

In Re Investigation of an accident which occurred on the Union Pacific Railroad at Bushnell, Nebr., October 23, 1916.

On October 23, 1916 there was an accident on the Union Pacific Railroad at Bushnell, Nebr., involving a headend collision between eastbound and westbound freight trains at the switch leading from the eastbound main track to the passing track, the wreckage being struck by a westbound passenger train. This accident resulted in the death of the head brakeman of the eastbound freight train and the fireman of the passenger train, and the injury of 21 passengers and 4 employees. An investigation of this accident was held in conjunction with the Nebraska Railway Commission, a hearing being held at Cheyenne, Wyoming, on October 27, 1916. As a result of this investigation the Chief of the Division of Safety submits the following report.

This part of the Union Pacific Railroad is a double track line, train movements being protected by an automatic block signal system. The passing track at Bushnell is located between the two main tracks, and at each end is connected with them. The switch points at the western end of the passing track are 30 feet east of automatic block signal 4636, governing the eastbound main track. Automatic signal 4644, the first eastbound signal west of signal 4636, is located 4290 feet west thereof. Approaching the point of accident from signal 4644 there is a curve of 30 minutes leading to the left, 1,500 feet of tangent and a curve of 1 degree 30 minutes to the right, about 1,500 feet in length, the eastern end of the curve being about at eastbound signal 4636. The grade for nearly one-half mile west of signal 4644 is about one-half per cent descending for eastbound trains, this grade continuing to a point about 1,500 feet beyond the signal. This is followed by about 1,100 feet of slightly descending grade and 700 feet of slightly ascending grade, beyond which point the grade begins to descend, being about .35 per cent at the point of accident. Approaching the point of accident from the east, the first automatic block signal is signal 4625; this signal is about 4,000 feet east of westbound signal 4633, which is located 850 feet east of the point of collision. Beginning at signal 4625, the track is on a curve to the left of a degree for a distance of 2,300 feet, beyond which point it is straight up to the point of accident. Practically all of the 1-degree curve is on a grade of nearly one-half per cent ascending for westbound trains; it is then only slightly ascending until within a short distance of signal 4633, and is then about .35 per cent ascending to the point of accident. As practically all the buildings of the town of Bushnell are located on the north side of the track, and as there are no cuts or trees on the inside of any of these curves, the view of signals is entirely unobscured, and under favorable conditions they can be seen for several miles. At the time of the accident a light snow was falling.

Westbound freight train 6th No. 255 consisted of 55 cars and a caboose, hauled by locomotive 2875, and was in charge of Conductor Sullivan and Engineman Jackson. It left Kimball, Nebr., at 9.45 p.m., 11 hours and 15 minutes late, and on its arrival at Bushnell, 11.7 miles west of Kimball, headed in on the passing track and came to a stop near the western end of the same, at about 10:25 p.m. Locomotive 2875 was then uncoupled from the train, pulled out on the eastbound main track and backed easterly to the water tank, about 1,600 feet east of the switch. The switch leading to the eastbound main track had been opened by Brakeman Moyer, and as soon as he lined the switch for the locomotive to back down the eastbound track he started west to flag any eastbound train which might approach. After water had been taken, Engineman Jackson started to pull ahead toward the switch for the purpose of backing in on the passing track and coupling the locomotive to the

train. When the switch had been nearly reached, the headlight of the locomotive hauling eastbound freight train 1st No. 254 was seen to be very close, and an effort was made to get locomotive 2875 off the main track. The fireman opened the switch and the locomotive had backed about one car length clear of the switch points when it was struck by train 1st No. 254, switch not having been closed.

Eastbound freight train 1st No. 254 consisted of 65 loaded cars and a caboose, hauled by locomotives 1907 and 207, and was in charge of Conductor McGnaughy and Enginemen Richardson and Ross. It passed Smeed, 4.9 miles from Bushnell, at about 10.34 p.m., nearly four hours late. Approaching Bushnell it passed automatic signal 4644 in the caution position, also Brakeman Moyer, who was at the eastern end of a bridge more than 1700 feet from the switch, giving stop signals, passed the home signal, No. 4636, which was displaying a stop indication, and, entering the passing track, collided with locomotive 2875 while traveling at a speed estimated to have been about 20 miles an hour, this accident occurring at about 10.42 p.m.

