

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 2886
ST. LOUIS-SAN FRANCISCO RAILWAY COMPANY
REPORT IN RE ACCIDENT
AT EAST RICHLAND, MO., ON
APRIL 20, 1945

SUMMARY

Railroad: St. Louis-San Francisco
Date: April 20, 1945
Location: East Richland, Mo.
Kind of accident: Side collision
Trains involved: Freight : Freight
Train numbers: 44 : First 35
Engine numbers: 1308 : 4511
Consist: 6 cars, caboose : 38 cars, caboose
Estimated speed: Standing : 45 m. p. h.
Operation: Signal indications
Track: Single; 4° curve; 0.1 percent
ascending grade westward
Weather: Clear
Time: 4:06 p. m.
Casualties: 5 injured
Cause: Failure to obey signal indications

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2886

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

ST. LOUIS-SAN FRANCISCO RAILWAY COMPANY

May 23, 1945.

Accident at East Richland, Mo., on April 20, 1945, caused
by failure to obey signal indications.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

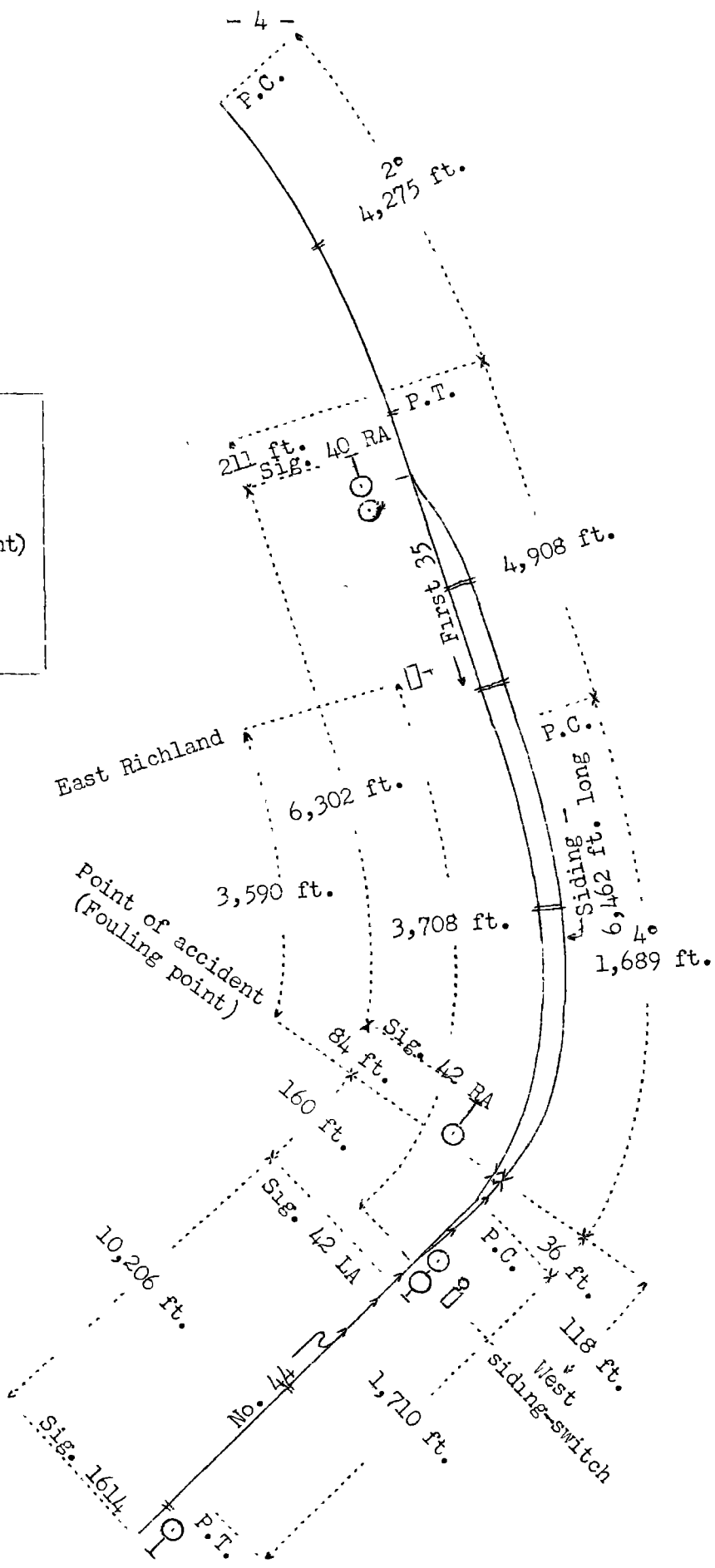
On April 20, 1945, there was a side collision between two freight trains on the St. Louis-San Francisco Railway at East Richland, Mo., which resulted in the injury of five employees.

