

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3413
CHICAGO AND NORTH WESTERN RAILWAY COMPANY
IN RE ACCIDENT
AT RHINELANDER, WIS., ON
JULY 4, 1951

SUMMARY

Date: July 4, 1951

Railroad: Chicago and North Western

Location: Rhinelander, Wis.

Kind of accident: Head-end collision

Trains involved: Passenger : Freight

Train numbers: 153 : Extra 4084C East

Engine numbers: Diesel-electric : Diesel-electric
units 5002B and units 4084C and
5003 4084A

Consists: 6 cars : 54 cars, caboose

Estimated speeds: 12 m. p. h. : 5 m. p. h.

Operation: Timetable and train orders

Track: Single; 6° curve; 0.95 percent
ascending grade westward

Weather: Clear

Time: 7:18 p. m.

Casualties: 40 injured

Cause: Train occupying main track on time
of opposing superior train without
flag protection

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3413

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

CHICAGO AND NORTH WESTERN RAILWAY COMPANY

September 17, 1951

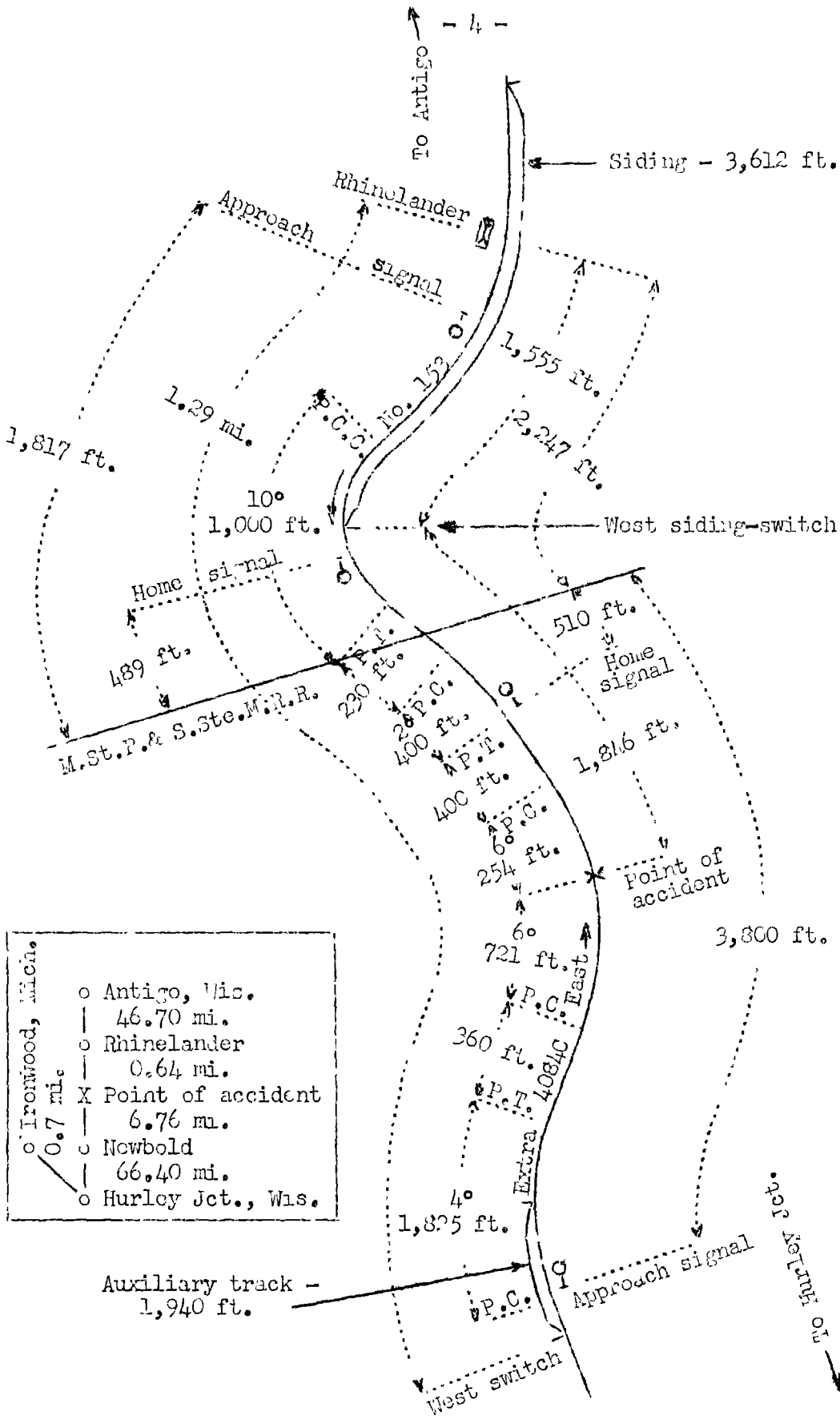
Accident at Rhineland, Wis., on July 4, 1951, caused
by a train occupying the main track on the time of
an opposing superior train without flag protection.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On July 4, 1951, there was a head-end collision between a passenger train and a freight train on the Chicago and North Western Railway at Rhineland, Wis., which resulted in the injury of 25 passengers, 5 dining-car employees, 1 railway-mail clerk and 9 train-service 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.



o Ironwood, Mich.	o Antigo, Wis.
0.7 mi.	46.70 mi.
	o Rhineland
	0.64 mi.
X Point of accident	
	6.76 mi.
o Newbold	
	66.40 mi.
o Hurley Jct., Wis.	