Locomotive 2875 was driven backward about 150 feet, at which point it was derailed, together with the two locomotives of train 1st No. 254. The first 14 cars of coal on the head end of train 1st No. 254 piled up immediately in the rear of the locomotives, blocking both main tracks. Immediately after the collision, the wreckage was struck by westbound passenger train No. 7, known as the Los Angeles Limited. This train consisted of 1 baggage car, 2 tourist sleeping cars, 1 dining car, 4 standard sleeping cars and an observation car, hauled by locomotive 2897, and was in charge of Conductor Hastings and Engineman Ulrich. It passed Kimball at *** p.m., 13 minutes late, passed Bushnell station, about 1,450 feet from the point of collision, at 10.42 p.m., and collided with the wreckage while traveling at a speed estimated to have been about 50 miles an hour. As a result of this second collision locomotive 2897 was thrown down the embankment on the right side of the track, while its tender broke away and was turned in the opposite direction. The baggage car came to rest on its right side with its forward end across the westbound main track and its rear end down the embankment, where it crushed in the left side and bottom of the first tourist sleeping car, which was resting at the foot of the embankment on its side. The rear end of this tourist sleeping car crushed in the side of the second tourist sleeping car, which came to rest with its head end across the westbound track and its rear end down the embankment. The dining car came to rest on its side, with the forward end down the embankment and the rear end also across the westbound track. The first standard sleeping car, the fifth car in the train, was derailed but remained upright on the roadbed and escaped serious damage. Locomotive 2897 was quite badly damaged, as was the case with the first four cars in the train. The dining and baggage cars were of all-steel construction, while the tourist sleeping cars had steel underframes and ends, with wooden superstructures, finished on the outside with metal sheathing. The locomotives on both westbound trains were equipped with electric headlights of 2,000 candle power. The leading locomotive of train 1st No. 254 was equipped with an acetylene headlight of 500 candle power. All of these headlights were burning at the time of the accident.

Engineman Jackson, of train 6th No. 255, stated that when his train stopped on the passing track at Bushnell the locomotive was cut off, the switch leading to the eastbound main track was opened by the head brakeman, and he pulled out on that track. The switch was then closed and he backed the locomotive down the eastbound track to the water tank, while the brakeman was sent west to protect by flag against eastbound trains. He did not whistle out a flag in either direction, and also said that he had not said anything to the conductor about

taking water at this point. During all of these movements the electric headlight on his locomotive was burning. the first he saw of the headlight of train 1st No. 254 was after water had been taken and when his locomotive had reached a point about half way between the water tank and the switch. At that time he asked the fireman if he could see any sign of an approaching train and the fireman replied that he thought it was a light out in the country. Engineman Jackson said that he then crossed over to the fireman's side and, on looking ahead, remarked that there was a train in the vicinity of Smeed. He then began to hurry, and the fireman jumped off at the switch as the locomotive passed it, opened the switch and he then started to back into the passing track. He had gotten about one or two rods inside of the switch points when the collision occurred. He thought about 10 minutes elapsed between the time the locomotive cut off and the time of the accident, and that train No. 7 collided with the wreckage within a second or two after the collision. Engineman Jackson also stated that the fireman got off on the right side of the locomotive, the switchstand being between the two main tracks, and that he saw the fireman try to close the switch after the locomotive had backed clear of the switch points, but he thought the fireman did not have time to close it before train 1st No. 254 approached. The last he saw of the fireman was when the latter took hold of the switch lever. He stated that if the fireman had succeeded in closing the switch the trains would not have met head-on, but he thought that possibly train 1st No. 254 would have cornered his locomotive. After the accident he asked the fireman why he did not close the switch and stated that the fireman told him that the approaching train was so close that he could not have done so without endangering his life.

Rule D-152 reads as follows:

"When a train crosses over to, or obstructs the other track, unless otherwise provided it must first be protected as prescribed by Rule 99 on both directions on that track."

