

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

-----  
REPORT OF THE DIRECTOR  
BUREAU OF SAFETY

-----  
ACCIDENT ON THE  
NEW YORK CENTRAL RAILROAD

-----  
SYRACUSE, N. Y.

-----  
JANUARY 19, 1938.

-----  
INVESTIGATION NO. 2245

SUMMARY

-----  
Inv-2245  
-----

Railroad: New York Central  
Date: January 19, 1938  
Location: Syracuse, N.Y.  
Kind of accident: Rear-end collision  
Trains involved: Passenger :Passenger  
Train numbers: No. 307 :No. 337  
Engine numbers: 4675 :844  
Consist: 3 cars :3 cars  
Speed: Standing :7-10 m.p.h.  
Track: 1°59' curve, followed by 722 feet  
of tangent track; 0.5 percent  
descending grade.  
Weather: Sub-zero, frosty, dark.  
Time: Between 6:50 and 6:55 a.m.  
Casualties: 1 killed, 1 injured  
Cause: Failure to observe and obey signal  
indications.

February 10, 1938.

To the Commission:

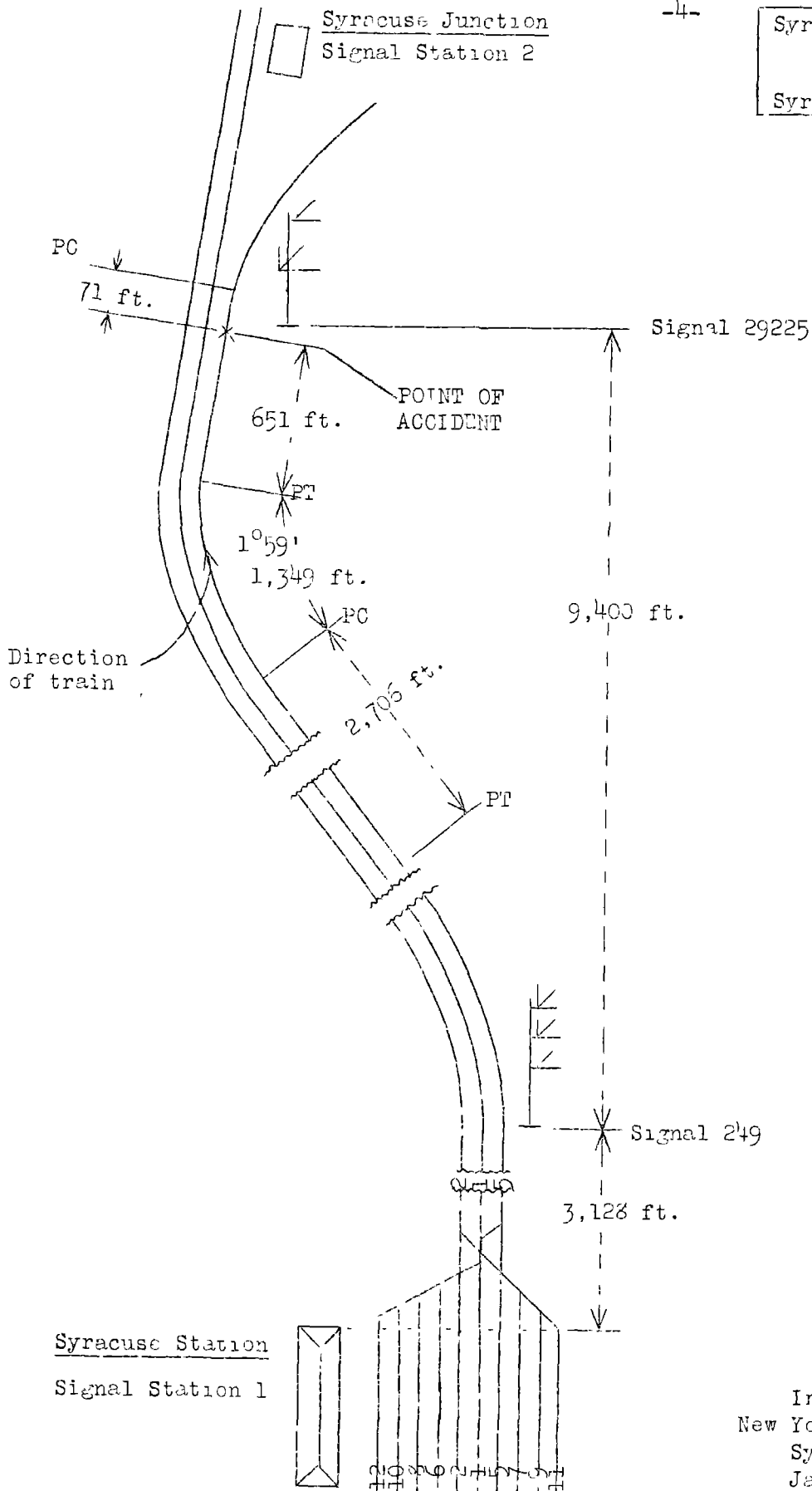
On January 19, 1938, there was a rear-end collision between two passenger trains on the New York Central Railroad at Syracuse, N.Y., which resulted in the death of one person carried under contract, and the injury of one employee. The investigation of this accident was made in conjunction with a representative of the New York Public Service Commission.

