

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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REPORT NO. 3595  
THE NEW YORK CENTRAL RAILROAD COMPANY  
IN RE ACCIDENT  
NEAR SYRACUSE, N. Y , ON  
SEPTEMBER 17, 1954

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SUMMARY

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Date: September 17, 1954

Railroad: New York Central

Location: Syracuse, N. Y.

Kind of accident: Collision

Equipment involved: Locomotive with cars : Freight train

Train number: : Extra 1087  
East

Engine numbers: Diesel-electric unit : Diesel-electric  
8629 units 1087,  
3322, and  
1112

Consists: 20 cars, caboose : 110 cars,  
caboose

Speeds: Standing : 16 m. p. h.

Operation: Operating rules; yard limits

Track: Single, 3°30' curve, 0.23 percent  
descending grade eastward

Weather: Cloudy, misting

Time: 11:40 p. m.

Casualties: 3 injured

Cause: Failure properly to control the speed  
of a train moving within yard  
limits

INTERSTATE COMMERCE COMMISSION

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REPORT NO. 3595

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

THE NEW YORK CENTRAL RAILROAD COMPANY

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November 16, 1954

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Accident near Syracuse, N. Y., on September 17, 1954,  
caused by failure properly to control the speed  
of a train moving within yard limits.

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REPORT OF THE COMMISSION<sup>1</sup>

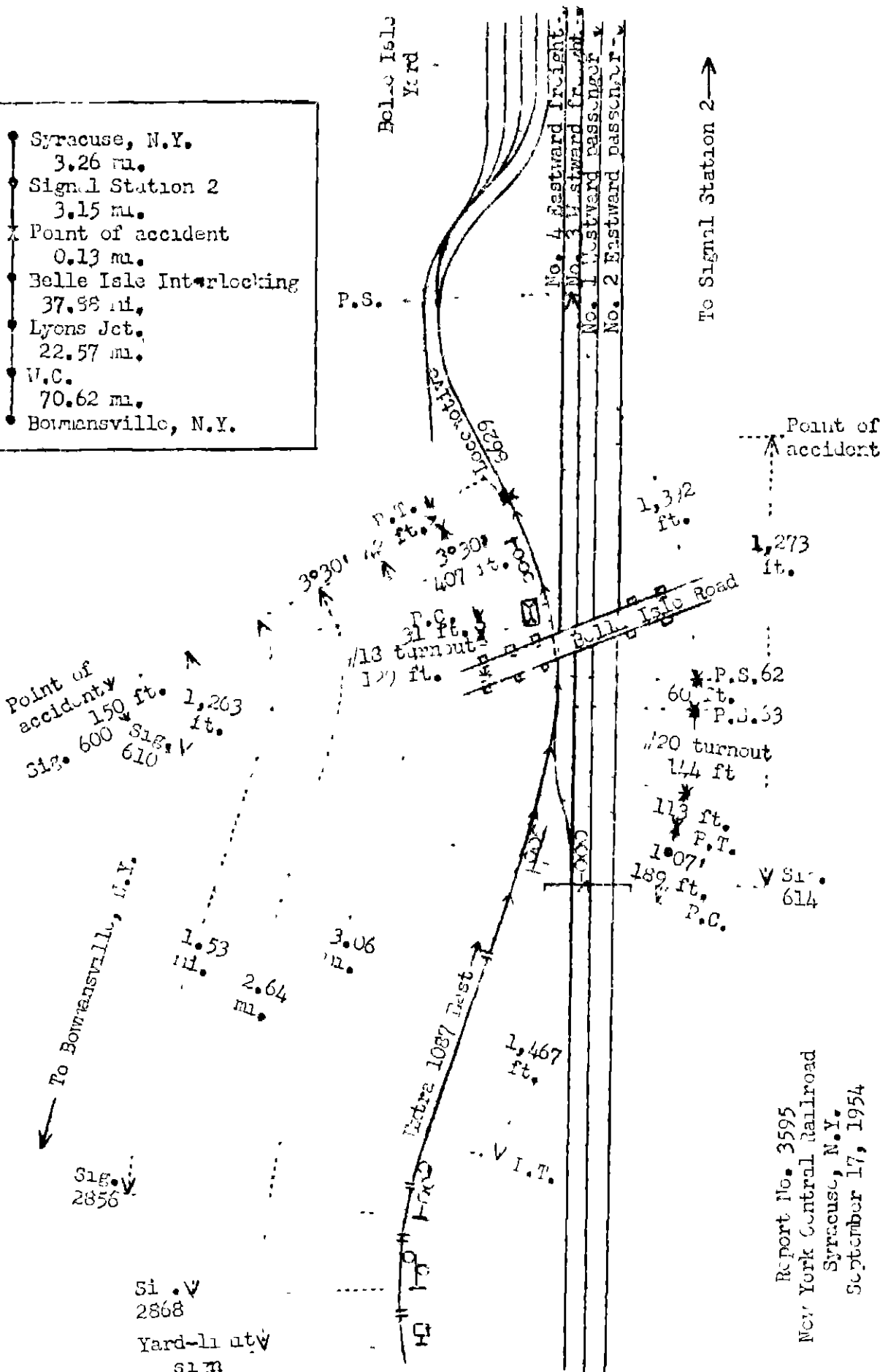
CLARKE, Commissioner:

