

RAILROAD ACCIDENT INVESTIGATION

Report No. 3773

CANADIAN PACIFIC RAILWAY COMPANY

ATTEAN, ME

AUGUST 8, 1957

INTERSTATE COMMERCE COMMISSION

Washington

SUMMARY

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DATE	August 8, 1957	
RAILROAD	Canadian Pacific	
LOCATION	Attean, Mo	
KIND OF ACCIDENT	Head-end collision	
TRAINS INVOLVED	Freight	Freight
TRAIN NUMBERS	908	951
LOCOMOTIVE NUMBERS	Diesel-electric units 4016 and 4001	Diesel-electric units 8460 and 4019
CONSISTS	27 cars, caboose	50 cars, caboose
ESTIMATED SPEEDS	30 m p h	20 m p h.
OPERATION	Timetable, train orders, and automatic block-signal system	
TRACK	Single, tangent, 0.45 percent descending grade eastward	
WEATHER	Clear	
TIME	11 05 a m	
CASUALTIES	1 killed, 6 injured	
CAUSE	Overlapping of authority of two opposing regular trains as a result of failure to issue a meet order to the superior train, and failure to operate the inferior train in accordance with signal indication	

INTERSTATE COMMERCE COMMISSION

REPORT NO 3773

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

CANADIAN PACIFIC RAILWAY COMPANY

January 17, 1958

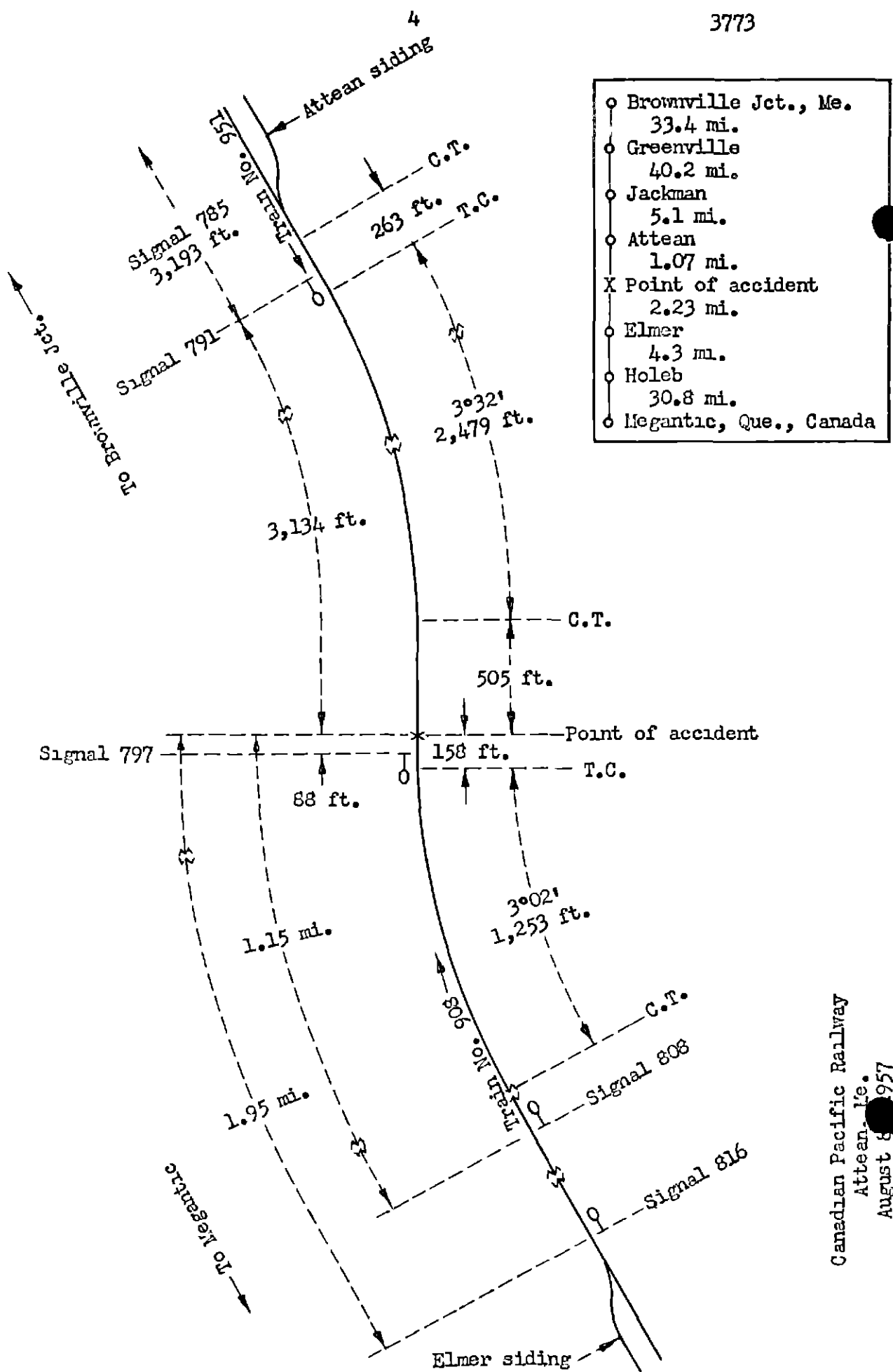
Accident near Attean, Me , on August 8, 1957, caused by overlapping of authority of two opposing regular trains as a result of failure to issue a meet order to the superior train, and failure to operate the inferior train in accordance with a signal indication

