

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
DENVER & RIO GRANDE WESTERN RAILROAD AT FUNSTON,
COLO., ON OCTOBER 19, 1927.

November 25, 1927.

To the Commission:

On October 19, 1927, there was a rear-end collision between two freight trains on the Denver & Rio Grande Western Railroad at Funston, Colo., resulting in the death of one live-stock caretaker and the injury of five other live-stock caretakers and one employee.

Location and method of operation

This accident occurred on that part of the Grand Junction Division extending between Grand Junction and Minturn, Colo., a distance of 147.6 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 an automatic block-signal system. The accident occurred within yard limits, at a point approximately 2,890 feet east of the west yard-limit board, this point being 521 feet east of the switch leading from the main track to the yard tracks. Approaching the point of accident from the west there is a compound curve to the right 1,768.2 feet in length, the curvature of which varies from $2^{\circ} 30'$ to 4° ; the track then is tangent for a distance of 475.5 feet, followed by a 4° curve to the left 493 feet in length, the accident occurring on the last-mentioned curve at a point 268 feet from its western end. The grade is practically level. Under the rules flag protection against other than first class trains within yard limits is not required, and in case of collision responsibility rests entirely with the approaching train. From the engineman's side of an east-bound engine a clear view can be had of the point of accident from a point 1,670 feet distant, while from the fireman's side this distance is 900 feet.

The automatic block signals are of the color-light type, displaying red, yellow, and green, for stop, caution, and proceed, respectively. The signals involved in this accident are signals 361.2 and 362.6, located respectively 900 and 8,100 feet west of the point of accident. Signal 361.2 is a positive stop signal while signal 362.6 is known as the intermediate or approach signal.

The weather was clear at the time of the accident, which occurred about 1.30 a.m.

Description

Eastbound freight train second No. 34 consisted of 51 cars and a caboose, hauled by engine 3600, and was in charge of Conductor Lewis and Engineman Eubanks. When approaching Funston this train was stopped at signal 361.2 and it then proceeded on the main track to the coal chute, stopping at about 1.15 a.m., with its rear end 900 feet east of signal 361.2; it had been standing at this point about 15 minutes when its rear end was struck by extra 1171.

Eastbound freight train extra 1171 consisted of 25 cars and a caboose, hauled by engine 1171, and was in charge of Conductor Rowe and Engineman Higgins. Extra 1171 left Newcastle, 11.9 miles from Funston, at 12.55 a.m., 10 minutes behind train second No. 34, passed signal 362.6, which was displaying a caution indication, passed the west yard-limit board, passed signal 361.2, which was displaying a stop indication, passed the switch leading from the main track to the yard tracks, at which it had been intended to head in, and collided with the caboose of train second No. 34, while traveling at a speed estimated to have been about 15 miles per hour.

The caboose of train second No. 34 was demolished and the wreckage consumed by fire; two cars in that train were destroyed and the end of another car was burned. Engine 1171 was not derailed but was considerably damaged by the collision and by the fire in the wreckage of the caboose. Two cars in the train of extra 1171 and two cars on an adjoining track were destroyed or partly burned by the fire. The caboose of extra 1171 was derailed and partly overturned by the shock of the collision. The caretaker killed was in the caboose of train second No. 34, while the caretakers injured were in the caboose of extra 1171.

Summary of evidence

Engineman Higgins, of extra 1171, stated that the speed of his train was about 25 miles per hour approaching signal 362.6, which was displaying a caution indication, and he then eased off on the throttle, barely working steam on the very slight ascending grade. He proceeded into the yard expecting to find the main track occupied and also expecting to find signal 361.2 displaying a stop indication. While rounding the curve to the right, near the eastern end of which signal 361.2 is located, Head Brakeman Long asked him about heading in at the switch. After answering the brakeman and telling him of the conversation he had had with the conductor the engineman looked out again but did not see signal 361.2, although he knew he was in

the vicinity of it; the engineman then saw a red light but it did not look like the signal light. He raised up then and leaned out of the window and as he did so the reflection from the headlight on his engine shone fully on the caboose ahead, which was about 10 carlengths away, and he realized he had passed the signal without observing its indication. Engineman Higgins estimated the speed of his train to have been about 15 miles per hour at this time and said that for the time being he completely lost control of himself and could not move, but just sat there and watched until the engine had reached a point about three car-lengths from the caboose. He then regained control of himself and applied the air brakes in emergency and closed the throttle, the accident occurring immediately afterwards. Engineman Higgins further stated that he was thoroughly familiar with the location of signal 361.2, that the markers and cupola light were burning on the caboose of train second No. 34, that he knew that train had passed his own train at Newcastle and that his own train followed it closely from that point; he also said he anticipated that his train would head in at the switch at Funston provided the main track was occupied, that he considered he had the train under control and that had he been able to act when he first saw the caboose ahead he could have brought his train to a stop in time to have averted the accident. Engineman Higgins thought he missed signal 361.2 because of the conversation he had with Head Brakeman Long; he said Brakeman Long was on the left side of the cab when the brakeman first spoke to him but that he did not understand the brakeman at that time and as soon as the fireman had finished putting in a fire the brakeman got down and came over to the engineman's side of the cab and repeated the question, the conversation between them consuming about one or two minutes. It also appeared from Engineman Higgins' statements that he had had plenty of rest before starting out on this trip, that he was not tired at the time of the accident, and that there was nothing about the condition of the engine to distract his attention.