Engineman Jackson stated that under this rule the movement should have been protected by flag in each direction before the movement was made, and that he failed to observe the rule by protecting in one direction only, and also by not being protected before the movement was started. Under the circumstances, however, he thought he was justified, saying that he looked and that he could have seen any train approaching from the west when it was several miles distant. he said that he also listened for the roar of a train. He also said that the snow did not obscure the automatic signals and that he did not have any trouble in observing them or seeing lights at the rear of his train of 55 cars.

Head Brakeman Moyer stated that he cut off locomotive 2875 from the head end of train 6th No. 255, about 20 car lengths from the switch, and rode up to the switch, opened it, and, after the locomotive had pulled out on the eastbound track, closed the switch so that the locomotive could back down to take water. After the locomotive started to back down the main track he walked westerly and when he had gone about 10 car lengths he saw the headlight of the leading locomotive of train 1st No. 254, apparently about 2 1/2 or 3 miles distant. He went toward it and placed one torpedo on the rail about 25 car lengths from the switch; after this, he heard the train sound the station whistle and he then began to run. He tried to light a fusee, but was unable to tear off the cap, and when train 1st No. 254 came around the second curve west of Bushnell he was near the second bridge beyond the switch and began to give stop signals with his red lantern. He stated that at this time the approaching train was about 15 or 20 car lengths west of the bridge and that no acknowledgement of his stop signals had been given. he stated that he went back as far as the eastern end of the second bridge, or about 1,700 feet from the switch, and that he then got off the track, on the engineman's side, to avoid being struck, the train passing him at a

speed of about 30 miles an hour. He did not see the engineman on the leading locomotive, or any of the engine crew on either locomotive, as train 1st no. 254 passed him, and said that there was no fire flying from the brake shoes and no apparent indication that any application of the air brakes had been made. brakemen Moyer further stated that when going over the road he had had no difficulty in observing signals given from the rear of the train, and that he had no difficulty in observing the block signals. When he was out flagging he saw signal 4636 in the stop position. He did not, however, observe the position of the distant signal, as he did not go beyond the bridge. He said the signals did not go to the clear position at any time after locomotive 2875 started for water, and that when he returned to the scene of the accident he found the switch lined for the passing track, Brakeman Moyer further stated that the engineman told him to open the switch and that he did so, and that the locomotive moved out on the eastbound track without any flag protection in either direction. He said that the engineman did not whistle out a flag in either direction and did not say anything to him about protecting before occupying the eastbound track. He said that the manner in which this movement was made and protected was the usual manner of making and protecting such movements. He also said that he should have gone out to flag at once and that the switch should have been opened by the fireman afterwards.

Fireman Harvey stated that after taking from one-third to one-half a tank of water the locomotive was proceeding westerly for the purpose of coupling to the train, and when about 200 or 300 feet from the switch he saw the eastbound freight train approaching. He was not positive how far away it was, but thought it had passed the caution signal. As his locomotive ran by the switch he dropped off to open it, the locomotive coming to a stop about 30 feet beyond the switch points. He stated that while at the switchstand he did not see the headlight of the approaching train, although he knew it was in the block, until a second or two before the collision occurred; there was then no time for him to close the switch. In his endeavor to close the switch he unhooked the lock and took hold of the switch lever, but the forward trucks of his own locomotive were still on the switch points and the other train was too close. He did not remember what he did between this time and the time he found himself 50 or 60 feet from the switch, over in the field, north of the locomotive of train No. 7. he did not observe the approach of train No. 7, and the first he knew of its presence was after it had collided with the wreckage. Fireman Harvey also stated that he heard Engineman Jackson tell Brakemen Moyer to take with him a red light and a fusee, and go out and flag as soon as he threw the switch. He stated that it was snowing quite a little and that to some extent it interfered with seeing the signals.

Conductor Sullivan said that on the arrival of his train at Bushnell it was snowing very little and he was able to see block signals 2-1/2 miles away. He stated that the train had taken the siding for train No. 7 and that he did not know that the engineman intended to take water at that point. He was in the caboose and remained there until notified of the occurrence of the accident. He thought train No. 7 arrived about 17 or 18 minutes after his train had gotten into clear. He said that under the rules a movement such as was made by Engineman Jackson should have been protected by flag in both directions. In this case no protection was given by any one on the rear of the train because no signal had been sounded by the enginemen. He further stated that it was always considered safe to make a movement under the circumstances which existed in this case, with the flagman and the locomotive going away from each other, but that whenever he knew of such movements he saw to it that flag protection in both directions was afforded.

