

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3406

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA
RAILWAY COMPANY

IN RE ACCIDENT

NEAR CRAY, MINN., ON

JUNE 14, 1951

SUMMARY

Date: June 14, 1951

Railroad: Chicago, St. Paul, Minneapolis
and Omaha

Location: Cray, Minn.

Kind of accident: Head-end collision

Trains involved: Passenger : Freight

Train numbers: 210 : 17

Engine numbers: 511 : Diesel-electric
units 4088C
and 4088A

Consists: 10 cars : 90 cars, caboose

Estimated speeds: 40 m. p. h. : 19 m. p. h.

Operation: Timetable and train orders

Track: Single; tangent; 0.42 percent
descending grade eastward

Weather: Clear

Time: 3:36 a. m.

Casualties: 1 killed; 7 injured

Cause: Failure to deliver meet order

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3406

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

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY COMPANY

August 1, 1951

Accident near Cray, Minn., on June 14, 1951, caused by
failure to deliver a meet order.

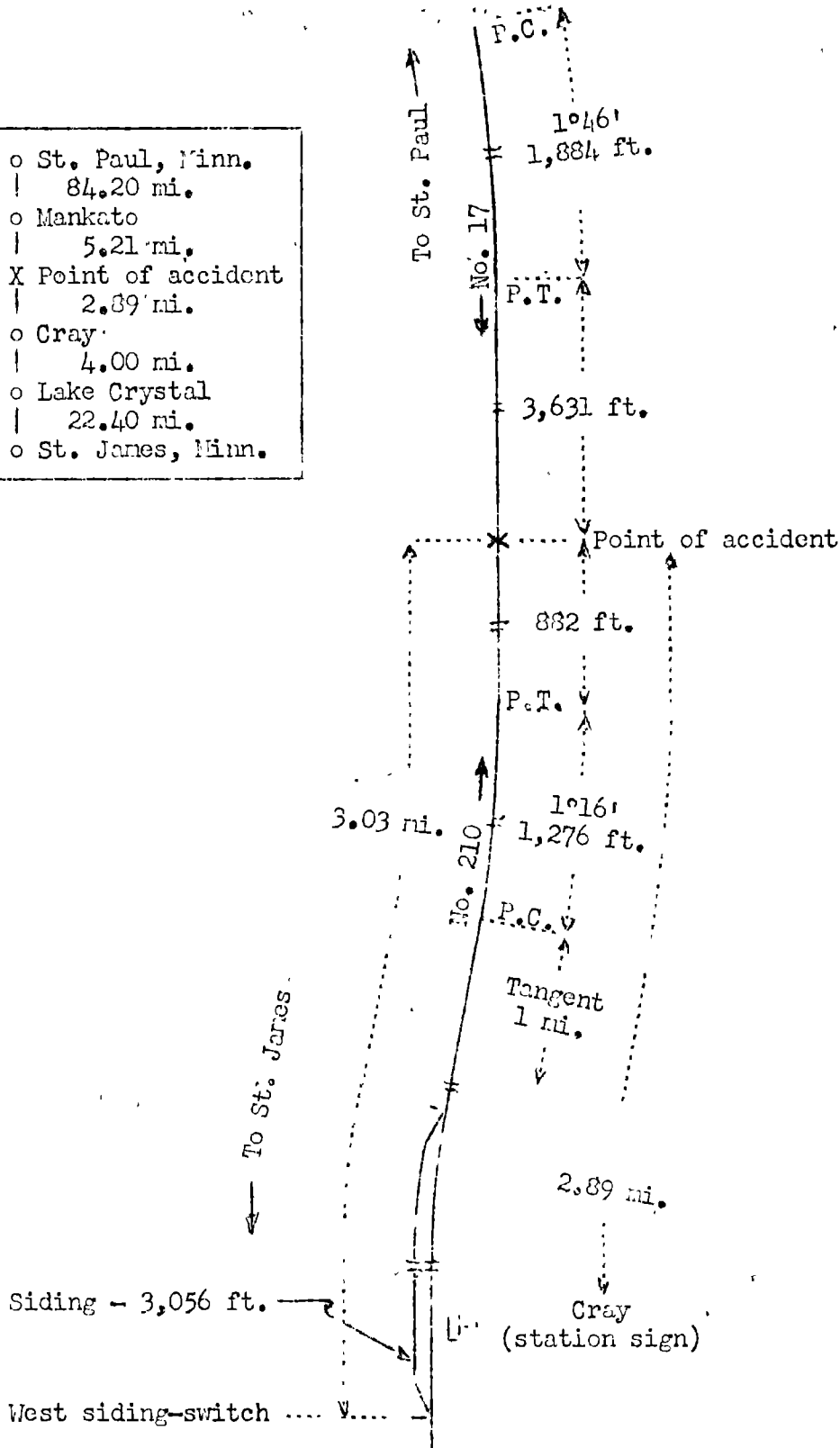
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On June 14, 1951, there was a head-end collision between a passenger train and a freight train on the Chicago, St. Paul, Minneapolis and Omaha Railway near Cray, Minn., which resulted in the death of one train-service employee, and the injury of one railway-mail clerk and six train-service employees. This accident was investigated in conjunction with a representative of the Minnesota Railroad and Warehouse Commission.