#### Location and method of operation

This accident occurred on that part of the Syracuse Division which extends between Syracuse and Syracuse Junction, N.Y., a distance of 3.32 miles. This is a 3-track line over which trains are operated by time-table and an automatic block-signal system; the automatic train-stop system of the intermittent-inductive type in use on the New York Central was not effective on the track involved in this accident. The tracks, numbered from south to north, are: 2, eastward; 1, westward; and 5, eastward and westward. The accident occurred on track 5 about 2.34 miles west of the station at Syracuse; Tracks 2, 1, and 5 extend through the station; three additional station tracks, lying to the north of track 5, and four other station tracks lying to the south of track 2, connect with the three main tracks just west of the depot. All movements through the station and from the station tracks are controlled by an electric interlocking of the all-relay type installed at signal station 1 located in the depot. The west limits of this plant are 4,800 feet west of the depot. From this point westward movements on track 5 are governed by an automatic block-signal; this automatic signal territory extends westward for a distance of about 2.25 miles to the east limits of interlocking signal station 2. The maximum authorized speed for all trains in this territory is 30 miles per hour.

The signals involved in this accident were west-bound interlocking signal 249, a semi-automatic 3-unit signal, mounted on a cantilever bridge, and signal 29225, a 2-unit automatic signal mounted on a high mast; these signals are located 3,128 feet and 12,528 feet, respectively, west of the depot, and both are approach-lighted, color-light signals of the search-light type. When the track governed by signal 29225 is occupied that signal displays two staggered red lights, indicating, "Stop; then proceed at restricted speed". When the track between signals 249 and 29225 is occupied, signal 249 displays red-over-red-over-red, indicating "Stop"; however, if the leverman has operated the lever controlling this signal, the restricted speed aspect is

Syracuse Junction
3.32 miles
Syracuse



Inv. No. 2245  
 New York Central R.R.  
 Syracuse, N.Y.  
 Jan. 19, 1938

displayed the indication being red-over-red-over yellow, "Proceed at restricted speed". Under special instructions in the timetable trains are prohibited from accepting the latter indication without instructions except at certain designated signal stations of which Syracuse is not one.

Approaching the point of accident from the east, the track is on a 30-foot fill and is tangent for a distance of 2,708 feet, followed by a 1°59' curve to the right 1,349 feet in length, and then 722 feet of tangent track; the accident occurred at a point 651 feet from the eastern end of this latter tangent. The grade is 0.5 percent descending for west-bound trains.

Restricted speed as defined in the book of rules is a speed not exceeding that which will enable a train to stop short of train ahead, obstruction, or switch not properly lined, and look out for broken rail.

Rule 19 specifies that when an engine is running backward by night, without cars, or at the rear of a train pushing cars on single track, with the current of traffic where there are two tracks and with the current of traffic on passenger tracks where there are three or more tracks, lights showing yellow to side and in direction engine is moving and red in opposite direction shall be displayed. Rule 19a provides that when a train is not equipped to display markers, as prescribed by Rule 19, a red flag by day and a red light by night will be displayed at rear of train.

