INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3598

THE DELAWARE AND HUDSON RAILROAD CORPORATION

IN RE ACCIDENT

NEAR PORT HENRY, N. Y., ON

OCTOBER 24, 1954

SUMMARY

Date:	October 24, 1954	
Railroad:	Delaware and Hudson	
Location:	Port Henry, N. Y.	
Kind of accident:	Head-end collision	
Trains involved:	Passenger	: Freight
Train numbers:	34	: Extra 4123 North
Engine numbers:	Diesel-electric unit 4012	: Diesel-electric units 4123 and 4077
Consists:	9 cars	: 113 cars, caboose
Speeds:	Standing	: 37 m. p. h.
Operation:	Timetable, train orders, and automatic block-signal system	
Track:	Single; 3°30' curve, level	
Weather:	Clear	
Time:	12:45 p. m.	
Casualties:	1 killed; 63 injured	
Cause:	Failure to deliver meet order to superior train and failure to operate inferior train in accordance with signal indications	

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3598

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

THE DELAWARE AND HUDSON RAILROAD CORPORATION

December 17, 1954

Accident near Port Henry, N. Y., on October 24, 1954, caused by failure to deliver a meet order to the superior train and failure to operate the inferior train in accordance with signal indications.

REPORT OF THE COMMISSION[1]

CLARKE, Commissioner:

On October 24, 1954, there was a head-end collision between a passenger train and a freight train on the Delaware and Hudson Railroad near Port Henry, N. Y., which resulted in the death of 1 train-service employee, and the injury of 53 passengers, 1 Pullman Company employee, 4 dining-car employees, and 5 train-service employees. This accident was investigated in conjunction with representatives of the New York Public Service Commission.

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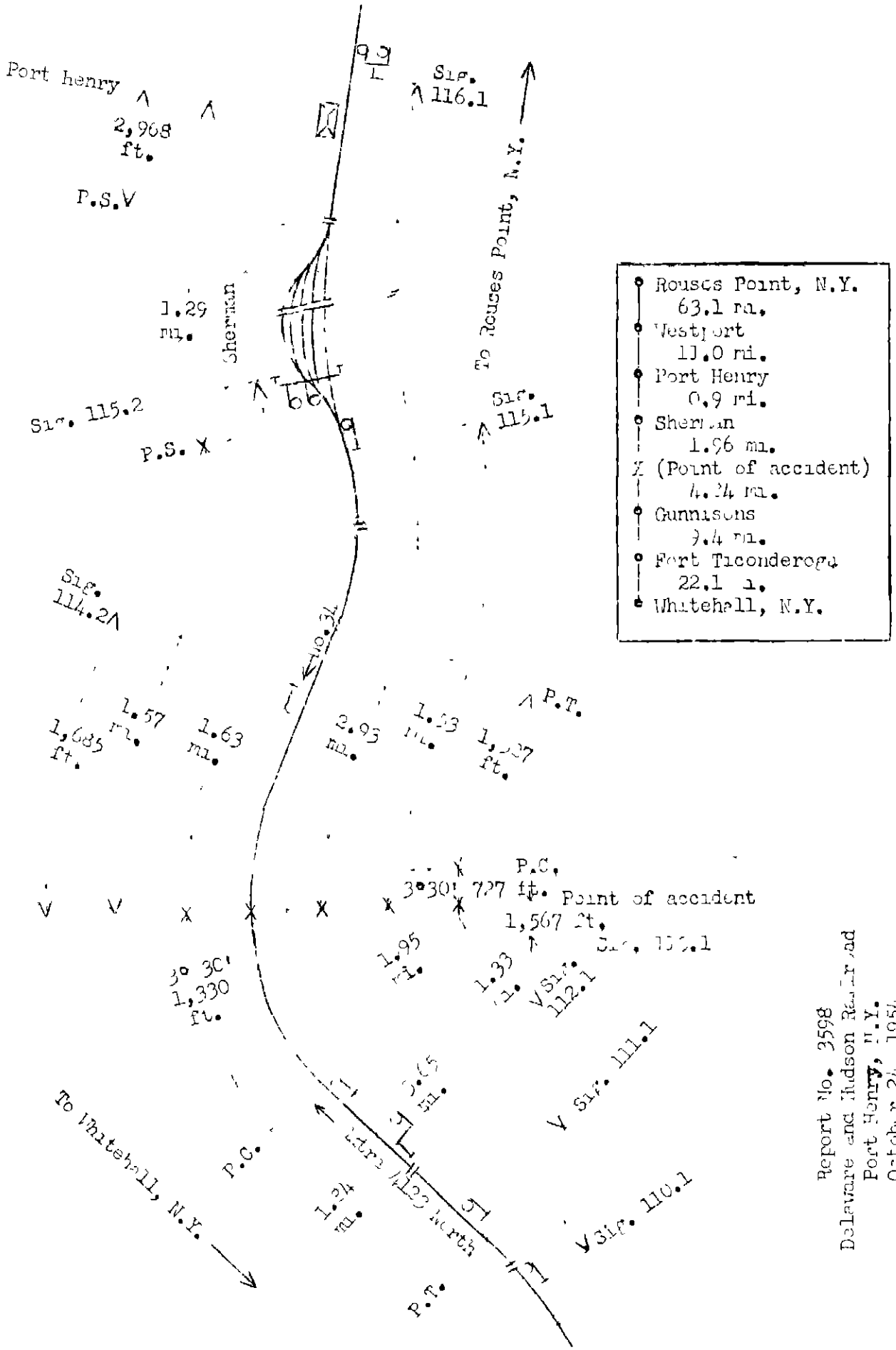
[1] Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Clarke for consideration and disposition.



