

BUPEAU OF SAFETY

REPORT NO. 2013

Railroad: New York, New Haven & Hartford

Date: September 27, 1935

Location: Westport, Conn.

Kind of accident: Rear-end collision

Trains involved:	Freight	:	Freight
Train numbers:	Extra 097-093- 0108	:	Symbol Train Second NE-2
Engine numbers:	Motors 097-093- 0108	:	Motors 091-094-098
Consist:	94 loads, 16 empties	:	73 cars
Speed:	19-25 m.p.h.	:	Standing

Track: 1°06' curve followed by about 1,300 feet
of tangent; 4-track line, automatic block
signals

Weather: Clear and dark

Time: 12:22 a.m.

Casualties: 1 killed; 3 injured

Cause: Failure of engineman properly to observe
and obey automatic block signal indications;
failure of flagman and conductor to provide
proper flag protection when standing on
main track.

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN
ACCIDENT ON THE NEW YORK, NEW HAVEN & HARTFORD RAILROAD
AT WESTPORT, CONN., ON SEPTEMBER 27, 1935.

November 1, 1935.

To the Commission:

On September 27, 1935, there was a rear-end collision between two freight trains on the New York, New Haven & Hartford Railroad at Westport, Conn., which resulted in the death of 1 employee, and the injury of 3 employees. This accident was investigated in conjunction with the Connecticut Public Utilities Commission.

