinnati Union Terminal Company. This company provides passenger station facilities for railroads operating into Cincinnati. Movements entering and leaving the passenger station are governed by interlocking signals. Two running tracks, designated from east to west as tracks Nos. 317 and 101, extend between Cabin "D", located immediately north of the north limits of the interlocking at the passenger station, and Cabin "E", 1,195 feet north of Cabin "D". Track No. 101 converges with track No. 317 at a point 215 feet north of Cabin "E", and from that point track No. 317 follows a northwesterly course to a junction with track No. 309 at a point 780 feet north of Cabin "E". Three engine-house tracks, designated from east to west as tracks Nos. 305, 306, and 307, diverge toward the north from track No. 317 at points, respectively, 251 feet, 431 feet, and 577 feet north of Cabin "E". The accident occurred at the fouling point between tracks Nos. 305 and 317, 127.5 feet north of the point-of-switch at the south end of track No. 305. From the south, via tracks Nos. 101, 317, and 305, there are, in succession, a tangent 719 feet in length, a 1° curve to the right 130 feet, a tangent 54 feet, a 7°30' curve to the left 70 feet, a tangent 27 feet, a 9°30' curve to the left 54 feet, a tangent 69 feet, a 7°30' curve to the right 54 feet, and a tangent 57 feet to the point of accident. From the north, via tracks Nos. 309 and 317, there are, in succession, a tangent 245 feet in length, a 7°30' curve to the left 54 feet, a tangent 76 feet, a 7°30' curve to the left 54 feet, and a tangent 331 feet to the point of accident and 180 feet southward. The grade is 0.28 percent descending northward at the point of accident.

The switch targets in the vicinity of the point of accident display 5-3/8-inch green lenses in the centers of 10-inch circular white collars when the switches are in normal position, and 5-3/8-inch yellow lenses in the centers of 10-inch circular yellow collars when the switches are lined for diverging movements. The centers of the lenses are 11-1/4 inches above the level of the tops of the ties. The switch targets at the switches in track No. 317 between Cabin "E" and the junction with track No. 309 are located on the west side of the track. The switches connecting tracks Nos. 101, 305, and 306 with track No. 317 are connected by pipe lines with hand-throw levers located near Cabin "E", and are operated by a switchtender stationed at that point. Normal position of the switches at the entrances

to tracks Nos. 305, 306, and 307 is for movement on track No. 317, and normal position of the switch at the junction of tracks Nos. 101 and 317 is for movement on track No. 101.

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

12. Hand, Flag and Lamp Signals.

(a) Stop           Swung across the track.

\* \* \*

(d) Back           Swung vertically in a circle at half arm's length across the track, when the train is standing.

\* \* \*

34. The engineman and fireman must \* \* \* communicate to each other the indication of all signals affecting the movement of their train.

105. Trains or engines using a yard track must proceed expecting to find it occupied.

Bulletin special instructions read in part as follows:

27. \* \* \*

Enginemen must know that hand throw switches are in proper positions before they foul, or pull in or out of tracks.

Switchtenders located at Cabins \* \* \* E supervising switches not within the interlocking area, who will be identified in day time by a white paddle \* \* \*.

Engines with or without cars will not encroach upon or foul any of the switches thus supervised without a signal from the switchtender in charge.

\* \* \*

49. Following blast of the whistle to govern movements as shown below:

\* \* \*

1 long blast when road and yard engines are ready to leave the ready track for their assignment of work.

\* \* \*

### Description of Accident

New York Central steam locomotive 3108, headed southward and moving in backward motion, moved from Cabin "D" to Cabin "E" on track No. 101. At Cabin "E" it was routed from track No. 101 to track No. 305, via track No. 317, and while it was moving northward at an estimated speed of 5 miles per hour it collided with a Pennsylvania locomotive at the fouling point between tracks Nos. 317 and 305, 127.5 feet north of the point-of-switch at the south end of track No. 305.

