

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE TEXAS & PACIFIC RAILWAY AT WASKOM, TEX., ON OCTOBER 20, 1927.

December 8, 1927.

To the Commission:

On October 20, 1927, there was a derailment of a passenger train on the Texas & Pacific Railway at Waskom, Tex., resulting in the death of one employe and one trespasser, and the injury of eight passengers and one employe.

Location and method of operation

This accident occurred on the Marshall Sub-division of the Louisiana Division, extending between Marshall, Tex., and Alexandria, La., a distance of 155.8 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders, no block-signal system being in use. The accident occurred at the west switch of the house track at Waskom; approaching this point from the west the track is tangent for a distance of 3,437 feet, followed by a 30' curve to the right 250 feet in length, the accident occurring on this curve at a point 14 feet from its western end. The grade at the point of accident is 0.75 per cent ascending for eastbound trains.

The house track is 1,363 feet in length and parallels the main track on the north; the west switch is a facing-point switch for eastbound trains, with a No. 9 turnout. The switchstand of the Elliott high circle type, is located on the north side of the main track, the switch lamp is about 6 feet 7 inches above the ties and displays a red indication when the switch is open and a green indication when it is closed. At the time of the accident there were four freight cars standing on the house track, two box cars at a point about 315 feet east of the west switch and a box car and a scale car at a point about 600 feet east of the switch.

The weather was clear at the time of the accident, which occurred at about 10.23 p. m.

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Description

Eastbound passenger train No. 22 consisted of one baggage and express car, one baggage and mail car, two coaches and two Pullman sleeping cars, all of steel construction, hauled by engine 359, and was in charge of Conductor Singleton and Engineman Gorman. This train left Marshall, its initial terminal, 19.2 miles west of Waskom, at 9.53 p. m., 1 hour and 11 minutes late and was derailed at the west house-track switch at Waskom while traveling at a speed estimated to have been between 35 and 50 miles per hour.

After it had been derailed, engine 359 struck the first of the two cars standing on the house track and finally came to rest on its left side, across the house and main tracks, headed south, at a point 389 feet east of the switch, in a badly damaged condition. The first four cars in the train and the forward truck of the fifth car were derailed, the first car came to rest on its right side, parallel with the engine while the other derailed cars remained upright. The first two freight cars standing on the house track were driven back against the other two cars, but only the first of these cars was seriously damaged. The employee killed was the fireman.

Summary of evidence.

Engineman Gorman stated that the switch lamp was displaying a green or proceed indication as his train approached. He had sounded the station whistle and had his hand on the whistle cord when the engine was derailed, at or near the switch, apparently between the switch points and frog. Engineman Gorman immediately applied the air brakes in emergency and within a few seconds the engine collided with the cars standing on the house track while moving at a speed he estimated to have been between 45 and 50 miles per hour. Engineman Gorman further stated that the air brakes had been tested and worked properly and the headlight was burning brightly, that he noticed nothing unusual with the rail or switch points when approaching the point of accident and that his first knowledge of anything wrong was when the front end of the engine began bouncing on the ties. Conductor Singleton and Train Porter Collier were riding in the third car while brakeman Whitis was riding on the rear platform of the rear car, they were unaware of anything wrong prior to the occurrence of the accident. Brakeman Whitis immediately went back to flag, he said that when he got off the rear end of the last car he noticed that the wheels of the rear truck of that car had stopped on the switch points and that the switch lamp was displaying a green indication, but he did not look at the switch points. Conductor Singleton,

who was the first person to examine the switch after the accident, said that the wheels of the rear truck of the last car stopped on the switch points. He examined the switch and its appurtenances by the light from his lantern and found that the switch was locked for a main-track movement, with the lever in the socket and the switch lamp displaying a green indication, but that the switch points were open. He also found that the connecting rod had become disconnected from the bridle rod and was lying on the ground, the ends of the two rods being separated by a distance of about 4 inches. The safety strap on the end of the bridle rod had been broken and that portion of the base of the safety strap that remained riveted to the bridle rod was very rusty. Conductor Singleton estimated the speed of his train at the time of the accident to have been about 35 or 40 miles per hour.

