No.424

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE NORTHERN PACIFIC RAILWAY NEAR KANASKAT, WASH., ON MARCH 24, 1917.

May 25, 1917.

On March 24, 1917, there was a rear-end collision between a passenger train and a freight train on the Northern Pacific Railway near Kanaskat, Wash., which resulted in the injury of 3 stockmen. After investigation of this accident, the Chief of the Division of Safety reports as follows:

Eastbound freight train No. 602 consisted of 55 cars and a caboose, hauled by locomotive 1642, with helper locomotive 1605 cut in 4 cars in advance of the caboose, and was in charge of Conductor Duncan and Engineman Kane, with Engineman Lyndahl in charge of the helper locomotive. Train No. 602 left Auburn, Wash., at 12.01 a. m. and at 1.22 a. m. passed Ravensdale, Wash., the last telegraph office, and a point about 4 miles west of the point of collision, being 52 minutes late at that time. While traveling at a speed of about 12 miles an hour the rear end of the train was struck by passenger train No. 318, the collision occurring about one mile west of Kanaskat.

Eastbound passenger train No. 318 consisted of 6 cars, hauled by locomotive 2186, and was in charge of Conductor McGinnes and Engineman Davisecourt. It left Seattle, Wash., at 12.01 a. m., Ravensdale at 1.38 a. m., 3 minutes late, and at about 1.45 a. m. collided with the rear end of train No. 602, while traveling at a speed estimated to have been about 25 miles an hour.

The caboose of train No. 602, in which the injured stockmen were riding, was telescoped by the car immediately ahead of it and demolished. The rear three cars of the freight train were derailed and damaged. Only slight damage was sustained by the locomotive of the passenger train and none of the equipment of that train was derailed.

This part of the Northern Pacific Railway is a single-track line and the movement of trains is protected by an automatic block signal system. Automatic block signal No. 830 is at the end of the passing track at Byrd, a small station 3.3 miles east of Kanaskat. This signal is located about 500 feet east of the western end of a curve to the right of 2 degrees and 10 minutes, this curve being 1,800 feet in length; the signal can be seen about three-fourths of a mile. There is then a curve to the left varying from two to six

degrees, the greater part of the curve being 2 degrees. This curve is about 4,550 feet in length. Automatic signal No. 646 is located on the outside of this curve at a point where the curvature is 2 degrees, and is about 3,000 feet east of signal No. 650. Signal No. 646 can be seen by enginemen a distance of about 150 feet and by firemen a distance of 800 feet. Following this curve there is 130 feet of tangent and then a curve to the right of 6 degrees, about 1,320 feet in length. About 300 feet east of the end of this curve is automatic signal No. 634, the distance between signal No. 646 and signal No. 634 being nearly 5,900 feet. The collision occurred on this last curve at a point about 300 feet from its eastern end or about 600 feet west of signal No. 634. The grade throughout practically all this territory is nearly 1 per cent. ascending for eastbound trains. At the time of the accident a heavy snow was falling.

Engineman Kane stated that his train approached the west switch at Byrd, which is 2.3 miles from the point of collision, at 1.27 a. m., the speed at that time being about 25 miles an hour. He stated that the signals after passing Ravensdale all indicated caution so that he knew there was a train immediately ahead of him. Upon approaching the signal between Byrd and Kanaskat, No. 646, it was found to be red and he reduced the speed preparatory to stopping, but the signal went to caution before his locomotive reached it. The train then proceeded toward the next signal, No. 634, and that was red. He had nearly brought his train to a stop when the signal changed to caution. He thought it was about 1.38 or 1.39 a. m., when this signal was passed. He whistled out a flag shortly after passing this signal, but said that he did not think this whistle signal could have been heard from the rear of the train. He sounded this signal because he knew that his train was close to the time of train No. 318 and also because he would have to stop in order to head in on the passing track at Kanaskat. He thought the collision occurred about 2 or 3 minutes after he had sounded this whistle signal, in which time his train had moved ahead about 40 or 50 car lengths. He thought the speed of his train at the time was about 8 or 10 miles an hour.

Fireman Montgomery verified the statements of Engineman Kane as to whistling out a flag after passing signal No. 634. Shortly afterwards the train line was broken, due to the collision, and at that time he looked

at his watch and it was then 1.44 a. m.