The Pennsylvania locomotive consisted of Diesel-electric units 5872A and 5842B, coupled in multiple-unit control. This locomotive, headed northward and moving in backward motion, entered track No. 317 from track No. 309, and while it was moving southward at an estimated speed of 5 miles per hour it collided with locomotive 3108.

Locomotive 3108 stopped with the rear end of the tender 37 feet north of the point of accident. The right rear corner of the cistern was bent inward, the right side of the tender and of the locomotive was somewhat damaged, and the right side of the cab was crushed inward. Steam pipes on the right side of the locomotive were broken. The south truck of Diesel-electric unit 5842B was derailed to the west. This unit stopped upright and against the side of locomotive 3108 with the south end 61 feet south of the point of accident. The right rear corner of the unit was badly damaged. Diesel-electric unit 5872A was not derailed or damaged.

The engineer of locomotive 3108 was killed, and the fireman was injured.

The weather was clear at the time of the accident, which occurred about 7:55 a. m.

Locomotive 3108 is of the 4-8-2 type. The tender is rectangular in shape and is 51 feet 8-3/4 inches in length and 14 feet 5-1/2 inches in height.

Diesel-electric unit 5872A is provided with a control compartment at the front. It is equipped with 24RL brake equipment, and a safety-control feature, actuated by a foot pedal, is provided. Unit 5842B is of the booster type. The total length of the two units, coupled, is 141 feet 1-1/4 inches.

### Discussion

Locomotive 3108 arrived at Cincinnati on No. 417, a New York Central passenger train. After the train was backed to the coach yard, the engine was detached and entered track No. 101 at Cabin "B" en route to the engine house. The fireman said that as the locomotive approached Cabin "E" he and the engineer were in their respective positions in the cab. He said that the engineer sounded three blasts on the whistle, then sounded an acknowledging signal and informed the fireman that he had received a back-up signal from the switchtender. At that time the fireman's view of the switchtender was obstructed by the locomotive tender. After the engineer sounded the whistle signals, the fireman saw the switchtender cross to the east side of track No. 101 and operate a switch. He said that the switchtender remained on the east side of the track until the locomotive passed. He did not see the switchtender give a signal. From his position on the east side of the locomotive, he could not see the Pennsylvania locomotive approaching. He was not aware of anything being wrong until the collision occurred. He thought the speed was about 10 miles per hour as the locomotive approached Cabin "E" and about 5 miles per hour when the collision occurred.

On the day of the accident Diesel-electric units 5872A and 5842B were assigned to No. 215, a Pennsylvania passenger train due to leave Cincinnati at 8 30 a. m. En route from the engine-house tracks to the passenger station this locomotive departed from a point 1,322 feet north of the point of accident about 7:52 a. m. The control compartment was at the north end of the locomotive. The engineer said that when the locomotive reached a point on track No. 309 approximately 625 feet north of the point of accident he sounded one long blast on the pneumatic horn to notify the switchtender at Cabin "E" that he was ready to proceed. He said that after he sounded the signal he saw the switchtender come out of the cabin and give a back-up signal with what appeared to be a white newspaper or magazine. He observed that the switches in track No. 317 were lined for movement on that track. He acknowledged the switchtender's



signal, and informed the fireman that he had received a back-up signal and that the route was lined for the movement of their locomotive. After the locomotive entered the tangent on which the accident occurred the engineer's view of the switchtender and the switch targets on the west side of the track was obstructed by the rear unit of the locomotive. The engineer said that he continued to maintain a lookout toward the south but he did not again see the switchtender before the accident occurred. He said that the fireman called a warning, and that he first saw the rear corner of the tender of locomotive 3108 at approximately the same time. He immediately made an emergency application of the brakes. He thought that the collision occurred as he made the brake application. He said that the locomotive was moving very slowly when he received the signal from the switchtender and that he thought the speed was about 5 miles per hour when the collision occurred. The fireman said that after sounding the signals on the pneumatic horn the engineer had informed him that a back-up signal had been received from the switchtender, and that the switches were properly lined for their movement. At that time the fireman could not see the switchtender or the switch targets. He said that after the locomotive entered the tangent immediately north of the point of accident and the switch targets became visible to him he observed that the switches were lined for movement on track No. 317. He continued to maintain a lookout in the direction of movement, but he did not see locomotive 3108 or the switchtender before the collision occurred. He was not aware of anything being wrong until he observed that the south end of Diesel-electric unit 5942B had become derailed.

