

INTERSTATE COMMERCE COMMISSION

WASHINGTON

---

INVESTIGATION NO. 2693

THE INDIANAPOLIS UNION RAILWAY COMPANY  
AND  
THE CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS  
RAILWAY COMPANY

REPORT IN RE ACCIDENT

AT INDIANAPOLIS, IND., ON

APRIL 12, 1943

---

SUMMARY

---

Railroads: Indianapolis Union : Cleveland, Cincinnati, Chicago & St. Louis

Date: April 12, 1943

Location: Indianapolis, Ind.

Kind of accident: Side collision

Trains involved: Freight : Passenger

Train numbers: Extra 8 South : 434

Engine numbers: 8 : 4655

Consist: Caboose : 9 cars

Speed: 7 m. p. h. : 20 m. p. h.

Operation: Interlocking

Track: Double; tangent; : Double; tangent;  
0.05 percent ascending grade level  
southward

Weather: Raining

Time: About 4:16 a. m.

Casualties: 4 killed; 3 injured

Cause: Accident caused by failure to operate the I. U. train in accordance with interlocking signal indication

INTERSTATE COMMERCE COMMISSION

---

INVESTIGATION NO. 2693

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

THE INDIANAPOLIS UNION RAILWAY COMPANY  
AND  
THE CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS RAILWAY  
COMPANY

---

June 9, 1943.

---

Accident at Indianapolis, Ind., on April 12, 1943, caused  
by failure to operate the I. U. train in accordance  
with an interlocking signal indication.

