

## INTERSTATE COMMERCE COMMISSION

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August 11, 1922.

REPORT OF THE CHIEF OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE ATCHISON, TOPEKA & SANTA FE RAILWAY AT BURRTON, KANS., ON JULY 8, 1922.

To the Commission:

On July 8, 1922, there was a collision between a passenger train and a cut of standing cars on the Atchison, Topeka & Santa Fe Railway at Burrton, Kans., resulting in the death of 1 passenger, and the injury of 36 passengers, 10 dining car employees, and 2 railroad employees.

Location and method of operation.

This accident occurred on the First District of the Western Division, extending between Dodge City and Newton, Kans., a distance of 167.4 miles, which in the vicinity of the point of accident is a single-track line over which trains are operated by time-table, train orders, and a manual block-signal system. The accident occurred on the house-track within the yard limits of Burrton; approaching this point from the west the track is tangent and practically level for a distance of about 14 miles. The house-track switch is a facing-point switch for eastbound trains, and leads off the main track to the left, the accident occurring at a point approximately 525 feet east of this switch. The switch stand is located on the fireman's side of an eastbound train and displays a red target when the switch is lined for the house track, while no indication is displayed when it is lined for a main-track movement. The St. Louis-San Francisco Railway crosses the main track of the Atchison, Topeka & Santa Fe Railway about 110 feet west of the house-track switch. At this crossing there is a gate which in normal position is set against trains of the St. Louis-San Francisco Railway, and trains of the Atchison, Topeka & Santa Fe Railway are then permitted to pass over the crossing under a time-table speed restriction of 15 miles an hour. St. Louis-San Francisco trains are required to stop and set the gate across the Santa Fe track before proceeding over the crossing. There is a wye on the north side of the main track of the Atchison, Topeka & Santa Fe Railway; the Santa Fe main track forms the south leg of the wye, the west leg leads off the main track to the north at a point about 300 feet west of the crossing, while the east leg, known as the east interchange track, leads off from the house track east of the crossing. At the time of the accident which occurred at about 4.22 p.m., there were 13 tank cars loaded with gasoline and oil on the house track; the weather was clear.

### Description.

Eastbound passenger train second No. 4 consisted of 1 buffet library car, 1 dining car, and 5 Pullman sleeping cars, in the order named, hauled by engine 1428, and was in charge of Conductor Brown and Engineman Yoakum. The cars were of all-steel construction with the exception of the first car, which was of steel-underframe construction. This train left Solvay, 7.1 miles from Burrton, at 4.13 p.m., 1 hour and 11 minutes late, entered the house track at Burrton, and collided with the standing tank cars while traveling at a speed estimated to have been between 18 and 20 miles an hour.

Engine 1428 came to rest in an upright position, about 160 feet beyond the point of accident, considerably damaged. The buffet-library car was telescoped for approximately half its length by the dining car, both of these cars being badly damaged. As a result of the collision, the escaping gasoline and oil in the first four tank cars ignited, but with the exception of the engine, no damage by fire was sustained by any of the equipment of the train.

### Summary of Evidence.

Shortly before the accident occurred, at St. Louis-San Francisco freight train arrived at Burrton, northbound. While switching at that point, Conductor Walker of that train, wishing to use the wye in order to turn his engine, inquired of Operator Hubbell whether or not the block was clear on the Atchison, Topeka & Santa Fe Railway, and being informed that the block was clear, procured the switch key from the desk, in the office, opened the house track switch, and the engine and three cars pulled out of the house track and proceeded westward on the main line of the Atchison, Topeka and Santa Fe Railway, to the west leg of the wye. Conductor Walker went with the engine as far as the crossing to restore the crossing gate to normal position, so his engine could pass, after which he swung it across the Santa Fe track so that his engine could return to the rear portion of his train which had been left south of the crossing. Conductor Walker was emphatic in stating that he then went back and closed and locked the house track switch, and he said that he then walked across the wye to make a coupling on a car standing on the west leg of the wye. Flagman Booth opened and closed the switch leading to the west leg of the wye; he said when he got on the rear end of caboose north of the station as his train departed, he looked back at both of the Santa Fe main-track switches which had been used, and said both switches were properly lined up. None of the members of this crew actually saw Conductor Walker close the house-track switch, although they testified they saw him walking toward it after it had been used.

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Approaching Burrton, Engineman Yoakum, of train second No. 4, sounded the customary whistle signal and speed was reduced, Engineman Yoakum saw the crossing gate set in the normal position, or clear for his train, therefore the air brakes were gradually released, but as the speed was still rather high, another application was made, following which the brakes were fully released; just after this had been done Fireman McCandless gave warning of the open switch, and the air brakes were applied in emergency; the engineman and fireman both jumped just before the collision occurred. Engineman Yoakum said the air brakes were working properly; however, the emergency application did not take full effect, as the brake system was not fully recharged owing to the two previous applications, otherwise the accident would have been averted. He admitted exceeding the speed limit permitted by time-table rule across the crossing, estimating the speed of the train at that time to have been between 20 and 25 miles an hour, and at the time of the collision between 18 and 20 miles an hour. Engineman Yoakum stated the switch stand is very inconspicuously located, while Fireman McCandless stated that as the water-tank is painted red and forms a background for the switch target, it is very difficult to ascertain the indication at any considerable distance. The fireman was of the impression the train was going to be brought to a stop before reaching the tank cars, and stated that he would have had no trouble in remaining on his feet at any point he got off in this vicinity.

Operator Hubbell, on duty at Burrton at the time of the accident, stated the St. Louis-San Francisco freight train departed at 4.18 p.m., and that he restored the crossing gate to its normal position; however, he did not notice the position of the switch or switch target, his attention being directed toward second No. 4 which he could then see approaching some distance away.

Examination immediately after the accident disclosed that the switch was set for the siding with the target displaying a red indication; the lever was in the socket and the lock hanging down, unlocked.

#### Conclusions.

This accident was caused by an open switch.

The St. Louis-San Francisco freight train was the last train to use this switch prior to the accident and Conductor Walker emphatically stated that he closed and locked it after the freight train passed over the crossing, although no one actually saw him close it. However, examination immediately after the accident disclosed the switch to be open, the lever in the socket, and the lock hanging down, unlocked. During the few minutes that elapsed between the time it was handled

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by Conductor Walker and the time the accident occurred there was no evidence whatever that the switch was operated by anyone, and as there were employees in this vicinity at all times during this period, and the switch stand is within plain view from the operator's office, being located only a short distance from the window, the possibility that it could have been tampered with is extremely remote. It is therefore believed that the switch was left open by Conductor Walker. Statements made by Flagman Booth are so conflicting with respect to essential particulars of the case under investigation that his evidence merits but little consideration.

Engineman Yoakum admitted that train second No. 4 proceeded over the crossing at a higher rate of speed than is permitted by time-table rule, had he controlled the speed of the train approaching the crossing in accordance with the rules, the accident probably would have been averted.

It seems to have been no uncommon practice for trains to use the main line of the Atchison, Topeka & Santa Fe Railway for a distance of several hundred feet at Burrton, as the south leg of the wye, in order to turn engines, without any form of protection being afforded except merely inquiring of the operator at that point whether the block was clear. While this practice had no direct bearing on this particular accident, some adequate method of safeguarding such movements should be adopted. Had this crossing and wye been protected by interlocking, this accident undoubtedly would not have occurred.

At the time of the accident the employees involved had been on duty less than 6½ hours, after having been off duty 12 hours or more.

Respectfully submitted,

W. P. BORLAND

Chief, Bureau of Safety.