INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2870

THE CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA
RAILWAY COMPANY
AND
THE MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE
RAILROAD COMPANY

REPORT IN RE ACCIDENT

AT TURTLE LAKE, WIS., ON

FEBRUARY 13, 1945

SUMMARY

Railroads:	Chicago, St. Paul Minneapolis & Omaha	: Minneapolis, St. Paul & Sault Ste. Marie
Date:	February 13, 1945	
Location:	Turtle Lake, Wis.	
Kind of accident:	Side collision	
Trains involved:	Freight	: Passenger
Train numbers:	Extra 423 East	: 84
Engine numbers:	423	: 2701
Consist:	30 cars, caboose	: 3 cars
Estimated speed:	20 m. p. h.	: 20 m. p. h.
Operation:	Interlocking	
Track:	Single; tangent; practically level	: Single; tangent; practically level
Weather:	Cloudy	
Time:	5:30 p. m.	
Casualties:	1 killed; 3 injured	
Cause:	Failure to operate the Minneapolis, St. Paul & Sault Ste. Marie train in accordance with interlocking signal indication	

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2870

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

THE CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA RAILWAY COMPANY
AND
THE MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE RAILROAD COMPANY

April 7, 1945.

Accident at Turtle Lake, Wis., on February 13, 1945, caused by failure to operate the Minneapolis, St. Paul & Sault Ste. Marie train in accordance with interlocking signal indication.

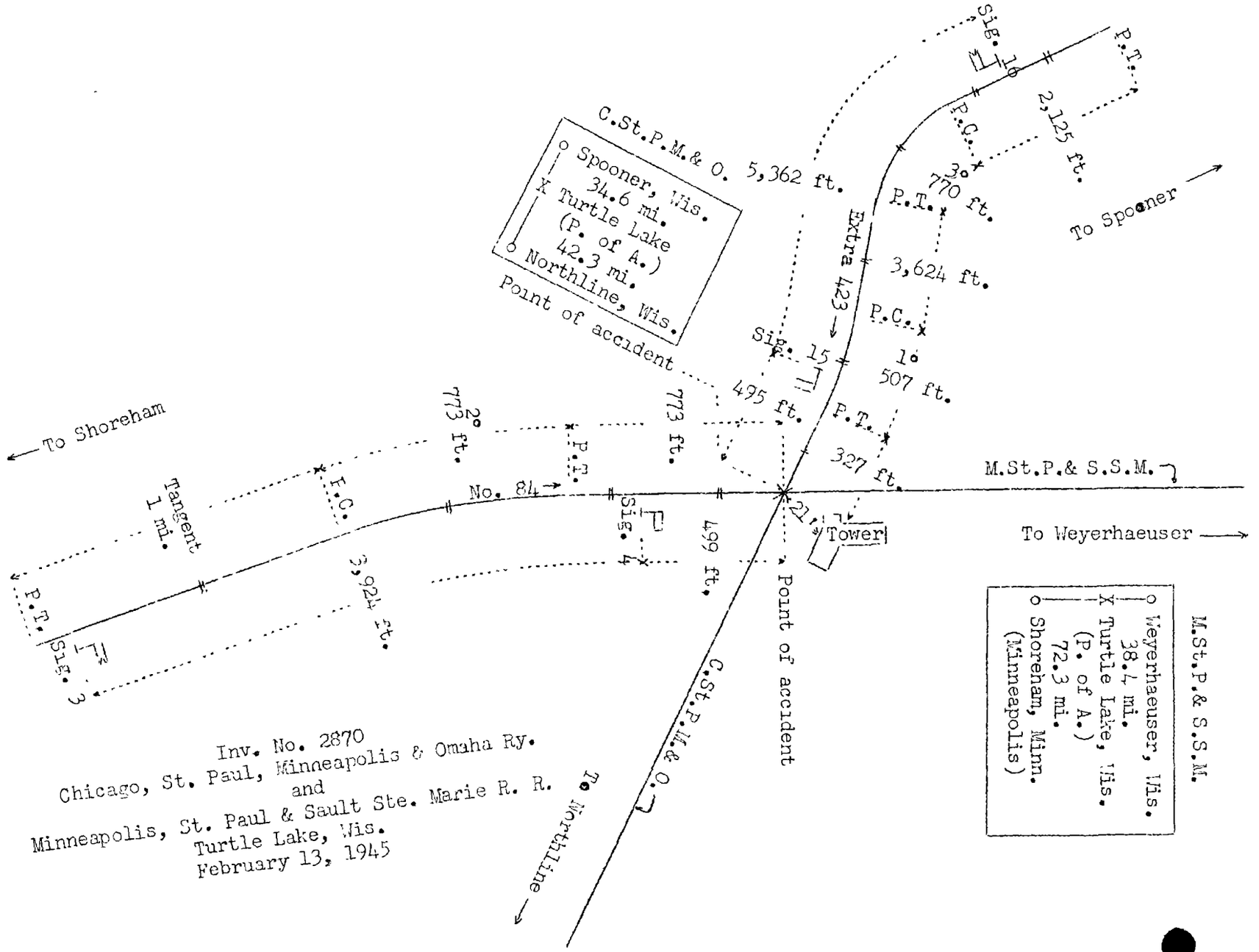
REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On February 13, 1945, there was a side collision between a freight train of the Chicago, St. Paul, Minneapolis & Omaha Railway and a passenger train of the Minneapolis, St. Paul & Sault Ste. Marie Railroad at Turtle Lake, Wis., which resulted in the death of one employee, and the injury of three employees.

