

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
COLORADO AND SOUTHERN RAILWAY NEAR GARCIA, N. MEX.,
ON NOVEMBER 24, 1929.

February 21, 1930.

To the Commission.

On November 24, 1929, there was a derailment of a freight train on the Colorado and Southern Railway near Garcia, N. Mex., resulting in the death of one employee and the injury of one employee.

Location and method of operation

This accident occurred on the Trinidad and Sixela Subdivision of the Southern Division, extending between Trinidad, Colo., and Sixela, N. Mex., a distance of 134.5 miles; this 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 between Oaxton and Garcia, in a cut about 10 feet in depth, at a point approximately 2,715 feet south of mile post 226, approaching this point from the north the track is tangent for a distance of 661 feet, followed by a $5^{\circ} 16'$ curve to the right 626 feet in length, the accident occurring on this curve at a point approximately 258 feet from its northern end. The grade for southbound trains is 0.93 per cent descending for about 3,500 feet, practically level for 1,000 feet, then 1.04 per cent ascending for 300 feet, following which it is practically level for 200 feet to the initial point of derailment and for some distance beyond. The track was laid with 85-pound rails, 33 feet in length, with about 21 treated ties to the rail-length, tie-plated, single-spiked, and ballasted with cinders to a depth of 12 inches. The track was maintained in fair condition.

The maximum speed permitted for freight trains in this territory is 30 miles per hour, while on the curve involved freight trains hauled by engines of the 2-8-2 type are restricted to a speed of 20 miles per hour.

The weather was clear at the time of the accident, which occurred at about 5.05 p. m.

Description

Southbound freight train extra 5215 consisted of 43 cars and a caboose, hauled by CB&Q engine 5215, of the 3-8-2 type, and was in charge of Conductor White and Engineman Dowling. This train left Trinidad at 4.25 p.m., according to the train sheet, and while approaching Garcia, 15.8 miles beyond, was derailed while traveling at a speed variously estimated to have been between 15 and 35 miles per hour.

Engine 5215 continued on the ties for a distance of 504 feet, where it came to rest on its left side, east of and parallel to the main track. The first 19 cars were derailed and badly damaged, 8 of them being practically destroyed, all of these 19 cars were piled up more or less crosswise the roadbed within a distance of about 400 feet. The employee killed was the fireman.

Summary of evidence

Engineman Dowling stated that he handled the train in the usual manner on this occasion, making about a 6 or 8 pound brake pipe reduction to apply the brakes about 20 car lengths north of the point of derailment, he said he kept the brakes applied on the descending grade, saying that he had reduced speed to about 20 miles per hour around all curves en route. The first he knew of anything wrong was while rounding the curve, at which time it felt like the engine was on the ground on the left side, he immediately placed the brake valve in emergency position, but he did not think that emergency effect was obtained owing to the fact that he already had the air brakes applied in service, he estimated the speed to have been about 15 miles per hour at the time of the derailment. Engineman Dowling stated that there was nothing wrong with the riding qualities of the engine and that prior to the derailment he did not notice any unusual motion such as would have been caused by defective track. After the accident he noticed that a couple of rails had turned over on the east side of the track where the engine was first derailed, he also examined the overturned engine and so far as he could see there was no defect that could have caused the accident.

Head Brakeman Morris stated that he was riding on the engine, standing between the engineer and fireman, and that he was concerned about the high rate of speed, he estimated it to have been between 30 and 35 miles per hour at the time of the derailment. Head Brakeman Morris stated that at the first curve north of the curve where the accident occurred (a 5° 04' curve to the left 749 feet in length) the engine gave a severe lurch, he said he was afraid then that the engine was going to be derailed, while he said the fireman made some remark to the effect that if the engineer did not use the air brakes he would go back to the caboose. He noticed no defect in the track.