The weather was sub-zero, frosty and dark at the time of the accident, which occurred between 6:50 and 6:55 a.m.

#### Description

No. 307, a west-bound passenger train, consisted of one coach, one baggage car, and one combination mail and baggage car, in the order named, all of all-steel construction, pushed by engine 1675 in backward motion, and was in charge of Conductor Drake and Engineman Farley. This train departed from track 9, Syracuse passenger station, at 6:43 a.m., according to the train sheet, 23 minutes late, and entered main track 5. It passed signal 249 which was displaying an indication to proceed prepared to stop at next signal, and stopped at about 6:48 a.m., according to testimony, with its leading end a short distance east of signal 29225, which was displaying a stop and proceed indication. After stopping momentarily, this train moved a short distance

westward, but not beyond this signal, and again stopped, and had stood in this latter location about one minute when it was struck by No. 337.

No. 337, a west-bound passenger train, consisted of one Pullman sleeping car, one coach, and one baggage car, in the order named, all of all-steel construction, pushed by engine 844 in backward motion, and was in charge of Conductor Donnelly and Engineman Collins. This train departed from track 7, Syracuse passenger station, at 6:48 a.m., according to the train sheet, 18 minutes late, and entered main track 5. Without stopping, it passed signal 249, which was displaying a red-over-red-over-yellow aspect, a stop indication according to the timetable special instruction, and collided with No. 307 while traveling at a speed estimated to have been between 7 and 10 miles per hour.

The leading car of No. 337 stopped with its west end resting on the pilot of engine 4675; the front end of this engine was slightly damaged; the leading end of the leading car of No. 337 was considerably damaged while its other end was slightly damaged; the leading end of the second car was slightly damaged and the coupler was broken; the east end of the third car was slightly damaged and the coupler broken. The rear end of the tender of engine 844 was slightly damaged. The employee injured was the conductor of No. 337.

#### Summary of evidence

Conductor Drake, of No. 307, stated that he registered as leaving Syracuse at 6:40 a.m. He saw No. 333 depart 2 or 3 minutes ahead of No. 307. His own train departed from track 9 and he took a position on the leading platform of the leading car. The train was equipped with a standard back-up valve which had been tested in the station. He did not know whether markers were displayed on the engine of his train. Signal 249 was displaying a yellow-over-red-over-red indication and the train proceeded at a speed of about 20 miles per hour until it stopped with the leading end of the train a distance of two or three car lengths east of signal 29225, which was displaying two staggered red lights. After this stop, the train immediately started but he sounded the communicating stop signal and the train again stopped with the west end near the signal location. He ran along the left side of the train toward the engine for the purpose of ascertaining from the engine crew if the aspect displayed was a stop-and-proceed or a stop-and-stay signal, and just after he reached the engine location and called to the fireman the accident occurred; it was then about 6:50 a.m., and his train had been standing not more than two or three minutes prior to the collision. The visibility was poor due to the frosty condition but he could see a

distance of about 500 feet. He did not expect a following train to be so close, since it would be required to travel much slower than his train between signals 249 and 29225. He did not throw off any fuses and did not furnish flag protection. He had made a successful qualifying trip at the time the station was placed in service.

Baggageman Switzer, of No. 307, stated that his train left Syracuse station at 6:41 a.m. and that he was in the baggage car en route. He said he was the flagman of his train but that a white lantern was the only flagging equipment in the baggage car, and if he were going out to flag he would get the remainder of the flagging equipment off the engine; fuses were carried in the coach. When the train made the first stop at signal 29225, he made no preparations to flag and when his train stopped the second time at this signal it had been standing there not more than one or two minutes before the occurrence of the accident. He did not think his train was moving from Syracuse station to signal 29225 in such manner that it would be overtaken by a following train.