---

[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. 2870
Chicago, St. Paul, Minneapolis & Omaha Ry.
and
Minneapolis, St. Paul & Sault Ste. Marie R. R.
Turtle Lake, Wis.
February 13, 1945

Location of Accident and Method of Operation

This accident occurred at an intersection of the Chicago, St. Paul, Minneapolis & Omaha Railway, hereinafter referred to as the C.St.P.M.& O., and the Minneapolis, St. Paul & Sault Ste. Marie Railroad, hereinafter referred to as the M.St.P.& S.S.M. Turtle Lake was located on that part of the Eastern Division of the C.St.P.M.& O. designated as the Cumberland Sub-Division and extending southwestward from Spooner to Northline, Wis., 76.9 miles, and on that part of the Minneapolis-Duluth Division of the M.St.P.& S.S.M. designated as the First Subdivision and extending northeastward from Shorenam, near Minneapolis, Minn., to Weyerhaeuser, Wis., 110.7 miles. According to timetable directions, Turtle Lake was 34.6 miles east of Spooner and 72.3 miles east of Shorenam. In the vicinity of Turtle Lake both were single-track lines. On the C.St.P.M.& O. trains were operated by timetable and train orders. There was no block system in use. On the M.St.P.& S.S.M. trains were operated by timetable, train orders and a manual block system. The crossing was protected by interlocking signals. The main tracks intersected at an angle of 63°45' at a point 21 feet north of the tower, which was located in the southeast angle of the intersection. Timetable directions are hereinafter used in this report. From the west on the C.St.P.M.& O. there were, in succession, a tangent 2,125 feet in length, a 3° curve to the left 770 feet, a tangent 3,624 feet, a 1° curve to the right 507 feet and a tangent 327 feet to the crossing and a considerable distance eastward. From the west on the M.St.P.& S.S.M. there were, in succession, a tangent more than 1 mile in length, a 2° curve to the right 773 feet and a tangent 773 feet to the crossing and a considerable distance eastward. The grade was practically level.

On the C.St.P.M.& O. approach signal 16 and home signal 15, governing east-bound movements, were, respectively, 5,857 feet and 495 feet west of the crossing. On the M.St.P.& S.S.M. approach signal 3 and home signal 4, governing east-bound movements, were, respectively, 4,423 feet and 499 feet west of the crossing. These signals were of the one-arm, two-position, lower quadrant, semaphore type, and were oil-lighted. The involved day aspects and corresponding indications and names of these signals were as follows:

Signal	Aspect	Indication	Name
15 and 3	60 degrees	Proceed.	Clear.
16	Horizontal	Prepare to stop at next signal. * * *	Approach.
4))	60 degrees Horizontal	Proceed. Stop, * * * Route is not set.	Clear. Stop Signal.

The interlocking machine was of the electric type, and consisted of 10 working levers in a 16-lever frame. Route locking was provided. Time releases in connection with route locking were provided.