---

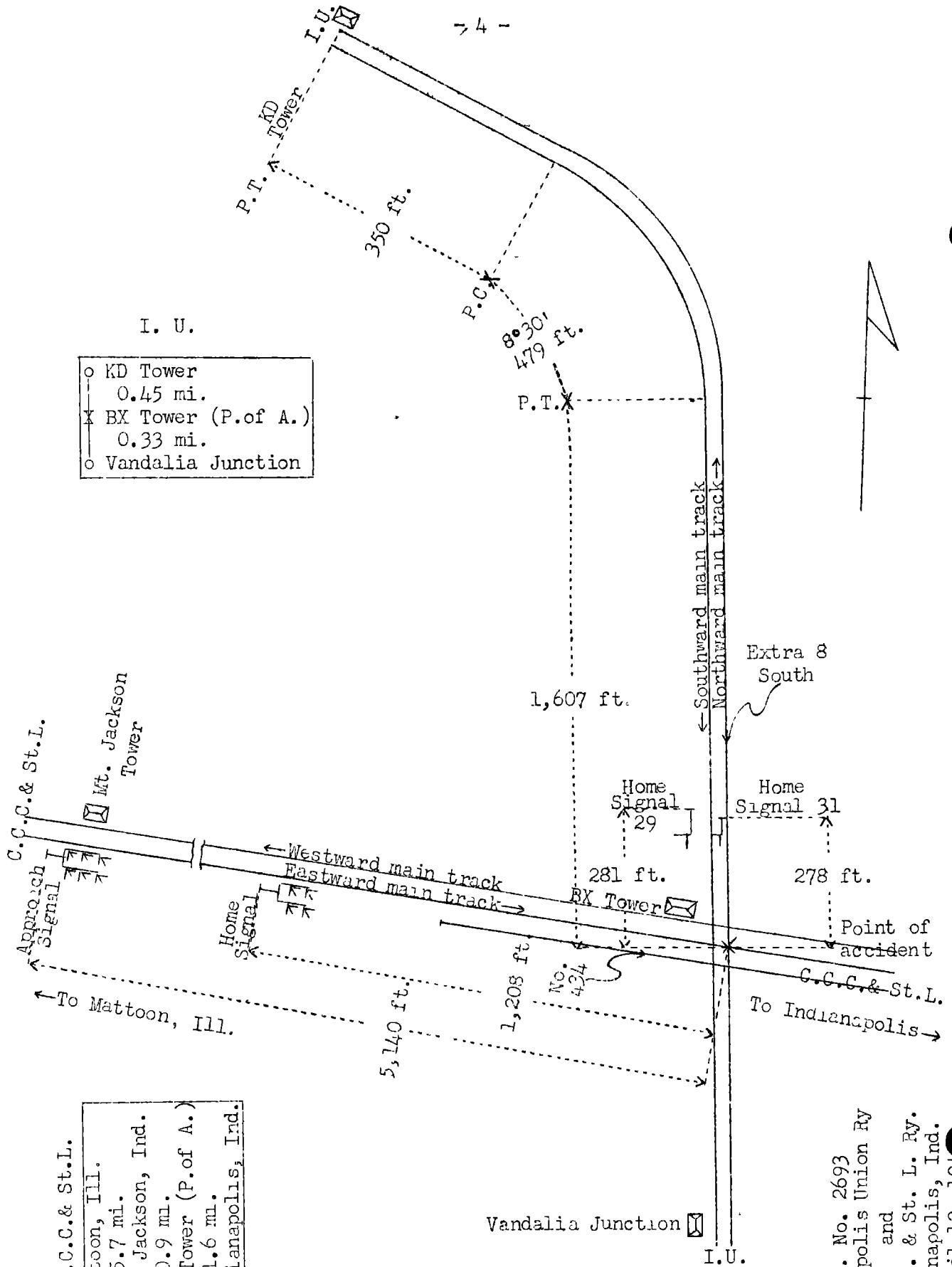
REPORT OF THE COMMISSION<sup>1</sup>

PATTERSON, Commissioner:

On April 12, 1943, there was a side collision between a freight train of the Indianapolis Union Railway and a passenger train of the Cleveland, Cincinnati, Chicago & St. Louis Railway at Indianapolis, Ind., which resulted in the death of four employees and the injury of three employees. This accident was investigated in conjunction with a representative of the Indiana Public Service Commission.

---

<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 Patterson for consideration and disposition.



I. U.

- KD Tower
- 0.45 mi.
- ✕ BX Tower (P. of A.)
- 0.33 mi.
- Vandalia Junction

C.C.C. & St.L.

- Mattoon, Ill.
- 125.7 mi.
- Mt. Jackson, Ind.
- 0.9 mi.
- ✕ BX Tower (P. of A.)
- 1.6 mi.
- Indianapolis, Ind.

Inv. No. 2693  
 Indianapolis Union Ry  
 and  
 C. C. C. & St. L. Ry.  
 Indianapolis, Ind.  
 April 12, 194

Location of Accident and Method of Operation

This accident occurred at an intersection of the Indianapolis Union Railway and the Cleveland, Cincinnati, Chicago & St. Louis Railway, hereinafter referred to, respectively, as the I. U. and the C. C. C. & St. L. The crossing is located on that part of the I. U. extending between KD Tower and Vandalia Junction, Indianapolis, Ind., 0.78 mile, and on that part of the C. C. C. & St. L. designated as the Illinois Division and extending between Mattoon, Ill., and Indianapolis, 128.2 miles. In the vicinity of the crossing the I. U. and the C. C. C. & St. L. are double-track lines. On the I. U., trains move on either main track under yard rules. These tracks are referred to as the northward and the southward main tracks. In the immediate vicinity of the point of accident trains moving with the current of traffic on the C. C. C. & St. L. are operated by an automatic block-signal system, the indications of which supersede time-table superiority. Time-table and compass directions on the C. C. C. & St. L. are east and west. Compass directions on the I. U. are north and south. At the crossing, two tracks of the I. U. are intersected at an angle of  $79^{\circ}22'30''$  by three tracks of the C. C. C. & St. L. As the crossing is approached from the north on the I. U. there are, in succession, a tangent 350 feet, an  $8^{\circ}30'$  curve to the right 479 feet and a tangent 1,607 feet to the point of accident. The grade for south-bound trains is 0.05 percent ascending 600 feet to the crossing. As the crossing is approached from the west on the C. C. C. & St. L. the tracks are tangent about 1 mile to the point of accident. The grade for east-bound trains is 0.34 percent descending 1,700 feet and then is level 100 feet to the crossing.

