

CANADIAN
PACIFIC
RAILWAY
WRECKS
IN
MAINE AND
VERMONT



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February 24, 1913.

In re investigation of accident on the Canadian Pacific

Railway near Onawa, Muine, January 21, 1913.

On January 21, 1913, there was a rear-end collision between two east-bound freight trains on the Canadian Pacific Railway near Onawa, Muine, resulting in the death of one employee and one passenger and the injury of two employees.

After investigation the Chief Inspector of Safety Appliances reports as follows:

The Moosehead subdivision of the Atlantic division of the Canadian Pacific Railway, upon which this accident occurred, extends between Megantic and Brownville Junction, Maine, a distance of 117 miles. It is a single track line operated under the train order system, no block signals being used.

The trains involved were regular third-class trains Nos. 72 and 74, schedules to leave Megantic daily at 7 a.m. and 9 a.m. respectively.

On the date of the date of the accident train No. 72, consisting of 14 cars and a caboose, hauled by engine No. 1594, left Megantic on time, in charge of Conductor Dolley and Engineman Crandall. Train No. 74, consisting of 19 cars and caboose, hauled by engine No. 1018, left Megantic at 9:25 a.m., 25 minutes late, in charges of Conductor McGann and Engineman Fontaine with instructions to run as first No. 74. With respect to each other those trains were proceeding without orders on their schedules rights.

Train No. 72 was required to do local work, and had some difficulty in maintaining its schedule. However, it arrived at Greenville Junction, a station approximately 86 miles east of Megantic, on time, at 1:05 p.m. At this place Conductor Dolley received the following *** from Trainmaster Ryan:

"Do not delay 1/74 as, this train is required for No. 72 east."

Train No. 72 is due to leave Greenville Junction at 2 O' clock but did not get away from their until 2:20 p.m., 30 minutes late. Upon arriving at Elliott, a non-telegraph station, seven miles east of Greenville Junction, at 2:35 p.m., this train took the side track and allowed train No. 74 to pass it. in obedience to the instructions continued in Trainmaster Ryan's message to Conductor Dolley.

Train No. 74 was not delayed en route, and was able to make up time. It passed Squaw Brook, a station 79 miles east of Megantic at 1:59 p.m. on time. It left Greenville Junction on time, at 2:30 p.m., ten minutes after the departure of train No. 72, and passed that train in the side track at Elliott at 2:55 p.m., on time, train No. 72 being then 30 minutes behind its schedule time.

After the departure of train No. 74 from Elliott train No. 72 waited 10 minutes as required by the rules, and then proceeded on its way at 3:05 p.m., colliding with the rear end of train No. 74 at a point approximately 1 1/2 mile west of Onawa and 7 1/2 mile east of Elliott at about 3:15 p.m., having covered a distance of 7 1/2 mile in ten minutes, or at the rate of about 38.5 miles per hour.

The collision occurred immediately east of a 4 degree curve, on a grade of 1% descending to the east. The engine of train No. 72 was proceeding its schedule speed, which between Elliott and Onawa is about 18 m.p.h. At the point of collision the engineman on train No. 72 could not see train No. 74 on the east side of the engine train No. 74 could have been seen across the curve a distance of 700 to 900 feet by the fireman or head brakeman had either of these employees been on the lookout. The head brakeman was in the caboose instead him to be, and fireman was fixing his fire just previous to the collision. The weather was clear.

Rule 91 of the Canadian Pacific Railway Company's book of rules requires freight trains in the same direction to be kept at least 5 minutes apart. This rule was superseded on the Atlantic Division on December 28, 1911, by bulletin order No. 73395, reading as follows:

"One or two accidents occurred recently where freight trains have followed one another within the five minute limit and first train has met with trouble, and flagman was unable to get out a sufficient distance to stop the following train.

In no case will one freight follow another in less than ten minutes. Conductors and engineman will be lead responsible to see that this is carried out at stations where so agent or operator is on duty. Where an operator or agent is on duty, he will so use his order board that this amount of time will elapse between the departure of freight trains in the same direction."

East of Elliot a distance of 5.35 miles there is a non-telegraph station names Bodfiah, where train No. 74 is due at 5:10 p.m. and train No. 73 at 2:40. Train No. 74 stopped at Bodfiah and waited about 8 minutes for time. Under the direction of bulletin No. 73395 train No. 72 had no right to pass Bodfiah before 3:20, but the crew of this train paid no attention to the schedule of train No. 74 and as a result overtook and collided with it approximately 2 mile east of Bodfiah at about 3:15, or 5 minutes earlier than the time it had any right to pass Bodfiah station under the rules in force.

Engineman Crandall of train No. 72 was killed in the collision. Conductor Dolley stated that he knew of the rule requiring freight trains to keep ten minutes apart, and observed it at Elliott, but after leaving Elliott he was busy at his desk in the caboose making out reports and did not observe the time that his train passed Bodfiah. He said that he relied upon his engineman and the crew he had with him to look out for the train while he was making out his reports.

Flagman Marsh of train No. 72 was riding in the cupola of the caboose, talking with Reed Brakeman Kelly, he stated that he knew of the rule requiring freight trains to keep ten minutes apart, but did not think of train No. 74's schedule, and took it for granted that Engineman Crandall was observing the rule when he passed Bodfiah. He said that he looked at his watch when his train was passing Bodfiah and it was then 3:15 p.m., but he made no attempt to stop the train nor did he call the conductor's attention to the fact that they were encroaching on the time of train No. 74. Both flagman Marsh and Head Brakeman Kelley placed the time of the collision at between 3:20 p.m. and 3:22 p.m., but in this they were evidently mistaken, as a watch taken from the pocket of the passenger was company doctor named Hayee, who was riding in the caboose of train No. 74.

This accident was caused by the crew of train 72 failing to observe the direction of bulletin order 73395, and permitting their train to encroach upon the time of train No. 74. For this failure to obey the rule Conductor Dolley and Engineman Crandall were primarily responsible, but Flagman Marsh and Brakeman Kelley are also blameworthy for not paying stricter attention to the movement of their train and calling Conductor Dolley's attention to the time when it passed Bodfiah. Brakeman Kelley is particularly blameworthy for not being at the head end of the train where his duty and the rule of the railroad company required him to be. Had he been on the lookout at the head end of his train he might have seen train No. 74 in time to have warned Engineman Crandall of its close proximity and thus avert the collision.

Between Brownville Junction and Megantic, a distance of 117 miles, there are but 8 open telegraph offices. At these offices operators are required to space, trains in the same direction ten minutes apart, but as these offices are a considerable distance apart this requirement does not furnish adequate protection. For example, there is no open office between Greenville Junction and Gnewa a distance of nearly 16 miles. Had there been an open office at Redfiah, and had the operator in charges held train No. 72 until 3:20 p.m., as require by the rules, this accident would not have occurred.

Conductor Dolley entered the service of the Canadian Pacific Railway Company as brakeman in 1895 and was promoted to conductor in 1897. He had been continuously employed as conductor since his promotion. Engineman Crandall entered the service as fireman in 1897 and was promoted to engineman in 1901. Both of these men were considered competent and reliable, and their service records were good. Flagman Marsh entered the service as a brakeman on December 1, 1912. He had had two years previous experience as a yardman. Brakeman Kelley had been employed as brakeman since December 1, 1911, and had had nearly four years experience on another railroad as fireman and brakeman.

No employee involved in this accident was working in violation of any of the provisions of the House of Service Law.