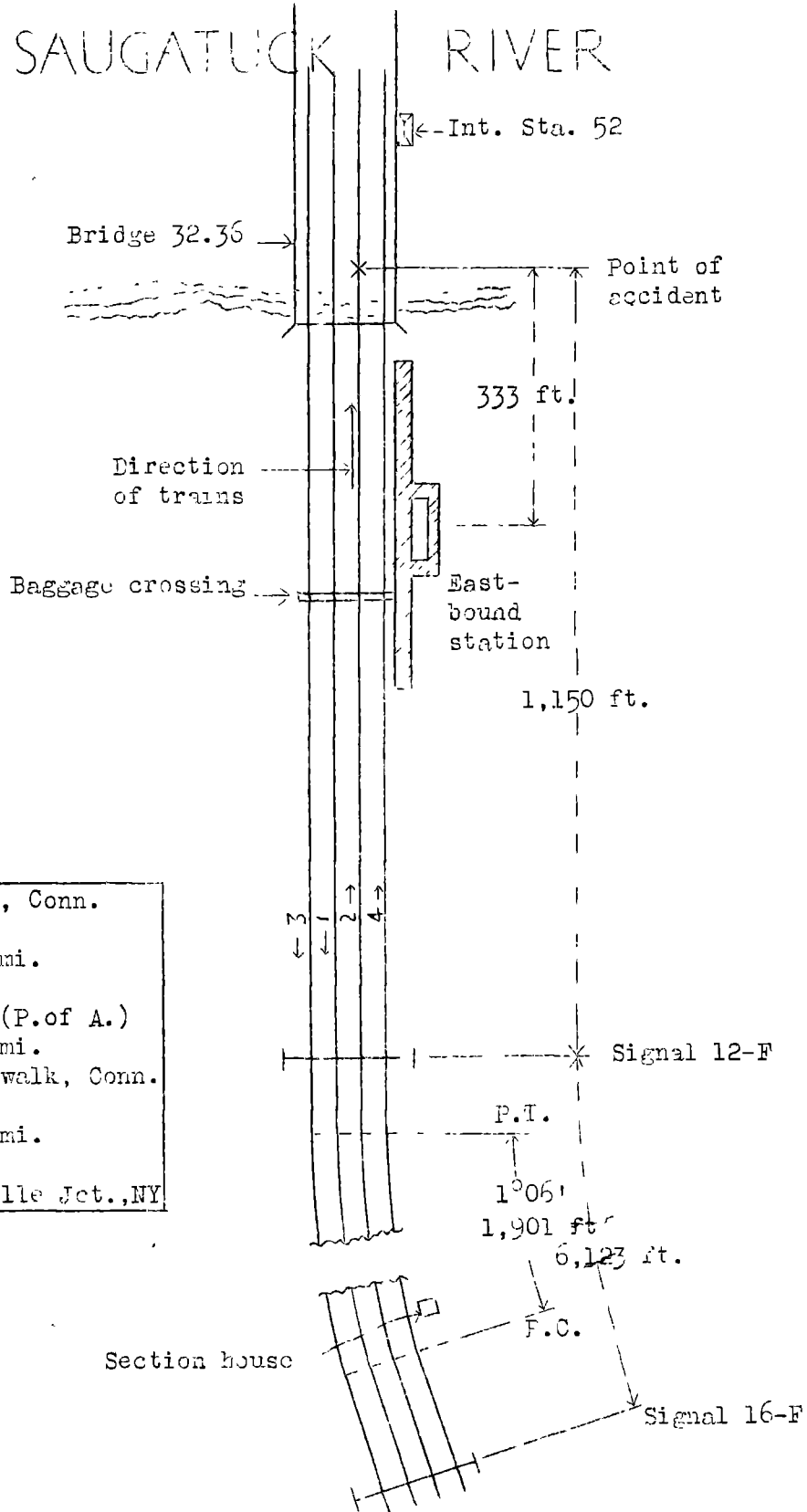
Location and method of operation

This accident occurred on that part of the New Haven Division which extends between New Rochelle Junction, N. Y., and New Haven, Conn., a distance of 56.03 miles; in the vicinity of the point of accident this is a four-track electrified line over which trains are operated by time table, train orders and an automatic block-signal system. The tracks are numbered from north to south, 3, 1, 2, and 4; the accident occurred on drawbridge 32.36, of the lift type, over the Saugatuck River, within the limits of a closed interlocking plant, on track 2, at a point approximately 333 feet east of the center line of the east-bound passenger station at Westport, or 1,150 feet east of signal 12-F. Approaching from the west the track is tangent for a distance of 5,343 feet, then there is a 1°06' curve to the right 1,901 feet in length, followed by tangent track extending about 1,300 feet to the point of accident and a considerable distance beyond. The grade is slightly undulating, being about 0.1 percent ascending for east-bound trains at the point of accident.

Interlocking station 32 is located in the cabin on the drawbridge; the interlocking machine is of electro-mechanical type. The drawbridge is not in operation from 9 p.m., until 5 a.m., and no operator is on duty between those hours, during which period all drawbridge signals function as automatic signals.

The signals involved in the accident are distant signal 16-F and home signal 12-F, located 7,273 feet and 1,110 feet, respectively, west of the point of accident. They are of the 2-arm, 2-position, semaphore type, with normal-clear color-light indications, illuminated by high-power lamps, and are mounted on signal bridges spanning the tracks. The signal indications displayed were easily discernible. Distant signal 16-F may be seen from the locomotive of an east-bound train approximately 1.75 miles west of the point of accident.

SAUGATUCK RIVER



Inv. No. 2013
New York, New Haven & Hartford R.R.
Westport, Conn.
Sept. 27, 1935.

The weather was clear at the time of the accident, which occurred about 12:22 a.m.

Description

Train Symbol Second NE-2, an east-bound freight train, at the time of the accident consisted of 73 cars, hauled by motors 091-094-098, and was in charge of Conductor Spellman and Engineman McAdams. This train passed New Rochelle Junction, 27.94 miles west of Westport, at 11:23 p.m., September 26, at which point it passed Extra 097-093-0108, which train had stopped to release a sticking brake. Train Second NE-2 passed South Norwalk, the last open office, 3.18 miles west of Westport, at 12:01 a.m., September 27, according to the record, on track 2, and on reaching a point in the vicinity of Westport members of the crew observed fire flying from under a car near the forward end of the train, due to a brake beam being down, whereupon the train was stopped, at 12:07 a.m., with its rear end on drawbridge 32.36, at a point 1,150 feet east of signal 12-F. After standing at this point about 15 minutes the rear end was struck by Extra 097-093-0108.

