

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3357
CHICAGO AND NORTH WESTERN RAILWAY COMPANY
IN RE ACCIDENT
AT BARRINGTON, ILL., ON
AUGUST 27, 1950

SUMMARY

Date: August 27, 1950

Railroad: Chicago and North Western

Location: Barrington, Ill.

Kind of accident: Side collision

Trains involved: Freight : Passenger-
equipment

Train numbers: 893 : Extra 1661 West

Engine numbers: 2596 : 1661

Consists: 44 cars, caboose : 4 cars

Estimated speeds: 7 m. p. h. : 35 m. p. h.

Operation: Timetable, train orders and automatic
block-signal system

Tracks: Double; tangent; 0.52 percent
descending grade westward

Weather: Foggy

Time: 11:27 p. m.

Casualties: 1 killed; 1 injured

Cause: Train occupying main track immediately
in front of following train

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3357

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

CHICAGO AND NORTH WESTERN RAILWAY COMPANY

October 20, 1950

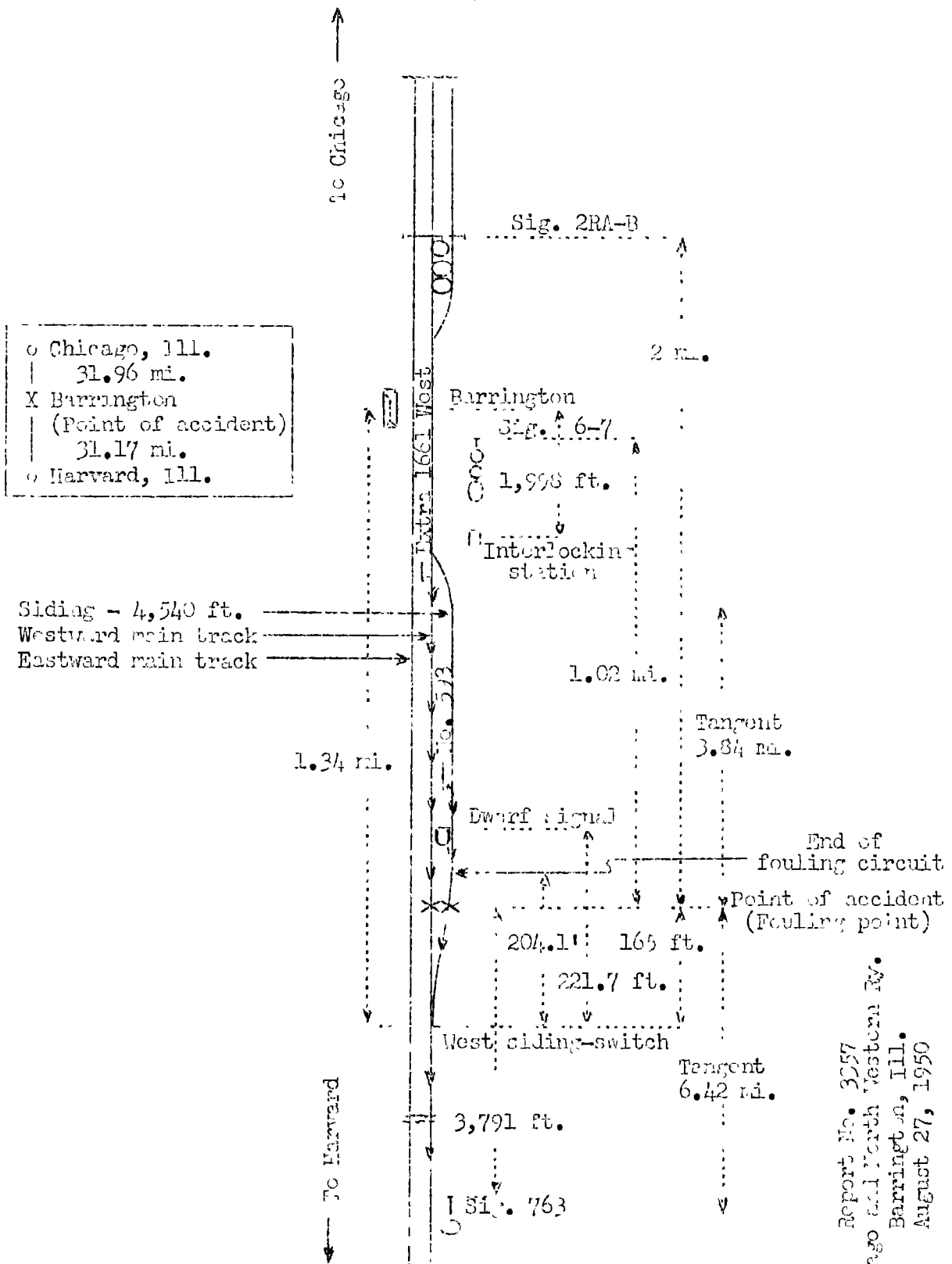
Accident at Barrington, Ill., on August 27, 1950, caused by
a train occupying the main track immediately in front
of a following train.

