

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
NORFOLK & WESTERN RAILWAY NEAR ASHLAND, W. VA., ON
APRIL 22, 1924.

May 24, 1924.

To the Commission:

On April 22, 1924, there was a derailment of a freight train on the Norfolk & Western Railway near Ashland, W. Va., which resulted in the death of two employees and one trespasser, and the injury of one employee.

Location and method of operation.

This accident occurred on the North Fork Branch, which extends between North Fork and Crumpler, W. Va., a distance of 7.1 miles. This is a single-track line over which trains are operated by time-table authority, while at North Fork, the junction with the main line, there is a register at which all trains to and from the North Fork Branch are required to register, as per paragraph 2 of the special time-table instructions. The point of accident was a short distance west of Ashland, approaching that point from the west the track is a succession of short curves and tangents, while the alinement immediately preceding the point of accident consists of a curve of 10° to the right 344 feet in length, 551 feet of tangent and a curve of 16° to the right 219 feet in length, the accident occurring near the middle of the last mentioned curve. The grade is descending, being 1.5 per cent, then 3.15 per cent for some distance, and then 2.8 per cent at the point of accident. The weather was clear at the time of the accident, which occurred at about 2.40 p.m.

Description.

Eastbound freight train extra 70 consisted of 17 loaded coal cars, hauled by engines 70 and 66, which were being operated backing up, and was in charge of Conductor Kitts and Enginemen Porterfield and Douthat. Extra 70 left the coal mine at the end of the branch just west of Crumpler, got beyond control very shortly afterwards, ran away and was derailed on the 16° curve about 1½ miles from the starting point while traveling at a speed variously estimated to have been from 40 to 60 miles an hour.

Both engines were derailed and came to rest practically bottom up, engine 70 going to the right side of the track and engine 66 to the left side, the latter engine also being turned completely around. Fourteen cars were derailed and piled up within a distance of about six car lengths, being practically demolished. The employees killed were the fireman of the first engine and the conductor.

Summary of evidence.

Engines 70 and 66 had moved a train of 10 empty cars up the grade to the mine, engine 70 being on the head end and engine 66 acting as a pusher. On arrival of the train engine 70 was cut off and headed onto 5 empty cars standing on one of the tracks below the coal tipple, while engine 66 placed the 10 cars above the coal tipple. After placing the 10 empty cars above the tipple engine 66 was backed down and headed onto 9 loaded cars standing on one of the load tracks below the mine. Engine 70 then placed the 5 additional empty cars above the tipple, and while it was so engaged engine 66 charged the brake pipe on the cut of 9 loaded cars to which it had coupled. After placing the 5 additional empty cars above the tipple engine 70 backed down and headed on to the rear of engine 66, and these two engines pulled the 9 cars out of the track on which they were standing far enough to clear a switch and permit 8 loaded cars on another track to be dropped down the grade and coupled to them.

Middle Brakeman Hatcher said he coupled engine 66 to the cut of nine cars and then inspected them and coupled all of the air hose, after which he opened an angle cock at the rear of the ninth car, receiving what he said was a strong exhaust. After the arrival of engine 70 it was coupled to engine 66 and after waiting from three to five minutes these two engines pulled the nine cars ahead so that the other cars could be dropped down the grade. The hand brakes had been set on the nine cars in order to hold them while they were standing on the side track and Brakeman Hatcher said these hand brakes were not released at any time.

Engineman Douthat, of engine 66 said that after coupling to the nine cars his engine charged the train line while waiting for engine 70, the gauge showing 100 pounds main-reservoir pressure and 75 pounds brake-pipe pressure. Within a few minutes engine 70 arrived and Engineman Douthat said he then cut out the brake valve on his engine and that he did not again cut it in. He said the cars were then pulled ahead, it being necessary to use steam for that purpose, and they were brought to a stop by means of the air brakes to wait for the remaining portion of the train,

Engineman Porterfield, in charge of engine 70, said that when his engine was coupled to engine 66 the gauge showed 70 or 75 pounds brake-pipe pressure and that the two engines and nine cars moved ahead a distance of about nine car lengths at a speed of 2 or 3 miles an hour and that he used two 5-pound brake-pipe reductions in making the stop, after which he placed the brake valve in running position while waiting for the balance of the train.

In the meantime Middle Brakeman Hatcher had gone to the cut of eight cars and, together with Flagman Beavers, arranged to drop these cars down the grade. Brakeman Hatcher said they coupled the air hose on those cars and that the hand brakes were released on all except the last car, that he rode the rear end of the head car of this cut, with the flagman on the rear car, and that Conductor Kitts made the coupling between the two cuts, after which Middle Brakeman Hatcher set one more hand brake on the second cut of cars.