The crossing is protected by an interlocking controlled from BX Tower, located in the northwest angle of the crossing. The interlocking is operated and maintained by the C. C. C. & St. L. The interlocking machine is of the electric type and consists of 36 working levers in a 56-lever frame. Approach and time locking are provided throughout the interlocking.

On the I. U., home signal 31 is located 278 feet north of the crossing and between the two main tracks. This signal is of the one-arm, two-position, upper-quadrant, semaphore, dwarf type, and is continuously lighted. Its normal indication is stop. The center of the lens is about 1 inch below the level of the rail. The night aspects and corresponding indications and names of this signal are as follows:

<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
Green	Proceed	Clear signal
Red	Stop	Stop signal

On the C. C. C. & St. L., the approach signal and the home signal governing east-bound movements on the eastward main track are located, respectively, 5,140 feet and 1,208 feet west of the crossing, and are mounted on bracket-masts south of the south rail of the eastward main track. The approach signal is of the three-arm, three-position, upper-quadrant, semaphore type, and is approach lighted. The home signal is of the two-arm, three-position, upper-quadrant, semaphore type, and is approach lighted. The normal position of the approach and the home signals is stop. The involved night aspects and corresponding indications of these signals are as follows:

	<u>Aspect</u>	<u>Indication</u>
Approach signal	Green-over-red-over-red	Proceed
Home signal	Green-over-red	Proceed

The involved signals are so arranged that when the route is lined for a movement on the C. C. C. & St. L. eastward main track, I. U. home signal 31 will display stop and the C. C. C. & St. L. approach and home signals will display proceed. The time release for the I. U. home signal is set for 53 seconds and the time release for the C. C. C. & St. L. home signal is set for 3 minutes 7 seconds.

Operating rules of the I. U. read in part as follows:

78. If necessary to change any route for which the signals have been cleared for an approaching train or engine, switches must not be changed or signals cleared for any conflicting route until the train or engine, for which the signals were first cleared, has stopped.

Operating rules of the C. C. C. & St. L. read in part as follows:

615. When necessary to change any route for which the signals have been cleared for an approaching train or engine, switches, movable frogs or de-rails, must not be changed or signals cleared for any conflicting route until the train or engine for which the signals were first cleared has stopped.

In the immediate vicinity of the crossing all trains are restricted to 15 miles per hour.

### Description of Accident

I. U. engine 8 had been engaged in switching operations in this vicinity for a period of approximately two hours. At 4:12 a. m., this engine, headed north, with a caboose coupled to its head end, and designated as Extra 8 South, departed from KD Tower, 0.45 mile north of BX Tower and the last open office, and moved southward on the northward main track. This train passed home signal 31, which displayed stop, and while moving over the crossing at a speed of about 7 miles per hour the engine was struck by C. C. C. & St. L. No. 434.

No. 434, an east-bound first-class C. C. C. & St. L. passenger train, consisted of engine 4855, two express cars, one mail car, one baggage car, two coaches, one baggage car, one dining-lounge car and one express car, in the order named. All cars were of steel construction. This train departed from Mattoon, Ill., 126.6 miles west of BX Tower, at 2:21 a. m., according to the dispatcher's record of movement of trains, 1 hour 46 minutes late, passed the eastward approach signal, which displayed proceed, passed Mt. Jackson, 0.9 mile west of BX Tower and the last open office, at 4:14 a. m., 22 minutes late, passed the eastward home signal at BX Tower, which displayed proceed, and while moving at an estimated speed of about 20 miles per hour it struck the engine of Extra 8 South.

The engine of each train, the caboose of Extra 8 and the first three cars of No. 434 were derailed and damaged. The front truck of the fourth car of No. 434 was derailed.

