

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3153
THE TEXAS AND PACIFIC RAILWAY COMPANY
REPORT IN RE ACCIDENT
AT RANCH, TEX., ON
DECEMBER 30, 1947

SUMMARY

Railroad: Texas and Pacific
Date: December 30, 1947
Location: Ranch, Tex.
Kind of accident: Head-end collision
Trains involved: Freight : Freight
Train numbers: Extra 657 East : 67
Engine numbers: 657 : 622
Consists: 22 cars, caboose : 55 cars, caboose
Estimated speeds: Standing : 55 m. p. h.
Operation: Timetable, train orders
and automatic block-
signal system
Track: Single; tangent; 0.51 percent
descending grade westward
Weather: Clear
Time: 7:05 p. m.
Casualties: 3 killed; 1 injured
Cause: Switch being opened immediately
in front of approaching train
Recommendation: That the Texas and Pacific Railway
Company install electric switch-
locking at main-track hand-operated
switches in automatic block-signal
territory

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3153

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

THE TEXAS AND PACIFIC RAILWAY COMPANY

February 11, 1948

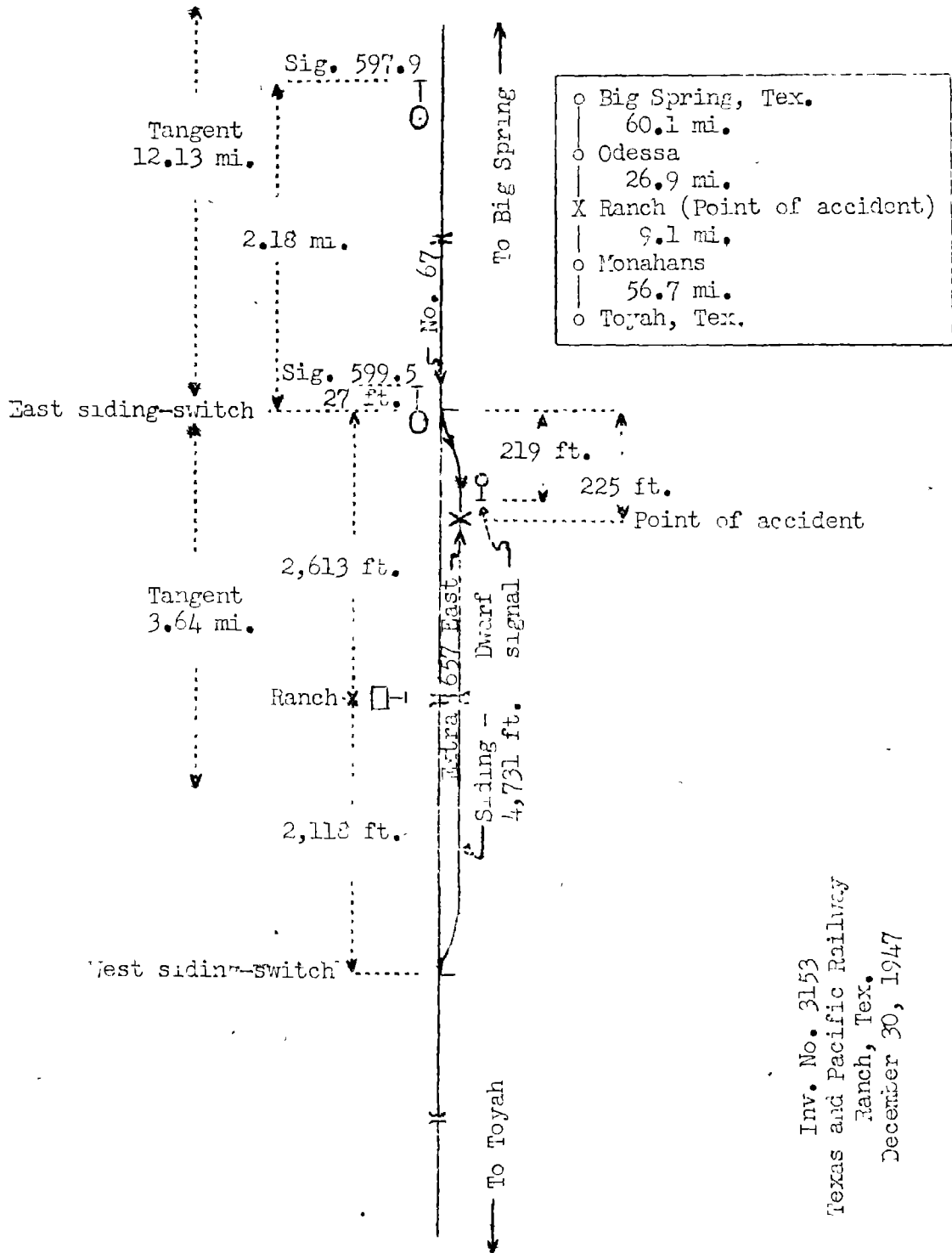
Accident at Ranch, Tex., on December 30, 1947, caused
by a switch being opened immediately in front
of an approaching train.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On December 30, 1947, there was a head-end collision between two freight trains on the Texas and Pacific Railway at Ranch, Tex., which resulted in the death of three employees, and the injury of one employee.