¹Under 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.

↑ To Newburg

- Newburg, Mo. 36.7 mi.
- St. John 3.5 mi.
- X East Richland (Point of accident) 8.2 mi.
- Stoutland 71.6 mi.
- Springfield, Mo.

← To Springfield



Inv. No. 2386
 St. Louis-San Francisco Railway
 East Richland, Mo.
 April 1945

Location of Accident and Method of Operation

This accident occurred on that part of the Eastern Division designated as the Lebanon Sub-Division and extending eastward from Springfield to Newburg, Mo., 120 miles, a single-track line in the vicinity of the point of accident over which trains are operated by signal indications. At East Richland, 79.8 miles east of Springfield, a siding 6,462 feet long parallels the main track on the south. The west switch of this siding is 3,708 feet west of the station. The accident occurred at the fouling point of the main track and the turnout of the west siding-switch, at a point 118 feet east of the switch. From the west there is a tangent 1,710 feet in length, which is followed by a 4° curve to the left 36 feet to the point of accident and 1,689 feet eastward. From the east there are, in succession, a 2° curve to the right 4,275 feet in length, a tangent 4,908 feet and the curve on which the accident occurred. At this point the grade is 0.1 percent ascending westward.

Automatic signal 1614 and semi-automatic signal 42 LA, governing east-bound movements, are, respectively, 10,366 feet and 160 feet west of the point of accident. Semi-automatic signals 40 RA and 42 RA, governing west-bound movements, are, respectively, 6,386 feet and 84 feet east of the point of accident. Signals 42 LA and 40 RA are of the two-unit color-light type, and signals 1614 and 42 RA are of the one-unit color-light type. These signals are continuously lighted, except signal 1614, which is approach lighted. The involved aspects, and corresponding indications and names of these signals are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
1614	Yellow	Proceed at a speed reduced to not exceeding one-half the maximum authorized at point involved, prepared to stop at next signal.	Approach Signal.
42 LA	Red-over-yellow	Proceed through turnout * * *.	Diverging Approach Signal.
40 RA	Yellow-over-red	Proceed at a speed reduced to not exceeding one-half the maximum authorized at point involved, prepared to stop at next signal.	Approach Signal.
42 RA	Red, with letter A	Stop.	Stop and Stay Signal.

A green-over-red aspect displayed by signal 40 RA indicates proceed. Signals 40 RA, 42 RA and 42 LA and the west siding-switch are controlled by a centralized-traffic-control machine at Newburg, 40.2 miles east of East Richland. Approach locking is provided, and the circuits of the controlled signals involved are so arranged that, when the west siding-switch is lined for movement from the main track to the siding, signal 40 RA will display yellow-over-red; signal 42 RA, red; signal 42 LA, red-over-yellow; and signal 1614, yellow. The control machine is provided with visual indicators, and the controlling circuits are arranged to indicate the movement of trains within the centralized-traffic-control territory.

Operating rules read in part as follows:

34. All members of train and engine crews must, when practicable, communicate to each other by its name the indication of all signals affecting the movement of their train.

662. Trains or engines should run to, but must not pass a signal at "stop" indication, * * *

The maximum authorized speed for freight trains is 50 miles per hour.

Description of Accident

No. 44, an east-bound freight train, consisting of engine 1308, 6 cars and a caboose, departed from Stoutland, 8.2 miles west of East Richland, at 3:40 p. m., 4 hours 45 minutes late, passed signal 1614, which displayed yellow, and stopped to do work at East Richland about 3:47 p. m., with the engine standing about 1,200 feet west of the west siding-switch. The west siding-switch was lined for entry to the siding, and signal 42 LA displayed red-over-yellow. About 19 minutes later, after switching operations had been completed, the engine moved westward on the siding and had just coupled to the east car of a cut of four cars standing on the turnout at the west end of the siding and on the main track immediately west of the switch when it was struck by First 35.