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REPORT OF THE COMMISSION

PATTERSON, Commissioner:

On August 27, 1950, there was a side collision between
a freight train and a passenger-equipment train on the
Chicago and North Western Railway at Barrington, Ill., which
resulted in the death of one employee and the injury of
one 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.



o Chicago, Ill.
 | 31.96 mi.
 X Barrington
 | (Point of accident)
 | 31.17 mi.
 o Harvard, Ill.

Siding - 4,540 ft.
 Westward main track
 Eastward main track

Report No. 3057
 Chicago & North Western Ry.
 Barrington, Ill.
 August 27, 1950

Location of Accident and Method of Operation

This accident occurred on that part of the Wisconsin Division extending between Chicago and Harvard, Ill., 63.13 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, train orders and an automatic block-signal system. Trains moving with the current of traffic are operated to the left. At Barrington, 31.96 miles west of Chicago, a siding 4,540 feet in length parallels the westward main track on the south. The west switch of this siding is 1.34 miles west of the station. The accident occurred 165 feet east of the west siding-switch, at the fouling point of the siding and the westward main track. The main tracks are tangent throughout a distance of 3.84 miles east and 6.42 miles west of the point of accident. The grade for west-bound trains is, successively, 0.54 percent descending 4,000 feet, 0.36 percent descending 4,300 feet, and 0.52 percent descending 520 feet to the point of accident and 1,980 feet westward.

Semi-automatic signals 2RA-B and 6-7, governing west-bound movements on the westward main track, are located, respectively, 2 miles and 1.02 miles east of the point of accident. These signals are of the 3-unit color-light type, and each displays four aspects. They are continuously lighted. The aspect applicable to this investigation and the corresponding indication and name are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
2RA-B	Green-over-red-	PROCEED.	CLEAR.
6-7	over-red		

Signal 2RA-B is controlled from the station at Barrington, and signal 6-7 is controlled from an interlocking station located 1,098 feet west of the station at Barrington. The controlling circuits of signal 2RA-B are so arranged that, when the controlling lever is in the proper position, the block is unoccupied, and signal 6-7 indicates either Approach or Proceed, signal 2RA-B indicates Proceed. The controlling circuits of signal 6-7 are so arranged that, when the controlling lever is reversed, the block is unoccupied, and the next signal indicates either Approach or Proceed, signal 6-7 indicates Proceed. After signal 6-7 indicates Stop because of occupancy of the block it will not again display an aspect to proceed until the controlling lever has been restored to normal position and then operated to the reverse position. A block indicator in the interlocking station displays a green aspect when the block of signal 6-7 is unoccupied. When the block is occupied, the indicator displays a red aspect.