REPORT OF THE COMMISSION¹

TUGGLE, Commissioner

On August 8, 1957, there was a head-end collision between two freight trains on the Canadian Pacific Railway near Attean, Me , which resulted in the death of 1 train service employee, and the injury of 6 train-service employees. This accident was investigated in conjunction with a representative of the Maine Public Utilities Commission

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



Location of Accident and Method of Operation

This accident occurred on that part of the Brownville Division extending between Megantic, Que., Canada, and Brownville Jct., Me., 117.1 miles, a single-track line over which trains are operated by timetable, train orders, and an automatic block-signal system. The accident occurred on the main track at a point 37.3 miles east of Megantic and 1.07 miles west of the station at Attean, Me. From the west there are, in succession, a 3°02' curve to the right 1,253 feet in length, a tangent 158 feet to the point of accident and 505 feet eastward. From the east there are, in succession, a tangent 263 feet in length, a 3°32' curve to the right 2,479 feet, and the tangent on which the accident occurred. At Attean and at Elmer, 3.3 miles west of Attean, sidings parallel the main track on the south and north, respectively. The grade is 0.45 percent descending eastward at the point of accident.

Automatic signals 816 and 808, governing eastbound movements on the main track are located, respectively, 1.95 miles and 1.15 miles west of the point of accident. Automatic signals 785, 791 and 797, governing westbound movements on the main track, are located, respectively, 1.20 miles east, 3,134 feet east and 88 feet west of the point of accident. These signals are of the searchlight type and are approach lighted. Aspects applicable to this investigation, and the corresponding indications and names are as follows:

Signal	Aspect	Indication	Name
785 816	Green	Proceed	Clear Signal
808	Yellow	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.	Approach Signal.
791	Red with marker bearing letter "A"	Stop	Stop Signal
797	Red	Stop, then proceed at restricted speed	Stop and Proceed signal

The operation of these signals is based on the absolute permissive block principle under which entry to the section of track between the sidings at Elmer and Attean is governed by absolute signals 816 and 791, and movement over the section is governed by intermediate permissive signals 808 and 797. The controlling circuits are so arranged that when an eastbound train passes signal 816 indicating Proceed and the block of signal 785 is unoccupied, signal 791 indicates Stop and signal 785 indicates Stop-and-proceed. When an eastbound train passes signal 816 indicating Proceed and the block of signal 785 is occupied, signals 791 and 797 indicate Stop and Stop-and-proceed, respectively, and signal 808 indicates Proceed-preparing-to-stop-at-next-signal. After the eastbound train passes signal 808 and clears the block of signal 816, signal 808 indicates Stop-and-proceed and signal 816 indicates Proceed-preparing-to-stop-at-next-signal.

This carrier's operating rules read in part as follows

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

72a (SINGLE TRACK) Trains in the direction specified by time table are superior to trains of the same class in the opposite direction

87 (SINGLE TRACK) 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 as prescribed by rule 99

* * *

89 (SINGLE TRACK) At meeting points the inferior train must take the siding and clear the time of the superior train not less than five minutes, except at schedule meeting points between trains of the same class where the inferior train must clear the main track before the leaving time of the superior train

* * *

204 Train orders must be addressed to those who are to execute or observe them, naming the place at which each is to receive his copy Those for a train must be regarded as addressed to conductors, enginemen, * * *

* * *

208 A train order to be sent to two or more offices must be transmitted simultaneously to as many of them as practicable When not sent simultaneously to all, the order must be sent first to the superior train

* * *

211 Clearance form A or B must be filled out by the operator before clearing a train, showing thereon, without erasure or alteration, the number of each train order, if any, for that train with other required information, and will then repeat to train dispatcher, from the clearance, the numbers of such orders The dispatcher will make the required record in the train order book, and if operator has correctly repeated the numbers of the train orders for that train will respond by giving O K * * *