On one end of the connecting rod of this switch there is a hole or eye $1\frac{1}{4}$ inches in diameter which fits over a lug on the end of the bridle rod. There is a safety strap on this end of the bridle rod so arranged that when putting the connecting rod in place the connecting rod must be held at an angle with the ground of about 45° . After this had been done the opposite end of the connecting rod is lowered until the rod is parallel with the ground and it is then in position to be secured to the switch stand. Once secured in this position, there is no way the connecting rod can become disengaged from the bridle rod as long as the safety strap remains intact. The safety strap was made of metal $\frac{1}{4}$ inch in thickness and $2\frac{1}{2}$ inches in width. Section Foreman Sandefer stated that at about 9 a. m. on the day of the accident he inspected, oiled and greased the switch and its appurtenances and adjusted the points. He was sure the safety strap was in place at that time as he remembered oiling the lug of the bridle rod and the eye of the connecting rod. Section Foreman Sandefer arrived at the scene of the accident within less than 10 minutes after its occurrence but did not examine the switch and its appurtenances until about one and one-half or two hours afterwards. He noticed that the safety strap was missing from the bridle rod and said that to the best of his recollection it was lying on the ground about 6 or 8 inches west of the rod. It was too dark to tell anything about the safety strap at that time and he did not handle it. On being shown the safety strap during the investigation he said that owing to the oil, grease and dirt, the surface of the metal looked old at the point where it had broken off from its base, which remained secured to the bridle rod, but he did not think that it

had worn through by rust and dropped off of its own accord. Section Foreman Sandefer thought that even if the safety strap were not in place the connecting rod could not have been jarred or shaken off of the lug of the bridle rod by the vibration of a passing train and he was of the opinion that some one pried off the connecting rod and opened the switch points, otherwise the switch points would not of their own accord have lined themselves for the house track, but would have lacked about $2\frac{1}{2}$ inches of so doing, in which condition the derailment would have occurred right at the switch.

Superintendent Car Department Schmalzried, Trainmaster Oliver and District Roadmaster Russum reached the scene of the accident less than two hours after its occurrence. Their examination of the switch disclosed it to be practically in the condition as described by Conductor Singleton. Trainmaster Oliver said that the missing portion of the safety strap was given to him by Purchasing Agent McClung, who said that he had found it near the rod connections. After the car was moved off the switch points the switch was tested, the switch points being thrown to the opposite side and it was found that they fitted properly. The bridle rod and the connecting rod were then engaged and the switch operated in both the open and closed positions, after these tests had been made it was found that there was no difficulty in pulling the end of the connecting rod off the bridle-rod lug by hand and when this had been done the switch points would spring toward the south, Trainmaster Oliver saying that the south point lacked about 1 inch of touching the south rail. Mr. Schmalzried said that the safety strap was badly corroded and that it had practically rusted apart. District Roadmaster Russum also said that the case of the safety strap looked as though it had been practically eaten in two by rust.

Wrecking Foreman Kemp said he thought the engine truck derailed to the right at a point halfway between the switch points and frog and then continued beyond the frog, the right wheels of the truck encountering the north or left main track rail and bending it outward about 8 inches, after which they passed over this rail and continued on the outside of the south rail of the house track, while the back driving wheels spread the track and permitted the coaches to drop between the rails. Wrecking Foreman Kemp said the safety strap on the bridle rod had been eaten away by rust to such an extent that it could have been broken away easily, and he was of the opinion that the connecting rod jarred loose from the bridle rod owing to the vibration of passing westbound trains, resulting in the opening of the switch.

The last time the switch was used prior to the accident was by the crew of the Marshall-Shreveport turnaround local, at about 3.20 p. m., but the members of the crew paid no particular attention to the condition of the safety strap, connecting rod or bridle rod. The last eastbound train, an extra, passed over the switch on the main track at about 5.16 p. m., while the last westbound train, extra 524, consisting of an engine and caboose, passed at about 9.07 p. m., at a speed of about 15 or 20 miles per hour. Members of the crew of extra 524 noticed nothing unusual at the time their train passed.

Conclusions

This accident was caused by an open switch, due to its defective condition, for which Section Foreman Sandefer is primarily responsible.

Immediately after the accident the switch points were found to be open, but the switch lamp was displaying a clear signal, indicating that the switch was closed, and the switch was locked for a main line movement with the lever in the socket. The connecting rod, however, was disconnected from the bridle rod and that portion of the safety strap on the bridle rod intended to prevent such an occurrence had been broken off. The base of the safety strap remained riveted to the bridle rod and examination disclosed it to be badly corroded and rusted. Apparently the metal of the safety strap had been eaten away by rust to such an extent that it was easily broken, if, in fact, it did not drop off of its own weight. It was not definitely determined how the connecting rod became disengaged from the bridle rod, it might have been jarred off by the vibration of passing trains or it could have been lifted off by hand. In either event, the result would be that the switch points would spring open, and the evidence indicated that this was what occurred in this instance, resulting in the derailment of train No. 22. Section Foreman Sandefer inspected, oiled and greased the switch and its appurtenances, and adjusted the points, about 13½ hours prior to the occurrence of the accident, and had he exercised due care in this inspection there is no reason why he should not have noticed the corroded condition of the safety strap.

All of the employees involved were experienced men and at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. Borland,

Director.