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INTERSTATE COMMERCE COMMISSION.

REPORT OF THE CHIEF OF THE BUREAU OF SAFETY COVERING THE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE CANADIAN PACIFIC RAILWAY, NEAR ONAWA, ME., DECEMBER 20, 1919.

JANUARY 17, 1920.

To THE COMMISSION:

On December 20, 1919, there was head-end collision between a passenger train and a freight train on the Canadian Pacific Railway near Onawa, Me., which resulted in the death of 19 passengers and 4 employees and injury of 59 passengers and 9 employees.

The investigation of this accident was participated in by a representative of the Public Utilities Commission of the State of Maine, and as a result of this investigation I respectfully submit the following report:

The Moosehead subdivision of the Brownville division of the Canadian Pacific Railway, on which this accident occurred, is a single-track line extending from Brownville Junction, Me., to Megantic, Province of Quebec, a distance of 117 miles. Train movements over this subdivision are governed by time-table and train orders, except that between Brownville Junction and Barnard, 8.5 miles, and between Boundary and Megantic, 15.2 miles, a permissive staff block system is in effect. Between Barnard and Boundary, following freight trains are spaced 10 minutes apart at open telegraph offices, and following passenger trains are blocked by means of a telegraph block system, under which any train following a passenger train must wait until the passenger train is reported at a succeeding station, or may follow in 20 minutes if the next succeeding station, or the station from which it is to follow, is not a telegraph station. Train orders are transmitted by telephone.

The point of accident is located about 2.3 miles west of Onawa, which station is located 17.7 miles west of Brownville Junction. Beginning at a point about 1,500 feet east of the point of accident and proceeding westward there is a 1-degree curve to the right, 1,130 feet in length, followed by a tangent 270 feet in length, and then a 4-degree 8-minute curve to the left, 1,135 feet in length, the accident occurring on this last-mentioned curve about 100 feet from its eastern end. At this point there is a mountain on the inside of the curve and a drop of about 15 feet to a small lake on the outside of the curve. The range of vision of an engineman approaching the point of accident on an eastbound train and that of a fireman approaching on a westbound train is limited to about 750 feet, while an engineman approaching on a westbound train can see little farther than the front of his engine. Illustrations Nos. 1 and 2, both of which are views approaching the point of accident from the east, show how the vision of engine crews is obscured. For more than a mile, on each side of the point of accident the grade is descending for eastbound trains, varying from 1.2 per cent to 0.33 per cent. At the point of accident it is 0.9 per cent. The accident occurred in the morning shortly after daylight, and the weather at the time was clear.

Westbound passenger train third No. 39, in charge of Conductor Dillon and Engineman Wilson, consisted of engine 783, 1 box baggage car, 1 coach, 2 colonist cars, 2 tourist cars, 1 colonist car, 1 cafe car, 1 tourist car, and 2 cabooses, in the order named. This train was carrying steerage passengers from the steamship Empress of France from St. John, New Brunswick, to Montreal, Province of Quebec, and before leaving Brownville Junction, its initial station on the Moosehead subdivision, the crew received several train orders, among which were Nos. 20, 28, and 38, all on Form 31. These orders read as follows:

Train order No. 20.--First No. 39, eng. 818, late; second No. 39, eng. 852, on block; third No. 39, eng. unknown, run four 4 hours and twenty 20 mins late, Barnard to Boundary.

Train order No. 28.--Order No. 20 is annulled. First No. 39, eng. 818, late; second No. 39, eng. 852 on block; third No. 39, eng. unknown, run five 5 hours late, Barnard to Boundary.

Train order No. 38.--Engine 783 display signals and run as third No. 39.

Brownville to Megantic.

FIGURE 1

FIG. 1.--View approaching point of collision from the east.

ACCIDENT NEAR ONAWA, ME.

The train left Brownville Junction at 6.25 a.m., 5 hours and 5 minutes late; passed Barnard at 6.51 a.m., 5 hours and 9 minutes late; passed Onawa, the last open telegraph office, at 7.09 a.m., 5 hours and 10 minutes late; and at about 7.14 a.m., while traveling at a speed estimated to have been between 25 and 30 miles an hour, collided with eastbound freight train first No. 78.

Eastbound freight train first No. 78 was in charge of Conductor Manuel and Engineman Bagley and consisted of engine 2516, 30 loaded cars, 2 empty cars, and a caboose. It left Megantic at 6 p.m., 30 minutes late, and at Holeb, 30.8 miles east; 6 loaded cars were set out. At Moosehead, a nontelegraph station 42 miles east of Holeb, this train met trains first and second No. 39, which were approximately 1 hour and 20 minutes and 2 hours and 8 minutes late, respectively, and also met westbound freight train extra 3470, which delivered to the crew of train first No. 78 a copy of train order No. 28, previously quoted. The train arrived at Greenville, 10.8 miles east of Moosehead, at 6.30 a.m., and at this point received another copy of train order No. 28 and also a copy of train order No. 20. The train departed from Greenville at 6.40 a.m., the crew intending at that time to meet

train third No. 39 at Morkill, a station 6.9 miles farther east. Train first No. 78 arrived at Morkill at 6.57 a.m., pulled into the siding, and while doing so the operator handed one copy of train order No. 47 on to the engine and another copy on to the caboose. Train order No. 47 read as follows:

FIGURE 2

FIG. 2.--View from east showing wreckage after it had been cleared from track.

Train order No. 47.--Third No. 39, eng. 783, late. Fourth No. 39, eng. unknown, run eight 8 hours late, Barnard to Megantic

The train then left Morkill at 6.59 a.m., passed Bodfish, a nontelegraph siding 5.3 miles east of Morkill, and while running at a speed estimated to have been between 20 and 25 miles an hour collided with train third No. 39.

The force of the collision interlocked the engines of both trains and the tender of the passenger train was forced upon its front end and jammed up against the boiler head of the engine. The baggage car of train third No. 39 was entirely demolished, while the coach telescoped the colonist car directly behind it for about two-thirds of its length. Both of these cars, however, remained upright on the track. Illustration No. 3 is a view of the damaged colonist car after it had been thrown down the bank to clear the track. The second colonist car remained on the rails and was but slightly damaged, while the remaining cars in the train sustained practically no damage. The tender and first seven cars of the freight train were derailed to the south side of the track, while the eighth car was derailed to the opposite side. One truck of the ninth car was derailed, but this car sustained only slight damage. The enginemen and firemen of both trains were killed.

FIGURE 3

FIG. 3.--Wreckage of third car in train 3d No. 39 after it had been cleared from the trek.

Conductor Dillon, of train third No. 39, stated that before his train left Brownville Junction the air brakes were tested and all were in good working order. Leaving Brownville Junction he held a copy of train order No. 28, directing his train to run five hours late from Barnard to Boundary, which would make it due to leave Onawa at 6.59 a.m. He stated that as the train passed Onawa he looked at his watch and it then showed the time as 7.09 a.m. He estimated that the accident occurred between 7.13 and 7.14 a.m., at which time the speed of his train was between 25 and 30 miles an hour. He stated further that he felt no application of the brakes prior to the collision.

ACCIDENT NEAR ONAWA, ME.

Flagman Williams, of train third No. 39, stated that he checked the time that his train passed Onawa as 7.09 a.m. At the time of the accident he was riding in the cupola of one of the cabooses, but on account of the curve he was unable to see ahead sufficiently to see train first No. 78 approaching. He stated further that he felt no application of the brakes prior to the collision. He estimated that the speed of his train at that time was about 25 miles an hour.

