

INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 3150

CHICAGO, ROCK ISLAND AND PACIFIC
RAILROAD COMPANY

REPORT IN RE ACCIDENT

NEAR DELLVALE, KANS., ON

DECEMBER 23, 1947

SUMMARY

Railroad: Chicago, Rock Island and Pacific

Date: December 23, 1947

Location: Dellvale, Kans.

Kind of accident: Collision

Equipment involved: Passenger train : Motor-truck

Train number: 7 :

Engine number: Diesel-electric :
units 637 and
634

Consist: 11 cars :

Estimated speeds: 65 m. p. h. : Unknown

Operation: Timetable, train orders and
automatic block-signal
system

Track: Single; tangent; 0.1 percent
ascending grade westward

Highway: Tangent; crosses track at angle
of 84°51'; 2.4 percent ascending
grade southward

Weather: Cloudy

Time: 3:44 a. m.

Casualties: 3 killed; 11 injured

Cause: Motor-truck occupying railroad
crossing at grade in front of
approaching train

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3150

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

CHICAGO, ROCK ISLAND AND PACIFIC RAILROAD COMPANY

January 26, 1948

Accident near Dellvale, Kans., on December 23, 1947,
caused by a motor-truck occupying railroad
crossing at grade in front of an approaching
train.

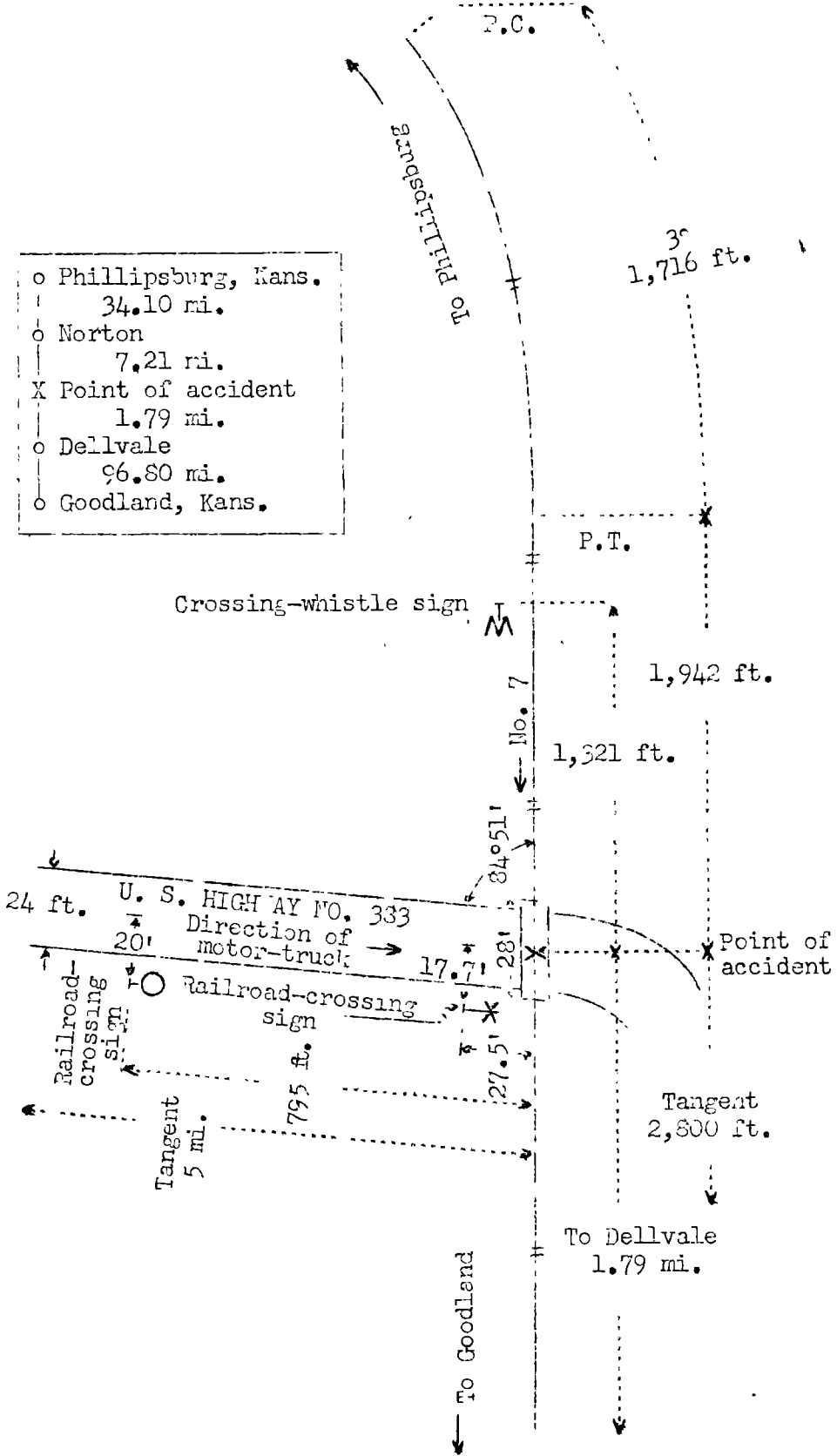
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On December 23, 1947, there was a collision between a passenger train on the Chicago, Rock Island and Pacific Railroad and a motor-truck at a grade crossing near Dellvale, Kans., which resulted in the death of the driver of the motor-truck and two train-service employees, and the injury of five passengers and six railway-mail clerks.