Extra 097-093-0108, an east-bound freight train, consisted at the time of the accident of 94 loaded cars and 16 empty cars, hauled by motors 097-093-0108, and was in charge of Conductor Tierney and Engineman Sheehan. This train departed from New Rochelle Junction at 11:32 p.m., 9 minutes behind Train Second NE-2, passed South Norwalk at 12:18 a.m., according to the record, on track 2, passed signal 12-F, which apparently was displaying yellow over red, an approach indication which required this train to reduce speed at once and proceed at a speed not exceeding 25 miles per hour prepared to stop at the next signal, passed signal 12-F, which was displaying double red, a stop indication, passed the flagman of the train ahead, who was back only a few car lengths behind his caboose, and then collided with Train Second NE-2 while moving at a speed estimated to have been from 19 to 25 miles per hour.

As a result of the accident motor 097, the leading motor of the extra train, plunged off the south side of the drawbridge and into the Saugatuck River; the second motor, 093, was bottom up and hanging over the edge of the bridge, while the third motor, 0108, stood upright, diagonally across track 2, headed south-east. Several cars in the two trains were badly damaged and fire which broke out in the wreckage added materially to the damage. The employee killed was the engineman of Extra 097-093-0108; the employees injured were the fireman and the brakeman of that train, and the flagman of Train Second NE-2.

Summary of evidence

Engineman McAdams, of Train Second NE-2, stated that his train passed the freight extra at New Rochelle Junction. Approaching Westport, signals 16-F and 12-F displayed clear indications for his train; about that time fire was observed flying from under a car near the forward end of the train, the speed being then about 40 miles per hour; he applied the train brakes and stopped his train gradually, within its own length, then released the train brakes and held the train by means of the independent engine brake. The train stopped at 12:07 a.m. Brakeman Flanagan went back to the thirteenth car, and he was working under that car when the collision occurred; the force of the impact did not move this car, which was the sixty-first car from the rear end; the air brakes were applied as a result of the accident. While Engineman McAdams was looking for a signal from the brakeman who had gone back to repair the car, he saw the reflection from the locomotive headlight of the following freight train as it approached the rear end of his train, also electrical flashes followed by fire; but he was unaware that the following train actually had struck the rear of his own train until he went back to the scene of the wreck, the force of the collision not being felt on the leading motor. He did not think that signal indications displayed for east-bound trains might be confused as between tracks 2 and 4, the signals being spaced sufficiently far apart on the signal bridges to prevent an engineman from mistaking the signal indication displayed for the track other than that upon which his train was moving. Engineman McAdams said that he did not sound the whistle for the flagman to go back when he stopped the train, as it is not generally done on freight trains and usually the flagman goes back immediately. The statement of Fireman Conrad developed nothing of additional importance.

Conductor Spellman, of Train Second NE-2, stated that he was in the caboose when it was stopped on the drawbridge, after which the flagman picked up his lights, got off and walked back to a point near the west end of the east-bound station. He had no conversation with the flagman in regard to affording proper flag protection, for the flagman was a qualified conductor and capable of properly performing the duties of a flagman. Conductor Spellman got off the right side of the caboose, next to track 4, looked ahead and saw two white lights; he supposed then that the delay was caused by brake rigging down or a sticking brake. He waited several minutes then noticed that the light which he saw ahead did not approach the rear of the train, but disappeared; the conductor crossed over behind the caboose and looked ahead along the left side of the train and observed the light on that side, about opposite the point at which it first was seen. During this time he looked back once or twice and saw the flagman about opposite the west end of the east-bound passenger station. After the train had been standing about 10 or 12 minutes the conductor went inside the caboose, got a hammer and chisel and started toward

