

/ 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 FORBES
JUNCTION, COLO., ON FEBRUARY 13, 1925.

April 15, 1925.

To the Commission:

On February 13, 1925, there was a rear-end collision between a freight train of the Colorado & Southeastern Railway and a freight train of the Colorado & Southern Railway on the line of the last-named Railway near Forbes Junction, Colo., which resulted in the death of one employee.

Location and method of operation

This accident occurred on that part of the Southern Division which extends between Trinidad and Southern Junction, Colo., a distance of 88.1 miles, over which trains are operated by time-table, train orders, and a manual block-signal system. The point of accident was about 3,600 feet north of the station at Forbes Junction and 46 feet south of the north yard-limit board. Approaching this point from the south there are about 2,700 feet of tangent, a 4° curve to the left 700 feet in length, 620 feet of tangent, a 4° curve to the right 412 feet in length, and then 257 feet of tangent to the point of accident. The grade is ascending for northbound trains for a distance of about 1/2 mile, being 1 per cent at the point of accident.

Under ordinary weather conditions the point of accident is visible to the crews of northbound trains for a distance of more than 2 miles, but there was considerable fog in the vicinity of the point of accident at the time it occurred, about 6.25 p.m.

Description

Northbound freight train extra 3, of the Colorado & Southeastern Railway, consisted of 45 cars and a caboose, hauled by engine 3, and was in charge of Conductor Farrell and Engineman Caldwell. It left Trinidad yard,

9.1 miles from Forbes Junction, at about 5.05 p.m., and was stopped on account of a leak in the train line which had been discovered as the train was leaving the yard. After a delay of 8 or 10 minutes, it proceeded, passed Forbes Junction, and the speed had been reduced on account of the ascending grade north of Forbes Junction to about 10 or 12 miles an hour when the rear of the train was struck by extra 525.

Northbound freight train extra 525, of the Colorado & Southern Railway, consisted of 24 cars and a Caboose, in charge of Conductor Baker and Engineman Carey. It left Trinidad Yard at about 6 p.m., and collided with the rear of extra 3 while traveling at a speed estimated to have been about 18 or 20 miles an hour.

The caboose and one car in the train of extra 3 were demolished and two of the cars derailed, while Colorado & Southern engine 525 was derailed and one car in its train badly damaged. The employee killed was the conductor of extra 3.

Summary of evidence.

Engineman Caldwell, of extra 3, thought his train passed Forbes Junction at a speed of 20 miles an hour; shortly afterwards it began to decrease, on account of the ascending grade, until it was about 10 or 12 miles an hour, the average speed at this point, when it was brought to a stop by an application of the air brakes as a result of the breaking of the train line due to the collision. Engineman Caldwell further stated that in view of the rate of speed and the weather conditions, it being foggy at different points en route, he thought a flagman would have been justified in throwing off fuses in the vicinity of the point of accident. Fireman Hamilton said that at the time of the accident the weather was quite foggy at the head end of the train, this fog being encountered about 1/4 mile north of Forbes Junction, but he said he thought markers could have been seen a distance of about 15 car lengths. His statements as to speed agreed with those of Engineman Caldwell.

Flagman Dotson, of extra 3, said occasional banks of fog had been encountered en route and that he had thrown off 10-minute yellow fuses at Bowen and Suf-field, points 3.6 and 1.7 miles, respectively, south of Forbes Junction. He heard the engineman of his train sound a station whistle signal when approaching Forbes Junction and gave him a proceed signal, at which time he was able to see the engine. He also stated that he

had looked southward before the caboose reached Forbes Junction and at that time had not seen anything of the following train. He estimated the speed of his train when passing Forbes Junction to have been about 20 miles an hour. Shortly afterwards Head Brakeman McNew commented to him about the fog being heavy, and Flagman Dotson said he was about to throw off another fusee when he saw the headlight of the engine hauling extra 525, apparently in the vicinity of Suffield. He at once realized that he was mistaken as to the distance, however, and that the train actually was rounding the curve north of Forbes Junction and was then 6 or 7 pole lengths from his own train, and he said he immediately called a warning to the conductor and also to the Head Brakeman and jumped. Flagman Dotson further stated that while the rear of the train had not passed out of the yard limits at Forbes Junction he was not depending on that fact for protection. He estimated that the markers on the rear of his train could have been seen in the fog a distance of not more than 15 or 20 car lengths.

Head Brakeman McNew confirmed the statements of the flagman about throwing off fusees at Bowen and Suffield, although it developed that he did not know whether they were red or yellow fusees. He thought that at the time of the collision his train had been running in a dense fog for a distance of about 1/4 mile. His other statements practically agreed with those of the flagman, except that he estimated from the sound of the exhaust of engine 525 that it must have been running at a speed of 40 miles an hour.

Prior to the departure of extra 525 from Trinidad yard the crew in charge had received a permissive card, Form C, authorizing their train to proceed expecting to find extra 3 in the block between that point and Ludlow, which is the next station beyond Forbes Junction. Engineman Carey said he operated his train at a speed of 20 or 25 miles an hour from Trinidad yard to Forbes Junction. He had encountered fog at different points en route, including the territory from Suffield to Forbes Junction; he did not, however, find any burning fusees. The weather was clear at Forbes Junction and after reducing speed at the south yard-limit board and passing the station at a speed of 10 or 12 miles an hour, he opened the throttle slightly. Fog was again encountered on the curve to the left north of the station and after reaching the tangent track between this curve and the curve to the right immediately preceding the point of accident he leaned out of the front cab window to unscrew the frost plug on the right injector, which he estimated to be about 2 feet from the cab; when he straightened up the engine had passed the denser part of the fog and he saw the markers of extra 3 immediately

ahead, apparently not more than 2 or 3 car lengths distant, and he said he at once shut off steam and applied the air brakes in emergency. Engineman Carey thought that had he not been occupied with the injector he might have seen the rear end of the train ahead when it was 5 or 6 car lengths farther away than was actually the case.

