

In re investigation of an accident which occurred on the Northern Pacific Railway at Dilworth, Minn., on February 23, 1917.

April 7, 1917.

On February 23, 1917, there was a rear-end collision between a work train and a freight transfer on the Northern Pacific Railway at Dilworth, Minn., which resulted in the death of 3 employees. After investigation the Chief of the Division of Safety submits the following report:

At Dilworth there are two train yards, that for westbound trains being located on the north side of the main track east of the central yard office and that for eastbound trains on the south of the main track, west of the central office. These yards are independent of each other and it is not necessary to use the main track for switching purposes.

The main line through the yard is double track. The movement of trains is governed by time-table and train orders, no block system being used. From the point of accident the track is tangent for a considerable distance in each direction.

Westbound freight transfer, en route Dilworth, Minn., to Fargo, N. D., a distance of 5 miles, drawn by locomotive 1124, consisted of 14 cars and a caboose. It was in charge of Conductor French and Engineman Nick, and left the westbound yard at Dilworth about 4.45 a. m. The train proceeded over the westbound track to the west end of the eastbound yard, where it stopped with the intention of picking up 19 cars. The engine was uncoupled, leaving the train on the main track, and backed into the yard; after picking up the cars it returned to the main track and backed onto the rear of the train. It afterwards developed that there was a broken knuckle in the east end of the 11th car which was to be picked up, and this resulted in the engine getting only 11 of the cars. After the engine and 11 cars had been backed onto the rear of the train, the air hose was coupled and the conductor gave a signal to proceed. When the engine started, the coupling not having been made on account of the broken knuckle, the train parted. The conductor made an attempt to stop the locomotive, but was unsuccessful, and the engineman, not noticing that the train had parted, continued on to Fargo with the 11 cars.

Shortly after the transfer train had first stopped to pick up the cars, light engine 910, in charge of Conductor Callahan and Engineman Williams, also running westward, came up behind the transfer and stopped. When it was discovered

that engine 1124 had gone on, leaving part of the train behind, it was arranged for engine 910 to back up to the crossover, pull down through the yard, pick up the remaining 5 cars, back onto the rear of the transfer and take it to its destination. Engine 910 had picked up the 5 cars, coupled onto the rear portion of the train, and had moved forward about 15 car lengths when its rear end was struck by extra 2307-2363, at about 6.10 p. m.

Westbound work extra, drawn by locomotives 2307 and 2363, consisting of three water cars, a caboose and a Roger plow, in charge of Conductor Davis and Enginemen McManus and Fitzgerald, left Central yard office, Dilworth, at 6.00 a. m., en route to Casselton, N. D. The train had proceeded to the west end of the east yard, when it collided with the rear of the transfer train. At the time of the accident the weather was clear.

The caboose of the transfer train was demolished and the 2 cars immediately ahead were dented and badly damaged. Leading engine 2307 of the work train was slightly damaged.

Conductor Callahan and another yard conductor, together with an engine watchman, who were riding in the caboose were killed.

Engineman Nick, of engine 1124, stated that after picking up the cars at the east yard he backed onto the rear portion of the train standing on the main track. The train was coupled, and after the brake pipe pressure was pumped up to 70 pounds he applied the brakes and then received a release signal from a car inspector who was stationed about the middle of the train, after which he was given a proceed signal. Nothing, however, was said to him as to how many of the brakes were working. He then released the brakes, sounded the whistle and started the train. After running 4 or 5 car lengths he looked back, and as the proceed signal continued to be given he concluded everything was alright, closed the cab window and proceeded to Fargo, not learning that his train had parted until after his arrival at that point. He stated that if the brakes had been properly tested before leaving the east yard it would have been impossible to leave part of the train behind. The only way he can account for his failure to discover that the train had parted is that an angle cock on one of the first 11 cars had been turned. Engineman Nick further stated that he had verbal instructions to use 45 minutes on No. 3, an overdue passenger train; that it had been the practice, and he thought it was alright, to use time on a first-class train without receiving written train orders, so long as he knew where the train was. He further stated that after leaving the east yard the brakes appeared to work alright until the train stopped at Fargo.

Engineman Williams, of engine 910, stated that as his engine approached the rear of the transfer train his headlight disclosed the caboose standing on the track 3 or 4 car lengths ahead. He immediately opened the side window, and looking out saw the marker light on the south side of the caboose, but it was in a smoke condition; the marker lamp on the north side was not burning. He brought his engine to a stop, and it remained standing until after the front portion of the freight transfer had departed for Fargo. Shortly afterwards he was instructed to pick up the remaining cars and take the rear portion of the train to Fargo. He had picked up the cars, coupled to the rear portion of the train, and had proceeded about 15 car lengths, and was running at a speed of 4 to 6 miles per hour when the collision occurred. Engineman Williams stated further that before he left the engine house he noticed on the board that train No. 3 was late, and he was told he had 35 minutes to reach Fargo. He also stated that his engine was equipped with an incandescent electric headlight, but on account of the glass being covered with frost he was unable to see the caboose any sooner.

