

April 25, 1913.

In re investigation of accident on the Minneapolis
& St. Louis Railroad at Steamboat Rock, Iowa,
on March 4, 1913.

On March 4, 1913, there was a rear-end collision between two seasonal freight trains on the Minneapolis & St. Louis Railroad at Steamboat Rock, Iowa, resulting in the death of 2 passengers and the injury of 1 passenger and 2 employees.

After investigation of this accident the Chief Inspector of Safety Appliances reports as follows:

The first district of the Eastern Division of the Minneapolis & St. Louis Railroad, upon which this accident occurred, is a single-track line extending between Albert Lea, Minn., and Marshalltown, Iowa, a distance of 134.7 miles. Trains are operated under the train order system without block signals.

The trains involved were extra freight train 433 and regular freight train No. 94.

The extra was a stock train consisting of 11 cars and a caboose, hauled by engine No. 433. This train left Mason City, Iowa, at 8:45 am on the date of the collision, in charge of Conductor Curran and Engineer Henderson, and was struck by train No. 94 while standing on the main track at Steamboat Rock, a station 25.6 miles from Mason City, at about 10:12 am. At the time of the collision the speed of train No. 94 was from 15 to 20 miles per hour. The caboose and 4 passenger cars of the extra train were demolished. The killed and injured passengers were stockmen who were riding in the caboose of the extra.

On the date of the collision train No. 94 left Albert Lea on time at 1:50 am. It was in charge of Conductor Kinney and Engineer Brown, and consisted of 31 cars and a caboose, hauled by engine No. 461. This train passed Abbott, the first telegraph station west of Steamboat Rock at 10 am, two hours and five minutes later, and made the run of 6.5 miles from Abbott to the place of collision in 12 minutes, or at an average speed of 32.5 miles per hour. The schedule running time for this train from Abbott to Steamboat Rock, a distance of 6.8 miles, is 25 minutes.

The collision occurred at the foot of a 1.5 per cent grade descending eastward for a distance of about 6,800 feet. Proceeding eastward from the summit of this grade there is a 4-degree curve to the right approximately 1,300 feet long, followed by a cut 1,600 feet of tangent, succeeding which and extending to, and beyond the foot of the grade, there are 3 curves, as follows: a 2-degree curve to the left, a 3-degree curve to the right, a 3-degree curve to the left. These curves are approximately equal in length and there is no appreciable tangent between them,

so that for a distance of about 3,500 feet at the east end of this grade there is practically no straight track. About 500 feet east of the foot of the grade the track enters upon a bridge 600 feet long over the Iowa River. There is a timecard rule limiting the speed of freight trains over this bridge to 10 miles per hour, and on curves and descending grades between Abbott and Steamboat Rock to 20 miles per hour.

Conductor Curran had instructions to pick up 4 cars of stock at Steamboat Rock. His train arrived there between 9:55 and 10 o'clock, and stopped with the engine just at the east end of the Iowa River bridge. It was the intention of Conductor Curran and Engineman Henderson to load the stock at Steamboat Rock and go to Eldora, a station 4.3 miles farther east, for train No. 101, a westbound passenger train due at Eldora at 10:12, but on this date running 20 minutes late, thus giving the extra until 10:28 to make Eldora on clear train 101 under the rules. Immediately after stopping his train Engineman Henderson sounded the whistle for the flagman to go back and protect the rear of the train. The engine was uncoupled from the train, and after taking water headed into the stock track, and it was standing in there waiting for the stock to be loaded when the collision occurred.

When the extra came to a stop Flagman Ross immediately started back with stop signals, and had reached a point about 2,200 feet to the rear of his train when train No. 94 passed him. There is some conflict in the evidence concerning the length of time the extra stood at Steamboat Rock previous to the collision. Engineman Henderson placed the time of arrival at 9:55, while Conductor Curran and Head Brakeman Vestby said the train arrived there "about 10 o'clock." All agree that the collision occurred at 10:12. Flagman Ross stated that he continued to walk back from the time he started until train No. 94 showed up. He did not get back as far as the point of the tangent, however, which was approximately 3,000 feet from the rear of his train. While still on the curve preceding the tangent he stopped for a moment at a road crossing to let a team go by. Just then he heard train No. 94 whistle, and he started to run, but the train almost immediately showed up around the curve, and he again stopped and gave violent stop signals to the train until it passed him. Engineman Brown of train No. 94 said that when he first saw the flagman he was not over 3 car lengths away.