The switchtender at Cabin "E" said that he was inside the cabin when the engineer of locomotive 3108 sounded the whistle signal. He stepped outside and gave a back-up signal to the engineer with a piece of white cardboard. At that time the Pennsylvania locomotive was not in sight, and he thought locomotive 3108 was about 250 feet south of Cabin "E". After giving the signal he stepped across track No. 101 and lined the switches for movement from track No. 101 to track No. 317 and from track No. 317 to track No. 305. After lining the switches he heard the pneumatic horn of the Pennsylvania locomotive and observed that locomotive approaching on track No. 309. He gave stop signals to the Pennsylvania locomotive from a point approximately 34 feet east of his cabin. Because of the noise made by locomotive 3108, which was passing at that time, he did not know whether his signals were acknowledged. His view of the Pennsylvania locomotive was obstructed by the passage of locomotive 3108 and until the collision occurred he did not know that the Pennsylvania locomotive had continued to move southward.

After the accident occurred the switch at the south end of track No. 305 was found lined for movement to that track. The switch points were not damaged, and from the fact that locomotive 3108 entered track No. 305 it is apparent that the switch was lined in this position before the rear end of the tender reached the switch points. The switch target was in position to display yellow aspects in the direction of approaching movements, the proper position when the switch is lined for movement to track No. 305.

From the engineer's position in the control compartment at the north end of a two-unit Diesel-electric locomotive moving southward via tracks Nos. 309 and 317, the view of Cabin "E" and the targets of the switches of tracks Nos. 307, 306, 305, and 101 is unobstructed as the north end of the locomotive moves between points 636 feet and 512 feet north of the point of accident. After the north end of the locomotive passes the latter point, the view of Cabin "E" is obstructed by the south end of the locomotive. After the locomotive moves through the turnout from track No. 309 to track No. 317, the view of the switch targets is obstructed. From the fireman's position in the control compartment, Cabin "E" and the targets of the switches in track No. 317 first become visible when the north end of the locomotive reaches a point 331 feet north of the point of accident. As the locomotive moves southward from this point, there is an unobstructed view of the switch targets, Cabin "E", and several hundred feet along the north end of track No. 101. A man standing at the point from which the switchtender said he gave the stop signals would not have been visible from the left side of the control compartment.

The special instructions of this carrier provide that enginemen must know that switches are in proper position before fouling another track, and that a locomotive must not be permitted to foul a switch which is in charge of a switchtender except under authority of a signal from the switchtender. In the instant case the engineer of the Pennsylvania locomotive said that he received a back-up signal from the switchtender, and the fireman said that the engineer called this signal. The switchtender said that the only back-up signal given by him was intended for the movement of locomotive 3108, and that the Pennsylvania locomotive was not in sight at the time he gave this signal. Two other employees who were in the vicinity said they saw the switchtender giving stop signals immediately after locomotive

3108 passed Cabin "E". They did not notice the location of the Pennsylvania locomotive at the time these signals were given. Since only one back-up signal was given, it appears that the engineer of the Pennsylvania locomotive was in a position to see this signal and that he observed the positions of the switches before the switchtender lined the route for locomotive 3108 to enter track No. 305. The fireman of the Pennsylvania locomotive evidently was mistaken as to the positions of the switches immediately before the accident occurred.

If the switchtender had been required to use signals of a different color for north-bound movements than those used for south-bound movements, it is probable that this accident would have been averted. The carrier should give consideration to requiring the use of distinctive signals to authorize movements in opposite directions.

Cause

This accident was caused by the engineer of the Pennsylvania locomotive accepting a hand signal which was intended for another movement.

Dated at Washington, D. C., this fifth day of May, 1954.

By the Commission, Commissioner Clarke.

(SEAL)

GEORGE W. LAIRD,  
Secretary.