

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE UNION PACIFIC RAILROAD NEAR GREEN RIVER, WYO., ON OCTOBER 24, 1928.

On October 24, 1928, there was a rear-end collision between two freight trains on the Union Pacific Railroad near Green River, Wyo., resulting in the death of one employee and the injury of one employee.

Location and method of operation

This accident occurred on the Eighth Subdivision of the Western Division, extending between Green River, Wyo., and Ogden, Utah, a distance of 175.6 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. Granger, Wyo., is located 30.2 miles west of Green River; between these two points the tracks are used jointly by trains of the Union Pacific Railroad and the Oregon Short Line Railroad, Union Pacific System. The accident occurred within yard limits, on the eastbound main track, at a point 3,496 feet east of the west yard-limit board, this point being 1,219.5 feet west of the head-in switch at the west end of Green River yard. Approaching the point of accident from the west the track is tangent for a distance of 6,129 feet and then there is a 4 degree curve to the left 2,307.5 feet in length, the accident occurring on this curve at a point 47.8 feet from its eastern end. The grade approaching the point of accident is generally descending for eastbound trains for a distance of approximately 8 miles, varying from 0.65 to 0.92 per cent; it is 0.70 per cent at the point of accident. Under the rules all trains and engines must move within yard limits prepared to stop unless the main track is seen or known to be clear. From the fireman's side of an eastbound engine a clear view of the point of accident can be had for a distance of approximately 1 1/2 miles, while from the engineman's side the view is restricted to about 500 feet. Automatic block signals 8178 and 8184 are located 635.7 and 3,556.7 feet respectively, west of the point of accident.

The weather was clear at the time of the accident which occurred at about 9.20 a.m.

Description

Eastbound Union Pacific freight train extra 3641 consisted of 77 cars and a caboose, hauled by engine 3641, and was in charge of Conductor R. Q. Starr and Engineman R. L. Starr. This train left Granger, the last open office, at 7:56 a.m., and was brought to a stop at the head-in switch in Green River yard at about 9.10 a.m. After pulling into the yard a short distance extra 3641 was brought to a stop, on account of a switch engine weighing cars on the scale track; it then moved about 10 car-lengths farther into the yard and was again brought to a stop, and it was while it was standing at this latter point that its rear end was struck by extra 2545.

Eastbound Oregon Short Line freight train extra 2545 consisted of 40 cars and a caboose, hauled by engine 2545, and was in charge of Conductor Ryan and Engineman Welker. This train left Granger at 8:00 a.m., four minutes behind-extra 3641, made no stops en route, passed signal 8184 in the caution position, passed the yard-limit board, passed signal 8178 in the stop position, and collided with extra 3641 while traveling at a speed estimated to have been from 10 to 20 miles per hour.

The caboose of extra 3641 and the car ahead of it were destroyed, while the next car ahead was only slightly damaged. Engine 2545, together with its tender, was derailed to the right and came to rest on its right side, badly damaged. The first two cars were destroyed, the third car slightly damaged and several other cars sustained slight damage due to the shifting of lading. The employee killed was the engineman of extra 2545.

Summary of evidence.

Head Brakeman Gardner, of extra 2545, who was riding on the left side of the engine, stated that the speed of the train was about 25 miles per hour as it approached signal 8184, which was displaying a caution indication, and that he called the attention of Engineman Welker to the train ahead. On reaching a point about 10 or 15 car-lengths from the yard-limit board, which is located 60.7 feet east of signal 8184, a service application of the air brakes was made, this application not being released. While rounding the curve to the left and when about 20 car-lengths from signal 8178, which was displaying a stop indication, he again called the attention of the engineman to the caboose ahead and he said the engineman moved the brake valve to the emergency position. After signal 8178 was passed Head Brakeman Gardner crossed over to the right side of the engine preparatory to jumping, at which time Engineman Welker was standing up with one hand on the throttle; he estimated the speed at the time to have been about 10 miles per hour. Head Brakeman Gardner further stated that an air-brake test was made after cars were picked up at Granger and that the brakes worked properly on all of the cars that he looked over at the head end of the train. The engineman made three applications of the brakes between Peru, 7.9 miles west of Green River, and the point of accident, and at a point locally known as Fish Cut, located about 3 miles west of Green River, the speed was reduced to between 15 and 20 miles per hour, the brakes seeming to hold properly. Head Brakeman Gardner said that on the first two applications the air brakes seemed to hold all right but on the third application they did not seem to hold as they should; he estimated that about three or four minutes elapsed between the first and second applications and about the same time between the second and third applications. No remark was made by the engineman en route as to the brakes not holding properly, nor did the engineman talk about anything else, and the only thing the head brakeman did was to call signal indications and keep the engineman informed as to conditions ahead as seen from the left side of the engine. Head Brakeman Gardner said that the engineman was awake and in position to observe the stop indication displayed by signal 8178, and he could give no reason for the failure of Engineman Welker to bring the train to a stop in time to avert the accident.

Fireman Boynton, of extra 2545, an inexperienced employee, said he was not familiar with the territory in the vicinity of the point of accident and knew very little about the operation of air brakes. He did not have any conversation either with the engineman or the head brakeman after starting down the hill, although when in the vicinity of signal 8184 he called the attention of the engineman to the train ahead, at which time the speed of his own train was about 25 miles per hour, and he said that the engineman looked over and waved his left hand. Fireman Boynton saw the engineman manipulating the brake valve when in the immediate vicinity of signal 8178, and was of the opinion that at that time the engineman had not as yet seen the caboose of the train ahead, in fact the engineman made inquiry as to how close they were to the preceding train. The fireman estimated the speed of his train

to have been about 15 miles per hour when passing the stop signal and said that he thought it was reduced considerably prior to the accident, at which time it was about 10 miles per hour. He also said that the engineman appeared to be in a good humor at Granger and apparently he was all right physically.