the head end of the train. On reaching a point about 2 or 3 car lengths from the caboose, however, he heard the flagman shout a warning, then he looked back and saw him, approximately 500 or 600 feet behind the caboose, running toward the approaching train; the air brakes on that train were applied and fire was flying from the wheels; the conductor ran westward off the bridge to safety and then the collision occurred, at which time he estimated the speed to have been less than 25 miles per hour. Conductor Spellman said that there was complete flagging equipment on the caboose and that both marker lights were burning on his caboose and displaying red indications to the rear. He was thoroughly familiar with the physical characteristics of the railroad in this vicinity and fully understood that the automatic block signals should not be relied upon for rear end protection, but that proper protection should be afforded as required by rule 99, which he acknowledged was not done in this instance. He said that there was ample time within which proper protection might have been afforded to the rear of his train, by which the accident probably would have been averted. He heard the following train approaching and saw the reflection from the headlight as the train rounded the curve, but at first he thought that the train was on track 4 and was unaware that it was on track 2 until it reached the tangent track. He heard the following train approaching and saw the reflection from the headlight as the train rounded the curve, but at first he thought that the train was on track 4 and was unaware that it was on track 2 until it reached the tangent track. He heard no torpedoes exploded by the following train. Flagman McGrady, of Train Second NE-2, who was interviewed at the hospital, stated that he was a qualified freight and passenger conductor and was familiar with the territory involved. After his train stopped on the drawbridge at Westport he collected his flagging equipment and about one minute elapsed before he got out of the caboose; he had no conversation with the conductor, but started walking back and, on reaching the baggage crossing, located 90 feet west of the center line of the east-bound passenger station, he extinguished a smoldering fire then continued back. After proceeding about three car lengths west of the baggage crossing he observed the headlight of the following train approaching at estimated speed of about 30 miles per hour and said that at that time he had not quite reached the extreme end of the passenger station. He started running back and waving stop signals, which were not answered by the engineman of the following train. He placed two torpedoes on the south rail and when the approaching train was very near he crossed the track fence to track 4 and threw his lighted lantern at the motor as it passed, but he did not know whether it struck the motor, after which he did not know what occurred. He could not say that he saw fire flying from the wheels of the train or that the brakes were applied. He did not go back so far as signal 12-F before or after the accident, nor did he observe the indication displayed by any signal governing train movements on track 2.

Fireman Hughes, of Extra 097-093-0108, who was also interviewed at the hospital, stated that Train Second NE-2 passed his train at New Rochelle, from which point he rode the front end of the leading motor to South Norwalk. Becoming drowsy, he rose and started back slowly, going to the rear end of the second motor, primarily to arouse himself. He circled around the second motor and started forward and, as he passed from the second motor into the first motor, the air brakes were applied. He thought an air hose had bursted and started forward immediately and, when he reached the front end of the leading motor, he saw the rear end of a train ahead, just around the curve; Engineman Sheehan was standing at the controls, with the brakes applied and the air whistle pulled down. The fireman started back on one side of the motor and the engineman started back on the other side; the fireman was in the second motor when the collision occurred, but he did not know how far back the engineman got. Fireman Hughes said that he knew something was wrong as soon as he entered the first motor. He could not state certainly what signal indications were displayed for his train; however, on reaching the front end, he looked out and everything looked red to him; although he did not see distinctly the indication displayed by signal 12-F; he thought it was red. He did not see the flagman. Fireman Hughes said that power was shut off almost simultaneously with application of the brakes. He had been drowsy and was awakened by the engineman two or three times, who rapped on the motor with the brake handle. It was a clear night, signal indications were easily discernible and there was no reason to confuse signal indications for track 2 with those for track 4. Signal indications were called until South Norwalk was reached and the engineman appeared normal.

