

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
CHICAGO, BURLINGTON & QUINCY RAILROAD NEAR STANTON,
IOWA, ON NOVEMBER 1, 1920.

January 10, 1921.

On November 1, 1920, there was a rear-end collision between a passenger train, and a freight train, on the Chicago, Burlington & Quincy Railroad at Stanton, Iowa, the wreckage of which was struck by a passenger train running in the opposite direction on an adjoining track. The accident resulted in the death of 3 employees on duty, and 1 trespasser, and injury to 1 employee off duty. After investigation, the Chief of the Bureau of Safety submits the following report:

The accident occurred on the Creston Division, on a section of double track extending between Red Oak and Creston, Iowa, a distance of 49.5 miles. On double track the movement of trains running with the current of traffic is governed by automatic block-signal indications which supersede time-table authority. The movement of trains is under the direction of a train dispatcher, orders being transmitted by telephone.

Beginning at a point about 6,400 feet west of the point of accident and proceeding eastward, the track is tangent for 2,900 feet, followed by a 1-degree curve to the left 1,700 feet in length, followed by a tangent of 1,200 feet to the point of the accident. From that point eastward it is tangent for 3,500 feet. Approaching from the west there is a descending grade of .6 per cent for about 4,500 feet, followed by level track for 800 feet to the point of the accident and for 2,500 feet beyond.

The signals involved in this accident are automatic signals of the two-position, lower-quadrant semaphore type. The distant signal is located 6,400 feet west of the point of the accident and indicates the position of the top arm of signal S-436.0 located 2,400 feet east.

Signal S-436.0 is a three-arm signal; the top arm in the horizontal position indicates "stop and proceed to the next signal under caution", the second arm is a caution signal for the top arm of signal S-435.2, located 4,000 feet east, and 60 feet east of the point of the accident. The bottom arm is called a "heading-in signal" and is controlled by a knife switch located in the telegraph office and thrown by the operator. The circuits of the top and middle arm of this signal are also broken through this knife switch. The bottom arm in the proceed position indicates to a train that it is to take the siding at that point. Signal S-435.2 is a two-arm signal, the top arm in horizontal position indicates "stop and proceed with caution", and the bottom arm is a distant signal for the next signal in advance. The train-order signal is a two-arm signal and is located on the south side of the track opposite the station, which is 400 feet west of the point of accident. At the time of the accident the weather was cloudy.

Eastbound extra 2955, en route from Council Bluffs, Iowa, to Creston, was in charge of Conductor Hipes and Engineer Bogar, and at the time of the accident consisted of 28 loaded cars, 1 empty car, and a caboose. It left Council Bluffs at 9.15 p.m., passed Red Oak, the last open telegraph office,

7.2 miles west of Stanton, at 4 a.m., and stopped at Stanton at 4.22 a.m. with its caboose just west of an undergrade crossing located 60 feet west of signal S-435.2.

Eastbound passenger train No. 10, en route from Lincoln, Nebr., to Chicago, Ill., was hauled by engine 2964 and consisted of 4 baggage cars, 1 coach, and 1 sleeping car. It was in charge of Conductor Drew and Enginemen Tindall. It left Pacific Junction at 3:36 a.m., 58 minutes late, passed Red Oak at 4:20 a.m., 45 minutes late, and collided with the rear-end of extra 2955 at 4:27 a.m., while running at a speed estimated to have been from 18 to 25 miles per hour.

Westbound train No. 1, en route from Chicago, Ill., to Denver, Colo., hauled by engine 2959, consisted of 3 express cars, 1 baggage car, 1 combination baggage car and coach, 1 coach, 1 chair car, 3 sleeping cars, and an observation car. It was in charge of Conductor Grier and Engineman Conklin. It left Creston at 3:20 a.m., on time, passed Vallisca, the last open telgraph office, 7.8 miles east of Stanton, at 4 14 a.m., 1 minute late and collided with the wreckage from extra 2955 and train No. 10 at 4:27 a.m., while running at a speed estimated to have been about 45 miles per hour.

