

## AN ACCIDENT OF THE UNION PACIFIC RAILROAD AT WAMSUTTER, WYO., ON NOVEMBER 26, 1934.

On November 26, 1934, there was a rear-end collision between two freight trains on the Union Pacific Railroad at Wamsutter, Wyo., the wreckage of which struck another freight train moving in the opposite direction on an adjacent track; the accident resulted in the death of 1 employee and the injury of 1 employee.

### Location and method of operation

This accident occurred on the Seventh Subdivision of the Wyoming Division, which extends between Rawlins and Green River, Wyo., a distance of 134.2 miles; in the vicinity of the point of accident this is a double-track line over which trains are operated by time table, train orders, and an automatic block-signal system. The accident occurred at a point 202 feet east of the east yard-limit board which is approximately one mile east of the station at Wamsutter; approaching this point from the east, there is a 1 degree 06' curve to the left 994 feet in length, from which point the track is tangent for a distance of 7,131 feet, the accident occurring on this tangent at a point 3,585 feet from its eastern end. The grade is descending from westbound trains for a considerable distance and is 0.212 percent at the point of accident.

The signals involved are signals 7221, and 7231, located 5,963 feet and 584 feet, respectively, east of the point of accident. These signals are of the 2-arm, 2-position, home- and distant, lower-quadrant type, and are approach-lighted. Night indications are two green lights indicating "proceed", a green over a yellow light indicating "approach next signal prepared to stop", and a red over a yellow light indicating "stop."

There was a heavy snow storm and a high wind was blowing at the time of the accident, which occurred about 3:55 a.m.

### Description

Extra 9045, a west-bound freight train, consisted of 118 cars and a caboose, hauled by engine 9045, and was in charge of Conductor Ray and Engineman Waite. This train departed from Rawlins, 41.4 miles east of Wamsutter, at 1:40 a.m., and was stopped at Wamsutter at 3:45 a.m. with its rear end a short distance west of signal 7231. The engine was then cut off and coal was being taken when the rear end of the train was struck by Extra 9014.

Extra 9014, a west-bound freight train, consisted of 115 cars and a caboose, hauled by engine 9014, and was in charge of Conductor Skilling and Engineman Jacobsen. This train left Rawlins at 2 a.m., passed signal 7221 displaying a caution indication, passed signal 7231 displaying a stop indication, and collided with Extra 9045 while traveling at an estimated speed of 20 miles per hour.

Extra 9040, an east-bound freight train, consisted of 73 cars and a caboose, hauled by engine 9040, and was in charge of Conductor Montgomery and Engineman Slack. This train departed from Wamsutter at 3:54 a.m., and was passing Extras 9045 and 9014 when

some cars near the rear were derailed as a result of being struck by wreckage.

Twenty-eight cars from the three trains involved were derailed and landed in various positions along the right of way within a space of about 250 feet, 23 of the cars being destroyed and the others more or less damaged. The caboose of Extra 9045 also was destroyed and engine 9014 was considerably damaged. The employee killed was the brakeman and the employee injured was the fireman of Extra 9014.

#### Summary of evidence

Engineman Waite, of Extra 9045, stated that on account of the heavy snow and wind between Rawlins and Wamsutter signal indications could not be seen for more than 30 or 40 car lengths at some points and not over 8 or 10 car lengths at other points, although when approaching Wamsutter the view was fairly good. He applied the brakes in the vicinity of signal 7221 and then released them and allowed the train to drift to a stop. Not being certain whether the rear end was within yard limits he whistled for the flag protection, and after he applied the brakes on the train the engine was uncoupled and moved ahead beyond the station for coal and water. While this work was being performed he asked the engineman of east-bound Extra 9040 to call in the flagman of Extra 9045 as engine 9040 had reached a point east of the station, thinking the flagman would not hear his own whistle. Engineman Waite also recalled the flagman when his engine returned and was coupled to the train; he discovered that the air pressure was gone but did not know at that time that a collision had occurred. Fireman East and Head Brakeman Lauver corroborated in substance the statements of Engineman Waite.