Head Brakeman Cook, of train third No. 39, stated that he was riding in the first car of the train passing Onawa and then went back to regulate the heat in the fourth car. He was in the aisle of the fourth car when the collision occurred. He estimated the speed of his train at the time at 21 or 22 miles an hour. Brakeman Cook further stated that after the accident he talked with Conductor Manuel, of train first No. 78, who remarked that he overlooked train third No. 39.

Car Inspector Coburn, on duty at Brownville Junction, stated that he inspected the air brakes on train third No. 39 before its departure and that all of the brakes were in good operating condition.

Head Brakeman Austin, of train first No. 78, stated that when his train left Greenville it was expected that train third No. 39 would be met at Morkill, and upon arrival at that point he got off the train and opened the west switch to the siding. As the train was pulling into the siding the operator came out of the office with a train order, form 19, and gave him one copy, but said nothing either to him or to the engineman relative to its contents. Brakeman Austin stated that he hoarded the steps of the engine and handed the train order through the window to Engineman Bagley, who read it and remarked, "We have eight hours on third No. 39." The train then pulled through the siding and the engineman told him to open the switch at the east end. He did this; then climbed up on top of the train to see that the switch was closed after the train pulled out of the siding. He then returned to the cab of the engine, where he took the brakeman's seat on the left side. A proceed signal was given from the rear of the train. He stated that the first intimation of the impending accident which he received was when the engineman shouted, "Look out, boys," at the same time applying the air brakes in emergency. He looked up and saw the engine of train third No. 39 about 100 feet away. Brakeman Austin estimated the speed at the time of the collision at about 20 miles an hour. He also stated that the brakes had been working properly on this trip.

Flagman Gardiner, of train first No. 78, stated that at Greenville the crew of his train received a copy of an order stating that train third No. 39 was running five hours late, and shortly after leaving Greenville he and the conductor calculated that their train would have time to reach Morkill for train third No. 89. As the train pulled into the siding at Morkill the operator handed a copy of a train order on to the head end and a second copy to Engineman Chase, who was deadheading in the caboose and at the time was standing on the forward caboose steps. As the caboose passed the telegraph office Conductor Manuel told him that the order gave them more time on train third No. 39, and then instructed him to go out on top of the train, turn up some of the retainers, and give the engine crew a proceed signal. Flagman Gardiner stated that he did as instructed and returned to the caboose after the train had proceeded about a mile beyond Morkill. The train order that had been received at Morkill was at that time lying on the table and he picked it up and read it, getting the impression that train third No. 39 was eight hours late. He did not discover his error until after the accident occurred and was unable to account for not having read the order correctly. At the time of the accident he was in the caboose caring for his marker lamps, which he had just extinguished. He felt the emergency application of the brakes just a few seconds before the collision occurred and estimated the speed of his train at the time to have been 25 or 30 miles an hour.

Engineman Chase, who was deadheading in the caboose of train first No. 78 from Greenville Junction to Brownville Junction, stated that as the train was pulling into the siding at Morkill he saw the train order signal at stop and he and Conductor Manuel alighted from the caboose and started to walk toward the telegraph office. He then saw the operator come out of the

office with a "19" train order, and as the train pulled along the siding he boarded the forward caboose steps, while Conductor Manuel boarded the rear steps. Engineman Chase stated that when the caboose passed the operator the operator gave him a copy of the train order, apparently thinking he was the conductor, but he heard the operator make no remark concerning it. He then took the order into the caboose and gave it to Conductor Manuel, who read it and handed it to the flagman. Engineman Chase stated that he did not know the contents of the order, but supposed it was an order to meet train third No. 39 at some point east of Morkill. He then went up into the cupola of the caboose to go to sleep and was half asleep when the accident occurred. He admitted that at the time he took the order from the operator Conductor Manuel was standing on the rear steps of the caboose, and that he should not have taken the order, but left it to be delivered directly to the conductor.

Conductor Manuel, of train first No. 78, stated that at Greenville he received a copy of train order stating that train third No. 39 was running five hours late, and he expected that his train would be able to reach Morkill for that train. He also had an idea that upon reaching Morkill he would receive another order advancing his train farther against train third No. 39 and that the dispatcher would get his train into Brownville Junction before the crew exceeded their legal period of 16 hours on duty. As the train pulled into the siding at Morkill he was standing on the rear steps of the caboose, while Engineman Chase was standing on the front steps. He saw the operator come out of the office, deliver a copy of the train order to Engineman Chase, and heard the operator say something about eight hours. Due to the fact that he had been expecting an order advancing his train against train third No. 39, and to the fact that the operator came out so promptly with an order, he assumed before reading it that train third No. 39 was running eight hours late. He immediately went into the caboose and met Engineman Chase, who gave him the order. He stated that he glanced over it and read it as giving his train eight hours against train third No. 39 instead of against train fourth No. 39, and so remarked to the flagman. He then instructed the flagman to go out on the train and turn up some of the retainers, after which he himself went up into the cupola of the caboose, where he remained until the collision occurred. He stated that he felt the application of the brakes just before the shock of the collision, and estimated the speed of his train at the time at about 25 miles an hour. Conductor Manuel further stated that there was nothing confusing about the order had he read it carefully.

Operator Kingdon, on duty at Morkill at the time of the accident stated that when he heard train first No. 78 approaching in the distance he informed the train dispatcher by telephone, whereupon the train dispatcher issued order No. 47, which stated that train third No. 39 was late, and that train fourth No. 39 would run eight hours late. This order was completed at 6.50 a.m. The dispatcher then instructed him to have the order ready so that they might go. When the train got quite close he went out with the copies of the order and a clearance card and delivered one copy of each to the brakeman, who was riding on the pilot of the engine, and a second copy of the order to a man who was riding on the front steps of the caboose. As he delivered this second copy he said, "Eight hours on fourth No. 39." Another man who was riding on the rear steps of the caboose, and who the operator thought might be the conductor, replied, "Eight hours." The train pulled through the siding without stopping, departing at 6.59 a.m., and the operator returned to the telegraph office and attempted to report the arrival and departure of the train, but found the circuit engaged. After waiting one and one-half or two minutes he reported the departure of the train to the dispatcher, who remarked, "They have gone, have they?" Operator Kingdon further stated that he assumed train first No. 78 had taken the siding at his station to meet train third No. 39 and thought it was strange that they should proceed when the order they received at his station only gave them time against train fourth No. 39. He did not know, however, how late the third section was, and concluded that the crew of train first No. 78 knew what they were about and gave the matter no further consideration. He said that it did not occur to him to ask the crew where they were going for train third No. 39 when he saw the train departing. Operator Kingdon also stated that in delivering train orders, Form 19, it is the practice if a train is standing to deliver the order to the conductor and engineman personally, but if moving it is delivered to anyone who is on hand to receive it.