Report No. 3415
 Chicago and North Western Railway
 Rhineland, Wis.
 July 4, 1951

Location of Accident and Method of Operation

This accident occurred on that part of the Ashland Division extending between Antigo and Hurley Jct., Wis., 120.5 miles, a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. At Rhinelander, 46.7 miles west of Antigo, a siding 3,612 feet in length parallels the main track on the south. The west switch of this siding is 1,555 feet west of the station at Rhinelander. An auxiliary track 1,940 feet in length parallels the main track on the north. The west switch of this track is 1.29 miles west of the station. The Minneapolis, St. Paul & Sault Ste. Marie Railroad intersects the Chicago and North Western Railway at a point 2,247 feet west of the station. The accident occurred on the main track at a point 1,846 feet west of the west switch of the siding. From the east there are, in succession, a compound curve to the left, having a maximum curvature of 10°, 1,000 feet in length, a tangent 230 feet, a 2° curve to the right 400 feet in length, a tangent 400 feet and a 6° curve to the right 254 feet to the point of accident and 721 feet westward. From the west there are, in succession, a 4° curve to the right 1,825 feet in length, a tangent 360 feet and the curve on which the accident occurred. The grade is 0.95 percent ascending westward at the point of accident.

Movements over the crossing are governed by an automatic interlocking. The westward approach signal and the westward home signal on the C. & N.W. are located, respectively, 1,817 feet and 489 feet east of the crossing. The eastward approach signal and the eastward home signal on the C. & N.W. are located, respectively, 3,800 feet and 510 feet west of the crossing. The controlling circuits are so arranged that when a push-button at the station at Rhinelander is operated signals governing west-bound movements will indicate Proceed, if the interlocking is unoccupied and the interlocking signals of the M. St. P. & S. S. M. indicate Stop. Signals governing east-bound movements are actuated automatically to indicate Proceed when an east-bound train occupies the approach-clearing circuit, if the interlocking is unoccupied and the interlocking signals of the M. St. P. & S. S. M. indicate Stop.

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

35. The following signals will be used by flagmen:

Day signals--A red flag,
Torpedoes and
fuses.

* * *

73. Extra trains are inferior to regular trains.

S-87. An inferior train must keep out of the way of opposing superior trains and failing to clear the main track by the time required by rule must be protected as prescribed by Rule 99.

Extra trains must clear the time of opposing regular trains not less than five minutes unless otherwise provided, * * *

S-89. At meeting points between trains of different classes the inferior train must take the siding * * *

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. * * *

* * *

The front of the train must be protected in the same way when necessary by a trainman, engineman or fireman.

* * *

FORMS OF TRAIN ORDERS.

S-E.

(1.) No 1 wait at H until 9 59 a m for No 2.

The train first named must not pass the designated point before the time given, unless the other train has arrived. The train last named is required to run with respect to the time specified, at the designated point or any intermediate station where schedule time is earlier than the time specified in the order, as before required to run with respect to the schedule time of the train first named.

Timetable special instructions read in part as follows:

**FREIGHT TRAINS * * * MUST CLEAR THE SCHEDULE OF NOS.
153 * * * FIFTEEN MINUTES.**

The maximum authorized speeds for the passenger and the freight trains involved were, respectively, 55 miles per hour and 25 miles per hour. In the vicinity of the point of accident the speed of the passenger train was restricted to 25 miles per hour and the speed of the freight train was restricted to 20 miles per hour.

Description of Accident

No. 153, a west-bound first-class passenger train, consisted of Diesel-electric units 5002B and 5003, coupled in multiple-unit control, one mail car, one baggage-cafe-lounge car, three coaches and one parlor car, in the order named. All cars were of all-steel construction. At Antigo the crew received copies of train order No. 224 reading as follows:

No 153 wait at Rhinelander
until Seven Fifteen 715 pm
for extra 4084C East

This train departed from Antigo at 5:44 p. m., 4 minutes late, and stopped at Rhinelander at 7:03 p. m. It proceeded westward at 7:15 p. m., passed the westward approach signal, which indicated Proceed, passed the westward home signal, which indicated Proceed, and while moving at an estimated speed of 12 miles per hour it collided with Extra 4084C East at a point 1,846 feet west of the west siding-switch at Rhinelander.