Conductor Ray, of Extra 9045, stated that at one point while en route from Rawlins he had observed the headlight of a following train about 3 miles to the rear. His own train was traveling at a speed of between 30 and 35 miles per hour when approaching Wamsutter and stopped with the caboose about three or four car lengths outside of yard limits. The flagman started back, in the meantime Conductor Ray told him that the following train was right on their block and would arrive before long. Conductor Ray then started forward inspecting the train and was about 55 car lengths from the Caboose when the slack bunched and he heard the crash of the collision. He said that although the weather conditions were such that it restricted the view he did not think the following train had been close enough at any time to warrant throwing off yellow fuses. Conductor Ray also said that he did not hear his flagman recalled by the engineman of the east-bound train but did hear his own engineman recall the flagman, 5 or 6 minutes before the accident occurred.

Flagman Ramsey, of Extra 9045, stated that he first observed the reflection of the headlight of a following train when his train was ascending the grade at Creston, a station 12.2 miles east of Wamsutter. When his train stopped at Wamsutter he saw that the rear end was not within yard limits and went back to flag and had gone back a distance of between 35 and 40 car lengths when recalled. Flagman Ramsey then left a burning yellow fusee, but did not put down torpedoes, and upon reaching a point about 10 car lengths from the caboose he looked back and saw the headlight of the approaching train about 15 car lengths distant; he immediately started toward it, giving stop signals with a red lantern but did not hear these signals acknowledged. He estimated the speed of that train at 20 miles per hour as the head end passed him and did not think this speed was reduced very much prior to the

accident. Flagman Ramsey also said he did not hear but one whistle signal calling him in to his train, and when on his way he could see the rear of his train not over 15 or 20 car lengths.

Engineman Jacobsen, of Extra 9014, stated that the regular air-brake test was made at Rawlins; he received a signal to apply the brakes and made a 20-pound reduction, and then he later received a signal to release the brakes, which apparently were in working order as he received no report to the contrary from the car inspector. At time his train attained a speed between 40 and 45 miles per hour. The first signal that was displaying a caution indication was about 17 miles from Wamsutter, the next two signals were in clear position, and the following signal was in caution position; he reduced speed for the caution signals by easing off on the throttle. The speed of his train was between 30 and 35 miles per hour when he observed signal 7221 displaying a caution indication, which was not visible for more than 15 car lengths on account of the storm; he at once made a 10-pound brake-pipe reduction and leaned out of the window in order to see the next signal. He saw the reflection of a yellow fusee and when signal 7231 came into view, displaying a stop indication, he applied the brakes in emergency; at this time the brake valve exhaust was still blowing from the first reduction but after going to emergency he obtained only a very short blow. The brakes did not seem to respond properly, although the speed had been reduced to about 20 miles per hour when the collision occurred. Engineman Jacobsen further stated that he had not applied the brakes after leaving Rawlins until he made the 10-pound reduction approaching signal 7221, and he then moved the brake-valve into lap position where it remained until he applied the brakes in emergency; he was positive that he did not move the brake valve to full-release position after the initial reduction was made and could not account for the failure of the brakes to hold, as he did not think that the weather was cold enough to have any effect on them. Engineman Jacobson felt sure he knew his location and also that he observed all signals approaching the point of accident.

Fireman Coolican, of Extra 9014, stated that no application of the brakes was made after leaving Rawlins until the train was approaching Wamsutter; at that time he was working on some clinkers and did not see the indication of signal 7221 nor the reflection of a fusee and his first intimation of anything wrong was when the engineman told him to get off. He estimated the speed at the time the brakes were applied at 40 miles per hour and at 20 miles per hour at the time of the accident, and while he had not been paying close attention to what was taking place yet it had not occurred to him that Engineman Jacobson could not stop whenever he wanted to do so. Fireman Coolican also said that the air was blowing as a result of the first reduction before the engine rounded the curve approaching the point of accident.