Brakeman Geary, of Extra 097-093-0108, who was in the second motor, approaching Westport, stated that he felt the air brakes applied when about opposite the section house, which is located on the curve and about 963 feet west of signal 12-F. He went to the door of the motor, at which time his train was near signal 12-F, which signal was displaying red, a stop indication, then he saw the flagman of the train ahead standing on track 4 or on the station platform. He estimated the speed of his train to have been about 19 miles per hour or more when passing that signal. Brakeman Geary entered the leading motor and saw someone running back through the motor and observed the markers burning brightly on the caboose ahead; the headlight shone on that caboose, making it plainly visible. Realizing that a collision was imminent he ran back into the second motor; then the accident occurred. He did not see the indication displayed by signal 16-F, nor did he hear his train explode any torpedoes prior to the accident. Brakeman Geary talked with Engineman Sheehan last at New Rochelle Junction, at which time the engineman appeared normal.

Conductor Tierney, of Extra 097-093-0108, stated that after leaving New Rochelle Junction he rode in the third motor, prepared to assist in setting out 27 cars at Bridgeport; the ammeter in that motor indicated that power was used continuously to a point in the vicinity of the section house at Westport, or about 25 car lengths from the point of collision, at which point the power went off, the ammeter indicator dropped to zero, the air brakes were applied in emergency and the air whistle on the leading motor was sounded, the speed being about 35 miles per hour at that time, and shortly afterward the accident occurred, the speed then having been reduced to about 20 or 25 miles per hour. Conductor Tierney said that there was no audible warning signal given in the compartment of the third motor as a result of the dead-man control feature, clearly indicating that the control lever was normal, with power being used until just prior to the accident. The air brakes were tested at Oak Point and operated properly. He saw no signal indication after passing South Norwalk, nor did he see the flagman of the train ahead, and at first he thought that his train had parted. He said that the air brakes must have been applied in emergency by the engineman, who had appeared normal at New Rochelle Junction.

Flagman Brown, of Extra 097-093-0108, who was on the caboose, stated that he went back to flag immediately after the accident occurred; the signal power was off, the lights governing all tracks were extinguished, but the semaphore arms were in stop position.

General Foreman Car Inspectors Schmirring and six car inspectors testified that they inspected the train and tested the air brakes on Extra 097-093-0108 at Oak Point and that all brakes functioned properly.

Signal Engineer Morrison arrived at the scene of the accident about 2 hours after its occurrence; the signals involved were in proper position and the signal power was off. All signal mechanism cases, terminal boxes and relay boxes afterward were sealed and, on the afternoon of that day, the signal apparatus involved was carefully inspected and tested and was found to be in proper working order; Signal Supervisor Dorwood participated in these tests. Signal Foreman Stuart arrived at the scene of the accident about 45 minutes after its occurrence; the signal power was off at that time and the signal lights were extinguished, but he saw the semaphore arm of home signal 12-F displaying a stop indication. The signal power was restored about 1:36 a.m., and he observed distant signal 16-F about 2:15 a.m., at which time it was displaying a stop indication, the signal lights showing double red, as Extra 097-093-0108 was then occupying the block. He stated that the power went off, as a result of the accident, at 12:22 a.m.

Road Foreman of Engines Kramer stated that motors 097, 093 and 0108 are alternating current freight locomotives, each about 50 feet in length, the maximum permissible speed for such locomotives being limited by rule to 40 miles per hour. These electric freight locomotives are equipped with a device similar to the dead-man control feature on passenger locomotives, but which sounds an alarm whistle instead of stopping the train, the alarm continuing to sound until the lever is restored to operating position; if the handle be released with the control open it will shut off power from the locomotives and sound an alarm whistle in each compartment of each unit pulling the train.

