

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
CHICAGO, BURLINGTON & QUINCY RAILROAD NEAR THORNTON,
WYO., ON APRIL 1, 1936.

May 8, 1936.

To the Commission:

On April 1, 1936, there was a rear-end collision between a freight train and a passenger train on the Chicago, Burlington & Quincy Railroad near Thornton, Wyo., resulting in the death of one live-stock caretaker, and the injury of two employees.

Location and method of operation

This accident occurred on the Edgemont and Gillette Subdivision of the Sheridan Division, extending between Edgemont, S.D., and Gillette, Wyo., a distance of 121.06 miles, in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table, train orders, and a manual block-signal system. The accident occurred about 279 feet east of the east switch of the passing track at Thornton, approaching the point of accident from the west the track is tangent for more than 3 miles, while the grade for eastbound trains is 0.4 per cent ascending at the point of accident.

There was a heavy snow storm at the time of the accident, which occurred at about 5.05 p.m.

Description

Eastbound second-class freight train No. 80 consisted of 53 cars and a caboose, hauled by engine 2556, and was in charge of Conductor Epton and Engineer Guyot. At Gillette, 41.09 miles west of Thornton, the crew received copy of train order No. 33, Form 19, reading in part as follows:

"No 80 run ahead of No 42
Gillette to Epton ****"

Upton is 7.19 miles east of Thornton. Train No. 80 departed from Gillette at 3.20 p.m., according to the train sheet, 1 hour and 50 minutes late, passed Moorcroft, 28.02 miles beyond and the last open office, at 4.20 p.m., 1 hour and 35 minutes late, passed Thornton, a closed office, 13.07 miles from Moorcroft, at about 5.04 p.m., one minute behind the departing time of train No. 42, and on reaching a point approximately 3,600 feet east of the station at Thornton, while traveling at a speed estimated to have been about 30 miles an hour, its rear end was struck by train No. 42.

Eastbound passenger train No. 42 consisted of three baggage cars, one mail car, one business car, one smoking car, one chair car, one dining car, one Pullman sleeping car, and one Pullman observation car, hauled by engine 2974, and was in charge of Conductor Hammond and Engineman Bradford. At Gillette the crew received copy of train order No. 33, Form 19, previously referred to, together with a clearance card and a permissive card; the clearance card called attention to the permissive card, which contained instructions to proceed, expecting to find train No. 80 in the block between Gillette and Rozet, 15.27 miles east of Gillette. Train No. 42 departed from Gillette at 3.49 p.m., on time, it passed Rozet at 4.13 p.m., on time, at which point another clearance card and permissive card were received, the permissive card containing instructions to proceed, expecting to find train No. 80 in the block between Rozet and Moorcroft, 12.75 miles east of Rozet. Train No. 42 arrived at Moorcroft at 4.30 p.m., at which point a clearance card and also a permissive card were again received, the permissive card containing instructions to proceed, expecting to find train No. 80 in the block between Moorcroft and Upton, 20.26 miles east of Moorcroft. Train No. 42 departed from Moorcroft at 4.36 p.m., on time, and shortly after passing Thornton, while traveling in a blinding snow storm at a speed of 44 miles an hour, according to the speed-recorder tape, collided with the rear end of train No. 80.

The caboose of train No. 80 was telescoped by the stock car ahead of it for a distance of about 24 feet, while the two cars ahead of the stock car were derailed and practically demolished. Engine 2974 was derailed but remained upright on the roadbed, at a point 464 feet from the point of collision with its head end considerably damaged. The tender and the first pair of wheels of the forward truck of the first car in train No. 42 were also derailed.

Summary of evidence

Conductor Eaton, of train No. 80, stated that a light snow storm was encountered when leaving Kara, located 0.63 miles west of Thornton, at which time he was riding in the cupola of the caboose, he instructed the flagman to light the markers, which was done, and he said that in addition the flagman placed a lighted fusee on the rear end of the caboose. Before reaching Thornton the storm grew intense, and Conductor Eaton said he went out on the rear platform of the caboose and threw off a ten-minute fusee, this being done shortly after the train had reached the tangent track approaching Thornton and at a point which would locate it as being 2,000 feet west of the west mile board, this fusee was burning when he last saw it, his vision to the rear being restricted to about 150 to 200 feet on account of the storm. Conductor Eaton afterwards went inside the caboose and up into the cupola with Flagman Clapham, saying that the glare from the burning fusee on the rear of the caboose interfered with his vision and that in view of this it was possible to see much better from the rear window of the cupola. Shortly after passing Thornton, while traveling at a speed of about 70 miles an hour, the flagman shouted a warning of danger, and just as Conductor Eaton jumped the accident occurred. Conductor Eaton further stated that he thought train No. 42, on encountering the snow storm, would follow under control prepared to stop, and as his train was traveling at a good rate of speed, at no time less than 25 miles an hour, he did not think it would be necessary to throw off another fusee until it began to reduce speed when approaching Upton.

Flagman Clapham, of train No. 80, stated that he looked back just after passing the east station board at Kara and at that time could see train No. 42 coming through the cut at the top of Moorcroft mill, according to this statement there was a distance of about 2 miles between the trains at this time. Shortly afterwards, owing to the snow storm ahead he lighted the markers and then got back in the cupola. He said that on reaching a point about 2 miles west of Thornton, Conductor Eaton secured a fusee from the rack and went out on the rear platform and when he returned to the cupola he remarked that he had thrown off a lighted fusee for train No. 42, and the flagman said he had seen the reflection from this fusee at the time it was thrown off. Shortly afterwards, while looking back out of the rear window of the cupola, Flagman Clapham saw the outline of engine 2974 approaching through the snow storm, his vision being limited to about 300 feet, and he said he got down from the cupola, lighted a fusee, and either threw it off or

placed it on the rear end of the caboose before jumping off. Flagman Glasgow further stated that there had been no reason for throwing off fuses as his train was making the maximum permissible speed, 15 miles an hour, and he had supposed there was very little danger of its being overtaken by train No. 42, he did not recall seeing any lighted fuse on the rear end of the caboose at the time the station at Thornton was passed, and said the only fuse he lighted was the one he either threw off or placed on the rear end of the caboose immediately prior to the accident.