Report No. 3598
Delaware and Hudson Railroad
Port Henry, N.Y.
October 24, 1954

Location of Accident and Method of Operation

This accident occurred on that part of the Saratoga-Champlain Division extending between Rouses Point and Whitehall N. Y., 113.3 miles. In the vicinity of the point of accident this is a single-track line, over which trains are operated by timetable, train orders, and an automatic block-signal system. Within yard limits at Port Henry, 74.1 miles south of Rouses Point, a siding designated as Sherman parallels the main track on the west. The north and the south switches of this siding are, respectively, 2,968 feet and 1.29 miles south of the station at Port Henry. The accident occurred on the main track at a point 1.57 miles south of the south siding-switch at Sherman. From the north there are, in succession, a tangent 1,527 feet in length, and a 3°30' curve to the left 727 feet to the point of accident and 1,330 feet southward. From the south there are, in succession, a tangent 1.84 miles in length, and the curve on which the accident occurred. The grade for south-bound trains is practically level throughout a considerable distance immediately north of the point of accident. From the south the grade is, successively, 0.67 percent descending 4,400 feet, 0.62 percent descending 1,000 feet, 0.44 percent descending 800 feet, 0.25 percent descending 400 feet, and practically level 2,797 feet to the point of accident.

Automatic signals 115.2 and 114.2, governing south-bound movements, are located, respectively, 1.63 miles and 1,685 feet north of the point of accident. Automatic signals 110.1, 111.1, 112.1, 113.1, 115.1, and 116.1, governing north-bound movements, are located, respectively, 3.65 miles south, 1.95 miles south, 1.33 miles south, 1,567 feet south, 1.53 miles north, and 2.93 miles north of the point of accident. These signals are of the searchlight type. Signals 112.1, 115.2, and 116.1 are continuously lighted, and the other signals are approach lighted. Aspects applicable to this investigation and the corresponding indications and names are as follows.

Signal	Aspect	Indication	Name
110.1 111.1 112.1	Green	Proceed.	Clear.
110.1 111.1 112.1 113.1 115.2	Yellow	Proceed preparing to stop at next signal. Train exceeding medium speed must at once reduce to that speed.	Approach.

112.1 113.1 114.2 115.1	Red	Stop; then proceed at restricted speed.	Stop and proceed.

The controlling circuits are so arranged that when a south-bound train is in the block between signals 116.1 and 115.1, the blocks of the other signals are unoccupied, and the south siding-switch at Sherman is in normal position, signals 110.1, 111.1, and 112.1 each indicate Proceed-preparing-to-stop-at-next signal and signals 113.1 and 115.1 each indicate Stop-then-proceed-at-restricted-speed. Under the same conditions, if the south siding-switch at Sherman is lined for entry to the siding the indications of signals 110.1, 111.1, and 112.1 change to Proceed and the indication of signal 113.1 changes to Proceed-preparing-to-stop-at-next-signal. After a south-bound train passes signal 115.1, signals 112.1 and 113.1 each indicate Stop-then-proceed-at-restricted-speed. After a north-bound train passes a point 298 feet north of signal 111.1, signal 115.2 indicates Proceed-preparing-to-stop-at-next-signal, and signal 114.2 indicates Stop-then-proceed-at-restricted-speed.