Conductor French, of the transfer train, stated that before his train left the west yard the brakes were properly tested by the car inspectors. Shortly after leaving the west yard he noticed that the marker lamp on the north side was not burning. He examined it and found there was no oil in it, but he could find no oil with which to fill it. When the engine and 11 cars were backed onto the rear portion of the train in the east yard he personally coupled the air hose and turned the angle-cocks, the car reliever testing the brakes. He then went to the rear of the train. Upon his arrival at the caboose he tied the air brakes and found them to be working. Shortly afterwards the car inspector gave the proceed signal, the engine whistled and started. When it was discovered that the train had parted he swung his lantern for the train to stop, but was unable to attract the engineman's attention. He then went to a nearby telephone and notified the yard clerk at Fargo of what had happened and told him to hold engine 1124 there, and that he would have engine 910 move the rear of the train to Fargo; returning to the rear of the train he arranged for engine 910 to pick up the remaining 5 cars, couple to the rear of train and take it to Fargo. He stated that while this move was being made, Switchman McNeillis told him that he thought there was a plow coming, as he had seen one down in front of the office, whereupon he, French, replied: "All right, I will go back and watch him." He then returned to the rear of the train. He stated that engine 910 had coupled to the rear portion of the train and it had moved forward about 15 car lengths when he and Switchman Dumert went to the rear of the caboose to see if they could see anything of the plow. Upon opening the door they saw an engine only 2 or 3 car lengths distant ap-

proaching, and not having time to warn the other members of the crew they both jumped off. Conductor French further stated that before the train stopped to pick up the cars he gave Flagman Brown permission to go home, assuming the responsibility for the protection of the rear of the train himself. He also stated that being within yard limits it was not necessary for his train to have orders on train No. 3, which was then overdue, in order to permit it to occupy the main track, without protection, also, that it is not customary to observe air brake instructions, No. 38, which require a member of the crew to inspect the train when it leaves a station after picking up cars.

Brakeman Huffman, of the transfer train, stated that after the engine and 11 cars were backed onto the rear of the train in the eastbound yard, he walked ahead to the engine, cut in the air brakes and got on the engine; the engine man tried the brakes and afterwards received a proceed signal from the car inspector. Upon arrival at Fargo, in setting off the cars, he discovered that the air brakes were not working on the cars; he then walked to the rear of the train and found the rear angle-cock open and the air escaping. He closed the angle-cock, and returned with the train to the eastbound yard at Dilworth, in order to recover the rear end.

Brakeman Dumort, of extra 910, stated that when his engine stopped behind the transfer train, he and Brakeman McNeill got off the engine and went ahead to the transfer caboose. After they had remained there a short time the train was coupled up, the brakes tested, and the engine whistled, but the train did not move. Later, Conductor French entered the caboose and told them that the train had parted and that the head end had gone on to Fargo. Arrangements were then made to have engine 910 take the remainder of the train forward. He assisted in getting the engine around and in coupling up. As soon as the train started he again boarded the caboose. As he got on he told Conductor French that one marker lamp was not burning, whereupon Conductor French replied there was no oil in it, and he could not find any. After looking about he succeeded in finding some oil and filled the lamp, but did not relight it. He then picked up his lantern and went to the rear platform of the caboose to see where the headlight was behind. When he opened the door he saw the approaching train about 20 car lengths away, but coming at a higher speed than he expected. He got down on the step and began to give a stop signal with his lantern, but it was not answered, and when the approaching train was 3 or 4 car lengths away he jumped off. He stated that when the engines passed him the cab windows were closed and that both engines were working steam and running at a speed of about 25 miles per hour.

Engineman McManus, of the leading engine of work extra 2307-2383, stated that before leaving Dilworth the brakes

were tested and found to be working properly. He stated that he did not see the marker lights on the caboose, although he did see a switch light some distance beyond. The first intimation he received of an obstruction ahead was when Brakeman Dumert came out of the caboose and began to give the stop signal. He immediately made an emergency application of the brakes and sounded the engine whistle; at that time the caboose was only 4 or 5 car lengths ahead. He estimated the speed of his train to have been 10 or 12 miles per hour at the time the accident occurred. Engineman McKenna stated that his engine was equipped with an electric headlight, that it was in good condition and that after leaving Dilworth he was looking out of the side window all of the time, except for a few moments when he assisted the fireman in putting on the injector.