Operating rules of the M.St.P.& S.S.M. read in part as follows:

> 663. Trains or engines must not pass an interlocking Stop-signal without receiving hand signals * * *. Enginemen and trainmen must not proceed on hand signals until they are fully informed of the situation * * *
>
> 670. * * * a forward movement after making a reverse movement, must not be made without the proper interlocking signal or permission from the signalman.

The maximum authorized speed for the C.St.P.M.& O. train was 25 miles per hour, and for the M.St.P.& S.S.M. train, 35 miles per hour.

Description of Accident

Extra 423 East, an east-bound C.St.P.M.& O. freight train, consisting of engine 423, 30 cars and a caboose, passed signal 16, which displayed approach, passed signal 15, which displayed proceed, and while moving over the crossing at an estimated speed of 20 miles per hour the second car was struck by M.St.P.& S.S.M. No. 84.

No. 84, an east-bound first-class M.St.P.& S.S.M. passenger train, consisted of engine 2701, two express-refrigerator cars and a passenger-mail-baggage car, in the order named. The first two cars were of steel-underframe construction, and the third car was of all-steel construction. This train departed from a point about 1,150 feet west of the crossing about 5:28 p. m., passed signal 4, which displayed stop, and while moving at an estimated speed of 20 miles per hour it struck the second car of C.St.P.M.& O. Extra 423 East.

The second to the ninth cars, inclusive, of Extra 423, and the engine and the first car of No. 84 were derailed and damaged.

It was cloudy at the time of the accident, which occurred about 5:30 p. m.

The fireman of No. 84 was killed, and the engineer, the brakeman and the baggageman of No. 84 were injured.

Discussion

No. 84 entered the interlocking limits at Turtle Lake under proceed indications displayed by signals 3 and 4, and stopped in the vicinity of the tower about 5:06 p. m. Several minutes were consumed in handling baggage and express, then the train moved backward to a point about 650 feet west of signal 4, a home signal. Soon afterward during switching movements, the engine entered the interlocking limits momentarily but did not reach the crossing. About 5:15 p. m. the operator-leverman received information from the C.St.P.M.& O. dispatcher to the effect that Extra 423 East would reach Turtle Lake soon after 5:25 p. m. He thought this train would arrive before No. 84 was ready to pass through the interlocking and therefore changed the signals on the M.St.P.& S.S.M. to normal position, and immediately afterwards observed signal 4 displaying stop. A few minutes later the operator-leverman saw the C.St.P.M.& O. train approaching at a distance of 1-1/4 miles, and, about 5:27 p. m., while the crew of No. 84 were engaged in assembling cars some distance west of the interlocking, he cleared signal 15, the home signal for the C.St.P.M.& O. train. About 3 minutes later, No. 84 proceeded eastward, passed signal 4, which displayed stop, and struck Extra 423 East.

The engineer of No. 84 understood that, after his train entered interlocking limits under a proceed indication and had made a reverse movement, a forward movement was not permissible unless the signal governing such movement displayed the proper indication or proper authority from the operator-leverman had been received. He thought signal 4 displayed proceed when his engine passed the signal just prior to the accident, and he was not aware that Extra 423 East had entered upon the crossing until just before the collision occurred. The operator-leverman said that signal 4 displayed stop when No. 84 passed the signal, and the engineer of the C.St.P.M.& O. train observed that this signal was displaying stop. When the operator-leverman saw both trains passing their respective home signals he gave stop signals with his arms in an attempt to stop either of the trains before it reached the crossing.

The controlling circuits of the interlocking were so arranged that, when signal 15 displayed proceed for east-bound movements over the crossing on the C.St.P.M.& O., signal 4, governing east-bound movements over the crossing on the M.St.P.& S.S.M., would display stop, and an interval of at least 1 minute 30 seconds must elapse before this route could be changed and signal 4 could display an indication permitting a movement over the crossing on the M.St.P.& S.S.M. In tests after the accident the interlocking functioned properly. If No. 84 had stopped at signal 4, in accordance with the stop

indication displayed by that signal, this accident would not have occurred.

Cause

It is found that this accident was caused by failure to operate the M.St.P.& S.S.M. train in accordance with an interlocking signal indication.

Dated at Washington, D. C., this seventh day of April, 1945.

By the Commission, Commissioner Patterson.

W. P. BARTEL,
Secretary.

(SEAL)