Engineman Cuyot, Fireman Lewis, and Head Brake-man Stillings were unaware of anything wrong until the accident occurred, causing the air brakes to be applied from the rear, at which time they estimated the speed of their train to have been not less than 30 miles an hour.

Engineman Bradford, of train No. 42, stated that he received and was familiar with the contents of train order No. 35, and also had received all of the clearance and permissive cards involved. On departing from Moorcroft, on time, the weather conditions did not interfere with his vision and he saw the smoke from train No. 80 when that train was at the top of the hill, about 5 miles distant. His train passed Kara about two or three minutes later, and it was when his train approached Thornton that the snow storm was encountered, but Engineman Bradford did not think it was so severe as to prevent him from seeing a train ahead and as he did not think his train was close to train No. 80 he did not reduce speed. No fuses were encountered, which he was expecting to find if train No. 80 was on the track of his train, and shortly after passing Thornton, while looking ahead through the clear-vision window, the outline of the caboose of train No. 80 suddenly appeared through the storm; he immediately applied the air brakes in emergency but it was too late to avert the accident, at which time the speed-recorder tape showed that his train was traveling at a speed of 44 miles an hour. He did not see any fuse on the rear of the caboose, and said he did not have the headlight of his own engine turned on. Engineman Bradford admitted that in view of the existing conditions he should have operated his train under control, but said he was depending on the crew of train No. 80 to afford protection to their train by throwing off fuses.

The statements of Fireman Wieditz practically corroborated those of Engineman Bradford; he was maintaining a lookout from the side window on his side of the engine cab and his vision was restricted by the storm

to about 500 feet. He saw the left marker on the caboose of train No. 80 just prior to the accident, but did not see any burning fuses. None of the other members of the crew of train No. 42 was aware of anything wrong until the accident occurred.

Section Foreman Fauxovitch, located at Thornton, was at the stop when train No. 80 passed, moving at a speed he estimated to have been about 30 miles an hour. As the caboose of that train passed the station he heard train No. 42 whistle for the highway crossing near the west passing-track switch. He then crossed over to the engineman's side of the track with the intention of trying to warn the engineman, but did not do so as he was unable to see him when the train passed. He was unable to estimate the speed of train No. 42 except to say that it was traveling at a higher rate of speed than train No. 80 and that he felt that there was danger of a collision on account of the fact that the two trains were so close together in stormy weather and because of the fact that the speed of train No. 80 probably would be considerably reduced on the ascending grade east of Thornton. His statements were substantiated by Section Foreman Marice except that the latter said he felt that train No. 42 would collide with train No. 80 before the east switch was reached.

Subsequent to the accident a fusee was found at a point about 262 feet east of the west mile board at Thornton, while a fusee cap, which exactly matched this fusee, was found at a point 63 feet west of the fusee. Apparently this was the fusee thrown off the rear end of train No. 80 by Conductor Eaton shortly before the accident occurred. The stake end of the fusee was pointing upward, while the head of the fusee was partially embedded in the snow, the spike was split and bent caused by striking a hard surface, probably a tie-plate or spike, at the time it was thrown off. It was evident that the fusee had been lighted but Conductor Eaton apparently had not waited the full five seconds required for it to burn before he threw it off, resulting in its being extinguished when it struck the ground. This fusee was dated December, 1924. A number of tests made in this connection, with fusees of the same or earlier dates, from an engine moving at a speed of between 30 and 35 miles an hour, disclosed that in each instance when a lighted fusee was thrown off before waiting for it to burn the five seconds required by the instructions printed thereon it was extinguished on striking the ground, while when the full five seconds were allowed to elapse before throwing off the lighted fusee no such difficulty was experienced, it being impossible to throw off the fusee in such a way as to extinguish it.

Conclusions

This accident was caused by the failure of Engineer Bradford, of train No. 42, to operate his train under proper control in an occupied block.

Engineer Bradford had received a train order directing train No. 80 to run ahead of his own train and in addition he had received permissive cards at each of the last three open offices, informing him that train No. 80 was in the block immediately ahead. The printed instructions on these permissive cards require engineer to proceed with caution where the view is obscure, running with caution being defined in time-table rule 6 as running so as to be able to stop within range of vision. It furthermore appeared that Engineer Bradford had seen the smoke from train No. 80 when his own train was leaving Moorcroft. Under all these circumstances it is difficult to understand why Engineer Bradford did not reduce speed on encountering a such storm so severe as to limit his vision to two or three car-lengths. If, as he stated, he was depending on the crew of train No. 80 to protect the rear end of their train by throwing off fuses, then he was assuming something which was not justified. The crew of that train held an order to run ahead of his own train and so long as they maintained a speed close to the maximum permitted speed, which was 35 miles an hour in the case of train No. 80, there was no duty on their part to provide flag protection, in fact, the train order placed a restriction on the movement of train No. 42, which should not have been operated at a speed in excess of that allowed for the train ahead. Had Engineer Bradford taken even this simple precaution it is probable the accident would not have occurred.

Had an 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.

All of 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. P. BORLAND,

Director.