Extra 4084C East, an east-bound freight train, consisted of Diesel-electric units 4084C and 4084A, coupled in multiple-unit control, 54 cars and a caboose. At Ironwood, Mich., 0.7 mile east of Hurley Jct., the crew received copies of train order No. 224. This train departed from Hurley Jct. at 4:05 p. m., passed the eastward approach signal, which indicated Proceed, and while moving at an estimated speed of 5 miles per hour it collided with No. 153.

The front wheels of the rear truck of the first Diesel-electric unit of No. 153 were derailed. Both units were badly damaged. The Diesel-electric units and the first four cars of Extra 4084C East were derailed. The Diesel-electric units remained upright and stopped in line with the track. The derailed cars remained upright and stopped in various positions on the track. The first Diesel-electric unit was badly damaged, and the second Diesel-electric unit was considerably damaged. The first car was demolished and the other derailed cars were somewhat damaged.

The engineer, the fireman, the conductor, the front brakeman, the flagman and the baggageman of No. 153, and the engineer, the fireman and the front brakeman of Extra 4084C East were injured.

The weather was clear at the time of the accident, which occurred at 7:18 p. m.

Discussion

The crew of each train held copies of train order No. 224, which required No. 153 to wait at Rhinelander until 7:15 p. m. for Extra 4084C East. Under the rules, the time specified at Rhinelander applied at the west switch of the siding. No. 153 was superior to Extra 4084C East, and Extra 4084C East was required to be into clear at Rhinelander not later than 7 p. m. if it proceeded to that station to meet No. 153, or to provide flag protection.

The crew of Extra 4084C East received copies of train order No. 224 at Ironwood about 4 hours before the accident occurred. Each member of the crew had compared time and there was a variation of only a few seconds in their watches. As Extra 4084C East was approaching Rhinelander the speed was about 15 miles per hour. The engineer, the fireman and the

flagman were in the control compartment of the first Diesel-electric unit, the front brakeman was in the control compartment of the second Diesel-electric unit, and the conductor was in the caboose. The conductor instructed the flagman to ride in the control compartment of the first Diesel-electric unit because the front brakeman was inexperienced. At Newbold, 7.4 miles west of Rhinelander, the fireman reminded the engineer that their train was required to clear the time of No. 153 by 15 minutes. The fireman said the engineer told him it was not required, because of the wait order. When the engine was immediately west of the auxiliary track at Rhinelander, the engineer, the fireman and the flagman consulted their watches and the time was 7:13:30 p. m. The engineer then instructed the flagman to be prepared to provide flag protection. The engineer attempted to attract the attention of the crew of No. 153 by sounding warning signals on the pneumatic horn. Both the engineer and the fireman said they thought that when their train passed the approach signal the signals governing opposing movements through the interlocking would automatically indicate Stop. When No. 153 was about 200 feet distant the fireman and the flagman called a warning to the engineer. He immediately placed the automatic brake valve in emergency position. The speed of the train was reduced to about 5 miles per hour when the collision occurred. The conductor said that when the train was in the vicinity of Newbold he was aware that there was not sufficient time remaining for the train to proceed to Rhinelander and be into clear by 7 p. m. However, he took no action to stop the train.

No. 153 arrived at Rhinelander at 7:03 p. m. At the expiration of the wait order the front brakeman operated the push-button at Rhinelander station to clear the interlocking signals, and the train proceeded westward. Both the approach signal and the home signal indicated Proceed. As the train was approaching the point where the accident occurred the speed was about 15 miles per hour. The engineer and the fireman were in the control compartment of the first Diesel-electric unit, and the members of the train crew were in various locations throughout the cars of the train. The brakes of this train had been tested and had functioned properly when used en-route. Both the engineer and the fireman said that their view of the track ahead was restricted because they were facing directly into the setting sun. When Extra 4084C East was about 200 feet distant the fireman observed the approaching train. He immediately called a

warning to the engineer. The engineer placed the automatic brake valve in emergency position and the speed of the train was reduced to about 12 miles per hour when the collision occurred.

Each member of the crew of Extra 4084C East, except the engineer, understood that their train was required to be into clear at Rhinelander not later than 7 p. m., if it proceeded to that station to meet No. 153, and that flag protection was required if Extra 4084C East was not into clear at that time. The engineer said that, because train order No. 224 required No. 153 to wait at Rhinelander until 7:15 p. m., he thought his train was not required to be into clear until that time. Extra 4084C East passed Newbold, 7.4 miles west of Rhinelander, at 6:50 p. m., and all members of the crew were aware at Newbold that there was not sufficient time remaining for their train to proceed to Rhinelander and be into clear by 7 p. m. The engineer intended to enter the auxiliary track to clear No. 153. However, this track was occupied by cars. Both the engineer and the fireman then assumed that the westward interlocking signal would be actuated by their train and would provide protection against No. 153. However, the interlocking signals provide protection only against movements on the intersecting line and are not arranged to provide spacing between trains on the same line.

Cause

It is found that this accident was caused by a train occupying the main track on the time of an opposing superior train without flag protection.

Dated at Washington, D. C., this seventeenth day of September, 1951.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.