¹ 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.

- o Phillipsburg, Kans. 34.10 mi.
- o Norton 7.21 mi.
- X Point of accident 1.79 mi.
- o Dellvale 96.80 mi.
- o Goodland, Kans.



Inv. No. 3150
 Chicago, Rock Island and Pacific Railroad
 Dellvale, Kans.
 December 23, 1947

Location of Accident and Method of Operation

This accident occurred on that part of the Western Division extending between Phillipsburg and Goodland, Kans., 139.9 miles, a single-track line, over which trains are operated by timetable, train orders and an automatic block-signal system. The accident occurred 41.31 miles west of Phillipsburg, at a point 1.79 miles east of the station at Dellvale, where the railroad is crossed at grade by U. S. Highway No. 383. From the east on the railroad there are, in succession, a 3° curve to the right 1,716 feet in length and a tangent 1,942 feet to the point of accident and 2,800 feet westward. The grade is 0.1 percent ascending westward.

U. S. Highway No. 383 intersects the railroad at an angle of 84°51', and is surfaced with bituminous mixture to a width of 24 feet. The highway is tangent throughout a distance of about 5 miles immediately north of the crossing and about 50 feet southward, then it turns sharply westward. The grade for south-bound vehicles is, successively, 3.4 percent ascending 115 feet, 6.8 percent ascending 205 feet, 2.4 percent ascending 195 feet to the centerline of the crossing and about 50 feet southward. Between points 565 feet and 115 feet north of the crossing the highway is laid in a cut, the banks of which rise to a maximum height of 9 feet. The crossing is 28 feet wide, and is of plank construction. The level of the surface of the crossing is about 1 inch below the level of the tops of the rails. Flangeways about 2-1/2 inches in width are provided.

A circular railroad-crossing sign 2.5 feet in diameter is located to the right of the direction of south-bound traffic, 20 feet west of the centerline of the highway and 795 feet north of the centerline of the main track. This sign is mounted on a mast 3.2 feet above the level of the highway, and bears two diagonal lines intersecting at right angles, and the letters "R.R." in black and in colorless reflector buttons on a yellow background. A standard cross-buck railroad-crossing sign is located to the right of the direction of south-bound traffic, 17.7 feet west of the centerline of the highway and 27.5 feet north of the centerline of the track. This sign is mounted on a mast 9.53 feet above the level of the tops of the rails, and bears the words "RAILROAD CROSSING" in black letters on a white background. A crossing-whistle sign for west-bound trains is located 1,321 feet east of the crossing.

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

14. Engine Whistle Signals.

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

Sound.	Indication.
--------	-------------

* * *

(1) — — o ———	Approaching public crossings at grade. To be prolonged or repeated until crossing is occupied by engine or car. * * *
---------------	---

Section 168 of the Motor Vehicle Laws of Kansas reads in part as follows:

168. * * * (a) The driver * * * of any vehicle carrying * * * flammable liquids as a cargo * * *, before crossing at grade any track or tracks of a railroad, shall stop such vehicle within fifty feet but not less than ten feet from the nearest rail of such railroad, and while so stopped shall listen and look in both directions along such track for any approaching train, and for signals indicating the approach of a train, * * * and shall not proceed until he can do so safely. * * *

The maximum authorized speed for the passenger train was 85 miles per hour.

Description of Accident

No. 7, a west-bound first-class passenger train, consisted of Diesel-electric units 637 and 634, one baggage-mail car, one baggage car, four coaches, one cafe-lounge car, one sleeping car, one dining car and two sleeping cars, in the order named. All cars were constructed with steel underframe and stainless steel superstructures. This train departed from Norton, the last open office, 7.21 miles east of the point of accident, at 3:35 a. m., 24 minutes late, and while moving at an estimated speed of 65 miles per hour it struck a motor-truck on a grade crossing 1.79 miles east of the station at Dellvale.

The vehicle involved was a tractor and semi-trailer, owned by the Consumers Cooperative Association, Phillipsburg, Kans. The driver, who was the sole occupant, held Kansas chauffeur's license No. 31007. The tractor was a 1947 Auto-Car 6-cylinder model C-50 T, and bore, among others, Kansas license No. T58-382. It was equipped with dual tires on the rear wheels and air-operated power brakes on all wheels, and was provided with an enclosed steel cab. The semi-trailer was equipped with dual tires on its wheels, air-operated power brakes, a cylindrical steel tank divided into 4 compartments, and bore Kansas license No. 3868. At the time of the accident the cargo consisted of 3,019 gallons of gasoline and 1,302 gallons of distillate. The total length of the tractor and semi-trailer was 33 feet. The total weight of the tractor, semi-trailer and cargo was 45,105 pounds. The cargo was loaded at Phillipsburg, Kans., and was destined to Seibert, Colo. This vehicle was en route southward on U. S. Highway No. 383, at an unknown speed when it entered upon the crossing, and the semi-trailer was struck by No. 7.