First 35, a west-bound freight train, consisting of engine 4511, 38 cars and a caboose, passed St. John, 3.5 miles east of East Richland, at 4:01 p. m., 5 hours 3 minutes late, passed signal 40 RA, which displayed yellow-over-red, passed signal 42 RA, which displayed red, and while moving at an estimated speed of 45 miles per hour it struck engine 1308 at a point 800 feet west of signal 42 RA.

The engine of each train, 2 cars of No. 44 and 13 cars of First 35 were derailed and damaged.

The weather was clear at the time of the accident, which occurred about 4:06 p. m.

The engineer and the fireman of No. 44, and the engineer, the fireman and the front brakeman of First 35 were injured.

Discussion

About 35 minutes before the accident occurred, the dispatcher at Newburg placed the levers of the centralized-traffic-control machine in position for No. 44 to enter the siding at the west switch at East Richland to meet First 35. As a result, signal 42 RA displayed stop for First 35, and signal 42 LA displayed proceed-through-turnout for No. 44.

No. 44 stopped on the main track in the vicinity of the west siding-switch at 3:47 p. m. The conductor communicated by telephone with the train dispatcher and obtained authority for his train to occupy the main track west of the west siding-switch, and for the engine to perform switching service on the main track and the siding. About 4:06 p. m., while the engine was standing on the turnout of the west siding-switch, it was struck by First 35. The first the members of the crew of No. 44 knew of anything being wrong was when the swing brakeman, who was on the north side of the track in the vicinity of the west siding-switch, saw First 35 approaching at a high rate of speed about 900 feet distant. He called a warning to the other members of his crew, and was giving stop signals to First 35 when the collision occurred.

As First 35 was approaching signal 40 RA the speed was 49 miles per hour, according to the tape of the speed recorder. The air brakes had functioned properly at all points where used en route. A road foreman of equipment was operating the engine, the engineer was on the right seatbox behind the road foreman, the fireman was on the left seatbox and the front brakeman was on the engine deck. The engineer said that from his position he could not see signal 40 RA. However, when the engine was about 1,500 feet east of that signal, the engineer saw the road foreman raise his hand in such manner as to indicate that the road foreman had observed that the signal was displaying proceed. Then, without seeing the signal, the engineer called, "clear signal," and the other members of the crew on the engine answered, "clear signal." The road foreman said he was not aware that he had made a movement of his hand. He thought he had observed signal 40 RA displaying a proceed indication when the engine passed the signal, but was not certain. He said he was concerned about the performance of the engine because the booster was in such condition that it had to be cut out of service and the engine was pounding when the train was approaching East Richland. When the other employees on the engine called the signal indication he was occupied in adjusting the cut-off and the position of the throttle to prevent the pounding. The investigation disclosed that from their respective positions on the engine the fireman and the front brakeman were

not able to see the indication of the signal at the time they called it. When the engine reached a point about 700 feet east of signal 42 RA the road foreman and the engineer observed, simultaneously, the red aspect displayed by that signal and the engine and cars standing in the vicinity of the west siding-switch. The road foreman immediately moved the brake valve to emergency position, but the collision occurred before the speed of the train was materially reduced.

The investigation disclosed that even when an employee is unable to see a signal indication he is required to repeat the indication announced by other employees. As a result of this requirement, after the movement of the hand of the road foreman was misinterpreted, each of the employees in turn, without seeing the indication but thinking the others had seen it, called the indication as being proceed. If the rules of this carrier had required employees to see signal indications before they call them and if such rules had been observed, this misunderstanding would not have occurred.

In tests after the accident, the signals involved functioned properly. Visual tests made from an engine of the same type as engine 4511 disclosed that as the engine moved westward the indication displayed by signal 40 RA could not be seen from the left side of the engine because the track curved to the right between points 4,275 feet and 211 feet east of the signal, and because the signal light was focused along a chord of the curve. From the right side of the engine the indication could be seen during daylight between points 1,990 feet and 300 feet east of the signal only, because of the manner in which the light was focused. The light of this signal should be so arranged that the indication can be seen from at least one side of an engine in the immediate vicinity of the signal and for a considerable distance when approaching it.

Cause

It is found that this accident was caused by failure to obey signal indications.

Dated at Washington, D. C., this twenty-eighth day of May, 1945.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.