

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE CHESAPEAKE & OHIO RAILWAY NEAR QUINCY, KY., APRIL 29, 1925.

August 23, 1925.

To the Commission.

On April 29, 1925, there was a derailment of a passenger train on the Chesapeake & Ohio Railway, near Quincy, Ky., which resulted in the death of one employee, and the injury of 29 passengers, 5 employees and 5 other persons.

Location and method of operation.

This accident occurred on the Cincinnati division which is a double track line extending eastward from Cincinnati, Ohio, to Russell, Ky., a distance of 141 miles. On this portion of the line trains are operated by timetable, train orders and an automatic block-signal system. The maximum speed limit prescribed for passenger trains is 60 miles per hour. The derailment occurred at a point seven-tenths of a mile east of Quincy and approximately 105 miles east of Cincinnati. Approaching the point of accident from the west, the track is tangent for a distance of more than a mile, followed by a curve of 45' to the left 2,380 feet in length, the curvature then being 30' for a further distance of 1,000 feet, the track then being tangent for 2,609.5 feet to the point of accident and for a considerable distance beyond that point. In this vicinity the grade is slightly undulating but it is level at the point of accident. The track is on a fill varying in height from 4 to 10 feet; it is laid with 100 lb. 33 ft. rails, with 18 or 20 ties to the rail length and ballasted with stone which had begun to disintegrate. The track displayed marked indications of churning, and in the eastbound track in the vicinity of the point of accident there were a number of badly decayed ties which were marked for renewal.

At the time of the accident a force of approximately 35 men was making extensive track repairs. The eastbound main track had been raised from $4\frac{1}{4}$ to $4\frac{5}{8}$ inches for a distance of 514 feet west of the point of derailment, as well as for some distance east of that point. A number of old ties had been removed and new ties installed; the rails had not been spiked to many of the newly installed ties, and there were seven ties which were not spiked in the 33 ft. panel on which the first indication of derailment was found. The ballast between the ties was only two or

three inches in depth; the ballast appeared to have been packed beneath the ties, but at the ends of the ties the ballast was not firmly packed.

The accident occurred at about 2.48 p.m., the weather being cloudy at that time.

Description

Eastbound passenger train No. 2, with Conductor Duke and Engineman Lively in charge, consisted of engine No. 465, one postal car, one combination car, two coaches, two sleeping cars, one dining car and one sleeping car, in the order named, the cars being of all-steel construction. This train departed from Maysville, 63.1 miles east of Cincinnati, at 1.54 p. m., 4 minutes late, passed Garrison, the last train order office 3.4 miles west of the point of accident, at 2.44 p.m., 2 minutes late, and was derailed while running at an estimated speed of approximately 50 miles per hour.

The locomotive and first four cars were overturned and came to rest near the foot of the embankment at the south side of the track; the engine lay on its right side, headed eastward; the tender remained coupled to the engine but came to rest in a position at right angles to the track; the first four cars lay on their right sides in a line generally parallel with the track and at a distance of from 20 to 80 feet south of the roadway. The four rear cars were derailed to the left or north but remained upright, obstructing the westbound track. The rear truck of the rear car was not derailed. The engine came to rest at a point 470 feet beyond the first mark of derailment, and the rear car was standing directly over the initial point of derailment. A portion of the track was carried down the embankment and lay beneath the overturned locomotive, the eastbound track was torn up for a distance of approximately 200 feet and the westbound track was shoved out of line by the derailed cars. The employee killed was the engineman.

Summary of evidence.

Fireman Mitchell said that train No. 2 was practically on time and was running at about the usual rate of speed, 45 or 50 miles per hour, at the time of derailment. Prior to the accident he had not noticed anything unusual about the movement of the train nor any roughness in the track until within 4 or 5 passenger-car lengths of the point where the accident occurred. Approaching this point he saw a force of men working on the track, and as the engine was passing these men it began to pitch and sway more than usual, and it appeared to him as though the track was moving with the engine as it pitched and swayed.

He looked over to see what the engineman would do and saw him move the brake valve to service and then to emergency position, and then start toward the left side of the cab as if he intended to jump off. He tried to get off himself but the engine pitched so violently that he was unable to do so, and then it went over the embankment, taking part of the track with it. Fireman Mitchell said there were no orders restricting the speed of train No. 2 at this point, and it was not flagged nor was a caution signal of any kind displayed. So far as he knew, the engine and the brake system were in proper working order.

Conductor Duke stated that his train was running at about 45 miles per hour when approaching the point of accident, and he noticed nothing unusual in regard to the condition of the track; he was riding in the second car, and the first knowledge he had of the derailment was when the car swayed from side to side just before going over the bank. He noticed no application of the brakes prior to the derailment.

