

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3427
KANSAS CITY TERMINAL RAILWAY COMPANY
IN RE ACCIDENT
AT KANSAS CITY, KANS., ON
AUGUST 21, 1961

SUMMARY

Date: August 21, 1951

Railroad: Kansas City Terminal

Location: Kansas City, Kans.

Kind of accident: Head-end collision

Equipment involved: Engine : Track motor-cars and trailers

Engine number: U.P. 7036

Estimated speeds: Standing : 10 m. p. h.

Operation: Signal indications; yard limits

Tracks: Double; tangent; level

Weather: Clear

Time: 9 a. m.

Casualties: 1 killed; 10 injured

Cause: Failure to provide adequate protection for movement of track motor-cars

Recommendation: That the Kansas City Terminal Railway Company provide adequate protection for movement of track motor-cars on its line

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3427

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

KANSAS CITY TERMINAL RAILWAY COMPANY

November 7, 1951

Accident at Kansas City, Kans., on August 21, 1951, caused
by failure to provide adequate protection for the
movement of track motor-cars.

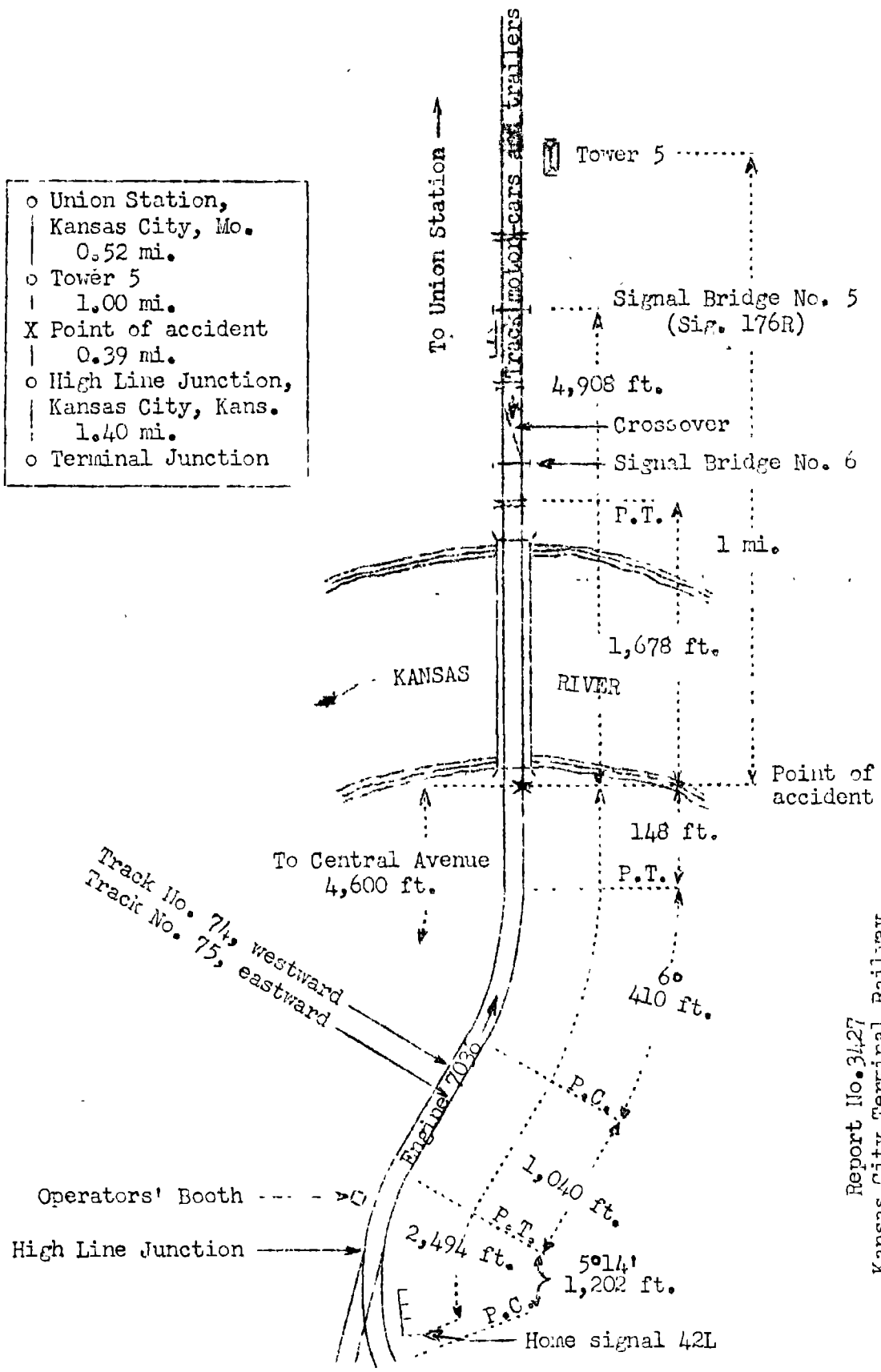
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REPORT OF THE COMMISSION