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 St. Paul, Minn.
- | 84.20 mi.
- o Mankato
- | 5.21 mi.
- X Point of accident
- | 2.89 mi.
- o Cray
- | 4.00 mi.
- o Lake Crystal
- | 22.40 mi.
- o St. James, Minn.



Report No. 3406
 Chicago, St. Paul, Minneapolis and Omaha Railway
 Cray, Minn.
 June 14, 1951

Location of Accident and Method of Operation

This accident occurred on that part of the Western Division extending between St. James and St. Paul, Minn., 118.7 miles. In the vicinity of the point of accident this is a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. At Cray, 26.4 miles east of St. James, a siding 3,056 feet in length parallels the main track on the north. The accident occurred on the main track at a point 3.03 miles east of the west siding-switch at Cray. From the west there are, in succession, a tangent 1 mile in length, a 1°16' curve to the left 1,276 feet, and a tangent 882 feet to the point of accident and 3,631 feet eastward. From the east there are, in succession, a 1°46' curve to the right 1,884 feet in length and the tangent on which the accident occurred. The grade is 0.42 percent descending eastward at the point of accident.

At Lake Crystal, 22.4 miles east of St. James, a train-order signal of the two-arm, lower-quadrant, semaphore type is located in front of the station, which is south of the main track. Each of the semaphore arms is controlled by a lever attached to the inside wall of the office near the operator's desk. The operator faces the track when operating the levers. The levers are hinged in such a manner that they can be moved vertically through an arc of approximately 180 degrees. A metal plate, 7-3/4 inches in length and 3 inches in height, is attached to the handle of each lever. When the handle of the lever to the right is in the raised position the signal indicates Proceed for west-bound trains, and the word "West" in black letters on a white background is displayed on the metal plate. When the handle is in the lowered position the signal indicates Stop for west-bound trains, and the letter "W" in black on a red background is displayed on the plate. The lever to the left controls the semaphore arm governing east-bound trains and operates in the same manner. The word "East" and the letter "E" are displayed on its plate. The aspects of the signal and the corresponding indications and names are as follows:

<u>Day Aspect</u>	<u>Night Aspect</u>	<u>Indication</u>	<u>Name</u>
Diagonal	Green	PROCEED.	CLEAR.
Horizontal	Red	STOP.	STOP.

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

S-71. A train is superior to another train by right, class or direction.

Right is conferred by train order; class * * * by time-table.

Right is superior to class * * *.

* * *

S-72. Trains of the first class are superior to those of the second; * * *.

* * *

S-87. An inferior train must keep out of the way of opposing superior trains * * *.

