INTERSTATE COMMERCE COMMISSION.

REPORT OF THE CHIEF OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE ST. LOUIS-SAN FRANCISCO RAILWAY AT HORINE, MO., ON AUGUST 16, 1922.

September 12, 1922.

To the Commission:

On August 16, 1922, there was a head-end collision between two passenger trains on the St. Louis-San Francisco Railway at Horine, Mo., resulting in the death of 2 employees, and the injury of 5 employees 9 persons carried under contract and 60 passengers.

Location and method of operation.

Between Union Station, St. Louis, and Southeastern Junction, a distance of 7.3 miles the trains of this company are operated over the double-track lines of the Terminal Railroad Association of St. Louis and the St. Louis Terminal Division of the St. Louis-San Francisco Railway. The accident occurred on the St. Louis sub-division of the River Division, a single-track line extending between Southeastern Junction and Chaffee, Mo., a distance of 138.3 miles, trains are operated over this line by time-table and train orders, northbound trains being superior by direction. No block-signal system is in use.

Horine is 27.6 miles south of Southeastern Junction, and the accident occurred about half a mile north of the station. Beginning at a point about 6,500 feet north of Horine station and proceeding southward, the line is tangent for 2,415 feet followed by a 1-degree curve to the left 931 feet in length, the line is then tangent 3,136 feet to Horine station and for a considerable distance beyond. The passing siding at Horine is located on the west side of the main track and extends from a point 1,386 feet south of the station to a point 3,614 feet north of it and about 520 feet south of the south end of the above curve. Approaching from the north there is an ascending grade of 0.9 per cent for a distance of 3,500 feet, this is followed by a descending grade of 0.2 per cent for 500 feet up to the point of accident. At the time of the accident which occurred at 9.21 a. m. the weather was clear.

Description.

The trains involved in this accident were northbound passenger train No. 806, superior by time-table direction, and due to arrive from single-track at southeastern Junction at 6.55 a. m., and Southbound passenger

train No. 801 due to enter single-track at Southeastern Junction at 8.03 a. m. Both of these trains run between St. Louis, Mo., and Memphis, Tenn.

Train No. 806, consisted of engine 1109, steel underframe baggage car 393, baggage car 349, mail car 63, coaches 755 and 1701, Pullman cars Rupert and Granphian, all of all-steel construction, and official car 100, of steel underframe construction, in the order mentioned. It was in charge of Conductor Phillipson and Engineman Davis. The train left Chaffee at 4.45 a. m., 2 hours and 10 minutes late, at Crystal City, 5.1 miles south of Horine, the crew received a copy of train order No. 28 reading as follows:

"No. 806 engine 1109 meet No. 801
eng. 632 at Horine."

The train arrived at Horine at 8.16 a. m. and the train order signal not displaying the stop indication the train pulled down and stopped with the engine about 250 feet south of the north switch to the passing siding, and was standing there when it was struck by train No. 801.

Train No. 801 consisted of engine 633, steel underframe express car 415, wood reinforced mail car 31, baggage car 324, coaches 944, 960 and 1027 all of wood construction, steel reinforced official car Wabash 2, and wood diner-buffet car 609, in the order mentioned; it was in charge of Conductor Stump and Engineman Weston. Before leaving St. Louis, its initial station, the conductor received a copy of form 19 train order No. 28 and a form 31 train order requiring a reduction of speed at certain specified places. The train departed from Union Station, St. Louis, at 7.52 a. m., 7 minutes late, was delayed at Ten Brook, a station 14.1 miles north of Horine, about 14 minutes doing some work on the engine; it left Barnhart, the last open telegraph office, 6.6 miles north of Horine, at 8.07 a. m., twenty minutes late, and collided with train 806 standing north of Horine station while running at a speed estimated to have been between twenty and thirty miles an hour.

The front ends of both engines were badly damaged, the tank of engine 1109 telescoped baggage car 393 about six feet; the remainder of the train of 806 remained on the rails and was not damaged. The tank of engine 633 was crushed in at both ends and the couplers on cars 415 and 31 were forced back under the car bodies. The rear vestibule of coach 960 was crushed and the coupler broken out while the three remaining cars were but slightly damaged. Engineman Weston of train No. 801 and Fireman Jones of Train No. 806 were both fatally injured in the accident and died a short time thereafter.

Summary of evidence.