The semi-trailer was broken into two portions, and was torn loose from the tractor. The tractor and the front portion of the semi-trailer stopped about 25 feet south of the main track at points, respectively, 128 feet and 59 feet west of the crossing. The rear portion of the semi-trailer stopped 25 feet north of the track and 213 feet west of the crossing. The tank was punctured and escaping gasoline and distillate became ignited. No. 7 was not derailed, and it stopped with the front end of the first Diesel-electric unit standing 2,538 feet west of the point of accident. The hooded nose in front of the control compartment of the first unit was torn open on the left side and the doorway in the nose under the headlight was torn from its fastenings. The control compartment, the engine room and the superstructure of the first unit were practically destroyed by fire and internal explosions. The second Diesel-electric unit and the first two cars were badly damaged by fire, and the remainder of the cars were slightly damaged by fire.

The Diesel-electric units were provided with 24-RL brake equipment and DSE-24-H brake valves, and the cars of the train were provided with HSC brake equipment. The train-brake system is arranged for either electro-pneumatic straight air-brake control, or automatic air-brake control. The DCE-24-H brake valve is so arranged that an emergency application of the train-brake system can be obtained by moving the brake-valve handle to the extreme right of the quadrant, regardless of which brake system is in use. A safety-control feature is so arranged that when there is no pressure exerted on either the foot pedal or the automatic brake-valve handle, a service application of the brakes will occur, unless a 30-pound pressure exists in the pipe to the relay valve.

The engineer and the fireman were killed.

It was cloudy at the time of the accident, which occurred about 3:44 a. m.

During the 30-day period preceding the day of the accident, the average daily movement of trains over the crossing was 10.96. During the 24-hour period beginning at 12:01 p. m., December 26, 1947, 283 automobiles and 64 trucks passed over the crossing.

Discussion

No. 7 was approaching the crossing at a speed of about 65 miles per hour, in territory where the maximum authorized speed for this train was 85 miles per hour. The members of the train crew were in various locations throughout the cars of the train. The first these employees knew of anything being wrong was when the collision occurred. Several railway-mail clerks said they felt an emergency application of the brakes immediately prior to the collision. The brake system of this train was arranged to operate in electro-pneumatic straight air-brake control, and had been tested at Phillipsburg about 41 minutes prior to the time of the accident. The brakes had functioned properly en route.

It could not be determined when the enginemen first became aware that the motor-truck had entered upon the crossing, as both of them were fatally burned in the accident. Their bodies were found in their respective seats in the control compartment of the first Diesel-electric unit. This train departed from Norton, 7.21 miles east of the crossing involved, about 9 minutes prior to the accident, and at that time the conventional headlight, and the oscillating signal light at the front of the first Diesel-electric unit, were lighted brightly. The engineer of an east-bound train, which was occupying the siding at Clayton, 8 miles west of Dellvale, said that at intervals he had observed the reflection of the oscillating signal light against the clouds when No. 7 departed from Norton, and about 9 minutes later he saw the reflection of the fire resulting from the collision. The surviving members of the crew of No. 7 said they did not observe whether the engine whistle was sounded in the vicinity of the crossing. When the engine was examined after the accident the throttle was in idling position, the brake-valve handle was in emergency position, and the shifter lever on the brake-valve pedestal was in position for electro-pneumatic straight-air-brake control.

The crossing was protected by an advance railroad-crossing sign and a standard cross-buck sign. The driver of the motor-truck was a driver of 18 years experience, of which 2 years 9 months were in the employ of the Consumers Cooperative Association. According to the records of this company, the motor-truck involved was inspected on December 18, 1947, at Rexford, Kans., by a member of the Kansas Highway Patrol, and it was in satisfactory condition. It had been inspected and serviced by the mechanical forces of the owner at Phillipsburg, Kans., about 10 p. m., December 22, 1947, and its condition was satisfactory. According to the daily log filed by the driver, he had been on duty 8-1/2 hours on December 22, 1947, and had been off duty from 3:30 p. m., December 22, to the time he started the trip in question on December 23, 1947.

The laws of the state of Kansas governing operation of motor vehicles require that a vehicle transporting inflammable liquids must stop not less than 10 feet and not more than 50 feet from the nearest rail of a railroad grade crossing, and the vehicle must not proceed unless it is safe to do so. Visibility was not impaired by weather conditions, and the driver could have seen the approaching train throughout a considerable distance immediately east of the crossing. The driver was killed in the accident. There were no surviving witnesses of the accident, and therefore, it could not be determined what procedure the driver followed in driving the vehicle upon the crossing.

Cause

It is found that this accident was caused by a motor-truck occupying a railroad crossing at grade in front of an approaching train.

Dated at Washington, D. C., this twenty-sixth day of January, 1948.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.