On September 17, 1954, there was a collision between a locomotive with cars and a freight train on the New York Central Railroad near Syracuse, N. Y., which resulted in the injury of three train-service employees. This accident was investigated in conjunction with a representative of the New York Public Service Commission.

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<sup>1</sup> Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Clarke for consideration and disposition.

- Syracuse, N.Y. 3.26 mi.
- Signal Station 2 3.15 mi.
- ✕ Point of accident 0.13 mi.
- Belle Isle Interlocking 37.58 mi.
- Lyons Jct. 22.57 mi.
- W.C. 70.62 mi.
- Bownsville, N.Y.



Report No. 3595  
 New York Central Railroad  
 Syracuse, N.Y.  
 September 17, 1954

Location of Accident and Method of Operation

This accident occurred on that part of the Syracuse-Rochester Division designated as the West Shore and extending between Bowmansville and Signal Station 2, near Syracuse, N. Y., 134.35 miles. Between WC, 63.73 miles west of Signal Station 2, and Belle Isle interlocking, 3.28 miles west of Signal Station 2, this is a single-track line, over which east-bound trains are operated by signal indications. Between Belle Isle interlocking and Signal Station 2 it is a single-track line over which movements are made in both directions under rules governing movements within yard limits. Between the latter points there is no block system in use. In the vicinity of Belle Isle the West Shore main track is located north of a four-track line which extends westward from Signal Station 2. These tracks are designated from south to north as No. 2, eastward passenger, No. 1, westward passenger, No. 3, westward freight; and No. 4, eastward freight. Within interlocking limits at Belle Isle the West Shore main track converges with track No. 4 at switch 63 and diverges from track No. 4 at switch 62, 60 feet east of switch 63. Switch 63 is trailing-point and switch 62 is facing-point for east-bound movements. East of Belle Isle interlocking a lead track in Belle Isle yard parallels the West Shore main track on the north. The west switch of a crossover which connects the West Shore main track and the lead track is located in the main track at a point 1,392 feet east of switch 62. The accident occurred on the West Shore main track at a point 3.06 miles east of the west yard-limit sign and 567 feet east of switch 62. From the west on the West Shore main track there are, in succession, a tangent 1,467 feet in length, a  $1^{\circ}07'$  curve to the left 189 feet, a tangent 113 feet, a No. 20 turnout to the left into track No. 4 144 feet, a tangent 60 feet, a No. 18 facing-point turnout to the left 129 feet, a tangent 31 feet, and a  $3^{\circ}30'$  curve to the left 407 feet to the point of accident and 42 feet eastward. The grade for east-bound trains varies between 0.05 percent and 0.46 percent descending throughout a distance of 1 mile immediately west of the point of accident, and it is 0.23 percent descending at that point.

The interlocking at Belle Isle is operated by remote control by the operator at Signal Station 2. Automatic signals 2868 and 2856 and interlocking signal 610, governing east-bound movements on the West Shore main track, are located, respectively, 2.64 miles, 1.53 miles, and 1,263 feet west of

the point of accident. Interlocking signal 614, governing east-bound movements on track No. 3 and from track No. 3 to the West Shore main track, is located 1,273 feet west of the point of accident. Interlocking signal 600, governing west-bound movements on the West Shore main track, is located 150 feet west of the point of accident. These signals are of the searchlight type. Signal 600 is continuously lighted, and the other signals are approach lighted. Aspects applicable to this investigation and the corresponding names are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>
2868	Yellow-over-yellow, staggered	PROCEED PREPARING TO STOP AT SECOND SIGNAL. TRAIN EXCEEDING LIMITED SPEED MUST AT ONCE REDUCE TO THAT SPEED. REDUCTION TO LIMITED SPEED MUST COMMENCE BEFORE PASSING SIGNAL AND BE COMPLETED BEFORE ACCEPTING A MORE FAVORABLE INDICATION.
2856	Yellow-over-red, staggered	PROCEED PREPARING TO STOP AT NEXT SIGNAL. TRAIN EXCEEDING MEDIUM SPEED MUST AT ONCE REDUCE TO THAT SPEED. REDUCTION TO MEDIUM SPEED MUST COMMENCE BEFORE PASSING SIGNAL AND BE COMPLETED BEFORE ACCEPTING A MORE FAVORABLE INDICATION.
610 614 600	Red-over-red-over-yellow	PROCEED AT RESTRICTED SPEED.
610 614 600	Red-over-red-over-red	STOP.