Conductor Skilling, of Extra 9014, stated that before leaving Rawlins he compared time with Engineman Jacobson and he appeared to be in normal condition. The first brake application was made when the caboose reached a point about 1 1/2 or 1 3/4 miles from Wamsutter, moving at 30 or 35 miles per hour, at which time the caboose gauge registered a reduction of 6 or 7 pounds from a pressure of about 62 pounds. The train was reducing speed and he later looked at the gauge and it showed that in the meantime there had been a further reduction of about 25 pounds and then it gradually went down until it reached zero. The train came to a quick but not a rough stop and he thought at the time that it had broken in two. While he could not see any land marks he judged that the train traveled a

distance of about 35 or 40 car lengths between the time the brakes were applied and the time the train stopped.

Flagman Snodgrass, of Extra 9014, stated that he noticed the caboose gauge registered more than 60 pounds pressure when the train left Rawlins and about the same pressure at Creston. The train was approaching Wamsutter at a speed not exceeding 30 miles per hour when he felt the speed being reduced and when he finally looked at the gauge it showed a pressure of only 30 pounds. The train stopped with a slight lurch and he immediately went back to flag, not learning until later that an accident had occurred. Flagman Snodgrass fixed the location of the train at the time it began to reduce speed by saying that he was looking out of the window and saw that they were passing a dyke which is located about 640 feet east of signal 7221.

Engineman Slack, of east-bound Extra 9040, stated that he stopped to take water and coal at Wamsutter and while doing so the engineman of Extra 9045 asked him to call in the flagman while he was moving eastward. Upon reaching a point about 500 or 600 feet east of the station Engineman Slack whistled for the flagman of Extra 9045 to return to his train and shortly after passing the rear end of that train the brakes on his own train were applied in emergency, the speed having been reduced previously on account of the yellow fusee burning a short distance ahead; he thought he stopped 12 or 15 car lengths beyond the fusee. Engineman Slack had seen Extra 9014 approaching on the west-bound track and he said it seemed to be under control.

Fireman Lewis, of Extra 9040, saw the flagman of Extra 9045 on his way in, the flagman then being 10 or 15 car lengths from the caboose. He did not see Extra 9014 until his engine had almost reached the fusee on the west-bound track. He did not pay particular attention to the speed of that train as it was passing his engine but felt no anxiety about that train not being stopped before it reached Extra 9045 and thought it was going to pick up the flagman. Brakeman Griffin, in the cab of engine 9040, said that after passing Extra 9045 he saw the flagman of that train, and as the engine passed he gave the flagman a signal indicating that he had been called in; at about the same time he observed the headlight of an approaching train and thought the speed of that train was being reduced when it passed him. Conductor Montgomery, of Extra 9040, said that as soon as his train stopped he got off the caboose and heard escaping steam, which was his first knowledge that an accident had occurred. He estimated that the wreckage struck his train about 10 car lengths ahead of the caboose.

Car Inspector Commings came on duty at Rawlins at 11 p.m. and immediately inspected one side of Extra 9014, working from head end to the rear end, and found all the brakes applied; this was a Class "C" inspection, which does not include journal box or roof inspection. At the same time Car Inspector Berglund was examining the opposite side, working from the rear end to the head end. When the train was ready to depart the brakes were applied, at which time the caboose gauge registered a pressure of 50 or 55 pounds, and after inspecting five or six cars from the rear end Inspector Cummings gave a signal to release the brakes, then returned to the rear and gave a signal to proceed. He said this was the regular procedure in inspecting and testing the brakes on through trains, that is, trains on which no cars have been switched. Car Inspector Berglund stated that he inspected all of the cars of Extra 9014 when it arrived at Rawlins and helped test the brakes

before the train departed. After the brakes were applied for the outbound test he went back about 25 or 30 car lengths from the head end, from which point he received and relayed a signal to the engineman to release the brakes; returning to the head end he received a proceed signal from the rear end of the train and after he removed the blue flag the train departed. He thought the outbound test was made between 1:40 and 1:45 a.m., and although it was snowing and the wind was blowing he had no difficulty in observing signals the entire length of the train