Engineman Fitzgerald, of the second engine of the work train, stated that the first intimation he received of the impending accident was a blast of the whistle from the leading locomotive; he immediately tried to reverse his engine, but did not succeed in doing so before the collision occurred. He estimated the speed of his train to have been 10 or 12 miles per hour.

Yardmaster MacPhail stated that when the transfer train passed the central yard office he ran out to give them the latest time on No. 3, which was 6.45 p. m.; as the caboose passed him he saw the marker lights burning brightly. Later, when the work train departed, he got on the caboose expecting to ride down to the east yard, but as the train proceeded the speed increased to such an extent that he was unable to get off. He estimated the speed to have been greater than 20 miles per hour at the time the collision occurred.

Car Inspector Anderson stated that he coupled up the cars in the yard before they were picked up by engine 1124, but that he did not make any test of the air brakes after the train had been coupled together. He saw Conductor French give a proceed signal and heard the engine whistle and concluded that he had made the test.

Superintendent Huntington stated that so far as the air brake inspection is concerned, the same rules apply to transfer trains as to road trains, but with respect to train orders, there are no rules requiring that train orders be used within yard limits. He further stated that it has been the custom and practice for transfer trains to occupy the main line within yard limits on the time of first-class trains, without protection; provided they had somebody's word that the first-class train is late; this practice he considers safe.

This accident was caused by the failure of Engineman McKenna, of engine 2307, to observe general rule No. 93, which is as follows:

"Within yard limits the main track may be used protecting against first-class trains. Second and third-class and extra trains must move within yard limits prepared to stop, unless the main track is seen or known to be clear."

The evidence indicates that extra 2307-2363 was running at a speed greater than 20 miles per hour; the engine was equipped with an electric headlight, in good condition; the track was straight and the weather was clear. In view of these circumstances, the failure of Engineman Williams to discover the transfer draft of cars appears inexplicable.

Contributing to the cause of this accident was the failure of Conductor French properly to provide for the safety of the rear of his train. He had permitted a flagman, who was provided for the express purpose of flagging, to go home; he knew that a first-class train was overdue, and the work train was in all probability following it; he also knew that one of his marker lamps was extinguished, yet under these circumstances he took no steps to provide protection for the rear of his train. His conduct in connection with this entire movement clearly indicates that he was not alert to the responsibility resting upon him. In picking up the cars he permitted part of them to be left behind; he permitted the proceed signal to be given without knowing that the air brakes had been properly tested, and after it was discovered that the train had parted he attempted to move the rear portion in direct violation of the rules.

The investigation of this accident disclosed that both of the trains involved were occupying the main track, without written orders on the time of an overdue first-class train. General Rule 93 requires that engines working in yard limits protect against first-class trains, and general rule 103 requires that messages or orders affecting train movements must be in writing. Notwithstanding the fact that these rules have never been abrogated or modified, Superintendent Huntington makes the statement that it is the custom, and in his opinion a safe practice, for a transfer train to occupy the main track within yard limits on the time of a first-class train without protection, provided they have somebody's word that the train is late.

Air brake rule 702 reads:

"Conductors and enginemen will give air-brakes personal attention and will exact similar care from brakemen. They will not start a train from any point after switching has been done, cars set out or picked up, helper coupled to rear of train, engines changed, or where for any reason train pipe has been disconnected, until after a test of air brakes has been made by trainmen, and enginemen who is to control brakes."

Permanent Instructions, No. 38, are in part as follows:

"When the train is ready to start, the trainmen should give a signal to pull up slowly, so stationing themselves that all cars will be inspected, and note if all hand and air brakes are fully released, whether there is any defective draft rigging or flat wheels and, if so, recording same. Signal to depart should not be given until this inspection has been completed.

"Engineers will await signal indicating this inspection is completed before accelerating speed beyond that where trainmen can safely get on the train."

Notwithstanding the fact that, so far as air brakes are concerned, transfer trains are handled the same as road trains, none of these requirements were complied with.

Where printed rules and regulations, in effect without modification, are permitted to be habitually disregarded, as they appear to have been in this instance, it is not surprising that accidents such as this do occur. Such practices cannot fail to weaken the respect of employees for all rules and regulations.

Engineman McKenna is 34 years of age; he entered the service of the Northern Pacific Railway as fireman in 1908 and was promoted to engineman in March, 1909. Conductor French is 30 years of age; he entered the service as brakeman in March, 1910, and was transferred to yard switchman and foreman on September 1, 1911.