* * *

S-89. At meeting points between trains of different classes, the inferior train must take the siding and clear the superior train not less than five minutes * * *.

207. To transmit a train order, the signal "31" or the signal "19" followed by the direction must be given to each office addressed * * *.

210. When a "31" train order has been transmitted * * *.

Those to whom the order is addressed except enginemen, must read it to the operator and then sign it, and the operator will send their signatures preceded by the number of the order to the train dispatcher. The response "O.K." and the time, with the initials of the Chief Train Dispatcher will then be given by the train dispatcher. Each operator receiving this response will then write on each copy the abbreviation "O.K.," the time and his last name in full and then deliver a copy to each person addressed, except enginemen. The copy for each engineman must be delivered to him personally by the conductor * * *.

* * *

221. * * * a fixed signal must be used at each train order office which shall indicate "Stop" when trains are to be stopped for train orders. When there are no orders, the signal must indicate "Proceed," * * *.

When an operator receives the signal "31" or "19" followed by the direction, he must immediately display the "Stop Signal" for the direction indicated and then reply "Stop displayed," adding the direction, and until the orders have been delivered or annulled the signal must not be restored to "Proceed." While "Stop" is indicated trains must not proceed without Clearance of prescribed form.

Operators must have proper appliances for hand signaling ready for immediate use if fixed signal should fail to work properly.

FORMS OF TRAIN ORDERS.

S-A.

Fixing Meeting Points for Opposing Trains.

(1.) No. 1 meet No. 2 at B.
* * *

Trains receiving these orders will run with respect to each other to the designated points and there meet in the manner prescribed by the rules.

The maximum authorized speeds were 59 miles per hour for passenger trains and 49 miles per hour for freight trains.

Description of Accident

At 3:05 a. m. on the day of the accident train order No. 14 was sent to the operator at Lake Crystal for delivery to the crew of No. 210, and to the operator at Mankato, 34.5 miles east of St. James, for delivery to the crew of No. 17. This train order read in part as follows:

No 210 meet No 17 at Cray
No 210 take siding
* * *

No. 210, an east-bound first-class passenger train, consisted of engine 511, three baggage cars, one mail car, three baggage cars, one coach, and two baggage cars, in the order named. All cars were of all-steel construction. This train departed from St. James at 2:35 a. m., on time, and arrived at Lake Crystal at 3:24 a. m. The train-order signal at Lake Crystal indicated Proceed, and the operator did not deliver train order No. 14 to the crew. No. 210 departed from Lake Crystal at 3:27 a. m., 9 minutes late, passed the west siding-switch at Cray, where it would have been required to enter the siding to meet No. 17 if copies of train order No. 14 had been delivered to the crew, and while moving at an estimated speed of 40 miles per hour it collided with No. 17 at a point 3.03 miles east of the west siding-switch at Cray.

No. 17, a west-bound second-class freight train, consisted of Diesel-electric units 4088C and 4088A, coupled in multiple-unit control, 90 cars and a caboose. At Mankato, the last open office, the crew received copies of train order No. 14. This train passed Mankato at 3:19 a. m., 2 hours 49 minutes late, and while moving at a speed of about 19 miles per hour it collided with No. 210.

The engine, the tender, the first two cars, and the front truck of the third car of No. 210 were derailed. The engine stopped on its left side, approximately in line with the track, with its front end at the point of collision. It was badly damaged. The tender stopped at the rear of the engine and was demolished. The first car stopped on its left side, 30 feet north of the track and parallel to it, with its front end opposite the front end of the engine. The second car stopped upright, with its front end on top of the rear end of the first car and its rear end on the track structure. The third car stopped upright and in line with the track. The first car was badly damaged, the second and the third cars were somewhat damaged, and the seventh and the eighth cars were slightly damaged. The Diesel-electric units, the first seven cars, and the forty-fifth and the forty-sixth cars of No. 17 were derailed. The first Diesel-electric unit stopped on its right side, at an angle of about 25 degrees to the track, with its front end against the front end of the engine of No. 210. It was badly damaged. The second unit stopped on its right side and in line with the track. It was somewhat damaged. The derailed cars stopped in various positions on or near the track. The first car was demolished, the second and the third cars were badly damaged, and the other derailed cars were slightly damaged.