Operator Valley, who is employed at Morkill from 8 a.m. to 4 p.m., stated that on the morning of the accident he rode from Greenville to Morkill in the caboose of train first No. 78 and knew that train third No. 39 was running five hours late, and that the crew of train first No. 78 was intending to meet that train at Morkill. On arriving at Morkill, Operator Kingdon handed an order to Engineman Chase, who was riding on the front steps of the caboose, and he heard Operator Kingdon shout, "Eight hours." Operator Valley stated that he did not know of the existence of a fourth section of train No. 39, and assumed that the order gave train first No. 78 eight hours instead of five hours against train third No. 39. He stated further that before Conductor Manuel read the order he requested him to close the switch at the east end of the siding after the train was out. Operator Valley stated that he alighted from the caboose at the east end of the siding and closed the switch as requested, and then walked back to the telegraph office, reaching the office at about 7.05 a.m. He stated that he thought it very strange that the crew of train first No. 78 should be given eight hours against train third No. 39 when they had only five hours against it at the time they departed from Greenville, seven miles west. He kept saying to Operator Kingdon that he could not understand the situation, but Operator Kingdon made no reply. After the accident, however, Operator Kingdon told him that he had not understood what he was talking about.

Train Dispatcher Shaw, who was located at Brownville Junction and was on duty from midnight until 8 a.m., stated that he issued train order No. 20 to the crew of train first No. 78 at Greenville, which order provided that train third No. 39 would run 4 hours and 20 minutes late. Later he issued train order No. 28 to train first No. 78 at Greenville, annulling train order No. 20 and directing train third No. 39 to run five hours late. A copy of train order No. 28 was also sent to train first No. 78 at Moosehead by westbound extra 3470. When train first No. 78 was reported as leaving Greenville he expected that it would make Morkill for train third No. 39. He stated that to the best of his recollection train first No. 78 was first reported to him from Morkill, when the operator told him that the train was entering the siding, and at that time he thought the train would remain there for train third No. 39. It was at this time that he issued train order No. 47, which stated that train third No. 39 was late and that train fourth No. 39 would run eight hours late. He could not recall at what time Operator Kingdon reported the departure of train first No. 78, but he thought it might have been as early as 7.01 as stated by the operator. The departing time given was 6.59 a.m. When he learned that the train had departed it was in his mind that the crew had decided to make Bodfish for train third No. 39. He stated that he was unusually busy at this time, having nine trains on his district and having issued several orders. He was therefore not concentrating particularly on the two trains involved in this accident and did not realize at that time that it would be necessary for train first No. 78 to leave Morkill not later than 6.45 a.m. in order to reach Bodfish and clear train third No. 39, which under its run-late order was due at that point at 7.05 a.m. He stated that he did not figure just where the two trains would meet, but gave them the time order and left the matter to the judgment of the crews. He stated further that he did not discover that train first No. 78 did not have time to make Bodfish until he began to check up the time after his telephone circuit failed at 7.15 a.m. on account of the collision. He admitted that had he discovered that train first No. 78 did not have time to make Bodfish for train third No. 39 at the time its arrival and departure was reported to him by the operator at Morkill, he probably could have stopped train third No. 39 at Onawa. Dispatcher Shaw further stated that it is his practice to give time orders to inferior trains and not figure out what point they can reach, but to let them go as far as they can. The fact that train first No. 78

took the siding at Morkill for train third No. 39 and afterwards proceeded to the next station did not raise any question in his mind, as it frequently occurs that trains take a siding and afterward the crews change their minds and proceed to the next station.

Superintendent Boyle stated that in his opinion Train Dispatcher Shaw was not too busy to have kept a check upon train first No. 78 and anticipate at what point it would meet train third No. 39 and that it is the practice of the dispatchers under his jurisdiction to keep a check on such movements. He also stated that the train orders involved were properly issued in accordance with instructions from the general superintendent.

This accident was caused by the failure of Conductor Manuel and Engineman Bagley, of train first No. 78, to read train order No. 47 correctly.

The evidence indicates that Conductor Manuel was anticipating additional time on train third No. 39 upon arrival at Morkill, and the appearance of the operator at Morkill with a train order led him to jump to the conclusion that the order provided for this additional time. Under these circumstances he read the order as giving his train the additional time he had anticipated. Engineman Bagley being killed in the collision, his failure properly to read the train order can not be explained. The head brakeman's testimony indicates, however, that the engineman made the same error as did the conductor and also the flagman. Although the conductor and engineman, being in charge of the train, are responsible, Flagman Gardiner also read the order. Had he read it correctly he would have noticed the mistake and the train could have been stopped. Under these circumstances he must share in the responsibility for this accident.

Train Dispatcher Shaw was extremely negligent in the performance of his duties. Had he been on the alert and fully alive to the responsibilities of his position he would have discovered that train first No. 78 was running against train third No. 39 without authority when it left Morkill, and he could then have taken measures to avert this accident. Under train order No. 28, train third No. 39 was due at Bodfish, 5.3 miles east of Morkill, at 7.05 a.m. and at Morkill at 7.19 a.m. Under the Canadian Pacific rules inferior trains are required to clear opposing superior trains at least five minutes. This would require train first No. 78 to be at Bodfish at 7 a.m., when as a matter of fact they did not leave Morkill until 6.59 a.m. The evidence indicates that Dispatcher Shaw knew not later than 7.02 a.m. of the departure of train first No. 78 from Morkill and he should have discovered at once that something was wrong and have stopped train third No. 39 at Onawa, which point it did not pass until 7.09 a.m., and have held them until he could have gotten into communication with train first No. 78. He knew that train first No. 78 had taken siding at Morkill for train third No. 39, expecting to meet it there and then proceeded without receiving any additional time on that train. This of itself should have been sufficient to raise a doubt in his mind.

Under ordinary circumstances it would appear that Operator Kingdon, on duty at Morkill, would be subject to censure in that he failed to hold train first No. 78 at his station until the arrival of train third No. 39. He admitted that a question arose in his mind as to where train first No. 78 was going for train third No. 39, and he should have questioned the train crew at once regardless of any delay that might have resulted, or, failing in that, he should have called it to the attention of the train dispatcher. However, in this case the remarks which he stated the train dispatcher made to him at the time order No. 47 was issued, and also after the departure of train first No. 78, would naturally lead him to believe that he was not cognizant of all the circumstances and that the move was proper and had the approval of the train dispatcher.

It is possible that had Conductor Manuel received train order No. 47 directly from the operator instead of through the medium of Engineman Chase, he would have read it more closely and also might have heard the full remark of Operator Kingdon. Engineman Chase was deadheading on this train and took upon himself the duty of receiving the train order, although Conductor Manuel, the proper person to receive it, was on the rear steps of the caboose for the express purpose of getting it. Notwithstanding the apparent interest which Engineman Chase took in getting this order he claimed that he did not read it or know its contents. The practice of employees not on duty, or others, meddling in train movements in which they are in no way concerned, except in case of emergency, can not be too strongly condemned.

The first car in train third No. 39, a baggage car, No. 4794, was of wooden construction and of the box-car type. Had it not been for the complete destruction of this car in absorbing the shock of the collision, the loss of life and the number of injured in the cars following probably would have been much greater. The coach and colonist car directly behind the baggage car were of wooden construction and were equipped with wide vestibule steel platforms, steel bolsters, and steel needle beams. The end body frames were reinforced by steel angle posts and flat steel bars. The cross floor beams consisted of two steel needle beams and wooden cross-ties. Had these two cars been of all-steel construction it is probable the number of casualties would have been materially reduced.

Attention is called to the fact that a form of block system is in use on this line between Brownville Junction and Barnard, and also between Megantic and Boundary, to facilitate the movement of trains out of terminals and to reduce the number of train orders. The records show that during the first 15 days of December, 1919, an average of 41 trains a day were handled over the Moosehead subdivision. While traffic is not as heavy in summer time, it is believed that conditions as a whole warrant the establishment of a block-signal system. As at present operated there are nine day and night offices between Barnard and Boundary, a distance of 93.4 miles. Had there been an adequate block system in use between Barnard and Boundary this accident probably would not have occurred, and to prevent the recurrence of accidents of this character, it is recommended that the block system be placed in effect on this line.