The turnout at the west end of the siding is provided with a spring switch. The shunt fouling circuit extends eastward on the siding a distance of 204.1 feet from the point-of-switch. A dwarf signal of the color-light type is located between the siding and the westward track at a point 221.7 feet east of the point-of-switch and 6 feet 11 inches north of the center-line of the siding. This signal is approach lighted and displays two aspects. The approach-lighting circuit extends eastward on the siding a distance of 410 feet. When lighted the signal displays a yellow aspect if the lever controlling signal 6-7 is in normal position and the westward track is unoccupied between signal 6-7 and the west siding-switch. When lighted it displays a red aspect if the lever controlling signal 6-7 is in reverse position or any portion of the westward track between signal 6-7 and the west siding-switch is occupied. The centers of the yellow and the red units are, respectively, 1 inch and 11 inches above the level of the tops of the rails of the siding.

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

Definition of Restricted Speed.--Amended.

Proceed at a speed not exceeding twenty miles per hour, prepared to stop short of train, obstruction, or anything that may require the speed of a train to be reduced.

11. * * *

A passenger train finding a fusee burning on or near its track must stop and then proceed at restricted speed * * *

19. The following signals will be displayed to the rear of every train, as markers, to indicate the rear of the train:

* * *

* * * by night while running. Lights * * * showing green to the front and side and red to the rear.

* * * by night when on siding to be passed by another train. Lights * * * showing green toward engine, side and to rear.

55. The following signals will be used by flagmen:

* * *

Night signals--A red light,
A white light,
Torpedoes and
Fuseses.

73. Extra trains are inferior to regular trains.

85.--Amended. * * *

* * * Extra trains may pass and run ahead of second
* * * class trains * * *

* * *

93.--Amended. All second and third class and extra trains much approach and pass all stations, yards, sidings, * * * expecting to find trains or yard engines occupying the main track within the switches or yard limits * * * and will be prepared to stop unless the main track is seen or known to be clear. Trains and yard engines may use the main track at such points, protecting against first class trains in all cases and will protect against all trains where the view is obscured by fog, storms or track curvature, or other causes requiring additional safeguards.

* * *

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

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

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

When a train is moving under circumstances in which it may be overtaken by another train, the flagman must take such action as may be necessary to insure full protection. By night * * * lighted fuses must be thrown off at proper intervals.

* * *

99a. When a flagman goes back to protect a train at night, or in obscure weather, he will place a lighted fusee in the center of the track five hundred feet back of the rear of the train, and proceed back until proper distance is reached to insure full protection.

If a following train is in sight or hearing before the flagman has reached a point insuring full protection, he must at once place two torpedoes on the rail, and at night, or in obscure weather, or if the view is obscured, he will, in addition, display a lighted fusee and continue toward the approaching train, displaying stop signals until they are answered.

* * *

505. Block signals govern the use of the blocks, but, unless otherwise provided, do not supersede the superiority of trains; nor dispense with the use or the observance of other signals whenever and wherever they may be required.

512. Where switch indicators are used, the indications displayed do not relieve enginemen and trainmen from protecting their train as required by the rules.

512a. A switch must not be opened to permit a movement to a main track when the semaphore arm is horizontal or the disc is visible in the indicator box at the switch, except under protection as per Rule 99.

512b. When a train or engine is on a siding at the end of which a spring switch is in service, trainmen must observe the switch indicator before the train or engine fouls the main track.

A dwarf signal, located alongside of the siding near the fouling point, may be used instead of the switch indicator at the switch stand.

The maximum authorized speeds were 70 miles per hour for the passenger-equipment train and 50 miles per hour for the freight train.

Description of Accident

No. 593, a west-bound second-class freight train, consisted of engine 2596, 30 cars and a caboose. This train arrived at Barrington at 10:40 p. m., 1 hour 10 minutes late, and entered the siding at the east siding-switch. About 11:25 p. m., after 14 cars had been added to the train, it entered the westward main track at the west siding-switch and while it was moving at a speed of about 7 miles per hour the eighteenth car was struck by Extra 1661 West at the fouling point of the westward main track and the siding.