Conductor White was riding in the caboose, he estimated the speed to have been between 20 and 25 miles per hour at the time of the derailment. About 2 hours after the derailment he examined the track and noticed that the east rail was worn quite a bit and was thrown to the left possibly 2 or 3 inches; he thought that the track had gradually been out of alignment for a few days prior to the accident. The engine was not derailed at the point where the track was out of alignment, but at a point about two or three rail lengths beyond. Conductor White further stated that the speed of his train was not such that it would have put the track out of alignment and in his opinion it was the track being out of alignment that caused the engine to be derailed. Flagman Yokeley was also riding in the caboose, he estimated the speed to have been the same as usual in this vicinity, between 20 and 25 miles per hour and not exceeding 25 miles per hour at the time of the accident.

Roadmaster Reese stated that at the initial point of derailment the east rail was slightly canted for a distance of about one-quarter rail length, from which point the angle gradually increased until the rail was turned over on its side. The track for about three rail lengths north of where the rail started to turn over was kicked out of line about 2 inches and for a short distance in this section the gauge was about 1 inch wide, marks showed on the ties where the tie plates were kicked out, which indicated that this had happened at the time the track was kicked out of line. The elevation had been reduced to $2\frac{1}{4}$ inches from a standard of 3 inches. The inside rail was standing in its normal position for about three rail lengths beyond where the outside rail commenced to turn. The gauge of the track north of the point of derailment was standard and the elevation of the north spiral

of the curve was uniform. Roadmaster Reese considered track conditions safe for a speed of 20 to 25 miles per hour on curves, saying that otherwise he would have placed a slow order on it.

Section Foreman Rael, in charge of the section where the accident occurred, stated that he was last over the track on the day prior to the accident and although he made careful inspection he noticed nothing wrong. He had performed work on the track where the derailment occurred about 2 or 3 days prior to the accident. The track was in proper alignment and gauge. After the accident he inspected the track in company with Roadmaster Reese. Section Foreman Rael stated that no more trouble was experienced with the track at this particular point than elsewhere and that while there were a few bad ties in the track where the engine left the rails, there were also plenty of good ties to keep the track in gauge.

General Roundhouse Foreman Mitchell stated that engine 5215 was given the regular daily inspection before it left the roundhouse and that no defect of any consequence was found. Engine 5215 entered the shop on October 19, 1929, for class 5 repairs, and a new main driving axle was applied, new driving box brasses, lateral taken up in all driving boxes, new driving wheel tires applied, new rod brasses and the lateral taken up in the engine truck. The trailer wheels were removed, tires turned and lateral taken up. Engine 5215 was turned out of the shop on November 3, 1929, and at the time of the derailment it had traveled approximately 2,000 miles. Subsequent to the accident Mr. Mitchell made careful inspection of the engine, including measurements of the lateral on engine truck, driving wheels and trailer truck, distance between these wheels, face to face, flanges, etc., also as to whether any of the axles were sprung, but nothing was found that would have caused the accident.

Statements of members of the crew of northbound freight train extra 5288, consisting of about 37 cars and a caboose, which train passed over the track where the derailment occurred less than 1 hour before its occurrence, at a speed estimated to have been between 20 and 25 miles per hour, were to the effect that they noticed nothing unusual with respect to track conditions at that time.

Conclusions

This accident is believed to have been due to a rate of speed which was materially in excess of the speed restrictions on this curve for the type of locomotive in use.

Engine 5215 is of the 2-8-2 type, and was restricted to a speed of 20 miles per hour on this curve. This engine had recently received class 5 repairs and appeared to have been in good mechanical condition at the time it was derailed. While minor defects existed in the track, apparently they were not of such a nature as to have caused a derailment had the speed requirements been complied with. It is believed that the train was being operated at a speed considerably in excess of 20 miles per hour, especially in view of the statements of Head Brakeman Morris regarding the rate of speed prior to the accident, as well as the condition of the equipment after the accident and the manner in which it came to rest, the first 19 cars being piled up in a distance of about 400 feet.

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

Respectfully submitted,

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Director, .