Conductor Manuel entered the service of the Canadian Pacific Railway as brakeman in 1901 and was promoted to conductor in 1904. His service record was excellent. Engineman Bagley entered the service as section man in 1892, was promoted to fireman in 1907, and to engineman in 1911. His record was good. Flagman Bagley had been employed in train service three winters. During the other portions of the year he had been employed in clerical and track work; his record was clear. Train Dispatcher Shaw entered the service as operator in 1907; was promoted to train dispatcher in 1910, and worked intermittently as train dispatcher, operator, and rules examiner until 1915, since which time he has been working regularly as train dispatcher. His record was clear.

At the time of the accident the engine crew of train first No. 78 had been on duty 13 hours and 59 minutes, prior to which they had had more than 17 hours off duty. The train crew had been on duty 13 hours and 44 minutes, prior to which they had had 18 hours off duty. Dispatcher Shaw had been on duty 7 hours and 15 minutes, prior to which he had had 16 hours off duty.

Respectfully submitted



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INTERSTATE COMMERCE COMMISSION.

REPORT OF THE CHIEF OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH
OCCURRED ON THE CANADIAN PACIFIC RAILWAY NEAR LAKE VIEW, ME., ON JUNE 22, 1922.

July 6, 1922.

To the Commission:

On June 23, 1922, there was a derailment of a passenger train on the Canadian Pacific Railway near Lake View, Me., resulting in the death of 1 employee and the injury of 1 employee.

Location and method of operation.

This accident occurred on the sub-division extending between Brownville Junction, Me., and McAdam, New Brunswick, a distance of 105.1 miles, and is a single-track line over which trains are operated by time-table, train order, and a manual block-signal system. The accident occurred nearly 1 miles west of Lake View. Approaching from the west there is a short tangent, followed by a compound curve to the right having a total length, including easements, of 2,407 feet. The curvature is 5 degrees 1' at the point of accident, approximately 1,700 feet from the beginning of the curve, at the summit of a 1.02 per cent ascending grade. The track runs through a rock cut, restricting the view to about 200 feet. A slight rain was falling at the time of the accident, which occurred at about 5.20 a.m.

Description.

Eastbound passenger train No. 16 consisted of 1 express car, 1 mail car, 1 baggage car, 1 colonist car, 1 first-class coach, 3 sleeping cars, and 1 observation car, hauled by engine 2621, and as in charge of Conductor O'Leary, and Engineman Rogers. This train left Brownville Junction, 9.6 miles from Lake View, at 5 a.m., 5 minutes late, and was derailed near Lake View while traveling at a speed estimated to have been about 30 miles an hour.

The engine was thrown against the wall of the cut on the left side of the track, and came to rest in an upright position about 156 feet beyond the point of derailment. The first car and the forward truck of the second car were derailed. The employees killed was the fireman.

Summary of evidence

Investigation developed that a large rock, measuring about 6' x 10' x 14', had fallen on the inside of the curve, and came to rest leaning against the side of the cut, fouling the right rail. Engineman Rogers had sounded the station whistle, and while his hand was still on the whistle cord saw the rock. He reached for the brake valve, missed the handle, reached for it a second time, which time the accident occurred. None of the other members of the crew applied. These employees estimated the speed to have been about 30 miles an



rock cut the vicinity of the point of accident is composed partly of earth, but principally of rock of a ledge formation. The rock which fell was located near the top of the cut, and had a seam under it which sloped towards the track but the rock had been so imbedded in the wall of the cut that the seaminess was not known to have existed. There is grass and moss on the walls of the cut, and also on the top, and it is supposed that they were also on and around this rock which fell. The rock had a smooth surface on the under side, apparently due to the action of water, and it is supposed that the heavy rains which had prevailed during the few weeks previous to the occurrence of the accident had washed away such earth as might have been supporting the rock, thus permitting it to fall. The section foreman said that during the 25 years he had had charge of this section he had never known of any trouble in this vicinity from falling rocks, and the statements of all employees, as well as officials, were to the effect that the cut had always been considered to be in good condition.

Conclusions.

This accident was caused by a large rock falling from the top of a cut and fouling the track.

No previous trouble had been experienced at this point, and the cut had always been considered to be in good condition. It seems probably that heavy rains in the past few weeks finally washed away the earth supporting the rock to such an extent as to permit it to fall.

All the employees involved were experienced men, and none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. Borland,

Chief, Bureau of Safety.

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INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH
OCCURRED ON THE CANADIAN PACIFIC RAILWAY NEAR SUTTON, VT., ON JULY 9, 1926.

July 26, 1926.

To the Commission:

On July 9, 1926, there was a derailment of a freight train on the Canadian Pacific Railway near Sutton, Vt., which resulted in the death of one employee and the injury of one employee.

Location and method of operation

This accident occurred on that part of the Lyndonville Subdivision of the Farnham Division of the Quebec District extending between Wells River and Newport, Vt., a distance of 63.7 miles, this being a single-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. The point of accident was 0.85 miles north of Sutton; approaching this point from the south there is a compound curve to the right 1,621 feet in length, varying from 1 degree 6" to 2 degree 8", followed by a tangent 619 feet in length, the derailment occurring 575 feet north of the south end of this tangent. The grade for northbound trains is ascending from Sutton, varying from 0.8 to 1.03 per cent, being at its minimum at the point of accident. In the vicinity of the point of accident the roadbed is a series of cuts and fills, there being a fill varying from 10 to 20 feet in height on the east side of the track at the point where the derailment occurred.

_____ feet in length, with an average of 20 to 21 ties to the rail- length, partly tie-
ed on curves, and was ballasted with from 10 to 12 inches of light gravel. The
track well mainta... 1 - - -

It was raining very hard at the time of the accident, which occurred at about 9.15 p.m.

Description

Northbound freight train No. 903 consisted of 33 cars and a caboose, hauled by B. & M engine 2625 and C.P. engine 3529, and was in charge of Conductor McLean and Enginemen Stevenson and Rickaby. This train left West Burke, Vt., 2.4 miles south of Sutton, upon the arrival of southbound freight train No. 902, and while traveling at a speed estimated to have been from 15 to 18 miles an hour it was derailed at a culvert located 0.85 miles north of Sutton.

Engine 3529, which was the second engine, together with its tender and the first car in the train, were derailed; the engine and tender came to rest in an upright position with the front end of tender resting on the engine cab, the rear of the engine having dropped down in a washout about 10 feet. The forward end of the first car was telescoped. None of the other equipment was derailed. The employee killed was the fireman of the second engine.

Summary of evidence.

Engineman Stevenson, who was in charge of the leading engine of train No. 903 at the time of the accident, stated that a heavy rain storm started before his train left West Burke and continued to increase in intensity until after the accident occurred, but that he could see the rails at all times and believed that there was no water over them at the point of accident. The first warning he had of the derailment was when the tender of his engine began to rock; he then attempted to apply the air brakes in emergency, but found they already had been applied due to the parting of the train line between the engines, and on looking back he saw the headlight of the second engine rise into the air. He said he then went back to the second engine but on account of escaping steam he could not get near enough to make a careful inspection of it, but it appeared that the rear end of the engine was about 10 feet below the roadbed while the front end seemed to be higher. He further stated that he had never heard of a previous washout at the point of accident and could not recall having this particular culvert referred to as dangerous during heavy rains.