The controlling circuits are so arranged that when the blocks of signals 2868 and 2856 are clear and signal 610 indicates either Stop or Proceed-at-restricted-speed, signal 2868 indicates Proceed-preparing-to-stop-at-second-signal and signal 2856 indicates Proceed-preparing-to-stop-at-next-signal. Interlocking limits on the West Shore main track at Belle Isle extend between signals 610 and 600. When the route is lined for an east-bound movement on this track, signal 610 indicates Proceed-at-restricted-speed as its most favorable indication. This aspect is displayed whether the track in advance of the signal is occupied or unoccupied. An approach

circuit on the West Shore main track extends between signal 600 and a point immediately west of the west crossover-switch to the yard lead. This circuit is used to provide an indication in Signal Station 2 of occupancy of this section of track. Occupancy of this section of track does not affect the operation of the interlocking signals.

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

#### DEFINITIONS

Pilot.--An employe assigned to a train when the engineman or conductor, or both, are not fully acquainted with the physical characteristics or rules of the railroad, or portion of the railroad, over which the train is to be moved.

Limited Speed.--A speed not exceeding forty-five miles per hour.

Medium Speed.--A speed not exceeding thirty miles per hour.

Slow Speed.--A speed not exceeding fifteen miles per hour.

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

18. Yard engines will display the headlight to the front and rear by night. \* \* \*

93. Within yard limits the main track may be used, protecting against first class trains.

All other trains and engines must move within yard limits prepared to stop unless the main track is seen or known to be clear.

Note.--Where automatic block signal rules are in effect "known to be clear" includes when track is known to be clear by signal indication. \* \* \*

The maximum authorized speed for freight trains in the vicinity of the point of accident is 30 miles per hour.

### Description of Accident

A switching movement, consisting, from west to east, of Diesel-electric unit 8629, a caboose, and 20 cars, moved eastward through the interlocking at Belle Isle from track No. 3 to the West Shore main track and stopped with the locomotive approximately 250 feet east of signal 600. It then moved westward and stopped a second time with the front of the locomotive 150 feet east of signal 600. A short time later the locomotive was struck by Extra 1087 East.

Extra 1087 East, an east-bound freight train, consisted of Diesel-electric units 1087, 3522, and 1112, coupled in multiple-unit control, 110 cars, and a caboose. This train entered the West Shore main track at Lyons Jct., 37.88 miles west of Belle Isle interlocking at 8:05 p. m., passed signal 2868, which indicated Proceed-preparing-to-stop-at-second-signal, passed signal 2856, which indicated Proceed-preparing-to-stop-at-next-signal, passed signal 610, which indicated Proceed-at-restricted-speed, and while moving at a speed of 16 miles per hour it struck locomotive 8629.

Locomotive 8629 was moved eastward a distance of 184 feet by the force of the impact. It was badly damaged. The control compartment, which was at the east end of the locomotive, was demolished. The caboose was demolished, and the three cars immediately east of the caboose were derailed and considerably damaged. No equipment of Extra 1087 East was derailed. The first Diesel-electric unit of this train was somewhat damaged.

The engineer, the fireman, and the yard conductor of locomotive 8629 were injured.

The weather was cloudy and there was a light mist at the time of the accident, which occurred at 11:40 p. m.

### Discussion

Locomotive 8629, pulling a caboose and 45 cars, departed west-bound from Signal Station 2 on track No. 3 at 10:27 p. m. Cars were set off west of Signal Station 2, and the movement then proceeded through the interlocking at Belle Isle to a point west of signal 314. The engineer said that when he stopped at this point he dimmed the headlight on the west end of the locomotive and did not again change the position of the headlight switch before the accident occurred. The route was lined for movement from track No. 3 to the West Shore main track, and the movement then proceeded eastward. At this time



one yard brakeman was on the third car from the east end of the movement, one yard brakeman was on the tenth car, the yard conductor was in the caboose, and the enginemen were in the control compartment of the locomotive. The cars were to be placed in the west end of Belle Isle yard, and as the movement approached the crossover east of signal 600 the yard brakeman on the third car gave a stop signal. However, he misjudged the distance, and the east car overran the switch about 150 feet before the movement was stopped. The yard brakemen then gave the engineer a signal to move westward. The engineer said that at this time he observed Extra 1087 East approaching on the West Shore main track west of switch 62. He moved the locomotive westward a distance of about 100 feet and stopped with the front of the locomotive 150 feet east of signal 600, which indicated Stop. He said that about 2 minutes after he stopped he observed that Extra 1087 East was routed toward the track on which his locomotive was standing. He immediately sounded a whistle signal for an eastward movement and attempted to start the locomotive in backward motion. He was not certain whether the locomotive started to move before the collision occurred. The fireman was so seriously injured that he could not be questioned during this investigation. The other members of the crew all said that the movement was standing when the collision occurred.