Fireman Murray, of extra 1171, stated that the caution indication displayed by signal 362.6 was called and repeated; he was putting in a fire when approaching signal 361.2 and after finishing this work he got on his seat box and he said that Brakeman Long then was on the seat box in front of him. Just as the fireman got seated the brakeman got up and the fireman turned around in order to let the brakeman out and the brakeman got down from his seat, crossed to the right side of the cab and talked to the engineman. The fireman was looking at the water during this conversation and was still so engaged when the accident occurred, without his having seen the caboose of the preceding train. Fireman Murray also knew that his train was closely following train second No. 34; he admitted that he did not see the

indication displayed by signal 361.2 or maintain a proper lookout approaching the point of accident, and acknowledged his share of the responsibility for its occurrence.

Head Brakeman Long, of extra 1171, stated that he was riding on the brakeman's seat box when the engine passed signal 362.6, the caution indication of which was called and repeated by the members of the crew on the engine, and that he was still on the seat box when the west yard-limit board was passed. While rounding the curve on which signal 361.2 is located he started to get ready to open the switch leading to the yard, opening the front door in the engine cab in order to go out on the pilot for this purpose, but when he saw that the train apparently was not going to stop at the switch he thought the arrangements probably had been changed. He then crossed over to the engineman's side of the cab to ask the engineman about the matter, the accident occurring immediately afterwards. Head Brakeman Long said that he did not see either the indication of signal 361.2 or the caboose of train second No. 34, and he said that he, and probably the fireman, simply depended on Engineman Higgins to observe the indication displayed by the signal.

Conductor Rowe, of extra 1171, was riding in the cupola of the caboose and when he realized that the engine was going to continue down the main track, instead of entering the yard, he changed his position in order to apply the air brakes by means of the conductor's valve, intending to have the train back up and head in at the switch leading to the yard; the accident occurred, however, before he had had time to apply the brakes. The statements of Brakeman Newman practically corroborated those of Conductor Rowe.

Conductor Lewis, of train second No. 34, was not at the rear end of his train at the time the accident occurred. Brakeman Ward stated that he was eating in the caboose when he heard extra 1171 approaching; it was about 400 feet distant when he first saw it and he thought it was entering the yard, but he soon realized that it was approaching on the main track and ran toward it without flagging equipment in the endeavor to have it stopped. He thought the engine still was working steam when it passed him, moving at a speed of 15 or 18 miles per hour.

Signal Engineer Nolis stated that he arrived at the scene of the accident about five hours after its occurrence and that tests of the signals involved disclosed them to be in proper working order.

Conclusions

This accident was caused by the failure of Engineman Higgins, of extra 1171, properly to observe and obey signal

indications and also by his failure to operate his train under proper control within yard limits; Fireman Murray and Head Brakeman Long were also responsible on account of their failure to maintain a proper lookout when entering yard limits.

Rule 93 of the Rules and Regulations of the Operating Department of this railroad reads as follows:

"Yard limits will be indicated by yard limit signs. Within yard limits the main track may be used, protecting against first-class trains.

"Second and inferior class and extra trains must move within yard limits prepared to stop unless the main track is seen or known to be clear. In case of collision responsibility rests entirely with the approaching train or engine".

Engineman Higgins, who was thoroughly familiar with the territory in the vicinity of the point of accident, knew his train had followed train second No. 34 closely out of Newcastle, 11.9 miles west of Funston, and he expected to find signal 361.2 displaying a stop indication, with the main track occupied. He could have had a clear view of signal 361.2 for a distance of nearly 1,700 feet but passed the signal without seeing the indication on account of the fact that he was engaged in conversation with the head brakeman. Shortly afterwards the reflection of the headlight on his engine shown on the caboose ahead, which was about 10 car-lengths distant; for the time being he lost control of himself completely and when he finally regained his composure it was too late to avert the accident.

Fireman Murray and Brakeman Long did not observe the indication displayed by signal 361.2, which was not visible from the left side of the engine. On the other hand, however, they could have seen the rear end of train second No. 34 a distance of at least 900 feet had they been looking ahead. Instead of doing so, Fireman Murray worked on the fire and then got on his seat box and gave his attention to the water, while Head Brakeman Long seemed to have been concerned only with the question of whether their train was going to enter the yard at the west switch. While neither of these employees had had a great deal of experience, yet it would seem that they had had enough to cause them to appreciate their responsibilities. Had either of them been maintaining a proper lookout ahead while entering the yard limits, this accident probably would have been prevented.

Had an adequate automatic train stop or train control device been in use this accident would have been prevented.

All of the employees involved, with the possible ex-

ception of Fireman Murray and Head Brakeman Long, 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,

W. P. Borland,

Director.