PATTERSON, Commissioner:

On August 21, 1951, there was a head-end collision
between an engine and track motor-cars and trailers, coupled,
on the Kansas City Terminal Railway at Kansas City, Kans.,
which resulted in the death of 1 and the injury of 10
maintenance-of-way employees.

1
Under authority of section 17 (2) of the Interstate Com-
merce Act the above-entitled proceeding was referred by the
Commission to Commissioner Patterson for consideration and
disposition.

- o Union Station,
Kansas City, Mo.
0.52 mi.
- o Tower 5
1.00 mi.
- X Point of accident
0.39 mi.
- o High Line Junction,
Kansas City, Kans.
1.40 mi.
- o Terminal Junction



Report No. 3427
 Kansas City Terminal Railway
 Kansas City, Kans.
 August 21, 1951

Location of Accident and Method of Operation

This accident occurred on that part of the railway extending between High Line Junction, Kansas City, Kans., and Union Station, Kansas City, Mo., 1.91 miles. In the vicinity of the point of accident this is a double-track line, over which trains are operated by signal indications. The main tracks from north to south are designated as No. 74, westward, and No. 75, eastward. These tracks are within yard limits. The accident occurred on track No. 75 at a point 1.52 miles west of Union Station and 1 mile west of Tower 5. From the west there are, in succession, a 5°14' curve to the right 1,202 feet in length, a tangent 1,040 feet, a 6° curve to the left 410 feet and a tangent 148 feet to the point of accident. From the east the track is tangent throughout a distance of 1,678 feet to the point of accident. Throughout a distance of 2,800 feet west of the point of accident the grade averages 0.52 percent ascending eastward and from this point it is level 2,592 feet eastward.

In the vicinity of the point of accident the railway crosses the Kansas River on a three-span two-level bridge 740 feet in length. The track on which this accident occurred is carried on the upper level over two through-truss spans and on the top chord of the westward span of the bridge. Tracks Nos. 74 and 75 are elevated a considerable distance eastward and westward from the bridge.

Interlocking signal 42L, governing eastward movements at High Line Junction, and interlocking signal 176R, governing westward movements at Tower 5 on track No. 75, are located, respectively, 2,494 feet west and 4,908 feet east of the point of accident. These signals are of the three-arm, upper-quadrant, semaphore type and display five aspects. They are continuously lighted. The aspects applicable to this investigation and the corresponding indications and names are as follows:

<u>Signal</u>	<u>Day Aspect</u>	<u>Indication</u>	<u>Name</u>
42L	Horizontal-over- horizontal-over- horizontal	STOP	Stop-Signal
176R	Horizontal-over- horizontal-over- diagonal	PROCEED AT SLOW SPEED PREPARED TO STOP	Slow-Speed- Signal

Prior to July 13, 1951, signal 42L was controlled from Tower 14 interlocking station at High Line Junction, and signal 176R was controlled from Tower 5 interlocking station. Traffic locking between the two interlockings was provided. Because of flood conditions Tower 14 interlocking was out of service when the accident occurred and the switches at High Line Junction were being operated manually by a switchtender under the supervision of an operator stationed at that point. The bottom arm of interlocking signal 176R, which indicates slow speed, is non-automatic and is not actuated by track occupancy of the block. During the period that Tower 14 interlocking was out of service, movements between High Line Junction and Tower 5 were controlled by the operators at those points.

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

D-14. ENGINE AND MOTOR WHISTLE SIGNALS.

NOTE.--The signals prescribed are illustrated by "o" for short sounds; "—" for longer sounds. * * *

SOUND

INDICATION

* * *

(p) Succession of short sounds.

Alarm for persons * * * on the track.

D-93. Within yard limits the main tracks may be used, protecting against passenger trains. Freight trains and engines must move within yard limits prepared to stop unless the main track is seen or known to be clear.

