

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3200
ELGIN, JOLIET & EASTERN RAILWAY COMPANY
REPORT IN RE ACCIDENT
NEAR BRISBANE, ILL., ON
AUGUST 29, 1948

SUMMARY

Railroad: Elgin, Joliet & Eastern
Date: August 29, 1948
Location: Brisbane, Ill.
Kind of accident: Rear-end collision
Trains involved: Freight : Freight
Train numbers: Extra 728 West : Extra 117 West
Engine numbers: 728 : 117
Consists: 68 cars, cabooses : 42 cars, cabooses
Estimated speeds: Standing : 20 m. p. h.
Operation: Timetable, train orders and
automatic block-signal system
Tracks: Double; 1° curve; 0.60 percent
descending grade westward
Weather: Dense fog
Time: 5:55 a. m.
Casualties: 1 injured
Cause: Failure to operate following train
in accordance with signal indication

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3200

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

ELGIN, JOLIET & EASTERN RAILWAY COMPANY

November 5, 1948

Accident near Brisbane, Ill., on August 29, 1948, caused
by failure to operate the following train in
accordance with a signal indication.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On August 29, 1948, there was a rear-end collision
between two freight trains on the Elgin, Joliet & Eastern
Railway near Brisbane, Ill., which resulted in the injury of
one train-service employee.

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.

Location of Accident and Method of Operation

This accident occurred on that part of the Joliet Division extending between Porter, Ind., and East Joliet, Ill., 56.7 miles. In the vicinity of the point of accident this is a double-track line, over which trains moving with the current of traffic are operated by timetable and train orders, and by an automatic block-signal system on the westward main track only. This accident occurred on the westward main track 46.87 miles west of Porter, at a point 1.61 miles east of the station at Brisbane. From the east the tracks are tangent throughout a distance of about 4 miles, then there is a 1° curve to the right 874 feet to the point of accident and 38 feet westward. The grade is 0.60 percent descending westward.

Automatic signals 883, 859, and 833, governing west-bound movements on the westward main track, are, respectively, 4.39 miles east, 1.98 miles east, and 0.52 mile west, of the point of accident. These signals are of the searchlight type. They display three aspects, and are approach lighted. The involved aspects and corresponding indications are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>
883, 859	Yellow	PROCEED PREPARED TO STOP AT NEXT SIGNAL. TRAIN EXCEEDING MEDIUM SPEED MUST AT ONCE REDUCE TO THAT SPEED.
859, 833	Red, over number plate	STOP; THEN PROCEED AT RESTRICTED SPEED.

The controlling circuits are so arranged that when a train occupies the block of signal 833, that signal will indicate stop-then-proceed-at-restricted-speed and signal 859 will indicate proceed-prepared-to-stop-at-next-signal. When the block of signal 859 is occupied, that signal will indicate stop-then-proceed-at-restricted-speed and signal 883 will indicate proceed-prepared-to-stop-at-next-signal.

Both wires of the control circuit of signal 859 are selected through the track relay for each of the four track circuits in the block of signal 859. Energy for operating the control relay is provided by storage batteries at signal 833. The control circuit is broken by each track relay when

deenergized and, in addition, the circuit between that track relay and the control relay is shunted. The approach-lighting relay for signal 833 is connected in series with the control-relay circuit of signal 859, and is energized when the control circuit is not broken. When the control circuit of signal 859 is broken by occupancy of one or more track circuits in the block, or for any other cause, the approach-lighting relay is deenergized and the lamp in signal 833 is lighted. The signal lamps are provided with two filaments, one rated at 15 watts and the other at 3.5 watts.

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

DEFINITIONS.

* * *

Medium Speed.--A speed not exceeding twenty five miles per hour.

* * *

Restricted Speed.--A speed not exceeding that which will enable a train or engine to stop short of a train ahead, obstruction, or switch not properly lined, and to look out for broken rail.

Reduced Speed.--Proceed prepared to stop short of a train, obstruction, or anything that may require the speed of a train or engine to be reduced.

SIGNALS.

11. A fusee burning red on or near the track of an approaching train is a signal to stop. * * *

14. Engine Whistle Signals.

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

Sound.

Indication.

* * *

(c) — o o o

Flagmen protect rear of train.

* * *

99. When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes, and when necessary, in addition, displaying lighted fuses.

When recalled and safety to the train will permit, he may return.

When the conditions require, he will leave the torpedoes and a lighted fuse.

* * *

When day signals cannot be plainly seen, owing to weather or other conditions, night signals must also be used. * * *

	Day	A red flag, Torpedoes and Fuses.
Flagman's signals	Night	A red light, A white light, Torpedoes and Fuses.

293 (a). When fixed signals are obscured by weather conditions, or from any other cause, they must be approached at REDUCED SPEED until the indication can be plainly seen.

* * *

294. Enginemen and firemen must, and members of train crews will when practicable, communicate to each other by its name the indication of each signal affecting the movement of their train or engine.

All such employees must familiarize themselves with the location of all fixed signals that affect their movement and place themselves in position to observe their indication before calling, or answering.

The maximum authorized speed for the trains involved was 45 miles per hour.