The statements of the various employees were to the effect that after the two cuts of cars were coupled together the only air-brake test made consisted of the opening of an angle cock on the rear of the 17th car by Flagman Beavers, who said the exhaust indicated that the air was coupled throughout the train and who also said he noted that the pistons were out on the two rear cars. Engineman Porterfield said he could not tell when the air was coupled through the eight rear cars unless looking directly at the gauge at the time, but expressed the opinion that the air was properly coupled. After standing two or three minutes, during which time he noted that he had full brake-pipe pressure, the train proceeded slowly and he then made a brake-pipe reduction so as to give the flagman an opportunity of closing the switches and boarding the rear of the train. When a proceed signal was received he released the brakes and after proceeding 12 or 15 car-lengths made a 10-pound reduction, the exhaust was good but the brakes did not seem to take hold and Engineman Porterfield said he then released the brakes and made an emergency application from a brake-pipe pressure of 65 pounds. No results were obtained from this second application, and he then sounded a whistle signal for hand brakes, at which time the speed was about 25 miles an hour, and the train was in the vicinity of a road crossing which is about half a mile from the point where it started. Engineman Porterfield said that in all he made about three emergency applications, going to release between these applications, Engineman Porterfield also said Engineman Douthat cut in his brakes before starting for the purpose of assisting in building up brake-pipe pressure after the eight cars had been coupled to the train, but he did not

think the brake valve on the second engine was cut in at the time he made the second application after starting down the grade. Engineman Douthat said he had not realized that the train was running away at the time Engineman Porterfield whistled for hand brakes, but said the speed immediately afterwards increased considerably and that there was then nothing he could do toward bringing the train to a stop except to make sure that the brake valve on his engine was cut out, so he climbed outside and held on to the top of the engine boiler in the vicinity of the bell.

The statements of the three brakemen were to the effect that the hand brakes were set on 11 cars at the time the train departed from the mine and that the retainers were turned up on the first 5 and the last 2 cars, and it also appeared that after Engineman Porterfield whistled for hand brakes the brakemen tightened the hand brakes on only 2 or 3 of the cars on which they had already been set before the speed increased to such an extent that they were unable to do any more. As previously stated, no test of the air brakes was made before starting down the grade and about the only information obtainable as to the condition of the air brakes on any of the cars was the statement of the flagman that he saw the pistons out on the two rear cars, while another brakeman noticed some of the pistons out on cars near the head end of the train. Even this information was not sufficiently definite to show whether or not the brakes on those cars were in an effective operating condition.

Careful examination of the damaged equipment failed to disclose any signs of overheating on any of the wheels which could be inspected at the time, either driving wheels or wheels which had been under the cars, neither was anything found to indicate that the retainers had been turned up on any of the cars. The last air-brake inspection given these cars was at Bluefield on April 19, the cars being moved out of Bluefield on that day and delivered at Eckman, from which point they were moved to the North Fork Branch on April 21. The coal in the cars had been washed and water was running from the cars at the time the movement down the grade began, but a statement in this connection made by General Superintendent Weller was to the effect that coal had been washed on this railroad for 14 years, that this question had been gone into, and that the difference in weight due to the water was not sufficient to be taken into account when considering tonnage.

Rules 1, 2, 18, 50 and 55, of the general instructions relating to the handling of air brakes, read as follows:

1. "Conductors will be held responsible for knowing that the brakes on their trains are in good working order before leaving the terminal. ***
2. "At points where there are no inspectors, trainmen must test the brakes. At all points where the hose has been parted, whether in switching, at road crossings, to take water or coal, or by reason of the train breaking in two, the brakes must be tested after coupling up before the train is moved.
18. "When picking up cars, the brakes must be coupled up and tested before cars are moved from the side track. Brakes must also be tested after coupling to train on main line.
50. " * * * * * When the engine is coupled to the train, inspection must be made to see that there are no defects in the air brake equipment that will interfere with the prompt and safe movement of the train to the next terminal. Inspector will then request the engineman to apply the brakes, and when the brakes apply on the rear end, the inspector, or other authorized person, stationed there will signal to release the brakes. Inspectors or trainmen will watch carefully trains pulling by them for any brakes that might be sticking. Such brakes must be released.
55. "At points other than those covered in Rule 52 (which relates to points where yard plants are provided), brakes will be tested after the engine is coupled to the train, and inspection made as per Rule 50, and repairs made."

Superintendent Franklin stated that crews serving coal operations, delivering empty cars and picking up loaded cars, do not make regular air-brake inspections, only satisfying themselves that the air is working through the train and that the pistons respond when the train line is opened at the rear end.

Engines 70 and 66 were of the 2-8-0 type, with a total weight, engine and tender ready for service, of about 270,000 pounds.

Conclusions.

This accident was caused by failure to know that the air brakes were in proper working order before descending a heavy grade.

According to the statements of the employees, as well as of the superintendent, it has not been customary when serving this coal mining operation to make an adequate test of the air brakes, the only thing required being for the crew to assure themselves by opening an angle cock on the rear of the train that the train line is coupled and the air working through to the rear car. It is obvious however, that this gives the train crew no information as to the efficiency of the brakes on the various cars. The rules are amply sufficient to have provided for the movement of this train in safety, and had the operating officers of this railway required that these rules be obeyed, it is very probable that this accident could have been prevented.

Careful consideration of the facts brought out in the testimony of the witnesses and by our inspection of the wreck indicates that the speed at the time of the wreck was approximately 50 miles per hour.

Examination of the wrecked locomotives disclosed that they had done little or no braking, and the testimony shows that the car brakes were not fully charged, so that acceleration continued from the start of the train until it was wrecked. Also Engineman Porterfield handled his brake valve in a manner calculated to render ineffective what braking force was available for use in checking the speed of the train.

The employees involved were experienced men, and at the time of the accident they had been on duty about 8 hours, after periods off duty ranging from 12 hours to several days.

Respectfully submitted,

W. P. BORLAND

Director.