

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3271
THE PEORIA AND EASTERN RAILWAY COMPANY
IN RE ACCIDENT
AT MACKINAW, ILL., ON
AUGUST 18, 1949

SUMMARY

Date: August 18, 1949

Railroad: Peoria and Eastern

Location: Mackinaw, Ill.

Kind of accident: Collision

Equipment involved: Freight train : Cut of cars

Train number: 90 :

Engine number: 41 :

Consists: 35 cars, caboose : 9 cars

Estimated speed: 45 m. p. h. : Standing

Operation: Timetable, train orders and manual-block system

Track: Single; tangent; 1.53 percent ascending grade eastward

Weather: Clear; dusk

Time: 6:38 p. m.

Casualties: 3 killed; 1 injured

Cause: Open switch

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3271

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

THE PEORIA AND EASTERN RAILWAY COMPANY

October 17, 1949

Accident at Mackinaw, Ill., on August 18, 1949, caused by
an open switch.

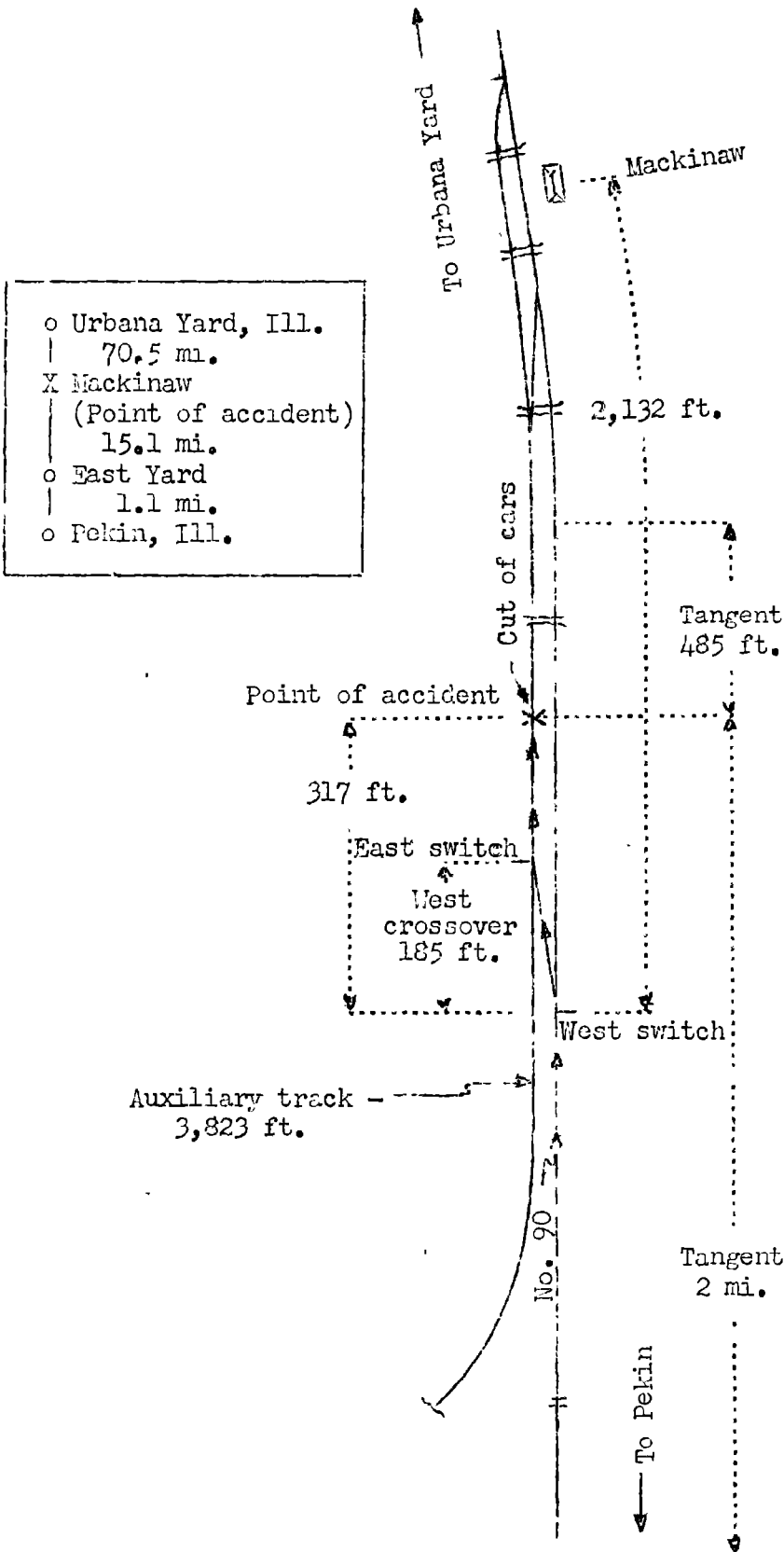
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On August 18, 1949, there was a collision between a freight train and a cut of cars on the Peoria and Eastern Railway at Mackinaw, Ill., which resulted in the death of three employees, and the injury of one employee. This accident was investigated in conjunction with a representative of the Illinois Commerce Commission.