It was raining at the time of the accident, which occurred about 4:16 a. m.

The employees killed were the engineer, the fireman and a brakeman of Extra 8, and the fireman of No. 434. The employees injured were the conductor and a brakeman of Extra 8, and the engineer of No. 434.

### Discussion

The crossing at BX Tower is protected by an interlocking which is so arranged that when the route is lined for the C. C. C. & St. L. the I. U. home signals will display stop, and the C. C. C. & St. L. approach signals and home signals will display proceed. In addition, after a C. C. C. & St. L. east-bound train has entered the approach circuit the route cannot be lined to permit a movement over the crossing on the I. U. until the time release requiring an interval of 3 minutes 7 seconds has operated. If the route is lined for a movement

over the crossing on the I. U. the route cannot be lined to permit a movement over the crossing on the C. C. C. & St. L. until the time release requiring an interval of 53 seconds has operated.

The route was lined for C. C. C. & St. L. No. 434, an east-bound first-class passenger train, at 4:14 a. m., the time it entered its approach circuit. I. U. Extra 8 South consisted of engine 8, in backward motion, and a caboose, in the order named. This train, moving southward on the northward main track, passed home signal 31, which displayed stop, and was moving over the crossing at a speed of about 7 miles per hour when the engine was struck by No. 434 at 4:16 a. m.

The engineer of No. 434 said both the approach signal and the home signal displayed proceed for his train. The engine-men were maintaining a lookout ahead, the headlight was lighted and there was no condition of the engine that obscured the view or distracted their attention. Because of rain, visibility was somewhat restricted. When the engine was approaching the crossing the speed was estimated to be about 20 miles per hour. The first the engineer knew of anything being wrong was when he saw the engine of Extra 8 occupying the crossing about 1 second before the collision occurred. No warning was given by the fireman. It could not be determined when he first saw Extra 8, as he was killed in the accident.

As Extra 8 was approaching the crossing the speed was about 7 miles per hour. The conductor and two brakemen were in the caboose. Their first knowledge of anything being wrong was when the collision occurred. It could not be determined why Extra 8 was not stopped before it passed home signal 31, as all members of the crew who were on the engine were killed in the accident. Because of rainfall and the tender obstructing the view ahead, the engineer may not have been able to see the dwarf signal, which was only a few inches above the level of the ground. Under such circumstances the signal would have been inadequate.

Tests conducted after the accident disclosed that the interlocking was functioning as intended and no condition was found that could cause the I. U. home signal to display proceed for Extra 8 and at the same time permit the route to be lined for the C. C. C. & St. L.

The investigation disclosed that several minutes prior to the time the route was lined for the C. C. C. & St. L. the leverman at EX Tower received information from which he understood that Extra 8 was moving on the southward main track. He



lined the route accordingly, and the home signal governing south-bound movements on the southward main track displayed proceed. Home signal 31 governing southward movements on the northward main track, the track upon which Extra 8 was moving, displayed stop. Because of the slow progress of Extra 8, the leverman thought No. 434 would reach the interlocking first; therefore, he operated the time release and lined the route for No. 434 when Extra 8 was a considerable distance north of the home signals. When the leverman observed that Extra 8 was passing home signal 31 he made an attempt to attract the attention of the crew by giving stop signals with a lighted white lantern. He had reached a point about half-way down the outside stairs leading from the tower to the ground when the engine passed him, and the collision occurred almost immediately.

The rules require that, after a route has been lined for an approaching train and then it is desired to line a conflicting route, the train must be stopped short of its home signal before the conflicting route is lined for use; however, the investigation disclosed that the leverman did not at any time have the route lined for Extra 8 to proceed over the crossing on the northward main track.

Cause

It is found that this accident was caused by failure to operate the I. U. train in accordance with an interlocking signal indication.

Dated at Washington, D. C., this ninth  
day of June, 1943.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.