

ACCIDENT ON THE UNION PACIFIC RAILROAD DECKER; COLO.
NOVEMBER 7, 1936.

INVESTIGATION NO. 2119

SUMMARY

Railroad: Union Pacific

Date: November 7, 1936.

Location: Decker, Colo.

Kind of accident: Rear-end collision

Trains involved: Freight : Freight

Train numbers: Extra 2482 : Extra 3655

Engine numbers: 2482 : 3655

Consist: 41 cars and caboose : 64 cars and caboose

Speed: 5-10 m.p.h. : 15-35 m.p.h

Track: Tangent; 0.765 percent descending grade.

Weather: Dense fog

Time: 11:43 p.m.

Casualties: 3 injured

Cause: Failure to provide adequate flag protection for Extra 2482 and failure of Extra 3655 to be operated under proper control in view of existing weather conditions.

January 21, 1937.

To the Commission:

On November 7, 1936, there was a rear-end collision between two freight trains on the Union Pacific Railroad near Decker, Colo., which resulted in the injury of three employees. The investigation of this accident was made in conjunction with a representative of the Public Utilities Commission of Colorado.

Location and method of operation

This accident occurred on the Northern Subdivision of the Colorado Division, extending between Cheyenne, Wyo., and Denver, Colo., a distance of 106 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by timetable, train orders and an automatic block-signal system. The accident occurred at a point 4,467 feet east of the east switch of the passing track at Decker. Approaching this point from the west the track is tangent for more than 2 miles, while the grade varies from 0.44 to 0.92 percent descending, it being 0.765 percent at the point of accident. The maximum speed for freight trains is 45 miles per hour.

The signals involved are automatic signals A-826, A-822, A-816 and A-804. These are approach lighted signals of the lower quadrant, 2-position, semaphore type. Signal A-826, a distant signal, is located 2,920 feet west of signal A-822 and near the west passing track switch at Decker and displays green and yellow for "proceed" and "approach next signal prepared to stop", respectively. Signal A-822, a home signal, is located at the west switch of the passing track and displays green and red for "proceed" and "stop", respectively. Signal A-816, a similar home signal, is located at the east end of the passing track, 3,137 feet beyond, or 4,400 feet west of the point of accident. Signal A-804, another home signal, is located 1,764 feet east of the point of accident. The overlap for signals A-826 and A-822 extends to a point 2,316 feet east of signal A-816, and when an east-bound train passes

that point, home signal A-822 and distant signal A-826 assume proceed positions; signal A-816 remains at stop.

There was a dense fog at the time of the accident, which occurred about 11:43 p.m.

Description

Extra 2482, an east-bound freight train, consisted of 1 battery car, 29 freight cars and a caboose, hauled by engine 2482, and was in charge of Conductor Stuart and Engineman Breen. This train departed from Cheyenne, 24.1 miles from Decker, with the crew holding instructions to change the batteries at all automatic block signals between Corlett Junction and LaSalle, within which territory this accident occurred, and also between Spear and Borie, as well as to perform local work en route. At Carr, 4.1 miles from Decker, the crew received the following message:

Extra 3655 East 1st 154's train Carr 1130 PM, No. 154 2nd 154's train Borie 11:45 PM, do not delay them.

Extra 2482, then consisting of 1 battery car, 40 freight cars and a caboose, departed from Carr at 10:55 p.m., according to the train sheet, stopped at all signals to change batteries, passed Decker about 11:30 p.m., according to the statement of the conductor, and after having stopped to change batteries at signal A-804, had just started when its rear end was struck by Extra 3655.

Extra 3655, an east-bound freight train, consisted of 64 cars and a caboose, hauled by engine 3655, and was in charge of Conductor Madlik and Engineman McQuilken. At Borie, the crew received an order authorizing them to run 50 instead of 45 miles per hour. This train left Borie, 21.2 miles from Decker, at 10:50 p.m., according to the train sheet, departed from Carr at 11:32 p.m., passed signals A-826 and A-822 under proceed indications, passed signal A-816 displaying a stop indication and collided with Extra 2482 at a point 4,400 feet beyond while traveling at a speed estimated to have been between 15 and 35 miles per hour.