The caboose of extra 2955 was thrown to the north upon the westbound track, caught fire from an overturned stove that it contained, and was totally destroyed. The locomotive of train No. 10 was slightly damaged, neither the locomotive nor any of the cars in train No. 10 was derailed. Train No. 1 struck the wreckage just east of the undergrade crossing; the engine and 5 leading cars were derailed; the engine came to

rest on its right side north of the track about 160 feet from the point of the collision. The derailed cars came to rest on the north side of the track, the superstructure of the baggage-coach was destroyed and the coach following was badly damaged by fire. The employees killed were the engineman of train No. 10 and the engineman and fireman of train No. 1.

Engineman Bogar, of extra 2955, stated that when his train left Red Oak the conductor told him train No. 10 was reported 50 minutes late. At that time he expected his train would make Vallisca ahead of train No. 10. When it approached signal S-436.0, the two top arms were in the proceed position and the bottom arm in the horizontal position, when he observed the train-order signal in the stop position he sounded the engine whistle, expecting that the board would be cleared or that he would receive a clearance on it, but as the position of the signal was not changed and no clearance was given he brought his train to a stop. After stopping he did not receive any signal from the rear of the train, he did, however, see the flagman on the ground with a red fusee. Train No. 1 on the westbound track had passed his engine before he felt the shock of the collision; he estimated that his train had been standing 2 or 3 minutes when the collision occurred. After the accident he went to the rear of the train and got on the engine of train No. 10 and moved that train back to get it away from the fire. He found the engineer's brake valve in emergency position and the reverse lever was in the forward motion, the brakes of train No. 10 appeared to be working properly.

Brakeman Schmidt, of extra 2955, stated that approaching Stanton he was riding on the fireman's seat on the left side of the engine. A short time after the train stopped he could see the flagman going back behind the caboos with a red fusee; several minutes after the train stopped he saw the headlight of train No. 10 coming over the hill. After stopping he went to the engineer's side and got off. He saw the conductor coming toward the front end of the train and started back to meet him. He had reached a point opposite the first car of the train when he met the conductor and entered into conversation with him and they had been talking about a minute and a half before the collision occurred. He estimated that the train had been standing about 5 minutes when the collision occurred. He corroborated the statement of Engineman Bogar that the train was not moved backward.

Conductor Hipes, of extra 2955, stated that leaving Red Oak the operator told him that train No. 10 was 50 minutes late, he expected that his train would take the siding at Stanton to let train No. 10 by. Approaching Stanton he was riding in the caboose and he noticed as he passed that the distant signal and all of the arms on signal S-436.0 were in the horizontal position, he also saw the train-order signal in the stop position. As soon as the train stopped he got off the caboose, and Flagman Carlson got off at the same time. As he got off he told Carlson to hurry right back with fusees and flag train No. 10. He then started to go to the head end of the train to see what the engineer had received on the train-order signal and Flagman Carlson started back with a white

light and red fusee. When he had reached a point about 10 car-lengths from the head end of the train he met the head brakeman who told him that train No. 10 was coming, he looked back and saw the flagman, about that time the collision occurred. He believes that the rear of his caboose was 1 or 2 car-lengths west of the underground crossing when the train stopped. He looked at his watch as he got off and it was 4:22, and he fixes the time of the collision as 4:27. After leaving the caboose he did not look back to see where the flagman was until he met the head brakeman near the head end of the train.

Flagman Carlson of extra 2955 stated that approaching Stanton he was riding on the caboose; When his train came to a stop the caboose was just west of signal S-435.2. As soon as the train stopped the conductor told him to look out for train No. 10. He took his white lantern and a fusee, got off at once and started back to protect the rear of his train, lighting his fusee when about 10 feet distant from the caboose. When he started back he saw the headlight of train No. 10. He ran back as fast as he could and reached a point about 25 or 30 car-lengths from the rear of his train when train No. 10 passed him. He signaled the engineman of train No. 10 and his signal was answered when the engine was 3 or 4 car-lengths from him. He believed that the engine was using steam at that time, he did not observe that any application of the brakes was made. He estimated the speed of train No. 10 to have been about 30 miles an hour when it passed him. The rear of train No. 10 had passed him just a few car-lengths when the collision occurred. He did not take his red lantern

with him on account of the wick being incrustated and giving but little light, neither did he take torpedoes as they were fastened to the red lantern.

