

In re investigation of an accident which occurred on the Norfolk & Western Railway near Rippon, W. Va., on August 1, 1917.

August 29, 1917.

On August 1, 1917, there was a head-end collision between two freight trains on the Norfolk & Western Railway near Rippon, W. Va., which resulted in the death of two employees and the injury of five employees. After investigation of this accident the Chief of the Division of Safety submits the following report:

This accident occurred on that part of the Shenandoah Division of this railway which extends between Shenandoah, Va., and Hagerstown, Md., a distance of 106.7 miles. This is a single track line, on which train movements are governed by time-table and train orders, supplemented by a manual block signal system which provides an absolute block for passenger trains and a permissive block for following movements only of freight trains. Northbound trains are superior to trains of the same class in the opposite direction.

Northbound freight train 2d No. 98, consisting of 47 loaded cars, 1 empty car and a caboose, hauled by locomotives 468 and 481, was in charge of Conductor Kite and Enginemen Matthews and Settles. This train left Shenandoah at 9.50 p. m., July 31st, en route to Hagerstown; it passed Front Royal, Va., 44.7 miles north of Shenandoah, at 1.21 a. m., August 1st, where a copy of train order No. 7, reading as follows, was received:

"1st 83 meet 3rd 98 at Luray instead of Stanley. 2nd 83 meet 2nd 98 at Ashby instead of Front Royal and meet 3rd 98 at Bentonville instead of Luray. 3rd 98 take siding at Bentonville. 3rd 83 meet 2nd 98 at Rippon and 3rd 98 at Ashby."

Train 2d No. 98, instead of waiting at Rippon, passed that place at 3.25 a. m., and at a point about 2,650 feet north of Rippon station it collided with train 3d No. 83 while traveling at a speed of 10 miles an hour.

Southbound freight train 3d No. 83 consisted of 16 loaded cars, 23 empty cars and a caboose, hauled by locomotives 405 and 474, and was in charge of Conductor Thomas and Enginemen Williamson and Powell. It left Hagerstown

at 11.59 p. m., July 31st, and at Shenandoah Junction, 10.6 miles from Rippon, received train order No. 7. Train 3d No. 83 was traveling at a speed of 18 miles an hour when it collided with train 2d No. 98.

The station at Rippon is located on the east side of the track; proceeding northward therefrom the track is tangent for a distance of about 300 feet, followed by a 2-degree curve to the right 2,550 feet in length. The collision occurred on this curve, at a point 206 feet from its northern end. Northward from the curve there are 336 feet of tangent track, followed by a 3-degree curve to the left, 1,100 feet in length. The point of collision was on a fill of about six feet, and on a slight grade ascending northward. At that point there were two large oak trees on the inside of the curve, one on each side of the mouth of a culvert, they being located about 30 feet from the east rail of the track, and the view of the engineers of the approaching trains was thereby obstructed. There is a long siding at Rippon, on the east side of the main track, and a crossover switch leading thereto is located about 200 feet south of the station. The part of the siding south of this crossover is used as a passing siding, and that north of the crossover is used as a station siding. The weather at the time of accident was clear.

The engines had their forward ends forced in and sustained considerable damage, but they were not derailed. The tender of the second locomotive on train 2d No. 98, together with the first car in the train, was thrown down the embankment on the east side of the track. In addition, about five cars in each train were damaged, but all remained on the roadbed. The two firemen of train 2d No. 98 were killed in the collision.