Fireman Moore, of the leading engine of train No. 903, stated that at the time of the accident the engines separated from each other and the air brakes applied in emergency. He went back to the derailed engine and found two rails extending upward near that engine and a large volume of steam coming out from under the engine. He could not go around to the fireman's side of the engine on account of the water, which was nearly up to the cylinders. He said that during the 10 1/2 years that he had been employed as a fireman he had never experienced any trouble with high water in this vicinity.

Engineman Rickaby, who had charge of the second engine, stated that at the time of the accident his train was running about 15 miles an hour and his first warning of the impending accident was the rocking of his engine which was followed almost immediately by a sudden drop.

The statements of Head Brakeman Lefrance, who was riding on the second engine at the time of the accident, and Conductor McLean and Rear Brakeman Charron, who were riding in the caboose of train No. 903, practically corroborated those of the other members of the crew.

Statements by members of the crew of southbound train No. 902, which passed over the culvert where the accident occurred at about 8.45 p.m., were to the effect that no water nor any other unusual conditions were observed at this point. The fireman of this train, however, noticed water running along the side of the track at a point 1/4 or 1/4 mile north of the culvert where train No. 903 was derailed, while the engineman noticed water up to the ties on the west side of the track, and the fireman reported the matter to Section Foreman Tyler upon the arrival of his train at West Burke.

Section Foreman Tyler said the fireman of train No. 902 called to him on the arrival of that train at West Burke that the water was over the track north of Sutton. The fireman did not give him the exact location, and as train No. 903 had already started he had no opportunity of giving this information to the crew of that train. He had been in charge of the section where the accident occurred until June 1 of this year, and said he had cleaned out the culvert in question during the spring and had left it in good condition.

Section Foreman Pelow, who has charge of the section on which the accident occurred, stated that he and three of his men were patrolling the section during the rain storm and passed over this culvert at about 7.30 p.m., and while it was raining very hard at that time, yet the water passing through the culvert did not appear to be rising. He said he examined the culvert just before the storm and found it to be in good condition. In his opinion the accident was caused by the water becoming dammed on its course down the hill by brush and waste wood, which was later dislodged by the heavy volume of water behind it and swept down the hill, blocking the culvert.

Sectionman Grondin, who is employed on the section on which the accident occurred, stated that on the morning of July 13 he followed the course of the brook from the right-of-way to the top of the hill and from his examination at that time he was of the opinion that the stream had been dammed in three different places during the storm on July 9 and that these dams were formed of floodwood and brush, which gave way when a heavy volume of water collected behind them, the pressure then sweeping the debris down and blocking the culvert, the water being of sufficient volume to cover the fence on the west side of the right-of-way.

Roadmaster Vallier, who had been in charge of the track in the vicinity of the point of accident for 10 years, stated that he had never known of any trouble at the culvert where the accident occurred and it appeared to him to be of sufficient dimensions to take care of all the water that might flow from this stream.

Examination of the track showed that a section of road bed 37 feet in length had been washed out, the maximum depth of the washout being 6 feet 9 inches, with about 160 cubic yards of material being displaced. The culvert at the point where the road bed was washed out was of stone construction, 3 feet 6 inches in width and 3 feet in height.

Conclusions

This accident was caused by a washout.

In this vicinity there is a large watershed on the west side of the track which extends about 1 mile from the track, and which has a slope of about 25 degree, forming a stream which passes under the track through a culvert known as Culvert 60-1 which was last inspected a short time prior to the accident and was found to be in good condition. Owing to the heavy rain which fell just previous to the time of the accident the stream that runs through this culvert had swollen and it is probable that the water coming down the watershed became dammed with floodwood and other debris, which held back the water until the pressure became too great, and that when these obstructions finally were dislodged the debris blocked the mouth of the culvert, the passing of the train over this culvert causing sufficient vibration to move the earth, which apparently slid cut from under the track while the first engine was passing over it.

All of the employees involved in this accident were experienced men and none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. Borland,

Director.

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	Railroad: Canadian Pacific Date: January 7, 1936 Location: Lowelltown, Me. Kind of accident: Head-end collision Trains involved: Mixed : Freight Train number: 118 : Extra west Engine number: 1070 : 3745 Consist: 9 freight cars, 1 caboose : 26 cars and 2 passenger cars : and : caboose Speed: 20 m.p.h. : 10 m.p.h. Track: 5 degrees 9' curve and 1.18 percent grade Weather: Light snow Time: 10:05 a.m. Casualties: 3 killed and 3 injured Cause: Failure of crew of mixed train to obey a meet order February 24, 1936. To the Commission:	

On January 7, 1936, there was a head-end collision between a mixed freight and passenger train and a freight train on the Canadian Pacific Railway near Lowelltown, Me., which resulted in the death of 3 employees, and the injury of 1 passenger and 2 employees. This accident was investigated in conjunction with the Public Utilities Commission of the State of Maine.

Location and method of operation

This accident occurred on the Moosehead Sub-division of the New Brunswick District, extending between Brownville Jot., Me., and Megantic, P.Q., a distance of 117.1 miles, this being a single-track line over which trains are operated by time table and train orders, no block-signal system being in use in the vicinity of the point of accident. The passing track at Lowelltown, 3,220 feet in length, parallels the main track on the south; the accident occurred 2,780 feet east of the east switch of this siding. Approaching the point of accident from the west, the track is tangent for a distance of 1,409 feet, followed by a 5 degrees 09' curve to the right 1,302 feet in length, the accident occurring on this curve 769 feet from the western end. Approaching from the east, there is a 5 degrees 15' curve to the left 557 feet in length and then a tangent 554 feet in length, followed by the curve on which the accident occurred. The grade for east-bound trains is 1.18 percent descending at the point of accident.

Owing to the sharp curvature and a tuck embankment approximately 20 feet in height on the south side of the main track opposite the point of accident, the view of opposing trains is very materially restricted.

A light snow was falling at the time of the accident, which occurred at 10:05 a.m.

Description

Train No. 118, an east-bound second-class mixed freight and passenger train, consisted of 9 freight cars, 1 caboose, 1 combination car, and 1 pay-car, hauled by engine 1070, and was in charge of Conductor Towle and Engineman Robinson. At Megantic, its initial terminal, 19.4 miles west of Lowelltown, the crew received a copy of train order 29, form 31, providing for a meet with Extra 3745 at Lowelltown. Train No. 118 departed from Megantic at 9 a.m., on time, according to the train sheet, and left Boundary, the last open office, 4.2 miles from Lowelltown, at 9:53 a.m., 7 minutes late. At Lowelltown, a non-communicating station, where no station building is maintained, there is a platform located on the north side of the main track, approximately 1,000 feet east of the west switch of the passing track, at which this train stopped to discharge a passenger and some freight. The train then proceeded eastward on the main track, passed the east switch without stopping, and collided with Extra 3745 while traveling at a speed estimated to have been about 20 miles per hour.

Diagram



Maine, Jan. 7, 1936

Extra 3745, an east-bound freight train, consisted of 23 cars and a caboose, hauled by engine 3745, and was in charge of Conductor Cobb and Engineman Harris. This train arrived at Holeb, the last open office, 11.4 miles east of Lowelltown, at 8:50 a.m., and at this point the crew received a copy of train order 29, previously mentioned, on form 19. The train departed from this point at 9 a.m., according to the train sheet, and was approaching Lowelltown at a speed estimated to have been between 8 and 10 miles per hour when it collided with Train No. 118.