Extra 1087 East originated on the Pennsylvania Division at Corning, N. Y., and entered the West Shore main track at Lyons Jct. Because the engineer was not familiar with the physical characteristics of the line between Lyons Jct. and Belle Isle, a pilot engineer was provided for the train for this portion of the trip. As this train was approaching the point where the accident occurred the pilot engineer was operating the locomotive. He and the fireman were maintaining a lookout ahead from the control compartment at the front of the first Diesel-electric unit, the engineer and the front brakeman were in the third Diesel-electric unit, and the conductor, the swing brakeman, and the flagman were in the caboose. The brakes of the train had been tested and had functioned properly when used en route. The headlight was lighted brightly. Signal 2868 indicated Proceed-preparing-to-stop-at-second-signal, and signal 2856 indicated Proceed-preparing-to-stop-at-next-signal. The employees on the first Diesel-electric unit called the indication of each signal. They said that signal 610 indicated Stop until the front of the train reached a point about 2,000 feet west of the signal, and that the indication then changed to Proceed-at-restricted-speed. The pilot engineer said that he controlled the speed of the train with the dynamic brake until the locomotive was closely approaching signal 610, and that he then released the dynamic

brake and applied the independent brake. Neither he nor the fireman saw locomotive 8629 until the front of their train was in the vicinity of switch 62. They said it then appeared to them that the headlight of the yard locomotive became lighted. The pilot engineer immediately made an emergency application of the brakes. Both these employees said they thought that the yard locomotive was moving toward them, and the pilot engineer said he thought he could have stopped short of the yard locomotive if that locomotive had not been in motion. According to the tape of the speed-recording device, the speed of Extra 1087 East was 29 miles per hour at signal 2868, 14 miles per hour at signal 2856, 10 miles per hour or less as the train approached signal 610, 14 miles per hour as the locomotive passed signal 610, and 16 miles per hour at the point of collision. The tape indicates that the brakes were not effective in reducing the speed before the collision occurred.

The operator at Signal Station 2 said that locomotive 8629 cleared the approach circuit east of Belle Isle interlocking before he lined the route for the movement of Extra 1087 East and that the indicator indicated that this section of track remained unoccupied until approximately the time that the locomotive of Extra 1087 East passed signal 600. However, all members of the crew of locomotive 8629 who were questioned said that the locomotive did not at any time move east of the west crossover-switch, and from the statements of these employees it appears that the operator was mistaken. The signal apparatus was tested after the accident occurred and was found to function properly.

On September 22, 1954, observations were made to determine the distance at which the headlight of a locomotive standing at the point of accident is visible from a locomotive approaching from the west on the West Shore main track. The weather conditions at the time the observations were made were similar to those which prevailed at the time of the accident. A locomotive similar to locomotive 8629 was placed in the approximate location of locomotive 8629 at the time of the accident, and the headlight at the west end of the locomotive was lighted. The observations were made from a locomotive similar to Diesel-electric unit 1087. As this locomotive moved eastward on the West Shore main track it was found that signal 610 became visible to the enginemen at a distance of 4,803 feet and the headlight of the standing locomotive became visible at a distance of 3,105 feet. As the locomotive moved between points 3,105 feet and 1,198 feet west of the point of accident, the enginemen's view of the headlight was

obstructed at intervals by four piers of a highway bridge which crosses the tracks immediately east of switch 62. Between points 1,198 feet and 565 feet west of the point of accident the enginemen's view of the headlight was obstructed by a small building located east of the highway bridge and north of the tracks. Throughout a distance of 565 feet immediately west of the point of accident the enginemen's view of the headlight was unrestricted.

Officials of the carrier estimated that a train similar to Extra 1087 East moving at a speed of 16 miles per hour on the grade on which the accident occurred would be stopped within a distance of approximately 950 feet by an emergency application of the brakes.

This accident occurred within yard limits. Under the rules of this carrier governing operation of trains within yard limits, Extra 1087 East was required to be operated in such manner that it could be stopped short of a train or obstruction unless the main track was seen or known to be clear. The indication of the last signal which this train passed placed a restriction on the movement similar to the requirement of the yard-limit rule.

Cause

This accident was caused by failure properly to control the speed of a train moving within yard limits.

Dated at Washington, D. C., this sixteenth day of November, 1954.

By the Commission, Commissioner Clarke.

(SEAL)

GEORGE W. LAIRD,  
Secretary.