Extra 1661 West, a west-bound passenger-equipment train, consisted of engine 1661, six coaches, one parlor car, and one coach, in the order named. The rear car was of all-steel construction, and the other cars were of steel-underframe construction. This train passed signals 2RA-B and 6-7, each of which indicated Proceed, passed the interlocking at Block at Barrington at 11:25 p. m., and while moving at an estimated speed of 35 miles per hour it struck the eighteenth car of No. 593.

The engine, the tender, and the first four cars of Extra 1661 West were derailed. The engine stopped on its side and across the westward main track, with its front end 740 feet west of the point of accident. The tender was separated from the engine and stopped upright on the eastward main track, with its rear end toward the west and 200 feet west of the point of accident. The first car stopped on its left side, with its west end 320 feet west of the point of accident and 35 feet south of the westward main track and its rear end 15 feet north of the westward main track. The second car stopped upright and between the engine and the first car. The third car stopped upright and behind the second car, with its west end about 12 feet south of the westward main track. The fourth car stopped upright and in line with the track. Separations occurred at each end of the first two cars. The engine, the tender, and the second, third and fourth cars were badly damaged. The first car was demolished, the fifth car was somewhat damaged, and the sixth car was slightly damaged. The fifteenth to the twenty-third cars, inclusive, and the front truck of the twenty-fourth car of No. 593 were derailed. These cars stopped in various positions on or near the track. The fifteenth, eighteenth, and twentieth cars were destroyed, and the other derailed cars were somewhat damaged.

The engineer of Extra 1661 West was killed. The fireman of Extra 1661 West was injured.

The weather was foggy at the time of the accident, which occurred at 11:27 p. m.

Discussion

After No. 593 entered the siding at Barrington, the crew assembled 14 cars from auxiliary tracks which parallel the siding on the south. These cars were added to the train about 11:12 p. m. The engine was then about 200 feet east of the dwarf signal at the west end of the siding. Visibility was restricted by fog to a distance of less than 1,000 feet. No. 693, a west-bound first-class passenger train, passed the rear end of No. 593 about 11:21 p. m. The flagman then adjusted the markers on the rear of the caboose to display red toward the rear, lighted a 10-minute red fusee, and gave a proceed signal from the vicinity of the caboose. The train moved forward soon afterward, and the flagman dropped the fusee to the roadbed near the south rail of the westward main track and entered the caboose. The conductor was engaged in performing clerical work, and the flagman was about to return to the rear platform of the caboose when he observed the headlight of Extra 1661 West. The engine of Extra 1661 West passed the caboose before he could give stop signals. The engineer of No. 593 said that, because of the fog, he could not see the proceed signal given by the flagman, but he started the train immediately after No. 693 passed, in accordance with a previous understanding with the conductor that the train would follow No. 693. When the engine entered the approach-lighting circuit for the signal at the west end of the siding, the speed of the train was about 4 miles per hour. The enginemen were in their respective positions in the cab of the engine, and the front brakeman was seated behind the fireman. The headlight was lighted brightly. The engineer said that the dwarf signal displayed a yellow aspect from the time it became lighted until after the front of the engine passed it, and he called the indication to the other employees on the engine. The fireman said that the signal displayed a yellow aspect when it became lighted, but when the front of the engine reached a point 350 feet east of the signal his view of the signal from the left side of the cab was obstructed. The front brakeman was not in position to see the signal. Before the collision occurred the employees on the engine were not aware of the approach of Extra 1661 West. The conductor said that, when he alighted from the caboose after the accident occurred, the fusee which had been dropped by the flagman was still lighted.