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

DEFINITIONS

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

Medium Speed.--A speed not exceeding thirty miles per hour, unless otherwise provided.

Slow Speed.--A speed not exceeding fifteen miles per hour, unless otherwise provided.

34. All members of engine and train crews must, when practicable, communicate to each other by its name the indication of each signal affecting the movement of their train or engine.

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 * * *

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

204. Train orders must be addressed to those who are to execute them, naming the place at which each is to receive his copy. Those for a train must be addressed to the conductor and engineman * * *

* * *

205. Each train order must be written in full in a book provided for the purpose at the office of the Superintendent; and with it recorded the names of those who have signed for the order; the time and the signals which show when and from what offices the order was repeated and the responses transmitted, and the train dispatcher's initials. These records must be made at once and never from memory or memoranda.

206. * * *

When train orders are transmitted by telegraph, the train dispatcher must underscore each word and figure at the time it is repeated. When transmitted by telephone, he must write the order as he transmits it and underscore as prescribed above.

207. To transmit a train order, the signal "31" or the signal "19" followed by the direction must be given to each office addressed, the number of copies being stated, if more or less than three--thus, "31, South, copy 5," or "19, North, copy 2."

211. When a "19" train order has been transmitted, operators must, unless otherwise directed, repeat it at once from the manifold copy, in the succession in which the several offices have been addressed. Each operator receiving the order must observe whether the others repeat correctly, and if repeated correctly * * * by telephone, will respond "right" followed by name of office. The response "complete," and the time, with the initials of the Superintendent will then be given by the train dispatcher. The operator receiving this response will then write on each copy the word "complete," the time and his last name in full and personally deliver a copy to each person addressed without taking his signature. But when delivery to engineman will take the operator from the immediate vicinity of his office, the engineman's copy will be delivered by the conductor.

* * *

221a. Unless otherwise provided, a fixed signal must be used at each train order office. * * *

* * *

221d. When an operator receives the signal "19" followed by the direction, and he does not hold a "31" order for trains in the direction named, he must immediately display the "19" indication for the direction indicated and then reply "19 Displayed" adding the direction, and until the orders have been delivered, or annulled or become void, a Clear indication must not be displayed. * * *

* * *

FORMS OF TRAIN ORDERS

S-A

Fixing Meeting Points for Opposing Trains

(1.) * * *

No. 5 meet Extra 95 south at B.
* * *

* * *

Trains receiving these orders will run with respect to each other to the designated points and there meet in the manner prescribed by the rules.

The maximum authorized speeds are 65 miles per hour for passenger trains and 45 miles per hour for freight trains.

Description of Accident

No. 34, a south-bound first-class passenger train, consisted of Diesel-electric unit 4012, three baggage cars, two coaches, one dining car, two coaches, and one observation-lounge car, in the order named. The first and third cars were of steel-underframe construction, the ninth car was of light-weight steel construction, and the other cars were of conventional all-steel construction. This train departed from Rouses Point at 10:40 a. m., 2 minutes late, departed from Westport, 63.1 miles south of Rouses Point, at 12:18 p. m., on time, departed from Port Henry at 12:36 p. m., on time, passed signal 115.2, which indicated Proceed-preparing-to-stop-at-next-signal, and stopped at signal 114.2, which indicated Stop-then-proceed-at-restricted-speed. It then proceeded and stopped a second time at a point 1,685 feet south of signal 114.2. Immediately afterward it was struck by Extra 4123 North. The crew of No. 34 had received no train order which restricted the movement of their train with respect to Extra 4123 North.

Extra 4123 North, a north-bound freight train, consisted of Diesel-electric units 4123 and 4077, coupled in multiple-unit control, 113 cars, and a caboose. At Whitehall the crew received, among others, copies of train order No. 9 reading in part as follows:

* * *

No 18 take siding meet Extra 4123 North at Gunnisons
No 34 meet Extra 4123 North at Sherman
* * *

Gunnisons is located 31.5 miles north of Whitehall. Extra 4123 North departed from Whitehall at 11:35 a. m., passed Fort Ticonderoga, 22.1 miles north of Whitehall and the last open office, at 12:19 p. m., passed signal 113.1, which indicated Stop-then-proceed-at-restricted-speed, and while moving at a speed of approximately 37 miles per hour, as indicated by the tape of the speed-recording device, it struck No. 34 at a point 1,567 feet north of signal 113.1.

