

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

MINNEAPOLIS, ST. PAUL & SAULI STE. MARIE RY

VOLTAIRE, N.DAK

JANUARY 20, 1938.

INVESTIGATION NO. 2246

SUMMARY

Inv-2246

Railroad: Minneapolis, St. Paul & Sault Ste. Marie
Date: January 20, 1936.
Location: Voltaire, N. Dak.
Kind of accident: Rear-end collision
Trains involved: Freight : Passenger
Train numbers: No. 89 : No. 3
Engine numbers: 1016 : 2713
Consist: 69 cars, caboose : 6 cars
Speed: 12 m.p.h. : 30-40 m.p.h.
Track: Tangent; level
Weather: Foggy in immediate vicinity of
point of accident.
Time: 10:45 a.m.
Casualties: 2 injured
Cause: Failure of No. 89 to furnish adequate
rear-end protection, and action of the
dispatcher in authorizing Train No. 3
to enter an occupied block under a
clear manual block signal.

February 28, 1938.

To the Commission:

On January 20, 1938, there was a rear-end collision between a freight train and a passenger train on the Minneapolis, St. Paul & Sault Ste. Marie Railway, at Voltaire, N.Dak., which resulted in the injury of one passenger and one employee.

Location and method of operation

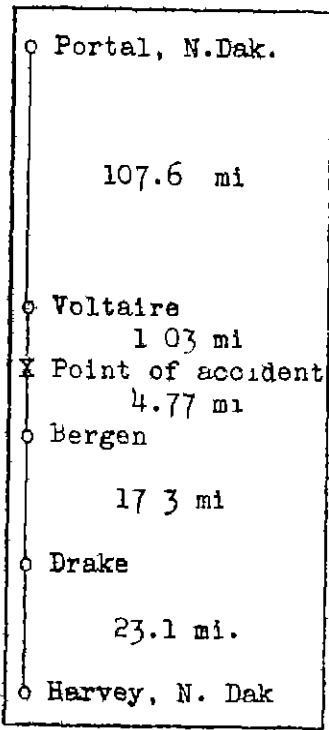
This accident occurred on the Fourth Subdivision of the Minnesota Division which extends between Harvey and Portal, N.Dak., a distance of 153.8 miles. This is a single-track line over which trains are operated by timetable, train orders, and a manual block-signal system. The accident occurred 1.035 miles east of the station at Voltaire; approaching this point from the east the track is tangent and practically level for a distance of more than five miles. A siding about 5,085 feet in length parallels the main track on the south, the west switch of which is located approximately 300 feet east of the depot; the accident occurred at a point about 80 feet east of the east switch of the siding.

The maximum authorized speed for passenger trains is 60 miles per hour, and for freight trains 50 miles per hour.

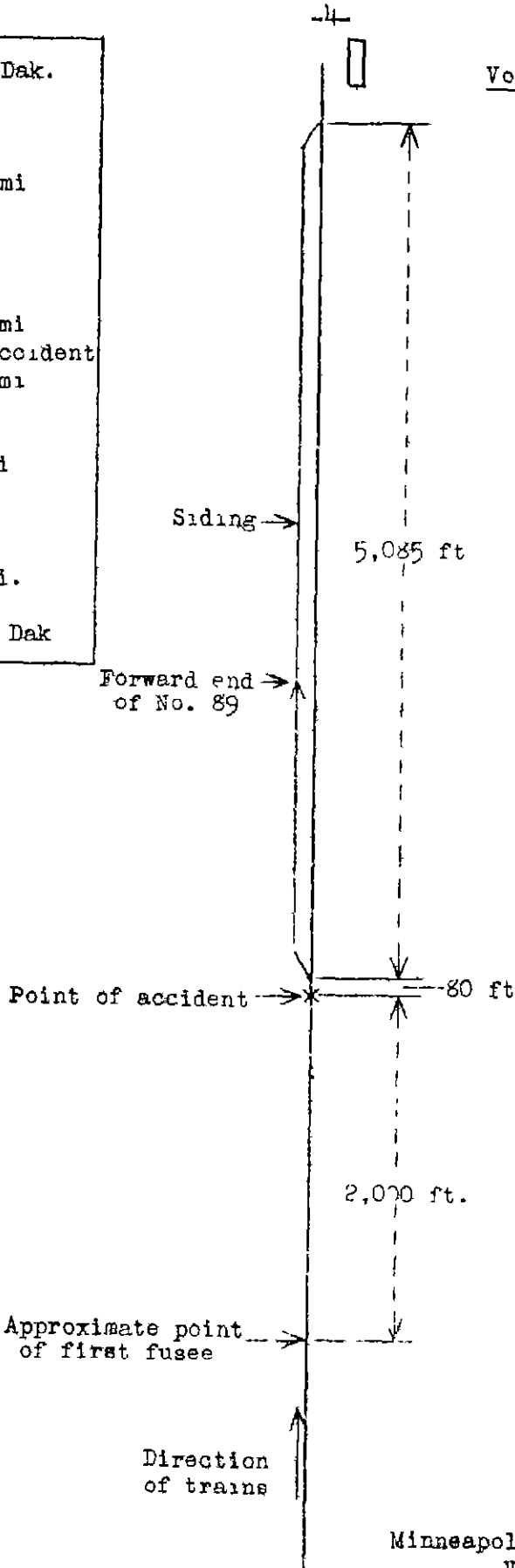
Rule 99, in part, specifies that when a train stops under circumstances in which it may be overtaken by another train the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection. It also specifies that when a train is moving under circumstances in which it may be overtaken by another train the flagman must take such action as may be necessary to insure full protection. By night, or by day when the view is obscured, lighted fuseses must be thrown off at proper intervals.