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.



Inv. No. 3153
 Texas and Pacific Railway
 Ranch, Tex.
 December 30, 1947

Location of Accident and Method of Operation

This accident occurred on that part of the Western Division extending between Toyah and Big Spring, Tex., 152.8 miles, a single-track line, over which trains are operated by timetable, train orders and an automatic block-signal system. At Ranch, 65.8 miles east of Toyah, a siding 4,731 feet in length parallels the main track on the south. The west switch and the east switch of this siding are, respectively, 2,118 feet west and 2,313 feet east of the station sign. The accident occurred on the siding at a point 225 feet west of the east-siding switch. The main track is tangent throughout a distance of 12.13 miles immediately east of east siding-switch and 3.64 miles westward. The grade is 0.51 percent descending westward.

The automatic block-signal system is arranged on the absolute-permissive principle, and consists of double-location signals near the ends of sidings and intermediate signals between stations. Signals designated as block-indicator signals are provided at the clearance points at each end of the siding at Ranch. Signals 597.9 and 599.5, governing west-bound movements on the main track, are, respectively, 2.18 miles and 27 feet east of the east siding-switch. These signals are of the three-indication, color-light type, and are approach lighted. The block-indicator signal at the east end of the siding is a dwarf signal of the two-indication color-light type, and is continuously lighted. This signal is located immediately south of the south rail of the siding and at a point 219 feet west of the east switch. The involved aspects and the corresponding indications and names of these signals are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
597.9	Green	Proceed	Clear
599.5)	Green	Proceed	Clear
)	Red, with	Stop, then	Stop and
)	number.	proceed at	proceed
)	plate	restricted	
)		speed	
Block-indicator signal	Red	Block occupied	Block Indicator

The switchstand at the east siding-switch at Ranch is of the hand-throw, intermediate-stand type, and is provided with a red circular target 18 inches in diameter. The center of the target is 6 feet above the ties, and about 7 feet south of the gage side of the south rail of the main track. No switch lamp is provided. When the switch is lined normally the target is parallel to the track. When the switch is lined for entry to the siding the target is at right angles to the track.

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

DEFINITIONS

* * *

RESTRICTED SPEED--Proceed prepared to stop short of train, obstruction, or switch not properly lined and to look out for broken rail.

10. COLOR SIGNALS

Color	Indication
(a) Red.	Stop.

* * *

73. Extra trains are inferior to regular trains.

104. Conductors are responsible for the position of switches used by them and their trainmen, * * *

* * *

When practicable, the engineman must see that the switches near the engine are properly lined.

* * *

104 (b). * * *

Main track switches must not be unlocked until the trains which are to be met or passed have cleared the switch. Employees must not stand within thirty feet of the switch stand while a train is approaching or passing over the switch; when practicable they must take a position on the opposite side of the track.

* * *

204. * * *

* * *

Enginemen must show train orders and clearance cards to firemen and when practicable to forward trainmen. Conductors must show train orders and clearance cards when practicable to trainmen. * * *

512. Block indicator signals are provided in certain automatic block system territory to indicate the condition of the block in which the switch is located and to govern movements to the main track.

Color light block indicator signals governing movements from sidings or auxiliary tracks to the main track are located immediately to the right of the track they control approximately at the clearance point; a red light indicating there is a train or engine in or closely approaching that block.

At switches where these signals are installed the indication must be observed before a movement is made to the main track. The switch must not be opened or the main track obstructed while the signal indicates a train or engine is in or approaching that block, except under flag protection.

* * *

In this territory the maximum authorized speeds are 70 miles per hour for passenger trains and 60 miles per hour for freight trains.