Both engines were derailed, but remained upright and in line with the track, locked together and considerably damaged. The first car in Train No. 118 stopped on the tender of engine 1070 and this car and also the fourth car, which was derailed, were destroyed. The second and third cars also were derailed and considerably damaged. The first car in Extra 3745 was derailed and the fourteenth car buckled, both cars being destroyed, while the second, sixth and tenth cars were considerably damaged. The employees killed were the engineman and fireman of Train No. 118 and the fireman of Extra 3745, and the injured employees were the engineman of Extra 3745 and a paymaster in the rear car of Train No. 118.

Summary of evidence

Conductor Towle, of Train No. 118, stated that at Megantic he read and signed for train order 29 and delivered a copy to Engineman Robinson, who read the order to him and then signed the conductor's copy; the order also was read and fully understood by the other members of the train crew, but the conductor could not say positively whether Engineman Robinson showed the order to the fireman. Before departure of the train from Megantic the air brakes were tested by the inspector and found to be working properly, and several stops were made en route. At each point where the train stopped, Engineman Robinson seemed alert and responded to all signals, acknowledging proceed signals, as is customary, with two blasts of the engine whistle. On arrival at Lowelltown the train was stopped at the platform, and after doing the necessary work at that point, which required only a few minutes, he gave the engineman a signal to pull down and stop clear of the east switch, and he was sure the engineman understood the signal inasmuch as he did not respond with the usual whistle signal for a proceed signal. Conductor Towle then went into the caboose for the purpose of making out customs reports for the station at Holeb, and relied on Head Brakeman Youngblood to throw the switch to permit Extra 3745 to enter the siding. Then he noticed that the train was running faster than he thought was necessary, he went outside and then discovered that the entire train had passed the east switch. He then attempted to reach the emergency valve in the east end of the passenger car, which was the next car to the rear of the caboose, but the collision occurred before he could do so. Conductor Towle further stated that the head brakeman was at the rear of the train at Lowelltown, and, having other duties to perform in the meantime, was to go forward and open the east switch after their train had stopped at that point.

Rear Brakeman Smith, of Train No. 118, stated that the conductor gave him the train order directing their train to meet Extra 3745 at Lowelltown; he read and understood it and then gave it to the head brakeman. On leaving Lowelltown, he was in the baggage car shifting freight toward the door preparatory to unloading it at the next station, and the first intimation he had that their train had passed beyond the meeting point, or of there being anything wrong, was when the conductor came through the door of the baggage car and attempted to reach the emergency valve.

Head Brakeman Youngblood, of Train No. 118, stated that he saw and read the order directing his train to meet Extra 3745. After the train, stopped at Lowelltown he was on the station platform, and when the train started to pull ahead he entered the coach and fixed the fire, and then answered a question of one of the passengers and went forward to the baggage compartment of the coach and was talking with the rear brakeman, the first intimation he had of anything wrong being when the conductor came in and attempted to reach the emergency valve, at which time the collision occurred; prior to this time the train had been traveling at speed estimated by him at 20 miles per hour. Under the rules, it was his duty to open the passing-track switch for the opposing train and this he intended to do when the train reached the east switch; he was unable to account for the fact that he was not sufficiently alert to notice that the train had passed the switch.

Conductor Cobb, of Extra 3745, stated that at Holeb he had received a copy of train order 29, directing his train to meet Train No. 118 at Lowelltown. The first intimation he had of anything wrong was when he was knocked to the floor of the caboose by the impact of the collision, just prior to which time the speed of his train had been 9 or 10 miles per hour. He looked at his watch immediately and it then was 10:05 a.m.

Head Brakeman McLean, of Extra 3745, stated that when approaching the point of accident he was on the seat on the left side of the engine; he was looking ahead but due to the curvature to the left and the rock embankment on the inside of this curve, his view of the opposing train was obstructed and he did not see it until it was about 100 feet distant, at which time he called to his engineman and fireman, "Head on", and at the same time reached for the grab iron in the top of the cab. He estimated the speed of his train at 10 miles per hour but was unable to estimate the speed of Train No. 118, although he was of the opinion that the engine was not working steam, due to the descending grade in the direction in which that train was moving.

Discussion

Under the provisions of train order 29, train No. 118 was required to meet Extra 3745 West at Lowelltown. The evidence indicates that the engineman and all members of the train crew had read and understood this order, and it was evident that Conductor Towle had it in mind when, after the station, work had been completed at Lowelltown, he gave the engineman a signal to pull ahead instead of giving the usual signal to proceed. Apparently the engineman was alert when leaving Lowelltown and understood the signal he had received from the conductor, in view of the fact that he accepted the conductor's signal and started ahead without giving any response by the use of the engine whistle, instead of giving the usual two blasts in answer to a proceed signal had he intended going to the next station, but inasmuch as both the engineman and fireman died of their injuries as a result of the accident no reasons can be assigned for the failure of the train to be stopped short of the switch. This conductor, evidently for the instant, dismissed from his mind the important duty of knowing that the instructions he intended to convey by the signal he gave were thoroughly understood and would be obeyed, for he immediately went into the caboose and started preparing a report for the customs inspector at Holeb, and paid no further attention to the speed or location of his train until after the entire train had passed beyond the east switch. When he noticed that the speed of the train was faster than it should have been in order to stop for the switch, and then found that the entire train had passed the switch, it was too late for him to apply the brakes in time to avert the accident. The passing track at Lowelltown parallels the main track on the south, and had the conductor looked out of the window on the south side of the caboose directly opposite his desk he could have detected at once that his train had passed the meeting point, and as the emergency valve in the caboose was located directly over the desk he could have applied the air brakes in time to have prevented the occurrence of the accident.

Head Brakeman Youngblood, whose duties as prescribed by the rules required him to open the switch for the opposing train, apparently dismissed from his mind entirely this important duty after he had boarded the rear or west end of the combination car, where he attended to the fire in the stove in that car, and then conversed with one of the passengers. He should have placed himself in position to proceed to the switch as soon as his train stopped for that purpose, and then would have been in position to detect the error and take the necessary action to stop the train. The rear brakeman also became engrossed in other activities and did not know his train had passed the meeting point.

There are 11 scheduled trains operated in the territory in which this accident occurred, and the average daily movement during the 30 days preceding the date of the accident was between 14 and 15 trains. At the time of the accident in this same territory in December, 1919, which resulted in the loss of 23 lives, the traffic density averaged 41 trains daily, and while the present volume of traffic represents a decrease from that which prevailed 17 years ago, yet it is believed that the carrier is justified in giving consideration to the recommendation which was made at that time, to the effect that a block system should be placed in effect on this line. A block system is now in use on that portion of the line between Barnard and Greenville, a distance of 24.9 miles, within which territory the 1919 accident occurred, and the block system is also in operation over a substantial portion of the line between Brownville Jct. and Saint John, N.B.

Conclusion

This accident was caused by failure to obey a meet order.

Recommendation

As a means of preventing similar accidents in future, this carrier should give consideration to the need for the additional protection which would be afforded by the installation of a block-signal system.

Respectfully submitted,

W. J. PATTERSON,

Director.