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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.



Report No. 3271
Peoria and Eastern Railway
Mackinaw, Ill.
August 18, 1949

Location of Accident and Method of Operation

This accident occurred on that part of the railroad extending between Pekin and Urbana Yard, Ill., 86.7 miles. In the vicinity of the point of accident this is a single-track line, over which trains are operated by timetable, train orders and a manual-block system. At Mackinaw, 16.2 miles east of Pekin, an auxiliary track 3,823 feet in length parallels the main track on the north. A crossover 185 feet in length, hereinafter referred to as the west crossover, connects the main track with the auxiliary track at a point 2,132 feet west of the station. This crossover is facing-point for east-bound movements on the main track. The accident occurred on the auxiliary track at a point 317 feet east of the west switch of the crossover. The main track is tangent throughout a distance of approximately 2 miles immediately west of the point of accident and 485 feet eastward. The grade for east-bound trains varies between 0.90 percent and 1.53 percent ascending throughout a distance of 3,300 feet immediately west of the point of accident, and is 1.53 percent ascending at that point.

The west crossover is provided with a No. 10 turnout at the west end and a No. 8 turnout at the east end. The switch stand at the west switch is of the hand-throw, intermediate-stand type, and is located 9 feet 6-1/2 inches south of the center-line of the main track. It is equipped with an oil-burning lamp, which displays a green aspect when the switch is lined in normal position, and displays a red aspect when the switch is lined for entry to the crossover. The centers of the lenses of the lamp are 9 feet 7 inches above the level of the tops of the rails. When the switch is in normal position a green banner 12 inches wide and 35 inches long with a 1-inch white border is displayed at right angles to the track. This banner is pointed at each end and is attached to the spindle in a diagonal position, 8 feet 2-13/16 inches above the tops of the ties. When the switch is lined for the crossover a red banner, 16 inches wide and 36 inches long, is displayed at right angles to the track. This banner is rounded at each end and is attached to the spindle at the same level as the green banner. The operating lever is of the horizontal-throw type, and is provided with a hole for the insertion of a keeper pin to secure the lever in the desired position. The keeper pin is provided with a hole at its lower end for the insertion of a switch lock.

The switch is provided with a switch-point lock, which is manually operated by means of a treadle located near the base of the switch stand. The switch stand at the east switch of the crossover is of the ground-throw, low-stand type, and is located 7 feet 1 inch north of the center-line of the auxiliary track. It is equipped with an oil-burning lamp, which displays a lunar white aspect when the switch is lined for movement on the auxiliary track, and displays a yellow aspect when the switch is lined for entry to the crossover. It also is equipped with a white banner, which is displayed at right angles to the track when the switch is in normal position, and a yellow banner is displayed at right angles to the track when the switch is lined for entry to the crossover. The lenses of the lamp are 24 inches above the level of the tops of the rails, and the banners are mounted immediately below the lamp.

The crossover is equipped with a bolt lock consisting of a notched lock rod and a plunger which intersect at right angles in a bolt-lock casting. The plunger is pipe-connected to a switch rod of the west switch, and the lock rod is pipe-connected to a switch rod of the east switch. The bolt lock is so arranged that when both switches are in normal position the plunger is inserted into the notch of the lock rod, and this locks the switch points of the east switch in normal position. When the west switch is lined for entry to the crossover the plunger is withdrawn from the lock rod, and this releases the east switch for operation. When the east switch is in other than normal position, the notch in the lock rod is not alined for insertion of the plunger and the west switch cannot be lined to normal position.

Rules of the maintenance-of-way department of this carrier read in part as follows:

2114. Section Foremen are in charge of and responsible for the maintenance and safe condition of tracks, roadbed and right-of-way on their sections, * * *. They must do no work thereon that will interfere with the safe passage of trains, except under proper protection.

The maximum authorized speed for the train involved was 50 miles per hour.