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FIXED SIGNAL DEFINITIONS

SPEED, MEDIUM--A speed not exceeding thirty miles per hour

Timetable special instructions provide that eastbound trains are superior to westbound trains of the same class

The maximum authorized speed for freight trains in the vicinity of the point of accident is 45 miles per hour

Description of Accident

No 908, an eastbound second-class freight train, consisted of diesel-electric units 4016 and 4001, coupled in multiple-unit control, 27 cars, and a caboose This train departed from Megantic at 9 25 a m , on time At Holeb, Me , 7 6 miles west of Attean, the last open office, the members of the crew received copies of a Clearance Form A indicating that there were no train

orders This train departed from Holeb at 10 55 a m , on time, passed the east siding-switch at Elmer at 11 02 a m , on time, passed signal 816 which indicated Proceed, passed signal 808 which indicated Proceed-preparing-to-stop-at-next-signal, and while moving at an estimated speed of 30 miles per hour it collided with No 951 at a point 1 07 miles west of Attean

No 951, a westbound second-class freight train, consisted of diesel-electric units 8460 and 4019, coupled in multiple-unit control, 50 cars, and a caboose At Greenville, 45 3 miles east of Attean, members of the crew received copies of train order No 225 addressed to No 951 which read as follows

No 908 Eng 4016 meet No 951
Eng 8460 at Elmer

The order was made complete at 9 29 a m and the members of the crew received copies of a Clearance Form A This train departed from Greenville at 9 45 a m , on time, passed Jackman, 5 1 miles east of Attean, the last open office, at 10 52 a m , 6 minutes late, passed signal 785 which indicated Proceed, passed signal 791 which should have indicated Stop, and while moving at an estimated speed of 20 miles per hour it collided with No 908

The locomotive and the first seven cars of No 908 were derailed The locomotive stopped in line with the track The sixth car stopped on its side on the top of the second diesel-electric unit The other derailed cars stopped on or near the track structure The first diesel-electric unit and five of the derailed cars were demolished, and the other derailed cars were damaged The locomotive of No 951, the first car, and the fifth to the tenth cars, inclusive, were derailed The locomotive and the first car stopped in line with the track The front end of the second diesel-electric unit stopped on top of the rear end of the first diesel-electric unit, and the front end of the first car stopped on top of the rear end of the first diesel-electric unit The other derailed cars stopped on or near the track structure Three of the derailed cars were demolished The other derailed cars and the second car were damaged

The engineer of No 951 was killed The fireman and the front brakeman of No 951, and the engineer, the fireman, the front brakeman, and the flagman of No 908 were injured

The weather was clear at the time of the accident which occurred at 11 05 a m

Discussion

Under the rules of the carrier the dispatcher was required to transmit train order No 225 to both No 908 and No 951 In the event that the train order was not transmitted simultaneously to the two offices involved, the dispatcher was required to transmit it for delivery to No 908 first since that train was superior to No 951 by timetable direction Clearance Form A or B must be filled out by the operator before clearing a train, showing thereon the number of each train order, if any, for that train with other required information, and the operator must repeat to the dispatcher the numbers of such orders from the clearance The dispatcher must then make the required record in the train order book

Elmer was the timetable schedule meeting point for No 908 and No 951 No 908 was due to leave this point at 11 02 a m If No 951 proceeded to Elmer to meet No 908 under timetable authority, it was required to enter the siding at the east switch and clear the main track before the leaving time of the superior train, or provide flag protection In the event that No 951 could not

proceed to Elmer and clear the main track by 11 02 a m , it would have been necessary for this train to keep out of the way of the opposing superior train and clear the main track at some point east of Elmer by the time required by rule, or be protected as prescribed by Rule 99

The dispatcher said that in order to insure that these trains would meet at the timetable schedule meeting point he intended to issue a train order to that effect. This was a frequent practice to minimize delays. The dispatcher said that when he called the operators at Holeb and Greenville by telephone to transmit the meet order the operator at Holeb did not reply and after two unsuccessful attempts to communicate with him, he proceeded to issue train order No 225 to the operator at Greenville for delivery to No 951 at that station. The operator repeated the order and it was made complete at 9 29 a m. The dispatcher then cleared No 951 at Greenville. The operator at this point said that since the order was transmitted only to him he assumed that it previously had been transmitted to the operator at Holeb. The dispatcher said that before No 951 passed Jackman, the last open office, he again attempted to communicate with the operator at Holeb but did not receive any response. The dispatcher then became engaged in other duties. Later when No 908 was ready to depart from Holeb the operator at that point requested the dispatcher to clear the train. The dispatcher said that he overlooked the fact that he had not transmitted order No 225 to the operator for delivery to the crew of No 908 at Holeb, and without checking the train order book, he instructed the operator to clear the train.