Master Mechanic Jordan stated that on November 27 a brake test was made with 101 cars which had been in Extra 9014 at the time of the accident, together with 15 additional cars, hauled by engine of the same type as engine 9014. The train started from Creston and after attaining a speed of approximately 34 or 40 miles per hour a 10-pound reduction was made and the train stopped within a distance of about 75 car lengths. The train then proceeded and was approaching Wamsutter at a speed of about 40 or 45 miles per hour, where the grade was 0.82 percent descending, when another brake-pipe reduction of 20 pounds was made, bringing the train to a stop in a distance of 88 car lengths. At the time of these tests the weather was cold and the wind was blowing considerable snow through the air.

## Conclusions

This accident was caused by the failure of the Engineman Jacobson, of Extra 9014, properly to control the speed of his train after receiving a caution signal indication.

Under the rules, enginemen finding a signal at caution must immediately reduce speed and be prepared to stop before reaching the next signal; in foggy or stormy weather, enginemen must approach all signals with great care, prepared to respect the indications given. Engineman Jacobson knew Extra 9045 was ahead of him; he had encountered caution signal indications at two points en route, and had reduced speed at those points by easing off on the throttle. When 15 car lengths from signal 7221 he saw that it also was at caution and he said he made a 10-pound brake-pipe reduction which, however, did not seem to hold properly. He leaned out of the window, saw a yellow fusee, and when he saw signal 7231 it was in stop position. The brake-valve exhaust was still blowing from the previous reduction and he at once moved the brake valve to emergency position, receiving a very short blow. He said the brakes still did not respond properly and the speed, which had been between 30 and 35 miles per hour, was reduced only to 20 miles per hour before the accident occurred. Engineman Jacobsen was positive that he had not moved the brake valve to full release instead of to emergency, that he was not lost and had not failed to see any of the signal indications.

Of the surviving members of the crew of Extra 9014, the fireman was busy with clinkers and did not know there was anything wrong until the engineman told him to get off. The conductor, however, said the train moved only 35 or 40 car lengths after the brakes were first applied, at which time the caboos was 1 1/2 or 1 3/4 miles from Wamsutter; this could indicate that the caboos was somewhere west of signal 7221 and the engine closely approaching signal 7231. The flagman said the caboos was passing a dyke 640 feet east of signal 7221 when he noticed the speed was being reduced and started down from the cupola so as to be ready to protect his train; with allowance for the time it would take for the

brake application to be noticed in the caboose, the flagman's statement would locate the engine in the neighbourhood of 30 car lengths from signal 7231, or approximately 45 car lengths from the point of accident, when the engineman started to apply the brakes. The brakes of Extra 9014 had been examined when the train arrived at Rawlins and again when it departed from that point, and the weather was not cold enough to affect their operation materially while subsequent test made with the 101 undamaged cars and 15 additional cars, making up a train of practically the same consist as at the time of the accident, showed that a service application could stop the train from a speed of 40 miles per hour within a distance of 88 car lengths. It also appeared that the caboose gauge indicated a constant pressure from the time of leaving Rawlins until Engineman Jacobsen began using the brakes coming into Wamsutter, at which time the pressure started down slowly and then dropped suddenly. In view of this evidence, it is believed that Engineman Jacobson did not begin braking until he saw the yellow fusee a short distance east of signal 7231 which was displaying a stop indication. According to his own statement the storm restricted his range of vision at times to a distance of 15 carlengths or less and he knew that his train was closely following the preceding train. Under these circumstances he should at once have materially reduced the speed of his train from 30 or 35 miles per hour, at which rate he said it was running he passed the caution signal; the fact that he overran the stop signal a distance of 584 feet and was running at an estimated rate of 20 miles per hour et the time of collision is conclusive that he did not have his train under proper control. Engineman Jacobson was 43 years of age; he had been in the service of this company for a period of 22 years, and for the greater part of the past 17 years he had been employed as engineman. His record was good.