Description of Accident

No. 90, an east-bound second-class freight train, consisted of engine 41, 35 cars and a caboose. This train departed from East Yard, the last open office, 15.1 miles west of Mackinaw, at 6:12 p. m., 23 minutes late, and while moving at an estimated speed of 45 miles per hour it entered the auxiliary track at the west crossover at Mackinaw and collided with a cut of nine cars, the west end of which was 317 feet east of the west crossover-switch.

The engine and tender, the first to the twelfth cars, inclusive, the front truck of the thirteenth car, and the front truck of the fourteenth car of No. 90 were derailed. The engine stopped on its left side and at an angle of 45 degrees to the track, with the front end 50 feet east of the point of accident. It was badly damaged. The tender was detached from the engine, and the trucks and the cistern of the tender were torn from the frame. The first to the twelfth cars, inclusive, were overturned to the north and stopped in various positions on or near the track. The first, second, third, and the fifth to ninth cars, inclusive, were destroyed. The fourth, tenth, eleventh and twelfth cars were badly damaged. The thirteenth and fourteenth cars stopped upright and were slightly damaged. The five most westerly cars of the cut of cars on the auxiliary track were derailed. The first to the fourth cars, inclusive, were overturned to the north and were destroyed. The fifth car stopped upright and was badly damaged.

The engineer, the fireman, and the front brakeman of No. 90 were killed, and the conductor was injured.

The weather was clear and it was dusk at the time of the accident, which occurred at 6:38 p. m.

Discussion

The auxiliary track at Mackinaw is used for the interchange of cars between the Peoria and Eastern Railway and the Illinois Terminal Railroad. About 2:40 p. m. on the day of the accident, an engine of the Illinois Terminal Railroad, while pushing several cars eastward on the auxiliary track, trailed through the east switch of the west crossover. At this time the switch was lined for movement to the main track. The crank on the switch stand was broken as a result of this movement. After this occurred the switch points were secured in normal position, and the section foreman of the Peoria and Eastern Railway, who was in charge of the maintenance of the switch, was instructed to make repairs.

The section force, consisting of a section foreman and three sectionmen, arrived at the west crossover about 6 p. m. The section foreman had been informed by the operator at Mackinaw that No. 90 was expected to leave East Yard, 15.1 miles west of Mackinaw, about 6 p. m. The section foreman thought that repairs to the east switch could be made without disturbing the adjustment of the bolt lock, which was maintained by forces of the signal department, and he did not request the assistance of the signal maintainer. After the east switch had been repaired the section foreman instructed a sectionman to operate the west switch for entry to the crossover, in order to release the bolt lock so that the east switch could be operated. The section foreman said he did not instruct the sectionman to be on the alert for the approach of No. 90, because it was possible to see an east-bound train when it was within 2 miles of the switch. When the west switch was lined for entry to the crossover, the section foreman observed that the east switch was not adjusted properly. He then called to the sectionman at the west switch and instructed him to restore the switch to normal position. The sectionman misunderstood the instructions and did not operate the switch. The section foreman, assuming that the west switch was lined in normal position, then disconnected the switch from the switch stand. This action permitted the points of the east switch to open sufficiently to misalign the slot in the lock rod with the plunger which locked the west switch in position for movement to the crossover. Soon afterward, the sectionman stationed at the west switch observed the approach of No. 90 when it was about 1,500 feet west of the switch. He was unable to line the switch to normal position, and he called a warning to the other members of the section force. One of the sectionmen immediately ran toward No. 90 and gave stop signals with a red flag, and the section foreman attempted to disconnect the bolt lock and thereby release the west switch. The engine of No. 90 passed the sectionman giving the stop signals at a point about 100 feet west of the west switch, entered the switch before the section foreman could disconnect the bolt lock, and struck the cut of cars on the auxiliary track. The members of the section force said that the engineer of No. 90 answered the stop signals given by the sectionman when the engine was about 500 feet west of the west switch, and that sparks from the brake shoes indicated that the brakes were applied before the train entered the crossover.

As No. 90 was approaching the point where the accident occurred the enginemen and the front brakeman were on the engine and the conductor and the flagman were in the caboose. The brakes of this train had been tested and had functioned properly when used en route. The conductor and the flagman estimated that the speed of the train was about 45 miles per hour as it approached the west crossover at Mackinaw. They said that they were not aware that a brake application was made prior to the time of the collision. After the accident occurred the throttle of the engine was found to be half open, the reverse lever was in position for forward motion, and the automatic brake valve was in emergency position.

Cause

It is found that this accident was caused by an open switch.

Dated at Washington, D. C., this seventeenth day of October, 1949.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.