Engineman Lindahl of the helper locomotive stated that the train slowed down east of Byrd and on looking back he saw a yellow fusee thrown off from the caboose; at this time he was about 400 or 500 feet east of signal No. 850, near Byrd. He looked at his watch when the train started ahead after stopping at signal No. 834 and it was 1.39 a. m. A short time afterwards he decided that he would whistle out a flag, but on again looking back he saw the flagman get off with a white lantern. Soon he again looked back and saw train No. 318 approaching at a good rate of speed, apparently within three car lengths of the caboose and he told the fireman that he thought the passenger train was running the block signals and was going to collide with their train. The collision occurred at about this time. He further stated that he did not hear the engineman of the leading locomotive whistle out a flag and he did not see any fusees thrown off other than the one thrown off just east of Byrd. He thought the accident occurred at about 1.43 a. m.

Conductor Duncan stated that just east of Byrd a 10-minute yellow fusee was thrown off at abut 1.30 a. m. At about 1.35 a. m. the train slowed down a little and he personally threw off another fusee somewhere east of signal No. 846 while soon afterwards the brakeman threw off a third fusee. Conductor Duncan said that the train came almost to a stop and he thought it had stopped to head in at Kanaskat. He then went out on the rear end of the caboose and rode there for 10 or 12 car lengths before he could discover his location. The flagman asked him if he should go back to flag and he looked at his watch and it was exactly 1.40 a. m. He instructed the flagman to get off, which he did, taking with him torpedoes and red and white lanterns. The speed then increased from 4 miles an hour to 8 or 10 miles an hour and soon the flagman was out of sight. Conductor Duncan said that he and the middle brakeman could hear the exhaust of the locomotive of train No. 318 as that train approached and they listened to hear the engineman of that train shut off steam for the automatic signal. This, however, was not done so they listened for the engineman to shut off steam when answering the flagman's signals. There was no answer, however, neither did they hear the explosion of any torpedoes and soon the headlight of the locomotive hauling train No. 318 appeared out of the cut and Conductor Duncan said that he opened the caboose door and called to the stockman to get off, at the same time jumping from the rear platform. He did not look at his watch at that time, but thought it was about 1.43 a. m., and said that the locomotive of train No. 318 was working steam when the collision occurred. He

thought his train moved about 1,200 or 1,400 feet between the time the flagman got off and the time of the collision. He had not heard the engineman of his train whistle out a flag. He further stated that during the past 8 years he had been disciplined twice for failure to protect his train.

Flagman McKown of train No. 602 stated that the train slowed down east of Byrd and later slowed down again for the next signal, and he threw off a burning fusee, this being 20 or 30 car lengths beyond the point where the conductor had thrown off a fusee. Shortly afterwards he told the conductor that he had better get off and flag and secured his red lantern. The conductor looked at his watch and instructed him to get off, which he did. He stated that he started back with no fusees with him. He heard the passenger train approaching and placed one torpedo on the rail and then began to run toward the approaching train. He thought he went back 20 or 30 car lengths beyond the torpedo, being within 30 feet of the point where the last fusee had been thrown off, which was at that time burning. He kept giving stop signals and when the train passed him, traveling at a speed of about 50 miles an hour, he called to the engine crew but did not see any one on the locomotive. He did not hear the locomotive explode the torpedo which he had placed on the rail. After the train passed he returned to the scene of the accident. He stated that he did not meet the flagman of the passenger train as he went back to flag. He stated that he was back about 50 or 60 car lengths from the rear of his train.

Middle Brakeman Love, of train No. 602, stated that the last fusee thrown off was thrown off by the flagman when the train slowed down for the signal west of Kanaskat. When the train started ahead the conductor told the flagman to get off and the last he saw of the flagman the flagman was going back to flag. He did not look at his watch and did not hear any signals sounded by the engineman. He thought about 2 or 3 minutes elapsed between the time the flagman got off the train and the time the collision occurred.

Engineman Daviscourt, of train No. 316, stated that while passing through Byrd the water glass broke. He got off his seat box to shut the valve and found the fireman was also trying to do the same thing. He then got back on the seat box and found that he had passed signal No. 650 without seeing its indication. He figured, however, that its most restrictive indication would be caution, inasmuch as the preceding signal was clear. After the steam had been shut off from the water glass he tried to see out of the window but could not on account of the heavy snow blowing in his face. He then tried to see out of the front window but it was covered with moisture, probably due to the steam in the cab. As locomotive 2186 was not equipped with a clear vision window he had