Engineman Richardson, in charge of the leading locomotive of train 1st No. 254, said that he first saw the electric headlight of locomotive 2875 when about on mile west of Bushnell. The

headlight showed very distinctly, and at about the same time he saw the electric headlight of train No. 7 farther away. He supposed one train was on the passing track and the other on the westbound main track. He told the fireman to look back and see if a proceed signal was given from the rear end. He asked the fireman if he could see anything ahead and the fireman told him he could not. At about the same time he saw the distant signal, being about 200 feet from it when he first saw it, the signal at this time being in the caution position. He stated that upon seeing this indication he made a strong service application of the air brakes, about 10 or 12 pounds. The speed at this time was about 35 miles an hour. The next thing which attracted his attention was the white lantern of the flagman, and just afterwards he saw the flagman's red lantern, When he got close enough to the flagmen to see his red lantern he saw that he was giving stop signals with it, and at once applied the air brakes in emergency. At this time the flagmen was on the south or right hand side of the track, at the eastern end of the second bridge west of Bushnell, The cab window was open and he was leaning out, so that the flagmen could have seen him if he had looked. Engineman Richardson stated that as he approached the switch it was difficult for him to say how fast his train was running, on account of looking into the electric headlights, and also as he was paying more attention to the other train, and making every effort to stop, but he thought its speed was about 15 or 20 miles an hour when the collision occurred. At no time did he see the fireman of train 6th No. 255 at or near the switch. He also said that he did not know exactly where his train collided with locomotive 2875, as the electric headlight was shining directly into his face, and he could not see anything under those conditions, but from marks on the ties he supposed it was right at the switch points. Engineman Richardson stated that while he had had difficulty in making two previous stops, and was seeing the signals when only 300 or 400 feet from them, yet he considered that he was proceeding at a safe rate of speed when traveling 35 miles an hour. He afterwards said that he did not think he was taking any chance by allowing the train to drift by the distant signal near the speed limit for freight trains of 35 miles an hour, and he did not know how far he would have drifted toward the home signal at that speed if he had not been flagged by the flagman. He also said that the rules provide that on finding an instant signal at caution an engineman should slow down immediately, and be prepared to stop at the home signal. With regard to rule 895, which states that in foggy or stormy weather no attempt shall be made to make up time, he said that he had never felt that that rule applied to anything but high-speed trains, like passenger trains. He also stated that when he saw the two electric headlights and also the distant signal in the caution position, it did not occur to him that one of the two trains was occupying the eastbound track, on account of the fact that there was no flagman in sight at that time, saying that he had no idea what was holding the distant signal in the caution position. He also said that he had no complaint to make about the condition of the air pumps or the air brake equipment on train, leaving Cheyenne. At first he had been having some little trouble in making stops, and when making a stop at one point where the grade is heavier than at Bushnell he used the emergency brakes, and even then ran by the switch and had to back up about 15 feet in order to clear the switch points. After increasing the train line pressure from 70 to 80 pounds he had no further trouble until approaching the point of the accident, and said he was surprised at the time that he could not stop the train after a service application of the brakes had been made for a distance of 300 or 400 feet, followed by an emergency application for nearly one-half mile on nearly level track, and he doubted if he would have stopped in time to avoid the collision even if he had applied the emergency air brakes when he saw the distant signal. He said that the weather conditions were such that he had difficulty in seeing the signals given from the rear of the train, and in some cases he

could not see them at all. the block signals could not be seen from a great distance, but a strong light, such as an electric headlight, could be seen quite a long distance; the small lights were difficult to distinguish through the snow. He considered a 20-pound application to be a full service application when there was 80 pounds train line pressure, and said that if he had made a full service application when he first saw the distant signal he might have caused damage to the train.