The caboose and the four rear cars in Extra 2482 were demolished and the fifth car from the caboose was derailed and slightly damaged. Engine 3655 and tender turned over on their right sides parallel with and fouling the track. The first and second cars were demolished, the third car was derailed and badly damaged, but the remaining equipment in this train was not derailed, the fourth and fifth cars being slightly damaged. The employees injured were the engineman, fireman and head brakeman of Extra 3655.

Summary of evidence

Engineman Breen, of Extra 2482, stated that en route batteries at signals were changed, each stop taking about 1 minute; he did not whistle out a flag, stating that he does not do so when doing this kind of work unless the stop requires more than 4 or 5 minutes. At Carr he received the message relative to the following train, and figured on letting Extra 3655 by at Dover, 4.9 miles east of Decker, and he advised his conductor of his intention. The weather was clear until they reached Decker where they ran into a fog about 10 car lengths beyond the east passing-track switch. He stated that he left Decker about 11:20, although in a later statement he said that he might have been mistaken. After stopping at signal A-804 to change the batteries, his train had just started and had attained a speed of about 10 miles per hour when he felt the air brakes become applied and the train stopped. He sounded a break-in-two whistle signal and followed this with a signal for the flagman to go back; and he later learned of the accident. Engineman Breen stated that after encountering the fog he was unable to see the signals for more than 6 or 7 car lengths, and that he was

concerned about the possibility of Extra 3655 overtaking his train, but he depended on his flagman to protect the train and did not take any extra precaution himself. Engineman Breen further stated that he has often received messages giving information relative to following trains and that he would clear a following train 10 minutes, but that on the day in question he was anxious to reach Dover as they had had nothing to eat since going on duty at 1:00 p. m.

Head Brakeman Tyler, of Extra 2482, stated that he did not see the message relative to the following trains, but the conductor told him that Extra 3655 was out of Borie at 11:30. Brakeman Tyler also stated that the stops at the signals were of short duration, possibly 45 or 50 seconds. He estimated the speed of his train to have been not more than 5 miles per hour at the time of the accident.

Conductor Stuart, of Extra 2482, stated that on receiving the message at Carr he figured on going to Dover for Extra 3655, and on leaving Decker at about 11:30 p.m., he figured that his train could clear at Dover at about 11:55 p.m., and that the following train would be slightly delayed if it was running on the time mentioned in the message, but such time usually refers to the arriving time instead of the departing time and as an inspection of the train is made and fuel and water are taken at Carr, this would make the departure of Extra 3655 from Carr about 10 minutes later than the time mentioned in the message. Fog banks were encountered at various places en route, but after leaving Carr it was clear until they reached Decker, and when the stop was made at signal A-804 the fog was unusually dense. At every stop the flagman went back a distance of from 1 to 2 or 3 car lengths, leaving a yellow fusee, except at a few points where the view was unrestricted. A yellow fusee was left at signal A-816 and one was also left at the west-bound signal located about 2,300 feet east of the east passing track switch at Decker, but the fog was not extremely dense at that time and he did not think that the flagman should be left at the latter stop as he was greatly needed in performing work between that point and Dover. Conductor Stuart stated that he was in the caboose working on his wheel reports when the stop was made at signal A-804 and the train had moved about 2 or 3 car lengths when the flagman asked him if a train was not approaching. He looked back through the fog and saw the approaching train about 15 or 20 car lengths distant. At that time the flagman had a red fusee in his hand and they both jumped off; he estimated the speed of his train to have been about 10 miles per hour at the time of the accident. The flagman told him that he had left a yellow fusee at the last stop but Conductor Stuart did not see it and he thought that his train had proceeded about 5 car lengths when the collision occurred.

Flagman Mitchell, of Extra 2482, stated that when the stops were made at the signals he got off the caboose and went back a distance of from 1/2 to 1 car length or more, leaving yellow fusees after dark, where necessary. In protecting the train between Carr and Decker he did not leave fusees at all the stops but he did leave a yellow fusee at the distant signal east of Carr, and he also left one when the stop was made at the westbound distant signal, located about 2,300 feet east of the passing track at Decker; on leaving that point they entered a dense fog and he was unable to see the fusee. When the stop was made at signal A-804 he left a yellow fusee and as the train started he was in the act of lighting a red fusee when he saw the headlight of an approaching train. He lit the fusee, called to the conductor and got off, and ran back about 4 or 5 car lengths, giving stop signals. Flagman Mitchell stated that he did not think that the last stop consumed more than 8 or 10 seconds. He was aware of the time that Extra 3655 would be at Carr and when talking with the conductor relative to this train, the conductor said that they could make Dover. He did not look at his watch at Decker. This was the first time he had worked with a battery car and

the conductor instructed him to get off the train at each stop and to leave fusees after dark. The fusees he used were 10- minute fusees.