Manual-block rule 1 reads as follows: "These rules are not to be construed as affecting the rights of any train under the timetable or rules of the operating department. They do not relieve trainmen from the necessity of flagging; nor do they relieve employees from the full observance of general and special rules, special orders, instructions and bulletins governing the movement and protection of trains".

Block rule 5 reads as follows: "All trains, unless moved under the authority of a Permissive Card, shall be spaced fifteen minutes".



Voltaire station



Inv. No. 2246
Minneapolis, St. Paul & Sault Ste. Marie
Voltaire, North Dakota
Jan. 20, 1938

Block rule 8 reads as follows: "The operator will set his signal at 'stop' immediately after a train has passed the signal and hold following trains until the expiration of the time-blocking period, unless such train is sooner released by the issuance of a Permissive Card, and a Clearance Card on the signal, or the signal ordered to 'clear' by the dispatcher on account of the train ahead having cleared the block. When a Permissive Card is issued its number must be placed on the clearance card, recorded and handled as prescribed in Operating Rule 221f for all train orders".

Block rule 16 reads as follows: "When a Permissive Card is issued to a train, it must proceed at restricted speed, expecting to find the block occupied by train ahead".

Restricted speed is defined as: "Proceed prepared to stop short of train, obstruction, or anything that may require the speed of a train to be reduced".

Rule 9 of the book of rules specifies that when day signals cannot be plainly seen, night signals must be used in addition.

The day limits of the block within which this accident occurred are Bergen at the east end and Voltaire at the west end. The distance between these stations is 5.8 miles. It was foggy at the time of the accident, which occurred at 10:45 a.m.

Description

No. 89, a west-bound third-class freight train, consisting of 69 cars and a caboose, hauled by engine 1016, was in charge of Conductor Farstad and Engineman Vanek. This train departed from Harvey, its initial terminal, at 9 a.m., according to the train sheet, 1 hour late. At Drake, 23.1 miles east of Voltaire, it received order No. 21 which directed it to run ahead of No. 3 Drake to Voltaire. It departed from Drake at 10 a.m., according to the train sheet, 1 hour late, passed Bergen, 5.8 miles east of Voltaire, at 10:31 a.m., according to the train sheet, 51 minutes late, and was proceeding from the main track into the siding at Voltaire at a speed of about 12 miles per hour when its rear end was struck by No. 3 at a point about 80 feet east of the east switch.

No. 3, a west-bound passenger train, consisting of one combination mail and express car, one baggage car, one coach, one tourist sleeping car, one standard Pullman sleeping car, and one cafe-parlor car, in the order named, hauled by engine 2713, was in charge of Conductor Croonquist and Engineman Balow. At Harvey, order No. 21, previously mentioned, was received, and the train departed from that point at 9:45 a.m., according to the train

sheet, on time; it passed Bergen where it received a clear block indication, at 10:39 a.m., 1 minute late, and while traveling at a speed of between 30 and 40 miles per hour it collided with the rear end of No. 89 near the east switch of the siding at Voltaire.

Engine 2713 and its tender were derailed, and stopped upright 256 feet west of the point of accident with the engine truck between the main track and the siding. The leading truck of the first car of No. 3 was derailed to the south. The caboose of No. 89 was demolished; the two rear cars stopped on their sides north of the main track, and the next three cars stopped on their sides south of the siding. All five of these cars were extensively damaged and were subsequently destroyed. The sixth car ahead of the caboose was derailed and off center. The employee injured was the fireman of No. 3.