Fireman Tracy, of train No. 10, stated that he did not call the position of the signal between Pacific Junction and Stanton, neither did Engineman Tindall call the signals to him. He makes it a practice to observe the position of the fixed signals, but he did not notice the position of any of them on this occasion, except the train-order signal, which was in the stop position; he called that signal to the engineman who immediately made an emergency application of the brakes. When he first discovered that the train-order signal was in the stop position it was then between 10 and 15 car-lengths distant. He estimated the speed of his train at that time to have been 25 or 30 miles an hour. He saw a flagman standing right in front of Stanton Station and the engineman answered the flagman's signal with one blast of the engine whistle. The flagman had a white light in his hand, but he did not notice a fusee. He did not see the marker lights until just before the collision occurred. He stated that after the accident he was talking to Flagman Carlson, who said he did not have time to get back any further and that the freight train was backing up.

Conductor Drew, of train No. 10, stated that at the time of the accident he was riding in the first passenger coach, which was the 5th car from the engine. He felt the application of the brakes a minute or minute and a half before the accident occurred. He fixed the time of the accident at

4:27 a.m., and estimated the speed of his train to have been 20 miles per hour.

Flagman Hein, of train No. 10, stated at the time of the accident he was riding in the rear end of the last car. As soon as his train stopped he got off and started back to flag. At that time the rear of his train was about 2 car-lengths west of the depot. As he went back he did not see anything of the flagman of extra 2955, he noticed that all the arms of signal S-436.0 and the distant signals were in the horizontal position and that all the signal lights were burning.

Conductor Grier, of train No. 1, stated that the first intimation of the accident which he received was a jar. He thinks that there was an application of the brakes about the time the collision occurred. He estimated the speed of his train to have been 40 or 45 miles an hour at the time of the accident.

Operator Moberly, on duty at Stanton, stated that shortly after 4 a.m., the dispatcher called him and asked him if he could hear the extra coming. He replied that there was a high wind and he could not hear very well but he thought they were, he then went out on the platform and saw the extra coming through the cut, returned to the office and notified the dispatcher, thereupon the dispatcher told him to head them in, he replied that by the time he could get out there the train would be going too fast to head in, the dispatcher told him to go out and do what he could. He then went out with his white lantern and gave a stop signal, at that time the train was about 15 car-lengths distant, he then returned to the office and remain-

ed there until train No. 10 approached. When the dispatcher first told him that he might want to head the train in he set the train-order signal at danger. When he told him to do what he could to get them he threw the switch controlling the heading-in signal, but at that time he believes the engine had already passed the signal. From his position in the office it appeared to him that the rear-end of extra 2955 was just east of signal S-435.2 when the train came to a stop, he saw someone standing near the caboose giving a back up signal and that the train backed up before the collision occurred. He did not notice the flagman go back when the train first stopped. When he heard train No. 10 coming he took his lantern and went out, he then saw the flagman running back waving a fusee and at the time train No. 10 passed the flagman he was about 150 feet east of the station.

Dispatcher Moran stated that an order was given to train No. 10 at Pacific Junction to run 35 minutes late to Red Oak and that extra 2955 had a copy of the order. The operator at Red Oak reported extra 2955 had passed at 3:35 a.m., later he said the train had stopped in the east end of the yard and was setting out some cars with hot boxes. He told the operator at Red Oak that if the crew of the extra called up from the east end of the yard, to tell them that train No. 10 would be 45 or 50 minutes late. After that there was some trouble on the telephone with Red Oak. About 4:15 a.m., Stanton called and stated that Red Oak had told him that the extra had left. He told the operator at Stanton to let him know when they were coming. A few minutes after that the operator reported that

there was a train coming but it sounded like a passenger train. He told him to wait a second and in the mean time tried to get hold of Red Oak to find out if the train had left. The operator at Red Oak advised him that the train had left. He then called Stanton and the operator at Stanton told him the train was coming. He told him to put them in and let No. 10 by. The operator reported that he did not know whether he could get out to the switches as they were coming too close. He told him to hurry and do what he could.

The evidence available indicates that the signals involved in this accident were working in proper manner. This provided a caution signal 6,400 feet and stop signal 4,000 feet from the rear of the standing train, and in addition to this there was a flagman with a fusee and marker lights acting as a warning.