Engineman McQuilken, of Extra 3655, stated that the air brakes were tested at Laramie, their initial terminal, the proper air pressure was maintained and the train handled properly en route. After picking up cars at Borie the air brakes were again tested. On approaching Decker the speed of his train was about 50 miles per hour, and he entered a light fog at the west mile board. Distant signal A-826 displayed a clear indication which he saw when he was approximately 1/4 mile from it; the east-bound home signal, A-822, also displayed a clear indication, but due to heavier fog he could not see this signal at as great a distance as he could see the distant signal. He made an 8 or 10 pound brake pipe reduction in the vicinity of the west passing-track switch and as the fog became heavier, he watched closely for signal A-816 which became visible when he was only 5 car lengths from it and it was displaying a red indication. He immediately moved the brake valve from service to emergency position, and after proceeding about one-half mile he expected to encounter a fusee or torpedoes; he leaned out of the window and saw fire flying from the driving wheels. He saw that the air gauge registered about zero and the sander was open, and then a red fusee and the marker lights of a caboose suddenly appeared about 10 car lengths ahead. He called to the fireman and the brakeman to get off and he jumped when about 5 or 6 car lengths from the caboose; as he was getting off the engine he saw someone going toward the right of way fence with a red fusee in his hand. When he first saw the train ahead the fog was not quite as heavy as it had been farther back and he thought the speed of his train at that time was about 20 miles per hour and that it had been further reduced to 15 or 18 miles per hour at the time of the accident. Engineman McQuilken stated that, due to the heavy grade and frost on the rails, it is not an easy matter to stop a train from a speed of 50 miles per hour, in less than a mile. He was thoroughly familiar with this territory and the operation of the signals and knew that it was possible to get a stop indication at signal A-816 without having received a caution indication at the preceding signal. There was nothing about the engine to distract his attention and in clear weather he would have seen the indication of this signal in sufficient time to stop his train before passing it.

Fireman Butz, of Extra 3655, stated that he did not see the signals at Decker, neither did he see the train ahead until after the engineman had called a warning. He thought the engineman first applied the air brakes just prior to the time he saw him give a sign with his hand which indicated that signal A-816 was red, immediately after which the engineman placed the brake valve in emergency position. Fireman Butz stated that he thought the speed of his train was between 15 and 20 miles per hour at the time of the accident.

Head Brakeman Hamilton, of Extra 3655, stated that he was on the seatbox on the left side of the engine and due to the fog he did not see the signals at Decker. The engineman made a slight reduction of air between the passing track switches and in a very short time he saw him give a hand indication that the signal was red, and the brakes were applied in emergency. He estimated the speed to have been between 20 and 25 miles per hour at the time of the accident.

Conductor Madlik, of Extra 3655, stated that he received the train order authorizing a speed of 50 miles per hour instead of 45, and there was no indication of excessive speed at any time. The air brakes were applied at various points en route and they functioned properly. When the stop was made for coal and water at Carr, he and the brakeman made an inspection of the train and nothing wrong was noted, and on leaving Carr the air gauge showed a pressure of 70 pounds. Conductor Madlik stated that approaching Decker he noticed a slight reduction in speed; he was sitting at his desk and the first he knew of

anything wrong was when the train stopped suddenly. He immediately looked at the air gauge; it then registered 30 pounds and he saw it drop to the zero mark. He estimated the speed to have been between 20 and 30 miles per hour at the time of the accident. Flagman Purdie, of Extra 3655, stated that he noticed a service application of the air brakes when the caboose was between the distant signal and the west passing track switch at Decker. He had just started to get out of the cupola when the brakes went into emergency, the train stopping about 1 minute later. While it was difficult to make an accurate estimate of time, he thought that the train traveled a distance of 10 or 15 car lengths between the time the service application was made and the time of the emergency application. As soon as the train stopped he looked at the air gauge and it was receding rapidly and then registered 5 pounds. The caboose stopped between the west-bound distant signal located about 2,300 feet east of Decker siding and signal A-816, and he immediately went back to flag but at no point did he see a burning fusee.

