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 SOUTH RIVER, VA., ON MARCH 15, 1925.

July 7, 1925.

TO THE COMMISSION:

On March 15, 1925, there was a derailment of a passenger train on the Chesapeake & Ohio Railway near South River, Va., which resulted in the death of one employee and the injury of one employee.

Location and Method of Operation.

This accident occurred on the Lexington Branch of the Clifton Forge Division, which extends between Lexington and Buchanan Falls, Va., a distance of 81 miles, and is a single-track line over which trains are operated by time-table and train orders, no block-signal system being in use. The accident occurred a short distance west of mile-post 16. Approaching this point from the east there is a sharp curve to the right, 330 feet of tangent, and then a 14° curve to the left 930 feet in length, the accident occurring in about the center of this curve; the grade in the immediate vicinity is level. The track is laid with 75-pound rails, 30 feet in length, fastened with 6-hole angle bars. The rails were relaid on this branch in 1905, after eight years' service elsewhere. Tie-plates are used on curves, while the outside rails are double spiked on both sides. The track is ballasted with cinders and rock, and is well maintained.

The weather was clear at the time of the accident, which occurred at about 6.43 p.m.

Description.

Westbound passenger train No. 305, consisted of one combination car and one coach, both of wooden construction, hauled by engine 1045, and was in charge of Conductor Morris and Engineman Proffitt. It left Lexington about 6.30 p.m., 10 minutes late and was traveling at a speed of about 10 miles an hour when it was derailed on the curve near South River.

The engine turned over to the right on the outside of the curve and went down an embankment. The tender was entirely derailed, but remained upright; neither of the cars was derailed with the exception of the forward pair of wheels on the front truck of the first car. The employee killed was the engineman.

Summary of evidence.

Fireman R. L. Painter said that when approaching the curve the engineman shut off steam and applied the air brakes, and that the derailment occurred just after the brakes had been released, at which time the speed was about 10 or 12 miles an hour. There had been no warning or indication of danger of any kind. Fireman Painter also stated that the engine had been riding very well on the curves.

Conductor Morris said the last instructions concerning speed had been to reduce to 15 miles an hour on this curve, and that he thought the speed was about 10 or 12 miles an hour when the accident occurred. He was unable to say whether or not the air brakes were applied in emergency before the train line was broken. He also stated that on the trip eastward to Lexington he had not noticed any rough track in this vicinity. The statements of the other members of the crew brought out no additional facts of importance.

Examination of the track showed that there was a flange mark on the running surface of the outside rail about 5 feet in length, followed by flange marks on the ties on the outside of this rail which led gradually to the right for a distance of about 35 feet, where they left the ends of the ties and started down the embankment. The distance from the first marks on the rail to the head end of the engine was only 81 feet. While the rails were worn, measurements showed that they were not dangerously worn, although it is possible this worn condition might have been a factor in the occurrence of the accident. The superelevation on the curve was not uniform, being only 1 5/8 inches at the point of accident, increasing gradually until it was 4¼ inches at a point 150 feet east thereof; the maximum superelevation within a distance of 360 feet was 4 3/8 inches. It also appeared that the track was somewhat out of line immediately east of the point of derailment; the gauge, however, was uniform.

Section Foreman Rogers said he had last worked on this particular portion of the track in the fall of 1934, previous to which time difficulty had been experienced on account of large engines knocking the track out of line. #The superelevation given the track at that time was 4½ inches; when questioned concerning the variations in superelevation found to exist after the accident, 1 5/8 inches at the point of accident and 4¼ inches at other points, he said he did not think these irregularities would contribute to the derailment of a train moving at a speed of 15 miles an hour, and he expressed the same opinion with regard to the variations in alinement which were found to exist. Section Foreman Rogers further stated that he had last inspected the track on March 11, while a track walker had been over it on the day preceding the accident, at which time nothing wrong was discovered.

Track Supervisor J. F. Painter said no trouble had been experienced on the curve since the work which was performed on it in the fall of 1934. He had walked over the track about three weeks prior to the occurrence of the accident and thought that at that time it was in as good condition as it was possible to be. He did not know that the superelevation was not properly maintained and said he thought the derailment must have had some effect on it. At the same time, however, he did not think the variations found to exist were sufficient to derail an engine moving at a speed of 10 miles an hour.

General Track Inspector Thipple said he had found no track conditions which in his judgment would have caused the derailment, although there were indications that the track had been knocked out of line 45 feet back from the point where the pony truck wheels mounted the rail.

Engine 1045 is of the 2-8-0 type, Class G-9; engines of this type have been in use on this branch since 1919. Engine 1045 was placed in service on this branch on May 17, 1934, after having received class 2 repairs and had continued in service until the day of the accident, having a mileage within that period of 28,242 miles. During this period there had been no tire or wheel renewals, and inspection and measurement of the wheels and flanges disclosed nothing which could have contributed to the cause of the accident, while the lateral motion also was found to be properly maintained.

Foreman Ground, who takes care of engines laying over at Balcony Falls, making minor repairs to the same, said there was nothing about engine 1045 which might have caused this derailment, and that he had never heard anything about the engine riding hard, in fact he said it was the best riding engine on the branch.

Conclusions.

This accident is believed to have been due to the irregular alinement and superelevation of the track.

In view of the low rate of speed at which the train was moving, as estimated by the members of the crew and confirmed by the position of the equipment and the damage sustained as a result of the accident, it would not appear that the strain placed upon the track could have been sufficient to knock it out of line or account for the low superelevation at the point of accident. No work had been done at this point since the previous fall and it seems more than probable that the variations in alinement and superelevation were gradually developed, finally reaching the point where the movement of the heavy engine on the 14° curve even at a low rate of speed could not be made in safety. Trouble had been experienced at this point previous to the time the track was repaired in the fall of 1924, and closer attention should have been paid to its maintenance in this vicinity than appears to have been the case.

All of the employees involved were experienced men, and none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted.

W. P. BORLAND
Director.