Fireman Powell, of the leading locomotive of train 1st No. 254, stated that this was his first over this district. Approaching Bushnell, west of the distant signal, Enginemen Richardson told him to look out and see if he could not see anything, either signals or headlights, and then the engineman told him to look back. He did so, but could not even see the markers on the caboose. He supposed the engineman wanted him to look back to see if a proceed signal was given from the rear of the train. At about this time the engineman placed the brake valve in the service position, gave two short blasts of the whistle, supposedly in answer to the brakes, reducing the speed from 30 to about 15 miles an hour. He thought that about one minute elapsed between the two applications of the brakes. He stated that he did not see the distant signal, although on the inside of the curve when approaching it, but he thought the service application of the brakes was made when the locomotive was about opposite the signal. Approaching the point of accident he was riding on the seatbox, looking ahead, but he claimed that he did not see the switch, the home signal, the fireman standing near the switch, or either of the two electric headlights. When he descended to the ground after the accident he looked at his watch and it was 10.42 p.m. Fireman Powell also said that at one point on the trip it was rather difficult to stop the train, but that it was stopped clear of the switch, and in his opinion the brakes had been working properly.

Engineman Ross, in charge of the second locomotive of train 1st No. 254, stated that this was his first trip on this district and that he was not well acquainted with the grades and curves. Approaching Bushnell he saw the distant signal displaying a caution indication when about 200 yards from it. He did not notice any application of the air brakes as the train approached the distant signal, but said he did not know whether or not he would have noticed it as, when making some of the previous stops, he had not noticed or felt the application of the air. He also saw the flagman with red and white lanterns, but did not hear the explosion of any torpedoes. He saw the flagman get off the track and said that he was giving stop signals when the locomotives passed him, and at about this time the brakes were applied. The electric headlight of the freight locomotive was then shining in his face, as well as the electric headlight of the passenger train, which was some distance back of the freight locomotive. It did not seem to him that the train slowed down very rapidly, but he thought that perhaps it was because the engineman of the leading locomotive could see better than he could. He stated that he leaned some distance out of the cab window, trying to see the home signal. While he did not know exactly where it was located, he stated that he could not see anything on account of the two electric headlights, and that at no time did he see the home signal. He also said that when the locomotives crossed the passing track switch he thought that the opposing train had gotten into clear and that there was not going to be any collision; and that perhaps this might have been the reason he had not noticed any red home signal. Engineman Ross further stated that he could have applied the air brakes by cutting in the air on his locomotive, but that he supposed the engineman on the leading locomotive could see better than he could. He thought the speed of the train had been about 30 miles an hour until about at the flagman, and that it was afterward reduced about 10 miles an hour. He said that the distant signal could be seen very plainly, but that the difficulty in seeing signals occurred east of that point. While it was snowing, yet the weather conditions were not as bad as the

electric headlights. In explaining how the electric headlights interfered, he said that they did not interfere with the signals themselves, but by shining in his eyes prevented him from seeing what was ahead of him. The electric headlights of both locomotive 2875 and the locomotive of train No. 7 were shining in his face. He thought train No. 7 might have been about half-way by the passing track but said that he was not sure as to its location as he could not see clearly. he further stated that between Cheyenne and the point of accident no difficulty was experienced in handling the train by the air brakes, and that Engineman Richardson made very good stops.

Fireman Neilson, of the second locomotive of train 1st No. 254, stated that his locomotive passed the switch at Burns about 12 or 15 feet, and that it had to back up before heading in on the passing track. Approaching Bushnell he felt the brakes being applied about at the distant signal, but said he did not know the exact location as he did not see the signal, saying that steam and smoke were rolling down on his side. At the time of passing the distant signal he was riding on his seatbox, with the window open, and was leaning out the window. He thought the speed was about 30 miles an hour, perhaps 32 miles, at that time. He was looking back to see if any signals were given, and while looking back felt the brakes applied, but did not notice any fire flying from the wheels. He then heard two short blasts of the whistle. He said that he did not see either of the two electric headlights, or the home signal, that he looked to see what was ahead, but did not see anything, and at no time did he see any electric headlight. He did not realize that there was going to be a collision until it occurred. He thought the speed was about 18 miles an hour at his time.