Conductor Kite, of train 2d No. 98, stated that as his caboose passed Front Royal the operator handed order No. 7 to the flagman, who in turn handed it to him. He said that when his train was approaching Rippon he went out on the rear platform of the caboose, and was prepared to register with train 3d No. 83; he noticed, however, that that train was not on the siding, and remarked to the flagman that his train was not going to stop, the speed being about 18 miles an hour. He stated that he ran into the caboose and, without looking at the gauge, applied the air brakes in emergency by opening the conductor's valve; but that he did not get emergency action and that there was little reduction in speed until just before the collision occurred. He stated that his idea of the reason for his application of the brakes failing to have the desired effect was that the engineer had the brakes applied approaching Rippon and then released them. Conductor Kite stated that he had made quite a number of trips with

Engineman Matthews, had known him personally about 15 years, and considered him a very safe man. The statement of Conductor Kite, concerning his application of the brakes, was corroborated by Rear Brakeman Stoneberger, who was riding on the caboose.

Engineman Matthews, of the leading locomotive on train 2d No. 98, stated that he had been an engineman on this railway for 9 years, all of which time was spent on the district between Shenandoah and Hagerstown. He stated that on this trip, as his train passed Front Royal, order No. 7 was handed up to his fireman, who read it and then handed it to him, and that he himself read and understood it. He said that when his train passed Boyce, 12.4 miles south of Rippon, he still had in mind the meet with train 3d No. 83, provided by train order No. 7. Engineman Matthews stated, however, that when approaching Rippon station he had forgotten train 3d No. 83; that he saw that the semaphore of the block signal was in the stop position; and that he twice sounded crossing signals and then whistled for the block, whereupon the operator hastened from the perch into the station and cleared the signal, this being done when his locomotive was nine or ten car lengths south of the station. He then released the train brakes, but kept his engine brake applied until about ten car lengths beyond the station; he was not working steam when passing the station; and did not look back after having passed the signal. Engineman Matthews stated that after passing the station he heard the brakeman and fireman mention train 3d No. 83, but did not know what they said about it, and about the same time he saw the headlight of that train not more than three engine lengths distant, his view having been obstructed by a big oak tree on the inside of the curve; the speed of the train was about 10 miles an hour when the collision occurred. He also said that at Shenandoah and up to the point of collision, 10 orders and a message were received, and that order No. 7 was the only order not executed at the time his train reached Rippon. He also stated that the accident was due to the fact that he overlooked train 3d No. 83 and that the operator at Rippon gave him a clear block signal. He said that his engine was equipped with an oil headlight and that it was burning when approaching the point of accident. Engineman Matthews stated that, while he did not look at his air gauge, he thought he made a reduction of about 20 pounds approaching Rippon; and that after he had placed his brake valve in the full-release position, with the air pumps operating at full capacity, it would have been possible for the conductor to make an emergency application from the caboose without there being sufficient effect for him to notice it at the head end of the train.

Engineman Settles, of the second locomotive on train

2d No. 98, stated that the head brakeman caught order No. 7 at Front Royal, read it with his fireman, and then handed it to him; and that he understood it. Approaching Rippon he was firing, because of having an inexperienced fireman. He heard the engineman of the leading locomotive whistling for the signal, and when passing the station he thought probably an order was handed up, but on looking back he did not see the operator beside the train. He stated, however, that at that time he did notice that the southbound signal was red and the order board displayed, and then got up on the right side of the engine to notify the engineman on the leading locomotive. He then saw the headlight of train 3d No. 83 approaching, 10 or 15 car lengths distant, immediately reversed his engine, opened the throttle wide, and jumped from the engine. Engineman Settles stated that after the collision Engineman Matthews asked him: "Did we have a meet on that men at Rippon?" to which he replied that they had. He also said the engineman of the leading locomotive on the other train asked "what in the world" they were doing there, and he replied that he "did not know," and that they "had run by."

Head Brakeman Grimsley, of train 2d No. 98, stated that when passing Rippon he was on the left side of the leading engine and did not see the semaphore signal; and when he realized that the train was not going to stop he thought possibly the meeting point had been changed and the operator was giving a proceed signal. He then got out of the cab and asked the fireman if they had received any orders and was told that they had not, whereupon he instructed the fireman to tell the engineman that they were to meet a train there. The fireman told the engineman, then came back and told him that the engineman said he "did not have anything on train 3d No. 83." Brakeman Grimsley stated that he then started to go over to personally tell the engineman, but train 3d No. 83 was within three or four car lengths and he jumped. He thought the speed at that time was between 10 and 15 miles an hour, that the brakes had been applied for some distance and that both engines were working steam when he jumped.