Flagman Mullins also estimated the speed at about 45 or 50 miles per hour. He noticed no application of the brakes prior to the derailment, but there was a sudden jar and swing of the second car from the rear in which he was riding, and the train stopped. He started back to protect the rear of his train and said that the track behind the train was in zig-zag condition. He also said that the track foreman and about ten laborers were then lining the track about two car lengths west of the rear end of the train. This was not more than two or three minutes after the train came to a stop.

Track Supervisor Broshears stated that he had gone over the track in this vicinity in January or February and marked ties which in his judgment should be renewed. In the immediate vicinity of the point of accident he had found some rail sections in which as many as 13 tie renewals were necessary but in general about 6 ties per rail length required renewal. In giving instructions to Foreman Arthur of the extra track force which was engaged in track repairs at this point he had told him to raise the track from 2 to 3 inches, renewing ties that had been marked, and to keep the track filled up behind him as he progressed with the work; also to flag all trains except passenger trains and that he must have the track in safe condition for the passage of passenger trains prior to the time of their arrival. He stated that he had been over the track at this point on the two days preceding the accident, saw no unusual or bad condition and felt confident that the track was safe for trains to be operated over it at maximum speed.

Foreman Arthur of the extra track force stated that on the day of the accident he and his assistant with about 35 laborers were engaged in raising the track and renewing ties. During the forenoon they had raised the track and made necessary tie renewals in a section of about 14 rail lengths and had made the track safe for the passage of passenger trains Nos. 6 and 8. In the afternoon they raised the track a distance of about 9 rail lengths and when train No. 2 approached they were engaged in completing the track work on this nine-rail section so as to place it in condition to leave for the night and to make it safe for the passage of train No. 2. He stated that all of the ties in this section of the track were tamped on both faces and approximately two-thirds of these ties were fully spiked. In this section an average of about 10 tie renewals to each rail length had been made. He stated the track had been raised about $3\frac{1}{2}$ inches and in some places more than that, but that the track was full of ballast up to the top of the ties, properly distributed and tamped. Stone ballast was used which had been cleaned by forking it over. A run-off from the raised track of approximately 3 rails was provided and while this run-off had not been fully completed before train No. 2 approached he considered the track safe for the passage of that train. He denied that any work was done to straighten the track immediately after the accident, as stated by Flagman Mullins. He stated that while the track for some distance west of the point of accident was in only fair condition and showed evidence of churning as a result of recent heavy rains he did not consider it necessary to take any extra precaution for the protection of trains moving over that portion of the track.

Assistant Foreman Howell of the extra force stated that they had fully tamped all the ties in the 15 rail lengths raised during the forenoon and the 9 rail lengths including the run-off which were raised in the afternoon; they were engaged in spiking ties in the run-off when train No. 2 arrived. He stated it was their practice to fully spike every other tie. The spaces between the ties were a little more than half full of stone ballast; the center ditch had not been entirely cleaned nor had the shoulder been dug down the entire length of the raised section of track. He noticed no unusual rocking or swaying of the engine as the train approached, but as the train passed him he heard a noise as though an air hose had burst; looking ahead he saw the mail car leave the track and go over the embankment. He stated that after the accident Foreman Arthur instructed him to take his men and assist passengers out of the derailed cars and then started toward the rear end of the train, but he did not think that Foreman Arthur or any of the men did any work to line up the track behind the train immediately after the derailment occurred.

Other railroad employees stated that careful inspection of the engine and cars was made after the accident and while the wreckage was being cleared up, but no condition of equipment was found which it was thought could have contributed to the cause of derailment.

Conclusions

This accident was caused by insecure track, insufficiently ballasted and with ties insufficiently spiked; for the unsafe condition of the track at the point where the accident occurred Track Foreman Arthur is responsible.

After the accident a portion of the track which had been undergoing repairs was badly kinked and part of it had been carried over the embankment with the derailed locomotive. It is clearly apparent that the track which was undergoing repairs had not been sufficiently ballasted and ties had not been sufficiently spiked to render it safe for the passage of train No. 2 at its normal rate of speed. The ballast should have been filled in between the ties and packed securely beneath the ties and all ties should have been properly spiked before train No. 2 was permitted to use the track at full speed, or this passenger train should have been required to pass over this track at reduced speed.

Foreman Arthur had had approximately 23 years of railroad experience and had been in charge of the extra track force on the Cincinnati division for the preceding two years. All the employees involved were experienced men and none of them was on duty contrary to the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,

Director.