Discussion

Engineman Sheehan was killed as a result of the accident; consequently it is not known why he failed to obey the indications displayed by distant signal 16-F and home signal 12-F. He entered the service of this railroad on January 20, 1907, as fireman, and was promoted to engineman on January 28, 1916; his record was clear. At the time of the accident he had been on duty 14 hours 7 minutes, prior to which he had been off duty 30 hours 15 minutes. The electric freight locomotives operated by him were equipped with a device similar to the dead-man control feature on electric passenger locomotives; but, instead of stopping the train automatically when the controller is released, it sounds a warning whistle in each compartment of every motor unit pulling the train, the alarm continuing to sound until the lever is restored to operating position. The evidence indicates that in this instance power was used on Extra 097-093-0108 until immediately before home signal 12-F, which was displaying double red, a stop indication, was reached and that the power was then shut off, the air brakes applied in emergency and the air whistle on the leading motor was sounded by the engineman, at which time speed was about 35 miles per hour but was reduced to about 20 or 25 miles per hour at the time of the accident. No surviving member of the crew observed the indication displayed by distant signal 16-F when passed by his train, Fireman Hughes saying that he was drowsy and had walked back into the second motor primarily to awaken himself, so the only member of the crew at the front end of the train when it passed distant signal 16-F was the engineman. Home signal 12-F, however, was observed to be displaying double red, a stop indication, by the brakeman and also the fireman, indicating that the signal functioned properly. The air brakes had been tested and operated properly and the headlight was burning brightly. Previously the engineman appeared normal. The night was clear, visibility was good and the signals on the bridges were spaced sufficiently far apart to preclude possibility of mistaking the indication displayed for train movements over track 4 for that displayed for train movements over track 2. Consequently it appears that Engineman Sheehan experienced a temporary lapse, possibly fell asleep momentarily, having been on duty 14 hours 7

minutes, and did not awaken until very near home signal 12-F, at which time he immediately shut off power, applied the air brakes in emergency and sounded the whistle; but it was then too late to avert the accident.

Rule 99 of the operating rules of this railroad provides that when a train stops or is delayed, under circumstances in which it may be overtaken by a following train, the flagman must go back immediately with stop signals, a sufficient distance to insure full protection, and will there place two torpedoes on the rail two rail-lengths apart on the engineman's side. He will remain at this point until recalled. Block and interlocking signals do not relieve flagman from the observance of this rule. Rule 1117 requires conductors to see that trainmen properly perform their duties and that the flagman goes back promptly when safety or the rules require. In this instance Train Second NE-2 stood at Westport, with the rear end of the caboose on the drawbridge, for a period of about 15 minutes during which time Flagman McGrady, a qualified conductor, went back only a few car lengths behind his caboose. The flagging rules are specific and mandatory and the duties of flagman are well defined; there was ample time for the flagman to have afforded proper protection for his train, and he should have gone back a sufficient distance, placed torpedoes on the rail on the engineman's side, and protected his train according to rule; by so doing probably the accident would have been averted.

Conductor Spellman is at fault for failure to require the flagman to protect the train according to rule, regardless of the fact that the flagman was a qualified conductor. The conductor was aware that the flagman was not back a sufficient distance. Conductor Spellman and Flagman McGrady were both experienced employees; they offer no reasonable excuse for failure properly to discharge their respective duties.

In the territory in which this accident occurred traffic amounts normally to something more than 100 trains each week day; much of this traffic consists of passenger trains, while some of the freight trains are operated at comparatively high rates of speed. An automatic train-control device is in effect between Cedar Hill (New Haven), Conn., and Springfield, Mass., and also between Cedar Hill and Auburn (Providence), R.I.; consideration should be given by the carrier to the need for similar devices in the territory west of Cedar Hill with a view to preventing the occurrence of future accidents of a character similar to the one here involved.

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Conclusion

This accident was caused by failure of Engineman Sheehan, of Extra 097-093-0103, properly to observe and obey signal indications, and by the failure of Flagman McGrady and Conductor Spellman, of Train Second NE-2, to provide proper flag protection for their train while standing on the main track.

Respectfully submitted,

W. J. PATTERSON,

Director.