834. Trains and engines will use main tracks without train orders; and will move on tracks protected by automatic block signals by the signal indication. Trains and engines must move on tracks not protected by automatic block signals prepared to stop unless the way is seen or known to be clear. Movement against current of traffic must not be made unless authorized by written instructions from Superintendent. * * *

Bulletin No. 1, dated January 1, 1951, of the carrier reads in part as follows:

* * *

12. A signal given for the movement of a train or engine through Interlocking Plant is intended for that movement only and must not be taken as a proceed signal for a following train or engine until the signal has been restored to normal position and again cleared. * * *

* * *

The speed of the engine in backward motion was restricted by bulletin to 10 miles per hour.

Description of Accident

Engine U.P. 7036, headed west but moving in backward motion, was en route from the Union Pacific engine terminal to Union Station. This engine entered track No. 75 at Terminal Junction, 1.79 miles west of the point of accident, moved eastward and stopped about 8:53 a. m. at signal 42L, which indicated Stop. After two west-bound track motor-cars arrived, the operator at High Line Junction gave proceed signals with a yellow flag, and engine U.P. 7036 passed the signal and departed eastward at 8:58 a. m. About 9 a. m. the engine stopped on the west end of the Kansas River Bridge with the rear end of the tender 2,494 feet east of signal 42L. A few seconds later it was struck by a track motor-car, three trailers and a track motor-car, coupled.

The track motor-cars and trailers, occupied by 3 maintenance-of-way foremen and 32 track employees, departed westward from the vicinity of Union Station about 8:45 a. m., en route to Central Avenue, located about 4,600 feet west of the point of accident. Track motor-cars of this carrier are not identified by number. At Tower 5 the track motor-cars and trailers passed signal 176R, which indicated Slow Speed, were diverted to track No. 75 and while moving at an estimated speed of 12 miles per hour, the track motor-cars and trailers struck the rear end of the tender of engine U.P. 7036.

None of the equipment was derailed. The rear end of the tender of engine U.P. 7036 was slightly damaged. The first track motor-car stopped with its front end wedged under

the coupler at the rear of the tender. The trailers and the rear track motor-car stopped in line behind it. The first track motor-car was badly damaged and the rear track motor-car was considerably damaged. The first and the second trailers were somewhat damaged.

One maintenance-of-way employee was killed, and 10 maintenance-of-way employees were injured.

The weather was clear at the time of the accident, which occurred about 9 a. m.

The first track motor-car was of the 4-wheel type, equipped with 4-wheel brakes, and was powered with a 20 horse-power gasoline motor. It weighed 1,800 pounds and had seating capacity for 8 persons. The rear track motor-car was of the 4-wheel type, equipped with 4-wheel brakes and was powered with a 12 horse-power gasoline motor. It weighed 1,400 pounds and had seating capacity for 7 persons. The trailers were of the 4-wheel type, without brakes. The track motor-cars and trailers were insulated to prevent the shunting of track circuits.

During the 30-day period preceding the day of the accident the average daily movement in the vicinity of the point of accident was 25.4 trains.

Discussion

The rules of this carrier provide that freight trains and engines must move within yard limits prepared to stop unless the main track is seen or known to be clear. Moving a train or engine with caution or under control requires that the speed must be so controlled that it can be stopped within range of the engineer's vision. Trains and engines must move on tracks not protected by automatic block signals prepared to stop unless the way is seen or known to be clear. Movements against the current of traffic must not be made unless authorized by written instructions from the superintendent. A signal given for the movement of a train or engine through an interlocking must not be accepted for a following movement until the signal has been restored to normal position and again cleared.

After the flood of July 13, 1951, service was first resumed on August 1, when track No. 74 was placed in service for movements in either direction between High Line Junction and signal bridge No. 6, 1.18 miles east of High Line Junction. Double-track operation over this line was resumed at noon August 20, when track No. 75 between the interlockings was placed in service. Because of flood conditions, the interlocking at Tower 14 was not in service and movements between the interlockings were controlled by operators at Tower 5 interlocking and High Line Junction.