Train Dispatcher Wesner stated that he had no knowledge of fog conditions sufficient to require special precautions. He had given the crew of Extra 2482 the message concerning the following train so their work might be accomplished with minimum delay. While the line-up stated that Extra 3655 would be at Carr at 11:30 p. m., he figured this to be their approximate arrival time, although the time might vary 10 or 15 minutes either way.

Discussion

The investigation developed that Extra 2482 was stopping at each signal to change batteries. At Carr the crew received a message stating that Extra 3655 would be there at 11:30 p. m. It was agreed by the engineman and conductor of Extra 2482 that they would go to Dover, 9 miles beyond, to let Extra 3655 pass. Engineman Breen stated that his train left Decker at 11:20 p.m., although he later stated that he may have been mistaken in the time. A short distance beyond Decker fog was encountered and Engineman Breen stated that while he was concerned about the possibility of Extra 3655 overtaking his train, he was depending upon his flagman to protect the rear end, although at no time did he whistle out a flag. He was anxious to reach Dover as they had had nothing to eat since going on duty at 1 p.m. According to the statements of Flagman Mitchell, he did not leave a fusee in the vicinity of Decker until the stop was made at the westbound distant signal, located 2,300 feet east of the east passing track switch, at which time he stated that due to the fog, on leaving that point he was unable to see the fusee he had left; when the next stop was made at signal A-804 he left a yellow fusee and did not light a red fusee until after he had boarded the caboose, at which time he saw the headlight of the approaching train. Flagman Mitchell was aware of the train following and should have taken necessary precautions to protect the rear of his train, especially in view of the existing weather conditions. While the statements of the crew of Extra 2482 indicated that they did not encounter the fog until after leaving Decker, the statements of the crew of Extra 3655 indicated that fog was encountered at the mile board west of Decker. Conductor Stuart stated that it was 11:30 p.m. when they left Decker, but he figured that the time given in the message on Extra 3655 would be the arrival time at Carr instead of the leaving time. Just prior to the accident he was working on his wheel reports and made no effort to see that proper protection for his train was afforded even though he was fully aware that Extra 3655 might overtake them. With the information received relative to the following train, Extra 2482 should have cleared at Decker, or failing to do this, proper flag protection should have been afforded. A flagman could have been left, where heavy fog was first encountered, to notify the following train of the stops to be made and of the fact that they would head in at the next station, and a

liberal use of torpedoes and fuses was the least that could have been done under the existing weather conditions to provide adequate protection.

Rule 101-B of the operating rules of this company provides that during foggy or stormy weather no attempt must be made to regain lost time and trains must approach switches and signals prepared to stop unless they are in proper position. Engineman McQuilken, of Extra 3655, stated that he encountered fog at the mile board west of Decker, although he stated it was not heavy at that point, but he was unable to observe the indication of distant signal A-822 until 1/4 mile from it, and as the fog became more dense, the distance he was able to see the signals became less; he could not see the indication of signal A-816 until he was 5 car lengths from it, at which time he observed a red indication, and the two previous signals had displayed clear indications for his train. However, in view of this weather condition, he made only a light brake-pipe reduction in the vicinity of the west passing track switch, although he had been operating his train on a descending grade, at a speed of 50 miles per hour and he made no further attempt to reduce the speed of his train until he saw the red indication of signal A-816 only 5 car lengths ahead, at which time he placed the brake valve in the emergency position, too late to stop his train in time to avert the accident. The signals in this vicinity were installed in 1907 and were designed on the basis of operating conditions existing at that time. Since then changes have been made in signalling on many portions of this railroad, to meet present traffic conditions and the record in this case indicates that it is the intention of this company to continue this work and complete it in the near future. The occurrence of this accident emphasizes the need for changes in the present signal system, and the changes anticipated to provide proper protection should be made as soon as possible.

Conclusions

This accident was caused by failure to provide adequate flag protection for Extra 2482 and by Extra 3655 not being operated under such control, in view of existing weather conditions, as would enable the engineman to comply with signal indications.