Conductor McConaughy, of train 1st No. 254, stated that about five stops were made by his train en route, and that at at least one point the grade was heavier than at Bushnell. he did not notice Engineman Richardson backing up 15 feet at Burns, saying that the caboose was not moved backward at all in order to clear the switch. He did not notice any trouble being experienced in making stops. At the time the accident occurred he was riding in the cupola of the caboose and did not notice the position of the automatic block signals. He said the first thing he noticed was a shock, and then the train seemed to keep lunging ahead, this being due to the pilling up of the cars. He did not notice any application of the air brakes until about the time of the collision, and he did not think there had been any appreciable reduction in the speed, which had averaged about 30 miles an hour. It was 10.42 p.m. when he stepped from the caboose immediately after the collision occurred. He stated that after the accident he talked with Engineman Richardson, and that the engineman told him that he could not stop after he saw the flagman, that he applied the air brakes in emergency, but that the train was too heavy. He did not think the weather conditions were such as to obscure the view to any extent.

Rear Brakeman Roseboom stated that he was riding on the rear platform of the caboose when his train was approaching Bushnell, and that he did not notice any application of the air brakes. He thought the speed was about 35 miles an hour. He also stated that in making the other stops en route, no difficulty had been experienced.

D. H. Breese, air brake superintendent, stated that approaching Bushnell from the west with a train of the same weight and number of cars as train 1st No. 254 had, and traveling at a speed of 35 miles an hour, the train could be stopped with an emergency application of the air brakes in from 1200 to 1500 feet, and he stated that if Engineman Richardson had made a service application of 10 or 15 pounds at the distant signal, and then an emergency application when passing the flagman, 1,000 feet from the home signal, the train could have been stopped without any difficulty; in fact, if the proper service application had been made

at the distant signal, it would have been sufficient to stop the train before reaching the home signal.

This accident was caused by the failure of Brakeman Moyer properly to protect locomotive 2875 while it was occupying the main track, and by the failure of Enginemen Richardson, of the leading locomotive on train 1st No. 254, properly to observe and be governed by automatic block signal indications.

The evidence indicates that train 6th No. 255 was in the clear on the passing track at least 15 minutes before the collision occurred, and, assuming that an interval of 5 minutes elapsed between the time the train stopped and the time the locomotive headed out on the eastbound track and started to back to the water tank, Brakeman Moyer had at least 10 minutes in which to go out and protect the movement. Rule No. 99, of the Rules and Regulations of the Transportation Department, reads as follows:

"When a train stops or is delayed under circumstances in which it may be overtaken by another train the flagman must go back immediately with stop signals a sufficient distance to insure full protection. One-fourth of a mile from the rear of the train he will place one torpedo on the rail, continuing back one-half mile from the rear of his train, he will place two torpedoes on the rail, two rail lengths apart. He may then return to the single torpedo where he must remain until relieved by another flagman or is recalled by the whistle of his engine. When recalled, if he does not see or hear an approaching train, the single torpedo will be removed (and not before), if conditions warrant, a red fusee will be displayed to protect his train while returning.

"During foggy or stormy weather, in the vicinity of obscure curves or descending grades, or if other conditions require it, the flagman will increase the distance.

"Should a train be seen or heard approaching before flagman has reached the required distance, he must at once place one torpedo on the rail, and, if by night or during foggy or stormy weather, display a red fusee, continuing in the direction of the approaching train.

"If the flagman is recalled before reaching the required distance he will, if necessary, place two torpedoes on the rail two rail lengths apart by day, and by night display a red fusee in addition, to protect his train while returning.

When a train is flagged, the engineman must obtain a thorough explanation of the cause, stopping if necessary.

"The front of a train must be protected in the same manner when necessary.

"Conductors are responsible for the full protection of their trains in both directions and under all conditions."

According to Brakeman Moyer's testimony he partially complied with the rule by placing one torpedo on the rail shortly after he saw train 1st No. 254 approaching, and before he had gone out the required distance, but he stated that this torpedo was placed on the rail 25 car lengths from the switch and that he had only reached a point about 1,700 feet from the switch when train 1st No. 254 passed him. In view of the amount of time which he must have had at his disposal, there is no apparent reason why Brakeman Moyer, if had had been properly performing his duty, could not have gone out a much greater distance.