The preponderance of evidence is that the train did not back up after stopping. While Operator Moberly is positive in his statement that it did, it is believed that he was not in advantageous position for accurate observation and that he is mistaken in his belief.

This accident was caused by the failure of Engineman Tindall of train No. 10 to be governed by signal indications displayed by the caution and home signal S-436.0. Flagman Carlson shares in the responsibility for this accident in that he failed properly to protect the rear of his train as required by rule 99. Conductor Hipes also shares in a lesser degree in not making certain that the rear of his train was properly protected.

The actions of Engineman Tindall prior to the collision preclude any theory of injury to him or unconsciousness on his part. Investigation discloses that Engineman Tindall was not regularly assigned to this territory and within the past two years had made the following trips in freight service over this line.

March 11-12, 1919, one round trip, Pacific Jct. to Creston.
Sept. 30-Oct. 3, 1919, two round trips Pacific Jct. to Creston.
Feb. 17-18, 1920, one round trip Pacific Jct. to Creston.
July 29-30, 1920, one round trip, Pacific Jct. to Creston.

The day of the accident was his next succeeding trip and was his first trip in passenger service over this territory. The Automatic signals between Red Oak and Stanton were first placed in service January 23, 1920, he therefore had made but two round trips over the line since their installation. The fact that he asked his Conductor about taking coal before the train left Omaha indicates that he was not familiar with the operation of passenger trains over the line which he was about to cover.

The evidence also indicates that train No. 10 was greatly exceeding the speed limit. The maximum speed permitted for passenger trains on this section, by time-table rule is 50 miles per hour. The distance from Malvern to Red Oak is 19.2 miles and the schedule time for train No. 10 is 32 minutes, which is an average speed of 36 miles per hour, while the time actually used was 22 minutes or an average speed of 53 miles per hour; from Red Oak to Stanton the distance is 7.2 miles and the schedule time is 13 minutes or 33.2 miles per hour while the train actually consumed but 7 minutes, an

average speed of 61.7 miles per hour.

-General Rule 99 provides in part as follows.

"When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes, and when necessary, in addition, displaying lighted fuseses."

The evidence is that although Flagman Carlson had five minutes in which to get back and stop the approaching train, yet he only reached a point not further than the front of the station, a distance of about 400 feet. A test made subsequent to the accident shows that in the length of time which he had he should have reached a point at least 1,200 feet from the rear of his train.

Conductor Hipes knew that his train was being followed closely by No. 10 and that the apparent reason for its stopping was on account of the train order signal being in the stop position. Under these circumstances he should have made certain that the rear of his train was properly protected. It would have been better judgment on his part if, when his train stopped, he had gone to the telegraph office, which was a short distance from his caboose, for information instead of going to the engine. If he had done the latter he would have been in a better position to supervise the flagman in the performance of his duty.

The Chicago, Burlington & Quincy Railroad is subject to criticism in connection with this accident for allowing Engineman Tindall to act as engineman of a passenger train over this territory. The evidence warrants the statement that

he was unfamiliar with the physical characteristics of the road. He had made but five round trips over this line in two years and except in one instance at widely separated intervals, and all of these were in freight service, and only two round trips since the installation of the automatic signal system nine months previous. Such infrequent service and at such widely separated intervals is not sufficient to prepare an engineman for his first trip on a passenger train of this character.

In this instance a modern automatic signal system had been installed and functioned properly, but the employee in control of the train failed to observe or be governed by its indications. This adds but another instance to the already long list of arguments for the necessity for the perfection and adoption of an automatic train control system.

The proximity of train No. 1 at the time the collision occurred between the freight train and train No. 10 on the east-bound track, precluded any notice or warning whatever being given to that train in season to prevent its collision with the wreckage.

Engineman Tindall entered the service as Fireman in 1906 and was promoted to Engineman in 1916 and has practically a clear record. At the time of the accident he had been on duty 4 hours, 28 minutes after having been off duty 15 hours. Conductor Hipes entered the service as Brakeman in 1899, was promoted to Conductor in 1906 and has a fair record. Flagman Carlson entered the service in 1906 and has a good record. Both had been on duty 9 hours 40 minutes at the time of the accident after having had 9 hours off duty.