Conductor Ryan, of extra 2545 said 37 cars were picked up at Granger and the statements of the conductor and also of Flagman Guerin of extra 2545, were to the effect that an air-brake test was made and that the brakes worked properly although the flagman afterwards told the conductor that the brakes were cut out on one of the cars. Engineman Welker apparently was all right mentally and physically and there was no question but that the engineman was fully aware they were following extra 3841 closely en route. The speed was reduced to about 15 or 20 miles per hour through Fish Cut, and when the train was approaching signal 8184 Conductor Ryan, who was riding in the caboose, saw that it was displaying a caution indication; the speed then was about 25 miles per hour and an air-brake application was made and kept applied, this being the third application on the 8 miles of descending grade. Approaching signal 8178, which was displaying a stop indication, the speed was about 20 miles per hour and when the engine was about 150 or 200 yards from the signal Conductor Ryan definitely realized that the train was not going to be brought to a stop before reaching it, had applied the air brakes in emergency from the caboose, at which time the caboose air gauge registered between 30 and 40 pounds pressure, although the maximum pressure registered while en route had been between 70 and 75 pounds; he estimated the speed to have been about 10 miles per hour at the time of the accident. Conductor Ryan further stated that the air brakes did not take hold when the engineman attempted to make the stop; but he could give no reason for the cause of the accident. Flagman Guerin stated that on leaving Granger the brake-pipe pressure registered slightly over 70 pounds on the caboose gauge; he looked at the gauge just before the accident occurred and at that time it registered slightly more than 30 pounds pressure.

Conductor R. Q. Starr, of extra 3641, stated that he saw the engine of extra 2545 pass signal 8184, which was displaying a caution indication, at a speed which caused him considerable concern, estimating it to have been more than 30 miles per hour. He then watched extra 2545 continuously and it appeared to be reducing speed, gradually, the speed being between 15 and 20 miles per hour on passing signal 8178, which was displaying a stop indication, and about 15 miles per hour or better when the caboose was struck. Flagman Harbertson said that Conductor Starr shouted a warning of danger just prior to the accident and the flagman at once got off the caboose, on the south side of the train. He saw the engineman of extra 2545 in the cab immediately prior to the accident and said that he was sitting practically erect, with one hand apparently on the throttle, and was leaning on the window sill with his right arm. As the engine struck the caboose it looked as though the engineman moved forward and then threw up both of his hands in front of his face. Immediately after the accident Flagman Harbertson saw the engineman in the cab and it appeared as though he was alive at that time and trying to move around.

Statements of Assistant Superintendent Coey Assistant Round House Foreman Lake, Machinist Sedlacek and Locomotive Carpenter Fenton were to the effect that examination of the rails disclosed no indication of sand having been used in the endeavor to bring extra 2545 to a stop; that coal was piled around the body of Engineman Welker following the

accident and that the body was found to be in an almost normal sitting position on the seat box, with the right arm out of the side window and the left arm alongside of the body. The brake valve was in the emergency position, the independent brake valve in the release position, the throttle was slightly open in the normal drifting position, and the reverse lever was about in the center of the quadrant. Coal had been thrown around the brake valve and reverse lever and it was possible for the position of these appliances to have been altered for that reason.

Several enginemen were interrogated as to the method of braking on the descending grade of 8 miles between Peru and Green River and it was developed from their statements that it was the general practice to make about five or six applications of the air between these points.

There was testimony to the effect that between Fossil and Kemmerer, prior to reaching Granger, when extra 2545 consisted of only the engine and Caboose, Engineman Welker and Head Brakeman Gardner went back to the caboose while Conductor Ryan operated the engine, the engineman saying he wanted to obtain a few minutes sleep. It also appeared that when Engineman Welker was informed that instructions had been received to turn at Fossil, when on the westbound trip, he expressed considerable disappointment on account of sickness in his family at his home, in Montpelier Idaho, and that his family had recently been under quarantine on account of scarlet fever.

An air-brake test was made on all of the cars in extra 2545 before they were moved away from the scene of the accident, with the exception of the first three cars in the train, which were damaged to such an extent that they could not be tested. At the time of this test it was found that the brake pipe was broken at the angle cock nipple union at the "A" end of the 31st car in the train, CPR box 202514; the break apparently was new and the damage to the train line on this car may or may not have been caused entirely as a result of the accident. A brake-pipe pressure of 70 pounds was maintained on the engine, with 69 pounds at the caboose. The piston-rod sleeves were first marked with chalk while they were in the release position and then a 25-pound brake-pipe reduction was made by means of the engineman's brake valve; it was found that the piston travel on the cars varied from 4 1/2 inches to 8 1/4 inches. No brake-pipe leakage test was recorded on account of the fact that a different engine was used in making the test, which might have set up a different leakage from that which existed at the time of the accident.

Conclusions.

This accident was caused by the failure of Engineman Welker, of extra 2545, properly to obey signal indications, and by his failure to operate his train under proper control within yard limits.

The testimony is to the effect that the air brakes were tested at Granger and that they worked properly en route. Also, that Engineman Welker apparently was in full possession of his faculties, wide awake and on the alert between Peru and the point of accident. Why he did not properly obey the caution indication displayed by signal 8184, enter and move within yard limits prepared to stop, or to obey the stop indication displayed by signal 8178, is not known and any attempt to explain why he did not bring his train to a stop on the

descending grade in time to avert the accident would be a matter of mere conjecture.

Engineman Welker entered the service of the Oregon Short Line Railroad as hostler helper, September 1, 1905, was promoted to fireman, April 28, 1906, and to engineman, August 12, 1910; his record was good. None of the employees involved had been on duty in violation of any of the provisions of the hours of service law.