The engineer of No. 17 was killed. The engineer and the fireman of No. 210, and the fireman, the conductor, the front brakeman, and the flagman of No. 17 were injured.

The weather was clear at the time of the accident, which occurred at 3:36 a. m.

Discussion

The operating rules of this carrier provide that before a train order is transmitted the train dispatcher must give to the operator who is to receive the order the signal "31" or the signal "19" and the direction. When an operator receives either of these signals he must immediately display the train-order signal in Stop position for the direction indicated and then reply "Stop displayed," and give the direction. Until the train order has been delivered or annulled the signal must not be restored to the Proceed position. The train dispatcher and the operator concerned in this investigation understood these requirements.

Before sending train order No. 14 to the operator at Lake Crystal, the train dispatcher gave the signal "31 east." The operator placed the train-order signal in Stop position for west-bound trains, replied "Stop displayed east," and then copied the train order. When No. 210 arrived at Lake Crystal it stopped with the coach standing about 275 feet west of the station. The operator loaded and unloaded mail at the mail car, and intended to obtain the signature of the conductor to the train order after he returned to the office. As he was returning to the office he observed that No. 210 was moving eastward. He said he assumed that the train would stop when the coach reached a point opposite the station, and took no action to inform the crew that he held a train order for their train. After he entered the office he became aware that the train was leaving the station. He ran to the platform and gave stop signals with a flashlight, but by this time the rear of the train had passed the station and he was unable to attract the attention of the crew. He then found that he had placed the train-order signal in Stop position for west-bound trains and that it indicated Proceed for east-bound trains.

The failure of the operator to deliver train order No. 14 to the crew of No. 210 resulted in an overlapping of authority of the trains involved, for the reason that No. 210 was superior by class to No. 17, and the crew of No. 210 held no

train order which restricted the authority of their train with respect to No. 17; but the crew of No. 17 held copies of train order No. 14, which authorized No. 17 to proceed to Cray to meet No. 210.

As the opposing trains were approaching the point where the accident occurred the headlight of each train was lighted brightly. The brakes of each train had been tested and had functioned properly when used en route. Because of vegetation along the track and curvature of the track, members of the engine crew of each train were unable to see the headlight of the other train until No. 210 was moving on the curve to the left immediately west of the point where the accident occurred. Surviving members of the engine crews said that the engineer of each train made an emergency application of the brakes immediately after he became aware that the track ahead was occupied by an opposing train. Members of the crew of No. 210 estimated that the speed of their train had been reduced from about 45 miles per hour to 40 miles per hour when the collision occurred. Surviving members of the crew of No. 17 said that the collision occurred before the speed of their train had been materially reduced.

The operator at Lake Crystal entered the service of the Chicago, St. Paul, Minneapolis and Omaha Railway on the day on which the accident occurred. His assigned hours at Lake Crystal were from 1 a. m. to 9 a. m., and train order No. 14 was the first train order which he received after going on duty. He previously had been employed as an operator by another carrier. He said that his last assignment with the other carrier had been at a station at which he had remained during a period of about 1 year. At that station the train-order signal was operated by two levers, the same as at Lake Crystal, except that the lever on the right controlled the semaphore arm governing east-bound trains and the lever on the left controlled the semaphore arm governing west-bound trains. He said that when he received the signal "31 east" from the train dispatcher on the day of the accident he operated the lever on the right, as he had been in the habit of doing at his last place of employment. Until after No. 210 departed he did not notice that at Lake Crystal the lever on the right controlled the semaphore arm governing west-bound trains.

Cause

It is found that this accident was caused by failure to deliver a meet order.

Dated at Washington, D. C., this first day of August, 1951.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.