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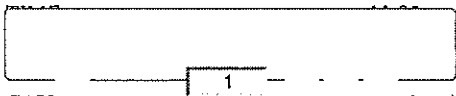
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Links Help Documentation Provide Feedback	4019 27 cars, caboose 30 m. p. h. Timetable, train orders, and automatic block-signal system Single; tangent; 0.45 percent descending grade eastward Clear  injured CATT... the suj or train, and failure to operate the inferior train in accordance with signal indication	Diesel-electric units 8460 and 4019 50 cars, caboose 20 m. p. h. Timetable, train orders, and automatic block-signal system Single; tangent; 0.45 percent descending grade eastward Clear 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
	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 COMMISSION 1 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.	
	Figure Canadian Pacific Railway Attean, Me. August *** 1957 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 2 degree 07' curve to the right 1,252 feet in length a tangent 159 feet to	

Attean, Wre. From the west there are, in succession, a 3 degrees 02' curve to the right 1,255 feet in length, a tangent 158 feet to the point of accident and 505 feet east ward. From the east there are, in succession, a tangent 263 feet in length, a 3 degrees 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	Green	Proceed.	Clear Signal.
816			
808 Signal.	Yellow	Proceed, preparing to stop at next	Approach
signal. Train exceeding medium			
speed must at once reduce to that			
speed. Reduction to medium speed			
must commence before passing			
signal.			
791	Red with marker	Stop.	Stop Signal.
bearing letter "A"			
797	Red	Stop, then proceed at Stop and Proceed	
restricted speed.			
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. * * *

* * *

FIXED SIGNAL DEFINITIONS

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

of 2000, maximum 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.

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FOODNOTE

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.

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Canadian Pacific Railway Lake View March 6, 1958

Location of Accident and Method of Operation

This accident occurred on that part of the Brownville Division extending between Mattawamkeag Brownville Jct., Maine, 43.1 miles, a single-track line over which trains are operated by timetable, train orders, and on automatic block-signal system. The accident occurred on the main track at a point 35.6 miles west of Mattawamkeag and 2.1 miles west of the station at Lake View, Maine. From the east there are, in succession, 3 degrees curve to the right 843 feet in length, a tangent 711 feet, a 5 degrees curve to the left 2,407 feet, a tangent 565 feet, a 5 degrees curve to the right 2,539 feet to the point of accident and 177 feet westward, and a tangent 1,717 feet. The grade in the immediate vicinity of the point of accident is 0.13 percent descending westward.

A track motorcar setoff is located approximately 460 feet west of the point of accident.

Automatic signal 973, governing westbound movements, is located 1,820 feet east of the point of accident.

This carrier's rules for the operation of track motorcars read in part as follows:

58. The person in charge of a car must obtain information on all possible occasions in regard to the movement of trains. * * * and must operate the car at all times prepared to find the main track obstructed or in use.

54. * * * In all cases, whether on single, double or three or more traces a sharp lookout must be kept at all times in both directions for trains, cars or obstructions. When more than one man accompanies a car, a man must be specially assigned to act as rear lookout.

* * *

The maximum authorized speeds in the vicinity of the point of accident are 45 miles per hour for all trains and 25 miles per hour for track motorcars.

Description of Accident

On the day of the accident a section force consisting of a foreman and 5 sectionmen reported for duty at Lake View, 33.5 miles west of Mattawamkeag, about 7:00 a.m. This section force departed westbound on a track motorcar about 7:10 a.m. After performing work at two locations immediately west of signal 973 the section force proceeded westward on the track motorcar and while moving at an estimated speed of 10 miles per hour the track motorcar was struck by Extra 4003 West.

Extra 4053 West, a westbound freight train, consisted of diesel-electric units 4003 and 4408, coupled in multiple-unit control, 23 cars, and a caboose. This train departed from Mattawamkeag at 6:40 a.m., passed Hardy Pond, the last open office, 27.8 miles west of Mattawamkeag, at 7:18 a.m., and while moving at an estimated speed of 40 miles per hour it struck the track motorcar.

The track motorcar was derailed and stopped immediately north of the main track and 221 feet west of the point of accident. It was destroyed. None of the equipment of Extra 4003 was derailed or damaged. The front end of this train stepped 1,761 feet west of the point of accident.

A section was killed

The weather was clear at the time of the accident, which occurred at 7:28 a.m.

During the 30-day period preceding the day of the accident the average daily movement in the vicinity of the point of accident was 15.8 trains.

The track motorcar was of the belt-drive type, powered by a 1-cylinder, 5 to 8 horsepower engine. It weighed approximately 760 pounds and had a seating capacity for six persons. It was equipped with a windshield, cab top, and a rear canvas curtain.

Discussion

On the day of the accident the section force at Lake View were scheduled to perform work at Knights, 4.7 miles west of Lake View. At 7:00 a.m. the section foreman obtained a line-up of train movements from the train dispatcher reading in part as follows:

WEST

X *** Keag 6:40 a.m.

The section foreman read the line-up to the members of the section force before they departed. He said that after the second stop was made west of signal 973 he observed that the time to clear the line was short and that he was going to his calculations it was then time to clear line main track for Extra 4003 West. He then ordered the sectionmen to board the motorcar. He said that he intended to set the motorcar off at a setoff located approximately 1,000 feet westward. As the motorcar proceeded westward at a speed of approximately 10 miles per *** sectionmen observed Extra 4003 West approaching at a distance of approximately 250 feet. He immediately called a warning. The section foreman and the sectionmen alighted before he collision occurred.

As Extra 4003 West 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 maintaining a lookout ahead, and the conductor and the flagman were in the caboose. The fireman, a qualified engineer, was operating the locomotive. The brakes of this train had been tested and had functioned properly when used en route. The headlight was lighted. The members of the crew on the locomotive *** occurred. The fireman immediately initiated an emergency brake *** estimated that the speed of the train was approximately 40 miles per

hour when the collision occurred.

Under the rules of the carrier the section foreman was required to specifically assign a sectionman to act as rear lookout while the motorcar was occupying the main tract. In the instant case the section foreman failed to do this. However, he said that one of the sectionmen regularly assigned to the force customarily sat on the right rear corner of the deck of the motorcar when the motorcar was moving forward on the main tract and the sectionman usually maintained a lookout to the rear. This sectionman said that en route from Lake View to the point of accident he raised the rear curtain on two occasions to watch for following movements. The rule of the carrier provide that the person in charge of *** all possible occasions in regard to movement of trains and must operate the car at all times prepared to find the main track obstructed or in use. In using a line-up for information a motorcar operator is required to estimate the speeds of the trains involved and to calculate the approximate time for these trains to move over portions of the railroad. The line-up does not contain information regarding the consists of trains or the work to be performed en route by the crews of these trains which would assist the motorcar operator in making more accurate calculations. In the instant case the section foreman said that he was using the timetable schedule of No. 951, a second-class freight train, to base his calculations regarding the location of Extra 4003 West. The section foreman was aware that Extra 4003 West was approaching the point where the section force was performing work but he did not take action soon enough to clear the main track by setting the motorcar off at the nearest setoff.

During the past 13 years the Commission has investigated 59 collisions, including the present case, in which track motorcars were involved. These accidents resulted in the death of 92 persons and the injury of 216 persons.

Cause

This accident was caused by failure to take required precautions in the operation of a track motorcar.

Dated at Washington, D. C., this twenty-second day of September, 1958.

By the Commissioner, Commissioner Tuggle.

(SEAL)

HAROLD D. McCOY,

Secretary.

Interstate Commerce Commission

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INTERSTATE COMMERCE COMMISSION

OFFICIAL BUSINESS

RETURN AFTER FIVE DAYS

FOOTNOTE

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.

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