Description of Accident

At Monahans, 9.1 miles west of Ranch, the crew of Extra 657 East, an east-bound freight train, received copies of train order No. 98 reading in part as follows:

No 67 eng 622 wait at * * *
Ranch seven naught five 705 PM
* * *
for Extra 657 East

Extra 657 East, consisting of engine 657, 22 cars and a caboose, departed from Monahans, the last open office, at 6:42 p. m., entered the siding at Ranch at the west switch and stopped about 7:02 p. m., with the engine 225 feet west of the east siding-switch. About 3 minutes later the engine was struck by No. 67.

At Odessa, 26.9 miles east of Ranch, the crew of No. 67, a west-bound second-class freight train, received copies of train order No. 98. This train, consisting of engine 622, 55 cars and a caboose, departed from Odessa, the last open office, at 6:32 p. m., 1 hour 28 minutes late, passed signal 597.9, which displayed proceed, passed signal 599.5, the indication of which changed from proceed to stop-then-proceed-at-restricted-speed when the engine was closely approaching this signal, and while moving at an estimated speed of 55 miles per hour it entered the siding at Ranch at the east switch and collided with Extra 657 East.

The engine of Extra 657 East was forced westward about 160 feet, and was derailed. The first 3 cars of this train were badly damaged and later destroyed by fire. The fourth, fifth and sixth cars were damaged by fire. Both engines were badly damaged. The first 19 cars of No. 67 were derailed, 11 of which were destroyed and 7 considerably damaged.

The engineer of Extra 657 East and the engineer and the fireman of No. 67 were killed. The front brakeman of No. 67 was injured.

The weather was clear and it was dark at the time of the accident, which occurred at 7:05 p. m.

Discussion

Extra 657 East, an east-bound freight train, was on the siding at Ranch to meet No. 67, a west-bound freight train, in compliance with the provisions of train order No. 98. The crew of each train held copies of the train order. About 3 minutes after Extra 657 East stopped into clear on the siding, No. 67 entered the siding at the east switch and struck Extra 657 East.

As No. 67 was approaching Ranch the speed was about 55 miles per hour, as indicated by the tape of the speed recorder. The engineer and the fireman were killed in the accident. The front brakeman was in the brakeman's booth on the tender, and he said that when the engine was about 1 mile east of the east siding-switch he heard a station

signal and a meeting-point signal sounded on the engine whistle. When the engine was approaching signal 599.5, located 27 feet east of the east siding-switch, he looked forward and observed that this signal was displaying a proceed indication and that Extra 657 East was into clear on the siding, then he reentered the brakeman's booth. A few seconds later he felt the engine lurch as it entered the siding, and the collision occurred almost immediately. The brakes of this train had been tested and had functioned properly en route.

The investigation disclosed that the front brakeman of Extra 657 East had read train order No. 98, and he understood that, under the provisions of the order, his train was required to enter the siding at Ranch at the west switch and to remain into clear on the siding until No. 67 had cleared the east switch. The front brakeman operated the west siding-switch for his train to enter the siding, and he boarded the tender as the engine entered the siding. Soon after his train stopped on the siding near the east switch the front brakeman proceeded from the tender to the engine cab, then dismounted and proceeded to the east switch. He said that when he passed the block-indicator signal, located at the clearance point of the turnout, he observed that this signal was displaying a red aspect, which indicated that the block was occupied. However, when he saw the reflection of the headlight of No. 67 as it was closely approaching signal 599.5 he became confused with reference to the position of the switch. Then he operated the switch and, immediately afterward realized that he had erroneously lined it for entry to the siding, but the engine of No. 67 entered the turnout before he could operate the switch to normal position. The engineer and the fireman were in their respective positions on the engine. The fireman said the first he knew that the east siding-switch was improperly lined was when the engine of No. 67 was a short distance east of the switch. Then he jumped from his engine and was attempting to light a fusee to warn the enginemen of No. 67 when the engine entered the turnout. The engineer of Extra 657 East remained on his engine, and was killed. The conductor, the flagman and the swing brakeman were in the vicinity of the rear end of their train, and they were not aware of anything being wrong until the collision occurred.

In addition to the present accident, during the past 16 years the Commission has investigated 20 accidents which resulted from the opening of switches immediately in front

of approaching trains, similar to the accident under discussion. These accidents resulted in the death of 31 and the injury of 427 persons. If the east siding-switch at Ranch had been provided with electric switch-locking, it would not have been possible to operate the switch immediately in front of No. 67.

Cause

It is found that this accident was caused by a switch being opened immediately in front of an approaching train.

Recommendation

It is recommended that the Texas and Pacific Railway Company install electric switch-locking at main-track hand-operated switches in automatic block-signal territory.

Dated at Washington, D. C., this eleventh day of February, 1948.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.