Summary of evidence

Conductor Farstad, of No. 89, stated that order No. 21, authorizing No. 89 to run ahead of No. 3 Drake to Voltaire, was received at Drake. At Bergen the train-order signal was in clear position when his train passed that point at 10:30 or 10:31 a.m. The train stopped at 10:37 or 10:38 a.m. to enter the east-siding switch at Voltaire. He knew that No. 3 was due out of Bergen at 10:38 a.m. The weather was clear from Harvey to Bergen, but shortly after the engine had started to move into the siding at Voltaire a heavy bank of fog enveloped the caboose and he instructed the flagman and the swing brakeman, who were in the cupola, to drop a fusee. The flagman then stuck a burning fusee in the side of the caboose but dropped it to the track when instructed by the conductor to do so. Conductor Farstad saw the burning fusee between the rails but after the train had advanced an additional distance of about 40 car lengths, he lost sight of it. He then lighted another fusee, and with it in his hand he alighted from the caboose at a point about 800 feet east of the east switch. He could see the headlight of No. 3's engine a distance of 25 or 30 car lengths and he gave stop signals with the fusee until that train had passed him. He did not instruct the flagman to give rear-end protection because he thought No. 3 would look out for No. 89 when running under a run-ahead order. On previous occasions when running ahead of a passenger train on authority of a train order, the passenger trains had maintained a short space behind his train. He was familiar with rule 99 but it had not been customary for him to furnish rear-end protection when entering a siding.

Rear Brakeman Roberts, of No. 89, corroborated the statement of the conductor in all essential details. According to past practice he said the run-ahead order would be practically suffi-

cient protection against No. 3 and that in similar situations on previous occasions passenger trains had kept about one-fourth mile behind the freight train. He said that although no action was taken to protect the rear end before the train stopped to enter the switch at Voltaire, there was no reason why he could not have gone back a sufficient distance to insure full protection; however, he had conformed with the usual and general practice that has been recognized as proper ever since he had started to work on that division.

Swing Brakeman Hance, of No. 89, corroborated the statements of the conductor and the rear brakeman with respect to the events up to the time of arriving at the east switch at Voltaire, at which time he went forward over the cars and had reached a midway point when the accident occurred. When the train started to head in he looked back from the cupola of the caboose and saw No. 3 coming around the curve at Bergen.

Engineman Vanek and Fireman Hallin, of No. 89, stated that the brakes were tested at Harvey and functioned properly en route. Their statements concerning the weather were in conformity with the statements of the other members of the crew. Their train had proceeded into the siding at Voltaire a distance of about 55 car lengths when the accident occurred; at that time the speed was about 12 miles per hour. Engineman Vanek said he did not whistle out a flagman approaching the east switch, but he believed that under the conditions prevailing at that time he should have done so.

Engineman Balow, of No. 3, stated that a running test of the brakes was made leaving Harvey and they functioned properly en route. He received order No. 21 at Harvey and understood its provisions. Because of a curve to the left approaching Bergen he was unable to see the train-order signal at that point but the fireman informed him that it was in the clear position. No Permissive Card was received at this point. The weather had been clear en route but at a point about two and one-half miles west of Bergen they encountered a dense fog and he made a service application of the brakes which reduced the speed to 35 or 40 miles per hour. He was expecting to receive some protection in the fog in case a train should be ahead. He did not encounter any fuses or torpedoes between Bergen and Voltaire until at a distance of 8 or 10 car lengths ahead he got his first glimpse of the caboose of No. 89 upon which there was a burning fuse. At this time the speed was about 40 miles per hour and he applied the brakes in emergency. He then saw someone jump from the caboose and the collision occurred immediately thereafter; at that time the speed of his train had been reduced to about 30 miles per hour. Engineman Balow stated that the run-ahead order did not restrict him from maintaining schedule time.

Fireman Kirkham, of No. 3, corroborated the statement of Engineman Balow in all essential details. He said that he turned on the headlight when the fog was encountered. He also said the markers on the caboosc of No. 89 were not burning. As soon as he alighted from the engine after the accident, he saw Brakeman Roberts approaching from the east.

The statements of Conductor Groonquist, Flagman Tollund, and Brakeman Myers, of No. 3, were to the effect that the speed was about 40 or 45 miles per hour at the time of the accident, and that the fog disappeared shortly thereafter. They did not see any fuses, or hear any torpedoes exploded east of the point of accident.

Agent-operator Cummins, located at Bergen, stated that when No. 89 passed that station at 10:31 a.m., he reported the fact to the dispatcher and immediately placed the train-order signal in the stop position where it remained until 10:35 a.m., when the dispatcher instructed him to give No. 3 a clear signal. The dispatcher explained to the operator that No. 89 had an order to run ahead of No. 3 to Voltaire.

Dispatcher Jones, who was on duty at the time of the accident, stated that at the time he issued order No. 21 to No. 3 and No. 89, the weather at all reporting stations was clear. The run-ahead order was issued because there was no siding between Drake and Voltaire on which No. 89 could clear. He instructed the operator at Bergen to clear his signal for No. 3 because during clear weather a run-ahead order eliminated the necessity of blocking trains; he admitted there was no rule to that effect but it had been a custom on this railroad for many years. He had seen a notice from the chief dispatcher, dated December 7, 1937, instructing dispatchers that since there was snow on the ground, orders authorizing freight trains to run ahead of passenger trains must not be issued unless the passenger train was blocked behind the freight; also, that dispatchers must not issue Permissive Cards to passenger trains, but must hold them 15 minutes behind freight trains. However, he said this notice disappeared within a few days after it was issued.