The testimony of Engineman Richardson, as to what he did, is conflicting. At one point in his testimony he said he made 1 10- or 15-pound application of the brakes when he saw the distant signal, while at another point he said that he did not think he was taking a chance by allowing the train to drift by the distant signal running nearly at the speed limit. The testimony of the fireman on each locomotive indicates that an application of the brakes was made at the distant signal, while the engineman of the second locomotive said the brakes were

applied when the train passed Brakeman Moyer, and the conductor and flagman, both of whom were on the caboose, stated that they did not notice any application of the air brakes until just before the collision occurred. After carefully considering this conflicting testimony, the speed at which the train had been running, and the condition of the wreckage, it is believed that Engineman Richardson did not make an application of the air brakes when he saw the distant signal indicating caution, but that the first application was made when he was flagged by Brakeman Moyer. Rule No. 302 reads as follows:

"Enginemen finding a distant signal at 'caution' must immediately bring their trains under control, and be prepared to stop before reaching the home signal. They are reminded that although the distant signal indicates the position of the home signal, the home signal may assume the STOP position after the distant signal has given the CLEAR indication, and while the train is between the distant and home signal. For this reason enginemen and trainmen must be on the alert, prepared to bring the train to a stop if the home signal indicates STOP, and be governed by Rule 504,"

Under this rule, there should be no doubt as to the action to be taken on finding a distant signal in the caution position, and Engineman Richardson should have made such an application of the air brakes at this signal as would have brought his train under control immediately.

A contributing cause was the failure of Engineman Jackson, of locomotive 2875, properly to observe and be governed by rule D-152, previously quoted. Under this rule locomotive 2875 should not have occupied the main track until proper protection had been afforded, as required by rule No. 99. While it is believed that Brakeman Moyer had sufficient time to protect the locomotive before the arrival of train 1st No. 254, yet had locomotive 2875 remained on the passing track until Brakeman Moyer went out to flag, it is possible that he would have gone out a greater distance and would have succeeded in stopping the approaching train in time to avert the collision. In any event, however, at the time Engineman Jackson moved his locomotive out on the main track no attempt to protect it by flag had been made, and for making this movement under these conditions Engineman Jackson is responsible.

A further contributing cause was the failure of Engineman Ross, in charge of the second locomotive of train 1st No. 254, to cut in his air and take control of the train when he saw that Engineman Richardson was not properly obeying the automatic block signal indications. It was Engineman Ross' first trip over this division, however, and he stated that after passing the distant signal he was leaning out of the window in the endeavor to see who was ahead of his train, and to locate the home signal, and he said that he did not at any time see the indication of the home signal on account of the fact that the electric headlights of locomotive 2875 and of the passenger locomotive were shining in his eyes.

Engineman Richardson was employed in November, 1899, as a fireman, and was promoted to engineman in August, 1905. In April, 1911, he was discharged for disregarding a block signal. He was reemployed as a hostler in July of the same year, and in October was reinstated to engineman. He was again discharged in April, 1913, for violating rule No. 99, which governs the protection of trains by flag, and was reinstated in May of the same year. At the time of the accident he had been on duty 6 hours and 30 minutes, after a period off duty of 9 hours and 40 minutes.

Engineman Jackson entered the service in October, 1904, as a fireman, and in September, 1907, was promoted to engineman. In February, 1910, he was discharged for hazard of accident, being reinstated in September of the same year. In December, 1914, he was given

30 demerits for running on short time ahead of a passenger train, and in November, 1915, was again given 30 demerits for responsibility in connection with a derailment. At the time of the accident he had been on duty 13 hours and 10 minutes, after a period off duty of 13 hours and 20 minutes.

Engineman Ross was employed as a fireman in September, 1906, and was promoted to engineman in May, 1913. At the time of the accident he had been on duty 6 hours 30 minutes, after a period off duty of 11 hours and 35 minutes.

In several of its reports covering accident investigations, the Commission has called attention to the improper observance of caution signals on the part of enginemen, and this accident again directs attention to the necessity of enginemen immediately bringing their trains under control under such circumstances. In this case the rule specifically provides that enginemen shall bring their trains under control immediately upon observing a caution signal, and had Engineman Richardson obeyed this rule, or had locomotive 2875 been protected by flag before occupying the main track, as required by rule D-152, this accident undoubtedly would have been prevented.