to lean forward to wipe off the front cab window and on doing so found that he could only see through the bottom part of it, the upper part being covered with snow. He then tried the water gauge cocks and found no water in the middle cock, but after filling water in the bottom cock he sat down on the seat box and began to look for the next signal, No. 646, but did not see it. He stated that he did not see any flagman or notice the reflection of any fusee; neither did he hear any torpedoes. The first thing he saw was what seemed to him to be a dozen red lanterns and he then realized that he had passed another block signal without seeing its indication. He then attempted to shut off steam but on account of his hand being wet it slipped off the throttle, a slight delay thus being occasioned. After shutting off steam he applied the emergency air brakes but by that time the distance between the two trains was such that he could not prevent the collision. Engineman Daviscourt further stated that at no time while trying to shut off the steam from the water glass or while testing the water gauge cocks did he reduce the speed of the train. He thought he was about 1 minute late passing Byrd but stated that he did not look at his watch until a short time after the collision and it was then 1.46 a. m. He further stated that at the time he was cleaning off the front window, he did not realize that his train had passed the automatic signal, No. 646, but after the collision he figured out that this was the time when his train passed that signal.

Fireman Kvalheim stated that after the water glass broke he was busy trying to find the valve in order to shut off the steam and water. He thought it was about a minute from the time the glass broke until he had closed the valves and by this time the train had passed signal No. 650. He then began to work on the fire as it had gotten very low while he was fixing the broken water glass valves and he was working on it from that time until the time the emergency air brakes were applied, the collision occurring before he had time to look up to see what was ahead. He further stated that he had not noticed the reflection of any fusees or heard the explosion of any torpedoes. About one-half minute before the collision occurred he had looked at his watch and it was then between 1.45 and 1.46 a. m.

Conductor McMinimee, of train No. 516, stated that his train passed Byrd at 1.41 a. m. and according to his watch the collision occurred at 1.44 a. m. About 6 or 8 minutes afterwards he saw Flagman McKown, of train No. 602, returning from flagging, carrying red and white lanterns in his hands. He also stated that Flagman Ringer of his train went back to flag and told him that he found a burning fusee.

Flagman Ringer stated that he started back to flag immediately after the collision and that he found a burning yellow fusee about 2,000 feet from the rear of his train, there still being about 4 inches of the fusee unburned, the fusee apparently having burned about 8 minutes. He thought it took him about 4 or 5 minutes to reach the point where he found this fusee and he said that he did not meet any flagman returning to the freight train.

Signal Inspector White, who was a passenger on train No. 318, stated that after dressing he left the car and after looking at the wreckage went back with a signal maintainer to examine and test the signals. The signal immediately in the rear of the wreckage, No. 646, was in the stop position while signal No. 650 was in the caution position. Both of these signals were immediately tested and found to be working in proper order.

The direct cause of this accident was the failure of Engineman Daviscourt of train No. 315 to observe and be governed by automatic block signal indications.

Engineman Daviscourt admitted that he failed to observe the two automatic signals immediately preceding the point of accident which indicated caution and stop, respectively, this failure undoubtedly being due to the fact that he failed to reduce the speed of his train when circumstances arose which prevented him from seeing the signals. He knew of the existence and location of these signals and there is no excuse for his failure to reduce the speed of his train to such an extent as to have enabled him to observe and be governed by the signal indications.

Engineman Daviscourt was employed as a fireman in 1901 and promoted to engineman in 1904. In 1906 he was suspended for 15 days for responsibility in connection with a collision and in 1907 was suspended for 15 days for derailing a locomotive. In 1916 he was suspended for 30 days for running against an opposing train without time table or train order rights.

Engineman Daviscourt had been on duty about 2½ hours after about 12 hours off duty.

In connection with the statement of Engineman Daviscourt that his vision was obscured by steam on the inside of the cab windows as a result of the broken water glass and by the accumulation of snow on the outside of the cab windows, attention is directed to Rule No. 116-B of the Rules and Instructions for Inspection and Testing of Steam Locomotives and Tenders, which rule reads as follows:

"Road locomotives used in regions where snowstorms are generally encountered shall be provided with what is known as a "clear vision" window, which is a window hinged at the top and placed in the glass in each front end door or window. These windows shall be not less than 5 inches high, located as nearly as possible in line of the enginemen's vision, and so constructed that they may be easily opened or closed."

Locomotive 2186 was not equipped with a clear vision window in accordance with the Order of the Commission above referred to, and for this failure properly to equip the locomotive the operating officials of this road are responsible. Had locomotive 2186 been properly equipped with a clear vision window Engineman Davisecourt could have opened this window and the steam and accumulation of snow would not have prevented his seeing the automatic signals, as well as the fusees and the flagman's signals, and in all probability train No. 318 could have been brought to a stop in time to prevent the collision. Immediate steps should be taken by the officials of this road to see that their locomotives are equipped with such safety devices and appliances as are required by the various orders of the Commission in order that the safety of their employees and of the traveling public may be fully protected.