Conductor Kinney of train No. 94 had message instructions to "hurry to Marshalltown," and when his train passed Abbott at 10:00 a.m. it was the intention of he and Engineman Brown to go to Eldora for train No. 101. Eldora is 11.1 miles from Abbott. Under its run late order train No. 101 was due at Eldora at 10:33, and to clear that train 5 minutes, as required by the rules, train No. 94 would have to be on the rising at Eldora at 10:28. Both Conductor Kinney and Engineman Brown admitted that this could not

have been done without violating the speed restriction between Abbott and Steamboat Rock; indeed, Engineman Brown said that when he left Abbott he fully intended to exceed the speed limit. There is a time card rule which requires all eastbound trains to stop at Abbott and be inspected. This rule also was ignored by Conductor Kinney and Engineman Brown, as train No. 94 passed Abbott without stopping.

Engineman Brown stated that about 5 miles from Steamboat Rock he made a brake application and left the brakes applied for a distance of one mile. He then released the brakes and left them released until his train line was recharged to 70 pounds, after which he made a heavy reduction of 20 pounds. His train was then on the tangent east of the 4 degree curve at the top of the grade. There is a point on this tangent from which a person on the left hand side of the engine of an eastbound train can see across the curves to the depot at Steamboat Rock. When this point was reached Fireman Wells notified Engineman Brown of the condition of the track ahead. According to the fireman's statement, he called "all clear as far as I can see," while the engineman said that the fireman's words were "everything clear to the elevator." Engineman Brown then released the brakes, and almost immediately thereafter the engine rounded the curve at the east end of the tangent and Brakeman Berger, who was riding on the fireman's seat called "flag." The engineman himself saw the flagman almost at the same instant that the brakeman called, and he immediately made an emergency application of the brakes, but on account of the short time that had elapsed since the brakes had been released the train line was not fully recharged, and the emergency application had very little effect. Engineman Brown said that his brakes were holding good at the time he released, and had he seen the flagman before then the accident could not have occurred. He said that he reduced speed from 35 to 20 miles per hour on his first application, then from 25 to 20 on his second application, and his train was running 20 miles per hour when he released the air the second time. He estimated that his train was still running 20 miles per hour when he jumped off the engine, 8 car lengths away from the rear end of the standing train.

The direct cause of this accident was the failure of Conductor Kinney and Engineman Brown of train No. 94 to obey the rule limiting the speed of freight trains between Abbott and Steamboat Rock, and their failure to approach the station limits of Steamboat Rock with their train absolutely under control, as required by rule 93-b of the railroad company's book of rules, which reads as follows:

"Rule 93-a does not relieve any train (except first class trains) of approaching and passing through all station and yard limits absolutely under control, and in all cases the responsibility for safety will rest with the crew of the approaching train regardless of any and all conditions."

This rule did not relieve the crew of extra 433 from the responsibility of protecting their train by flag, but when considered in connection with the flagging rule it undoubtedly creates a condition of divided responsibility which is not conducive to the highest degree of safety.

A material contributing cause of the accident was the failure of Flagman Ross to go back a sufficient distance to insure full protection to his train. Considering the conditions of grade and alignment, and knowing that the rear end of his train was standing at a particularly dangerous place, he should have made a special effort to get back at least as far as the point of the tangent west of where he was standing when train No. 94 passed him. He had time to get back to that point had he made an effort to do so, as the evidence is positive that his train was standing at Steamboat Rock between 12 and 17 minutes before the collision.

Conductor Curran and Engineer Henderson of train extra 433 also exhibited poor judgment in not putting their train on the sidetrack while doing their work at Steamboat Rock. They knew they were on the time of train No. 94, but were within their rights, as under the rules in force third class and extra trains are permitted to proceed upon the time of second class trains moving in the same direction. They had no means of knowing how long they would be delayed at Steamboat Rock, however, and as it was doubtful that they would be able to complete their work in time to permit them to go to Eldora for train No. 101, good judgment should have induced them to put their train on the siding in the first instance.

All the employees involved in this accident were experienced men with good records, and none was working in violation of any of the provisions of the hours of service act.