As Extra 1661 West was approaching Barrington the enginemen were in their respective positions on the engine, and the members of the train crew were in the rear car. The headlight was lighted brightly. The brakes of this train had been tested and had functioned properly when used en route. The speed of the train had been reduced east of Barrington to avoid overtaking No. 693, and it was about 25 miles per hour as the train approached signal 2RA-B. The fireman said that because of fog the aspects of signals 2RA-B and 6-7 first became visible at distances of about 1,600 feet. Each of these signals indicated Proceed, and the indications were called by the enginemen. After the train passed signal 2RA-B, the speed was increased to about 30 miles per hour. When the engineer observed the aspect of signal 6-7 the speed again was increased. After the train passed signal 6-7 the fireman adjusted the stoker control valves. When the fireman next looked ahead, the train was closely approaching the caboose of No. 593. He said he observed the lights in the caboose, but he did not notice the markers. After the engine had passed the caboose, he observed that the dwarf signal was displaying a red aspect and that the front end of No. 593 had entered the westward main track at the west siding-switch. Apparently the engineer also observed that No. 593 had entered the main track, as he sounded a warning on the engine whistle, but the collision occurred before he could take action to reduce the speed of the train. The fireman said he did not observe a fusee between signal 6-7 and the point where the collision occurred.

No. 693 passed the interlocking station at Barrington at 11:19 p. m., 15 minutes late. The operator said he restored the lever controlling signal 6-7 to normal position immediately after No. 693 passed the signal. When the block-indicator aspect changed from red to green, which indicated that No. 693 had cleared the block of signal 6-7, he immediately reversed the lever to clear signal 6-7 for the movement of Extra 1661 West. Extra 1661 West passed the interlocking station at 11:25 p. m., about 2 minutes after signal 6-7 indicated Proceed. The operator said that the block indicator continued to display a green aspect until the engine of Extra 1661 West passed signal 6-7.

The control circuits of the signal system in the vicinity of the point of accident were so arranged that when the dwarf signal at the west siding-switch was lighted it would display a yellow aspect after No. 693 passed the switch and until the lever controlling signal 6-7 was placed in reverse position. Then it would display a red aspect while the lever was reversed or while any portion of the block between signal 6-7 and the west siding-switch was occupied. If the fouling circuit at the

west end of the siding was occupied by No. 593 before Extra 1661 West passed signal 6-7, the block indicator in the interlocking station would display a red aspect and the indication of signal 6-7 would change from Proceed to Stop. The fireman of Extra 1661 West said that signal 2RA-B indicated Proceed when he first observed it. This indicates that signal 6-7 was displaying an aspect to proceed at that time. Extra 1661 West then moved a distance of over 2 miles at an estimated speed of 35 miles per hour before the collision occurred, and the dwarf signal at the west siding-switch should have displayed a red aspect during that time. After No. 593 entered the fouling circuit, it moved a distance of about 250 feet at an estimated speed of 4 to 7 miles per hour before the collision occurred.

The instrument case adjacent to the west siding-switch and its contents, which included relays controlling the dwarf signal, were destroyed as a result of the collision, and the functioning of the dwarf signal could not be tested after the accident occurred.

The rules of this carrier provide that extra trains approach and pass all sidings expecting to find trains or engines occupying the main track between the switches and be prepared to stop unless the main track is seen or known to be clear. The conductor and the fireman of Extra 1661 West said they understood that it was not necessary for their train to be prepared to stop while moving through the block of a signal which indicated Proceed. The engineer of No. 593 said that the dwarf signal at the west siding-switch displayed a yellow aspect immediately before his train fouled the westward main track. However, he understood that this indication did not relieve his crew from protecting the movement as required by the rules. He said he assumed that the employees at the rear of the train would provide protection. The conductor and the flazman said they thought the fusee which was left on the westward main track would provide sufficient protection for the movement of their train, and they said that this was their usual procedure when leaving the siding at Barrington. However, the fireman of Extra 1661 West did not see a burning fusee, and apparently the engineer of that train did not see one, as he did not take any action to stop his train.

Cause

It is found that this accident was caused by a train occupying the main track immediately in front of a following train.

Dated at Washington, D. C., this twentieth day of October, 1950.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.