Chief Dispatcher Formoe said that the instructions which he issued to the dispatchers on December 7, 1937, were for the purpose of additional precaution. It was his understanding that a run-ahead order in no way affected the block rules and had thought that all the dispatchers understood it the same as he, until after the time of the accident when he found that Dispatcher Jones did not so understand it.

Rules Examiner Princell said that the run-ahead order could not be entirely eliminated and that it was left up to the judgment of the dispatchers when to use it, but it had never been the

practice to assume that the block rules are set aside when this order is used. He also said that this order gave the train ahead no protection and that it must give rear-end protection in accordance with the requirements of rule 99. The only effect of the run-ahead order is to temporarily qualify the rule which requires an inferior train preceding a superior train to clear the time shown at the first station in the rear.

Discussion

The track from Bergen to Voltaire is straight and level and for that reason the crew of No. 89 did not furnish flag protection approaching the east switch at Voltaire; furthermore, the conductor and flagmen of this train were of the opinion that they were not required to furnish protection when holding a run-ahead order and that the following train coming in such an order was required to look out for the preceding train. However, a dense fog was encountered about 2-1/2 miles east of Voltaire and shortly after No. 89 started to head into the siding at Voltaire a lighted fusee was dropped between the rails at a point 50 or 55 car lengths east of the switch. Another fusee was lighted and held by the conductor when he alighted from the caboose at a point about 800 feet east of the east siding-switch. The engine crew of No. 3 expected that No. 89 would furnish protection.

No. 89 passed Bergen at 10:31 a.m., and although it was still in the block when No. 3 passed that station at 10:39 a.m. No. 3 was given a clear block under instructions from the dispatcher. Under the rules one of three methods should have been used in permitting No. 3 to pass Bergen: First, hold No. 3 until 10:46 a.m.; second, issue a Permissive Card to No. 3; third, hold No. 3 at Bergen until No. 89 was reported by, or in the clear at, Voltaire, provided this was accomplished before 10:46 a.m. The chief dispatcher had issued instructions under date of December 7, 1937, which eliminated the second method. The dispatcher was of the opinion that a run-ahead order suspended the block rules with respect to the following train but he could not cite a rule to that effect; however, he said that this interpretation had been accepted for a long time on this railroad. If No. 3 had been held for 15 minutes at Bergen, No. 89 would have had time to get into clear at Voltaire; if the Permissive Card had been issued to No. 3 at Bergen, that train would have been required to operate at restricted speed from Bergen to Voltaire and in either case it is probable that the accident would have been averted.

In this case the dispatcher nullified the greater degree of safety which was intended to be provided by the block system, when he instructed the operator at Bergen to clear his signal prior to the expiration of the time-blocking period, thus signifying to the engineman of No. 3 that at least 15 minutes had elapsed since No. 89 passed that point, or that No. 89 had already passed Voltaire or was in the clear at that point.

The following explanation appears under example 3 of Train Order Form B:

The first-named train will run ahead of the second-named train between the points named.

Both the rules examiner and the chief dispatcher said the issuance of a run-ahead order in no way affected the block rules and they thought it was generally so understood. The book of rules examiner further stated that the run-ahead order in no way relieved No. 89 from giving rear-end protection in accordance with rule 99.

All of the employees involved had long-time service records and had been examined on the operating rules within the past 2 years; however, this investigation developed the fact that neither among the employees themselves nor between the officials and the employees was there a common understanding of the rules.

In addition to this accident, four rear-end collisions have been reported as having occurred on this railroad since the month of August, 1935. In the safe operation of trains it is of paramount importance that all employees engaged in train operation have a uniform understanding of the rules, and it is incumbent upon the responsible officials to take whatever measures are necessary to maintain a current proper understanding of such rules.

The manual block-signal system in use on this portion of the railroad is operated in such a manner that unless both trains involved are passenger trains a train may be given a clear block-indication while the block is still occupied by another train moving in the same direction, provided only that the preceding train has been in the block for at least 15 minutes prior to the time the following train entered the block. Under such a system a clear block-indication gives no definite information concerning occupancy conditions within the block limits.

During the thirty day period preceding the date of the accident, a daily average of 7.5 trains were operated over this territory.

Inv-2246

Conclusion

This accident was caused by the failure of the crew of Train No. 89 to provide adequate rear-end protection and by the action of the dispatcher in authorizing Train No. 3 to enter an occupied block under a clear manual block signal.

Respectfully submitted,

W. J. PATTERSON,
Director.