When No 908 departed from Holeb it was not restricted with respect to No 951 except for the timetable schedule meet, although No 951 was authorized by order No 225 to proceed to Elmer to meet the superior train. Under these circumstances, when No 951 had not arrived prior to 11 02 a m , the leaving time of No 908 at Elmer, a lap of authority was created and both trains simultaneously had authority to occupy the main track at the point where the accident occurred.

As No 908 was approaching the point where the accident occurred the speed was about 45 miles per hour. The fireman, a qualified engineer, was operating the locomotive, the engineer was in the engine compartment of the second diesel-electric unit inspecting the engines, the front brakeman was in the control compartment of the first diesel-electric unit, and the conductor and the flagman were in the caboose. The brakes of this train had been tested and had functioned properly when used en route. When the train was in the vicinity of Elmer, the members of the crew observed that No 951 was not on the siding and that the time was 11 02 a m , the time at which No 908 was permitted by timetable authority to leave Elmer. Signal 816 indicated Proceed. The front brakeman called the indication to the fireman and the fireman answered. The engineer said that he observed that signal 816 indicated Proceed from his position in the rear unit. Signal 808 indicated Proceed-preparing-to-stop-at-next-signal. The front brakeman called the indication to the fireman and the fireman answered. The fireman initiated a service application of the brakes before the train passed the signal. While the train was moving on the curve immediately west of the point of accident at a speed of about 35 miles per hour, both the fireman and the front brakeman observed No 951 approaching at a distance of about 600 feet. The fireman immediately initiated an emergency application of the brakes and the speed of the train was reduced to about 30 miles per hour when the collision occurred.

As No 951 was approaching the point where the accident occurred the speed was about 20 miles per hour. The first diesel-electric unit was of the road-switcher type and the control compartment was at the east end of the unit.

The engineer and the front brakeman were in their respective positions in the cab of the first unit. The fireman was in a kneeling position near the control panel in the front of the cab, and other members of the crew were in the caboose. The engine of the first unit had stopped at a point east of Jackman and power was being supplied by the rear unit. The brakes of this train had been tested and had functioned properly when used en route. The front brakeman said that the engineer called the Proceed indication of signal 785. He said that signal 791 indicated Proceed when it came into his view as the train moved on a curve to the left and he called the indication but did not know if the engineer responded. He estimated that at this time the locomotive was approximately 1,200 to 1,400 feet east of the signal. He said that he then turned to inspect the train as it moved on the curve and he did not again observe the aspect of the signal before the locomotive passed it. When the train was in the vicinity of Attean, an unsuccessful attempt was made to start the engine of the first unit. The fireman said that he and the engineer then agreed to defer further attempts to start the engine until their train arrived at the meeting point with No. 908. The fireman said that the wayside signals were not visible from his position in the cab and he did not see the aspects displayed by any of the wayside signals after the train passed Jackman until the engineer called a warning that signal 797 was displaying a red aspect. He said that en route while he was trying to find the cause of the engine stoppage he had heard the other members of the crew on the locomotive call indications of signals but he was unaware of the exact locations at which they were called. The fireman and the front brakeman said that the engineer applied the brakes and sounded the whistle immediately after he called the red aspect of signal 797. They then observed No. 908 approaching and alighted from the locomotive a few seconds before the collision occurred. The engineer remained in the cab and was killed in the accident.

The signal system in the vicinity of the point of accident was tested after the accident occurred and was found to function as intended. A representative of the carrier observed that signal 816 indicated Proceed-preparing-to-stop-at-next-signal shortly after the accident occurred which is the proper indication provided No. 908 passed signal 816 before No. 951 passed signal 791. Since signal 816 indicated Proceed-preparing-to-stop-at-next-signal after the accident occurred, and since signal 808 indicated Proceed-preparing-to-stop-at-next-signal when No. 908 passed that signal, it is evident that No. 908 passed signals 816 and 808 before No. 951 passed signal 791, and that when No. 951 passed signal 791 it indicated Stop. Apparently the locomotive of No. 951 was closely approaching signal 791 at the time the indication changed from Proceed to Stop and members of the crew on the locomotive did not observe this restrictive indication.

Cause

This accident was caused by overlapping of authority of two opposing regular trains as a result of failure to issue a meet order to the superior train, and failure to operate the inferior train in accordance with a signal indication.

Dated at Washington, D. C., this seventeenth day of January, 1958

By the Commission, Commissioner Tuggle

(SEAL)

HAROLD D. McCOY,

Secretary

Interstate Commerce Commission

Washington 25, D C

OFFICIAL BUSINESS

RETURN AFTER FIVE DAYS

POSTAGE AND FEES PAID
INTERSTATE COMMERCE COMMISSION