Engineman Williamson, of the leading locomotive on train 3d No. 83, stated that order No. 7 was received at Shenandoah Junction; that when he first saw train 2d No. 98 it was from three to five engine lengths distant; that his train was drifting, at a speed of 15 or 16 miles an hour, when he saw sparks rising from the smokestacks of the engines on train 2d No. 98, as well as the headlight, and that he then applied the brakes in emergency and jumped off.

Conductor Thomas, of train 3d No. 83, stated that after the accident he talked with the operator at Rippon, who told him that train 2d No. 98 approached his station quite rapidly, and, thinking that probably the meeting point had been changed to Charles-Town, 5.4 miles north, he gave that train a clear signal.

Operator O'Bryan, at Rippon, stated that he went on duty at midnight, his trick being from midnight to 8.00 a. m. and the first order he received after going on duty was order No. 7, at 2:57 a. m. He said that when train 2d No. 98 approached his station the northbound train order board was not displayed, but the block signal was in the stop position. He stated that he went outside the office and watched the train approach, expecting it to stop just south of the crossover switch, but when it came near the office the engineman whistled for the signal and he changed it to clear, thinking for the moment that possibly the meeting point had been changed. He stated that on second thought he realized that if the dispatcher had changed the meeting point it was nevertheless his duty to hold train 2d No. 98 until he received an order to that effect. He then set the signal back in the stop position, and went out with a red lantern and waved it, but apparently no notice was taken of it by members of the crew. He said that he had never previously allowed a train to pass in this manner, but that no similar conditions had ever arisen, the southbound trains having always arrived first. Operator O'Bryan stated that if he had had the northbound train order board displayed, that would have interlocked the block signal, preventing him from changing the position of the signal without first changing the train order board; but that he did not display the board, so that the conductor would not have to walk forward the full length of the train, expecting to receive an order, when he had none for him. He said that he had not forgotten train order No. 7, and that he had the southbound train order board displayed and had a copy of order No. 7 and a clearance card ready to deliver to the crew of train 3d No. 83, which train he expected to reach there first. He stated that he was 20 years of age, had been an operator on the Shenandoah Division since August 17, 1915, and had been at Rippon since November 5, 1916. He said that on the day before the accident he went to bed at 11:00 a. m., but because of the hot weather he was unable to sleep more than three hours, or until 2.00 p. m.; he admitted he felt sleepy after going on duty, but stated that he did not fall asleep.

This accident was caused by train 2d No. 98 failing to wait at Rippon, as required by train order No. 7, for which Engineman Matthews was primarily responsible.

Contributing to the accident was the action of Operator O'Bryan in clearing the block signal to permit train 24 No. 98 to pass his station, notwithstanding that he had a copy of order No. 7 in his possession; also his failure to display the northbound train order signal, as required by Rule 221-b. Had Operator O'Bryan properly performed his duty, there is no reason to believe that this accident would have occurred.

Rule 221-b provides as follows:

"Operators having orders for a train, or a middle order, must display the train order signal supplementary to block signal. This signal must not be removed until all orders have been delivered. * * * "

Engineman Matthews was employed by this railway as fireman on June 2, 1903, was promoted to engineman October 8, 1907, and for the period from May 1, 1912, to May 1, 1917, his record was clear. Operator O'Bryan was employed as a warehouseman November 10, 1913, and was promoted to operator August 17, 1915. His record for the year ending May 1, 1917, was clear.

At the time of accident the crew of train 24 No. 98 had been on duty 8 hours 5 minutes, and the crew of train 34 No. 83 had been on duty 4 hours 55 minutes.