The locomotive and the first three cars of No. 34, and the locomotive and the first 26 cars of Extra 4123 North were derailed. The locomotive of No. 34 stopped on its left side, several feet east of the track and parallel to it. It was badly damaged. The first car stopped east of the locomotive and approximately parallel to it. The second car stopped on its left side with the front end near the rear end of the locomotive, and with the rear end on the track structure. The third car stopped upright and approximately in line with the track. The first car was destroyed, the second car was considerably damaged, and the fourth, fifth, sixth, and seventh cars were somewhat damaged. The first Diesel-electric unit of Extra 4123 North stopped on its right side, approximately parallel to the track, with the front end against the front end of the locomotive of No. 34. The second Diesel-electric unit stopped with the front end several feet west of the track and 20 feet north of the front end of the locomotive of No. 34, and with the rear end on the track structure. The derailed cars stopped in various positions on or near the tract. The first Diesel-electric unit was badly damaged, the second Diesel-electric unit was considerably damaged, and all the derailed cars were damaged.

The front brakeman of Extra 4123 North was killed. The engineer and the fireman of No. 34 and the engineer, the fireman, and the swing brakeman of Extra 4123 North were injured.

The weather was clear at the time of the accident, which occurred at 12:45 p. m.

The Diesel-electric units of both trains were of the road-switcher type.

Discussion

The rules governing operation on this line require that train orders must be addressed to the conductors and the engineers of the trains affected. At the time of transmission the train dispatcher must write the orders in full in a book provided for that purpose. Operators receiving an order must write it during transmission, then repeat it to the dispatcher in the succession in which their offices were addressed. Each operator receiving the order must observe whether the other operators repeat correctly. During repetition, the dispatcher must underscore in his train-order book each word and figure in the order. The dispatcher and the operators concerned in this investigation understood these requirements.

Train order No. 9 established Gunnisons as the meeting point between No. 18, a south-bound first-class passenger train, and Extra 4123 North, and established Sherman as the meeting point between No. 34 and Extra 4123 North. When this train order was transmitted, at 10·58 a. m., the train dispatcher intended that it would be addressed to both No. 18 and No. 34 at Westport. The order was delivered to the crew of No. 18 at Westport, but copies were not delivered to the crew of No. 34. This resulted in an overlapping of authority between No. 34 and Extra 4123 North. The crew of Extra 4123 North held copies of the order, which authorized their train to proceed to Sherman to meet No. 34, but the crew of No. 34 held no train order which restricted the movement of their train with respect to Extra 4123 North.

The train dispatcher said that about 10.55 a. m. he called the operator at Westport and the operator informed him that No. 18 had arrived at 10 49 a. m. He said that he asked the operator to copy a Form 19 train order for No. 18 and that the operator replied, "19 displayed south." He said he instructed the operator to make five copies of the order. He then called the operator at Whitehall and transmitted train order No. 9 to the two operators simultaneously. He said that when he transmitted the order he addressed it to both No. 18 and No. 34 at Westport and that the operator repeated the address and the body of the order correctly. When the operator reported the departure of No. 18, at 11 20 a. m.; and the arrival and departure of No. 34, the dispatcher assumed that the crew of each train had received copies of the order. The record in the dispatcher's train-order book indicates that the order was addressed to both No. 18 and No. 34 at Westport and that the complete address and the body of the order were repeated by the operator. Another train dispatcher and an assistant train master were in the dispatcher's office at the time order No. 9 was transmitted, but neither of these persons was positive as to the address transmitted to the operator at Westport or repeated by him.

The operator at Westport said that when he reported the arrival of No. 18 to the dispatcher, the dispatcher asked him if he could accept a Form 19 train order for that train. At this time the conductor of No. 18 was in the office. The conductor placed the train-order signal in "19" position, and the operator then informed the dispatcher that he could accept the order. He said that the dispatcher did not mention the number of copies which he was to make. The dispatcher then called the operator at Whitehall and issued train order No. 9. The operator at Westport said that the dispatcher addressed the order to No. 18 but not to No. 34, and that when he repeated the order he repeated the address as he had received it. After

the order was made complete the operator delivered two copies to the conductor of No. 18 and as No. 18 was leaving the station he restored the train-order signal to proceed position. He said he was aware that No. 34 was affected by the order, but since the dispatcher had not addressed the order to No. 34 at Westport he assumed that the crew of that train would receive the order at some other station. The carbon copy of the order which the operator retained in his file indicates that the order was addressed only to No. 18.