Description of Accident

Extra 728 West, a west-bound freight train, consisted of engine 728, 68 cars and a caboose. This train entered the Joliet Division at Griffith, 27.98 miles east of Brisbane, passed signals 883 and 859, and stopped on the westward main track, with the engine at a point about 500 feet east of signal 833. After the brakes were released, this train moved westward and stopped at signal 833. About 15 minutes later, the rear end was struck by Extra 117 West.

Extra 117 West, a west-bound freight train, consisted of Diesel-electric engine 117, 42 cars and a caboose. This train entered the Joliet Division at Griffith, passed signals 883 and 859, and while moving at an estimated speed of 20 miles per hour it struck Extra 728 West.

Extra 117 West stopped with the front of the engine 360 feet west of the point of accident. None of the equipment of this train was derailed. The caboose of Extra 728 West was demolished. The front portion of engine 117 was considerably damaged. The first, second, third, sixth and eighth cars stopped north of the westward main track, the fifth and seventh cars stopped across the eastward main track, and the fourth and ninth cars stopped south of the eastward main track. All of the derailed cars were considerably damaged.

The front brakeman of Extra 117 West was injured.

There was a dense fog at the time of the accident, which occurred at 5:55 a. m.

Discussion

Extra 728 West entered the Joliet Division at Griffith, and passed Extra 117 West at Matteson, about 12 miles east of the point of accident. Extra 728 West departed from Matteson at 5:16 a. m. The speed was about 35 miles per hour as this train approached signal 859, which indicated proceed-prepared-to-stop-at-next-signal, and the engineer and the fireman were maintaining a lookout ahead from their respective positions in the engine cab. At that time the aspect of the

signal was visible to the enginemen for a distance of about one mile. After the engine passed signal 859, the engineer made a service brake application to comply with the signal indication. Soon afterward a dense fog which materially restricted visibility was encountered, and the engineer intentionally stopped the train about 500 feet east of signal 833 as a precaution against overrunning the signal, which could not be seen by the enginemen. The flagman said that when the train stopped, the caboose was about 50 feet east of a highway grade crossing, located about 3,600 feet east of signal 833, and that he walked back about 200 feet from the caboose, placed two torpedoes on the rail, dropped a lighted 10-minute red fusee, and returned to the caboose. After the brakes were released, this train proceeded westward and stopped at signal 833, which was indicating stop-then-proceed-at-restricted-speed and the engineer sounded the whistle signal for the flagman to protect the rear of the train. The flagman said that he then walked back to the point where he had placed the torpedoes and fusee, removed them, and started toward the caboose. Soon afterward, he heard Extra 117 West approaching. He replaced the torpedoes on the rail, started to run eastward, and gave stop signals with the lighted fusee. He said he had gone about 200 feet eastward when Extra 117 West passed him. The conductor remained on the caboose until just before the collision occurred. Neither the conductor nor the flagman of Extra 728 West observed signal 859 when the caboose passed that signal.

Extra 117 West departed from Matteson at 5:29 a. m., 13 minutes after Extra 728 West had departed from that station. As this train was approaching signal 883 the engineer and the fireman were maintaining a lookout ahead from their respective positions in the engine cab, and both observed this signal, which was indicating proceed-prepared-to-stop-at-next-signal. The front brakeman also was in the engine cab but was not in position to observe wayside signals. A brake application was initiated at signal 883, and immediately thereafter a heavy fog was encountered. The speed had been reduced to about 10 or 15 miles per hour as the train was approaching signal 859, and the headlight was lighted brightly, although it was daylight. The engineer said that the signal could not be seen until the engine was about 300 feet east of the signal and that it indicated proceed, which indication he called to the fireman and the front brakeman. At that distance, the front of the engine obscured the view of the signal from the left side of the engine and neither the fireman nor the front brakeman observed the signal. After the engine passed signal 859, the engineer released the brakes

and the speed of the train was increased to about 40 miles per hour. Then the engineer and the fireman observed the flagman of Extra 728 West giving stop signals with a lighted red fusee from the highway grade crossing. The engineer immediately placed the brake valve in emergency position, and the speed of the train was reduced to about 20 miles per hour at the time of the collision. The brakes of this train had been tested and had functioned properly en route. Neither the conductor nor the flagman, who were riding in the caboose, observed signal 859.

After the accident, tests of the signal equipment involved disclosed that the 13-watt filament of the lamp in signal 859 was broken, but the 3.5 watt filament was intact. This condition caused signal 859 to display an aspect materially less brilliant than that normally displayed. In all other respects, the tests indicated that the signal system was functioning properly. After the field tests were completed the control relay was removed from service and subjected to further tests, all of which indicated that it was functioning properly. The relay then was disassembled and all parts were found to be working freely and there was no foreign matter present to cause friction in the bearings, and no other condition was found to cause the relay to operate improperly. At the time of the accident the headlight was lighted brightly and reflection by the fog ahead may have obscured the dimly lighted aspect displayed by the signal. It is apparent from the investigation that signal 859 displayed a red aspect for Extra 117 West.

Cause

It is found that this accident was caused by failure to operate the following train in accordance with a signal indication.

Dated at Washington, D. C., this fifth day of November, 1948.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.