As engine U.P. 7036 was approaching the point where the accident occurred the speed was about 10 miles per hour. The engine bell was ringing. The engine was moving eastward in backward motion. The hostler, who was operating the engine, was seated on the engineer's side of the cab and the hostler helper was seated on the fireman's side of the cab. The employees on the engine were maintaining a lookout in the direction of movement. At High Line Junction they received proceed hand signals from the operator. No order or instruction restricting the movement of engine U.P. 7036 with respect to track motor-cars and trailers of the track force had been issued, and the employees in charge of the movement of the engine had not been informed that this equipment was occupying the main track. Because of track curvature and buildings adjacent to the tracks the view from the engineer's side of the cab of an engine approaching the point of accident was restricted to a distance of 962 feet. The hostler said that when he first observed the track motor-cars and trailers his view was obscured by the bridge structure and he thought the equipment was on the westward track. When the engine was about 90 feet from the west end of the bridge, he became aware that the track motor-cars and trailers were on track No. 75. He immediately made an emergency application of the brakes and moved the reverse gear to position for forward movement. The engine was stopped but before it could be moved in forward motion the accident occurred. The hostler helper said that because of track curvature he did not see the approaching track motor-cars and trailers before the collision occurred.

The maintenance-of-way forces in this accident had been engaged in repairing flood damage in the vicinity of Central Avenue, west of High Line Junction. It had been the practice to assemble the forces of several foremen and transport their personnel and tools on track motor-cars and trailers, coupled as a unit, to the point where they were to perform service. On the day of the accident a force consisting of 3 foremen and 32 track employees were assembled for movement on 2 track

motor-cars and 3 trailers, coupled as a unit. Each force was in charge of its respective foreman. The track motor-cars and trailers departed westward from the vicinity of Union Station about 8:45 a. m. The operator of the first track motor-car said that signal 176R indicated slow speed and that the track motor-cars and trailers were routed to track No. 75 west of the signal. He said that the speed was about 15 miles per hour as the movement proceeded across the Kansas River Bridge and he thought the approaching engine was about 200 feet distant when he first observed it. When he observed that the engine was on the same track as the track motor-cars he applied the brakes on his track motor-car. He thought that the speed was reduced slightly before the collision occurred. The operator of the rear track motor-car said that he observed the engine approaching while the track motor-cars and trailers were under the bridge structure. When he became aware that the engine was occupying the same track as the track cars he applied the brakes on his car and simultaneously felt the retardation from the brake application on the first track motor-car. A foreman on the first track motor-car said he observed the engine approaching when it was about 400 feet distant and warned the car operator. He said that the engine had stopped before the collision occurred. A foreman on the rear track motor-car said that he became concerned when the employees started to alight from the track cars. He said that he did not observe the engine until after he had alighted from the track motor-car.

The train director at Tower 5 said that about 15 minutes before the accident occurred he had obtained permission from the operator at High Line Junction for the movements via track No. 75 of two track motor-cars from Tower 5 to High Line Junction and had instructed the leverman to line the route for their movement. He was aware that a third track motor-car movement would be ready within a few minutes to proceed over the same route, but he did not instruct the leverman to restore signal 176R to normal position. He said that a train obstructed his view of the signal and then several train movements required his attention. When he observed that the third track motor-car movement had passed signal 176R and was proceeding westward, he immediately communicated by telephone with the operator at High Line Junction to obtain permission for the movement. However, the operator at High Line Junction informed him that engine U. P. 7036 had departed eastward from that point.

The investigation disclosed that no record of track motor-car movements between the two interlockings was made. Track motor-cars on this line are not identified by number. The track motor-cars and trailers in this accident were insulated to prevent the shunting of track circuits and they did not actuate the visual indicators at the interlocking stations to indicate to the operators that they were occupying the main track. Neither the foremen nor the track motor-car operators involved in this accident had been examined on the operating rules of the carrier. Under the conditions which obtained when the accident occurred, written instructions were required for train movements against the current of traffic, but such instructions were not issued for the movements of track motor-cars. As a result, the operators of the track motor-cars accepted a proceed signal which had been displayed for the movement of a previous track motor-car, entered track No. 75 and moved against the current of traffic and without protection into a block occupied by an opposing movement.

Since January 1, 1944, the Commission has investigated 35 collisions, including the present case, which were caused by failure to provide adequate protection for the movement of track motor-cars. These accidents resulted in the death of 66 persons and the injury of 116 persons.

Cause

It is found that this accident was caused by failure to provide adequate protection for the movement of track motor-cars.

Recommendation

It is recommended that the Kansas City Terminal Railway Company provide adequate protection for the movement of track motor-cars on its line.

Dated at Washington, D. C., this seventh day of November, 1951.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.