Engineman Farley, of No. 307, stated that the brakes on his train were tested at Syracuse station and he received a signal from a car inspector which indicated that all brakes were operative. The train departed from track 9 at 6:40 a.m., moving westward on track 5, and passed signal 249, displaying a yellow-over-red-over-red aspect, at a speed of between 20 and 25 miles per hour. This speed was maintained until reaching a point 10 or 12 car lengths east of signal 29225, when the fireman informed him that both units were red. The engineman stopped the train at a point about one car length east of this signal. He then started a continuation of the back-up movement but received a communicating whistle stop signal and again stopped after having moved about one car length. He heard someone call from the ground on the left side of the engine and the accident occurred immediately afterwards. Engineman Farley stated that there was no marker on the front end of the engine during the movement from Syracuse station to the point of accident, and said that he was informed by the fireman that the latter had removed the red light from the front of the engine at Syracuse station. The engineman said that according to the cab indication the headlight was burning dimly, but he could not say definitely if the headlight were actually burning. His reason for dimming the headlight was to avoid blinding crews of trains on an adjacent track. He understood that the rules provide for a train to be protected when it may be overtaken by another train, but in this instance he thought a following train would approach at restricted speed in which case he could not see how his train could be overtaken.

The statement of Fireman Laventure, of No. 307, corroborated that of the engineman in all essential details. With respect to the absence of a marker on the front of the engine, he said that markers are often taken off at Syracuse station for the reason that it takes time to remove markers at Syracuse Junction. He said the accident occurred at 6:50 or 6:51 a.m.

Conductor Donnelly, of No. 337, stated that his train moved from track 7 to track 5 and the time of departure from Syracuse station was 6:49 a.m. He took a position on the leading platform of the leading car and observed signal 249 displaying a red-over-red-over-yellow aspect, which indicated to him that the block was occupied but that they might proceed with caution. The train passed signal 249 at a speed not in excess of 10 miles per hour and continued westward. Although he could not see signal 29225 when approaching the signal location, and he did not see any light or train ahead, he sounded the communicating stop signal and then saw the engine of No. 307 about two rail lengths distant. He attempted to apply the brakes in emergency by opening the back-up hose valve, but apparently the engineman had already made the brake application. The conductor stated that there was no red light on the front end of engine 4675, nor was the headlight burning. He said that after the accident the engineman of No. 307 admitted to him that he had extinguished the headlight in order not to interfere with the vision of the engineman of No. 35 on track 1. He had qualified to operate over the new line when the station was placed in operation.

Engineman Collins, of No. 337, stated that the brakes were tested at Syracuse station and as no comment was made by the inspector he assumed that all brakes were operative. His train departed from track 7 about 6:46 a.m. and entered track 5. He did not see the indication of signal 249 but the fireman informed him that it showed yellow on top, which would be the indication to proceed prepared to stop at the next signal. The train proceeded past this signal at a speed not in excess of 15 miles per hour. Frost and mist in the air made it difficult to see and being on the outside of the curve he did not see signal 29225 when approaching its location, nor did he see any indication of a train ahead; neither did his fireman call his attention to either one. Shortly before the accident occurred he heard one blast of the communicating whistle and immediately made a service reduction of eight pounds; another blast followed and then he applied the brakes in emergency, immediately after which the accident occurred. The speed was about 7 or 8 miles per hour at the instant of impact.

Fireman Halpin, of No. 337, stated that he observed the departure of No. 307 a short time ahead of his train. He was keeping a careful lookout through the open cab window from his position



on his seatbox but because of frost he could not see a distance of more than three car lengths. He observed signal 249 displaying three lights and communicated a yellow light indication to the engineman but did not recall whether the yellow light was the top light or the bottom light. He was positive that he announced the indication the same as he had observed it; he did not know if the engineman repeated the indication. After passing signal 249 the train drifted at a speed of about 15 miles per hour. Approaching the location of signal 29225 he was looking ahead but did not see this signal or the train ahead. He heard one blast of the communicating whistle, which was followed by an emergency application of the brakes, and the accident occurred immediately thereafter, at which time the speed was 8 or 10 miles per hour. He said the weather conditions and not the train ahead prevented him from seeing signal 29225, and that visibility was poorer in this vicinity than near the station.

Telegrapher-Leverman Van Auken, on duty at signal station 1 located on the roof of Syracuse station, stated that No. 333 departed at 6:40 a.m., No. 307 at 6:43 a.m., and No. 337 at 6:48 a.m., all departing on track 5. No. 35 departed on track 1 at 6:48 a.m. During this time the weather was frosty but he could see to the end of the station, a distance of about 2,000 feet.