The operator at Whitehall said that he did not hear the dispatcher instruct the operator at Westport to copy the order and he did not know whether the dispatcher instructed him as to the number of copies which were to be made. He said that after the order was transmitted he checked the repetition by the operator at Westport and that the number of the order and the body of the order were repeated correctly. However, since he made no record of the address which was transmitted to the operator at Westport, he did not check the repetition of that portion of the order.

After the conductor of No. 18 received copies of train order No. 9 at Westport he delivered one copy to the engineer and showed the other copy to the front brakeman and the flagman. He could not recall afterward whether the order was addressed to both No. 18 and No. 34 or to No. 18 only. Neither the front brakeman nor the flagman could recall how the order was addressed. Both the engineer and the fireman said they were positive that the order was addressed to both No. 18 and No. 34. Both the conductor and the engineer destroyed their copies of the order after the trip was completed and before they learned that an accident had occurred. During this investigation there was no copy of the order received by the operator at Westport available except the copy retained in the operator's file.

The members of the crew of No. 34 said that the train-order signals at all train-order offices between Rouses Point and the point of accident indicated Proceed and that they received no train orders between these points. As this train was approaching the point where the accident occurred the enginemen were maintaining a lookout ahead from the control compartment of the locomotive. The members of the train crew were in the cars of the train. The enginemen said that signal 115.2 indicated Proceed-preparing-to-stop-at-next-signal and signal 114.2 indicated Stop-then-proceed-at-restricted-speed. They called the indication of each signal, and the train was stopped at signal 114.2. It then proceeded southward. Because of trees and brush east of the track on the curve on which the accident occurred, the range of vision between opposing movements was restricted to a distance of between 850 and 950 feet.

When the fireman observed Extra 4123 North approaching he called a warning. The engineer immediately made an emergency application of the brakes. Members of the crew thought that the train had stopped when the collision occurred.

As Extra 4123 North was approaching the point where the accident occurred the enginemen and the front brakeman were in the control compartment of the first Diesel-electric unit, the swing brakeman was in the control compartment of the second unit, and the conductor and the flagman were in the caboose. The enginemen said that signal 110.1 indicated Proceed and that signals 111.1 and 112.1 each indicated Proceed-preparing-to-stop-at-next-signal. They called the indication of each signal. The fireman said that when signal 113.1 became lighted it indicated Proceed-preparing-to-stop-at-next-signal and that the indication did not change while the signal was visible to him. After the front of the train reached a point about 200 feet south of the signal his view of the signal was obstructed by the front end of the locomotive. He said that at approximately the time that his view of the signal became obstructed the engineer called that the aspect of the signal had changed from yellow to red. The engineer said that the aspect of the signal was yellow from the time it became lighted until the front of the train reached a point about 200 feet south of the signal and that the aspect then changed from yellow to red. He said that when the aspect of the signal changed he initiated a service application of the brakes and before the application had been completed he observed No. 34 approaching and moved the brake valve to emergency position. The swing brakeman entered the control compartment of the first Diesel-electric unit several seconds before the collision occurred. He said he did not observe the aspect of signal 112.1 or signal 113.1. According to the tape of the speed-recording device, the speed was approximately 25 miles per hour at a point 1.75 miles south of the point of accident and was gradually increased to approximately 37 miles per hour at the point of accident. The tape indicates no appreciable reduction in speed before the accident occurred.

No. 34 passed signal 116.1 and stopped at the station at Port Henry about 12 37 p. m., approximately 8 minutes before the accident occurred. After No. 34 passed signal 116.1, signals 110.1, 111.1, and 112.1 should each have indicated Proceed-preparing-to-stop-at-next-signal and signal 113.1 should have indicated Stop-then-proceed-at-restricted-speed. After No. 34 passed signal 115.1, the indication of signal

112.1 should have changed to Stop-then-proceed-at-restricted-speed. The track was torn up and the line wires of the signal system were damaged throughout a distance of about 480 feet as a result of the accident. After the track and the wires were repaired, inspections and tests of the signal system were made. No condition was found which would have caused an improper operation of the signals.

Cause

This accident was caused by failure to deliver a meet order to the superior train and failure to operate the inferior train in accordance with signal indications.

Dated at Washington, D. C., this seventeenth day of December, 1954.

By the Commission, Commissioner Clarke.

(SEAL)

GEORGE W. LAIRD,

Secretary.