Fireman Bruner said he was standing up on his side of the engine looking ahead and that the fog was very dense. He saw the markers of extra 3 apparently some distance ahead and then suddenly discovered that they were only 2 or 3 car lengths distant, but he thought the engineman had applied the air brakes in emergency before he had time to say anything. Fireman Bruner estimated the speed of his train at the time of the collision to have been about 18 miles an hour and confirmed the engineman's statement about not having encountered any fuses en route.

Head Brakeman McLaughlin stated that he had been riding on the engineman's side of the engine but that he did not see the markers on the rear of extra 3 until the engineman had shut off steam and applied the air brakes, at which time the speed was about 20 miles an hour. His engine was then on the curve immediately south of the point of accident while the caboose of extra 3 appeared to be about at the northern end of the curve. Brakeman McLaughlin said fog had been encountered intermittently all the way from Trinidad yard and he did not think the rear of the preceding train could have been seen more than 4 or 5 car lengths in view of the fog that prevailed in the vicinity of the point of accident.

Conductor Baker, of extra 525, who was riding in the caboose, said he exchanged signals with the engineman when his train was passing Forbes Junction and at that time he could see the reflection of the headlight but shortly afterwards fog was encountered. He estimated the speed when passing Forbes Junction to have been about 10 miles an hour and that it had been increased to 18 or 20 miles an hour when he felt the emergency application of the air brakes followed immediately afterwards by the shock of the collision. Conductor Baker further stated that immediately after the accident he found that the fog was not so dense but what he could see fairly well from the caboose to the engine and on reaching the head end of his train he found that he could plainly see the markers on his caboose, 24 car lengths distant. Notwithstanding these estimates as to his range of vision, however, he said he thought the accident was due to the failure of the crew of extra 3 to throw off a fusee.

Conclusions

This accident was caused by the failure of the crew of Colorado & Southeastern extra 3 properly to protect their train, for which Conductor Farrell and Flagman Dotson are responsible, and by the failure of Engineman Carey, Fireman Bruner and Head Brakeman McLaughlin, of Colorado & Southern extra 525, to maintain a proper look-out, and also by the failure of Engineman Carey to operate his train under proper control within yard limits.

The statements of the various employees involved do not agree as to the time at which their respective trains passed various points en route or the time at which the collision occurred, but it seems clearly apparent that after Colorado & Southeastern extra 3 made the stop at the interlocking plant when leaving Trinidad yard it consumed more than 1 hour in running the distance of less than 10 miles to the point of accident. According to Flagman Dotson he threw off a fusee at Bowen, 3.6 miles from Forbes Junction, and another at Suffield, 1.7 miles from Forbes Junction, and was preparing to throw off a third fusee at the time the accident occurred. These statements could not be verified; the members of the crew of extra 525 said positively that they had encountered no fusees en route, while Head Brakeman McNew of extra 3, who was riding in the caboose, was unable to say whether the fusees thrown off were red or yellow, although he was positive that fusees were thrown off at the points named by the flagman. In view of the very low rate of speed at which this train was moving and the intermittent fog which appears to have existed, it was incumbent on Conductor Farrell and Flagman Dotson to exercise particular care in order that an accident might be prevented. Conductor Farrell appears to have been engaged in his duties in connection with the making out of reports, but Flagman Dotson was riding in the cupola, was in a position to observe the operation of the train and the weather conditions prevailing, and had he been more attentive to his duties, throwing off a fusee at Forbes Junction, it is possible this accident would not have occurred.

The statements of the crew of extra 525 do not agree as to how far they could see in the fog. The statements of those on the head end of the train indicate that their view was obstructed to a few car lengths; in fact, due either to the fog or to the fact that they were otherwise engaged, they did not see the rear end of extra 3 in time to jump before the collision occurred. On the other hand, the conductor said that as soon as

the accident occurred he looked out and was able to see the head end of the train. This fact taken in connection with the statement of the engineman that he was engaged in unscrewing the frost plug and that as soon as he straightened up he saw the rear end of extra 3, tends to indicate that had a proper lookout been maintained the rear end of extra 3 might have been seen in time to avert the accident. The frost plug to which the engineman was giving his attention is so located that there was no necessity for either the fireman or the head brakeman to occupy themselves with assisting the engineman in any way. They were in position to observe the train ahead and no good reason was advanced as to why they should not have seen it long before it was seen by Engineman Carey. Had they maintained a proper lookout they might have been able to warn Engineman Carey in time to enable him to prevent the occurrence of the accident.

The failure of Engineman Carey to be paying sufficient attention to the track ahead also resulted in his violating rule 93, under which extra trains are required to move within yard limits prepared to stop unless the main track is seen or known to be clear. The rules were adequate to cover the situation as it existed in the vicinity of the point of accident, and had they been obeyed by all concerned the accident would not have occurred.

Had an adequate automatic block-signal system been in use on this line, this accident probably would not have occurred; an adequate automatic train stop or train control device would have prevented it.

The employees involved were experienced men. 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,

W. B. Borland,

Director.