Engineman Hogan, of No. 333, which preceded Nos. 307 and 337 on track 5, stated that he was able to see the indication of signal 249 for a distance of 500 or 600 feet. He was able to see signal 29225 for a distance of 20 passenger-car lengths.

Engineman Loughnot and Fireman Hinman, operating yard engine 7589 on track 5, passed signal 249 about the time of the accident; this signal was displaying a red-over-red-over yellow indication; the engineman said he passed this signal without stopping although this was not in accordance with the rules. The fireman said that he saw signal 29225 a distance of 20 or 25 car lengths but he could see No. 337 a distance of only about 10 car lengths. Their engine was stopped just east of the point of accident about 7:05 or 7:08 a.m., at which time the engineman said the visibility was very poor. Engineman Loughnot had never qualified to run over the new line at Syracuse.

Car Inspector Heahy made the usual air-brake test on No. 307 shortly before its departure from Syracuse station and found everything working properly and Car Inspector Eldred made the test on No. 337 and found everything working properly. Tail hose tests were included in both instances.

Assistant Signal Engineer Elsworth stated that the view could be had of signals 249 and 29225 from the north side of a west-bound train for a distance of 698 feet and 1,500 feet, respectively, east of the signals.

#### Observations of the Commission's inspectors

On the day following the date of the accident, the Commission's inspectors made vision tests of the two signals involved. An engine of the same type as engine 844, in backward motion pushing three coaches, was used and observations were made from the leading end of the leading coach and from the cab of the engine; the results were as stated by the assistant signal engineer.

A signal test was made by the Commission's inspectors on January 24. There was no indication that the various housings containing signal apparatus had been opened recently or disturbed in any manner. Various tests were made to determine whether signal 249 would respond to the shunting of the track circuits and if the intended indications would be displayed in accordance with track conditions. The tests demonstrated that this signal was operating as intended.

#### Discussion

No. 333 left Syracuse station at about 6:40 a.m. and ran on track 5 to Syracuse Junction; No. 307 departed at about 6:43 a.m., and also ran on track 5; and No. 337 departed about 6:48 a.m., running on track 5. No. 307 received a stop-and-proceed indication at signal 29225 and was standing at this point when struck by No. 337, while the latter train was traveling at a speed estimated to have been between 7 and 10 miles per hour.

Although the statement of the employees involved were not entirely in harmony regarding the matter the weight of evidence is to the effect that No. 337 received a red-over-red-over-yellow indication at signal 249; the fireman said he called the indication as he saw it but could not remember whether the yellow light was above or below the two red lights. The engineman said the fireman called the indication as being yellow on top and he therefore proceeded past that signal at a speed of between 10 and 15 miles per hour. Under the timetable rule, as signal 249 was displaying a restricted speed indication, No. 337 should have stopped at that signal and received instructions before passing it. The conductor correctly observed the indication but apparently was ignorant of the requirements under that indication.

Signal tests made by the Commission's inspectors developed that the signal was operating as intended.

The weather was frosty and the visibility not good, but the evidence indicates that signal indications could be seen for a distance of several car lengths.

Neither markers nor red light were displayed on the front of the engine of No. 307, as required by rules 19 and 19a, and it was developed in this investigation that these rules are being ignored in the back-up movements between Syracuse and Syracuse Junction. Had either of these rules been observed by No. 307 it is possible that some member of the crew of No. 337 would have seen the red light in time to have taken appropriate action to prevent the accident.

It was also developed that some of the employees involved were not fully acquainted with the signal indications, and practices existed which were not in conformity with signal indications and rules. In this case no effort whatever was made to provide rear-end protection for No. 307.

#### Conclusion

This accident was caused by the failure of No. 337 properly to observe and obey signal indications.

#### Recommendation

It is recommended that responsible officials promptly take steps to insure that employees have a proper understanding of the rules and to correct the lax operating practices disclosed by this investigation.

It is further recommended that consideration be given to rearrangement of the control of signal 249 to the end that the restricted speed indication will not be displayed except when that indication is intended to be displayed for and accepted by an approaching train.

Respectfully submitted,

W. J. PATTERSON,  
Director.