Conductor Stump of train No. 801 stated that before leaving St. Louis he received two copies of each of the two train orders and that he took them to Engineman Weston who was on the engine and delivered one copy of each to him whereupon Engineman Weston read them aloud; it was understood that their train was to meet train No. 806 at Horine. Leaving St. Louis a running test of the brakes was made; between St. Louis and the point of accident there were five slow downs made and all stops were properly made including a stop at Schmidts, which is on a descending grade about 3 miles north of Horine, and as far as he could see the air brakes operated properly, and no report to the contrary had been made to him. He was unable to state the nature of the engine trouble at Ten Brook, but saw that the engineman was working under the front engine trunk. About the time the train was passing Mile Post 33, about 2 miles north of Horine, he went out on the forward end of the first coach, at that time the speed was about 40 miles an hour and as it was time for the engineer to sound the whistle and no whistle was sounded he gave two blasts of the air whistle signal, meaning stop at once. As the engineer made no answer to this signal he started for the emergency valve which was located at the end of the car. Just as he reached the end of the car the engineman made a pretty strong application of the brakes, this being an indication that the engineman was going to stop the train, and he returned to the platform without opening the valve and stood on the steps as the train rounded the curve. At that time he thought the train was being stopped in order to take the siding for train No. 806, as the engine neared the switch he saw the fireman get down on the step preparatory to jumping; he then realized that there was going to be a collision or that the train was going to take the siding at a high rate of speed so he jumped off himself. He estimated the speed at that time to have been about 25 miles an hour. He does not consider that the train ran by when making the stop at Barnhart, but simply pulled down a little farther than they sometimes do.

Fireman Weston of train No. 801, whose father was the engineman, stated that before they took the engine from the engine house at St. Louis it was necessary to have some work done on the eccentric set screws and to have a tank hose cleaned out, trouble with the injectors developed shortly after leaving the engine house while passing through the yard, but the engine continued on its trip. The engineman did not show him the train orders as required by rule, but before leaving St. Louis he asked him what they were and the engineman said he had a register check on train No. 806 and the usual slow order, the reference to the

register check on train No. 806 was repeated again at Southeastern Junction. Between St. Louis, and Ten Brook they had trouble with both injectors breaking and the air pump exhaust blew out the cylinder exhaust channel, at Ten Brook he wired air pump exhaust pipe to nipple into exhaust channel, account of treads being worn out on the nipple, he had spoken to engineman about the injector trouble and they had decided to stop at Crystal City and take down both tank hose and clean them out. At Barnhart he thought the train ran by the station platform about a car length, but as far as he knew the brakes were working all right between St. Louis and Ten Brook; however, he knew the brakes were not 100% efficient as they had been having trouble with the train line for 5 to 6 days. After leaving Schmidt they continued to have injector trouble and approaching Horine the water was getting low and was causing them some anxiety; as the train passed the whistling post about half a mile north of the north passing siding switch at Horine the engine was working steam lightly and the engineman was working on the injector; he heard the air whistle signal blow six or seven times when between one half and one third mile north of the switch at Horine, but did not know what it meant, he discovered the engine of train No. 806 before the engineman saw it, at that time his train was just entering the curve north of Horine, he saw that a collision was imminent and told the engineman to get off and shortly after got off himself, after the brakes were applied the engineman tried to reverse the engine and open the throttle and succeeded in reversing it just before he jumped. Fireman Weston stated that before the train left St. Louis he remarked to the engineman that he had not seen train No. 806.

Both trainmen of train No. 801 saw train order No. 68 before the train left St. Louis and understood that they were to meet train No. 806 at Horine; as far as they knew the air brakes were working properly. The first intimation the porter had of the impending accident was when the train passed the switch at a high rate of speed, while the brakeman knew nothing of it until the application of the air brakes. The brakeman also stated that the train did not run by in making any of the station stops.

Engineman Davis of train No. 806 stated that after his train stopped at Horine he told the train porter to go forward and open the switch for train No. 801 to take the siding, shortly after this he got a drink of water from the jug and was returning the jug to the fireman when the collision occurred, he did not see or hear the train approaching. From where his engine stood an approaching train could be seen about 1,000 feet.

Train Porter Gibson of train No. 806 stated that he started for the switch when the engineman instructed him but he was unable to reach it before the engine of train No. 801 passed it; he did not hear train No. 801

sound the whistle approaching Horine station.

Conductor Phillipson was in the front end of the buffet car at the time of the accident and knew nothing of the approach of train No. 801 until the collision occurred.

Both the engine and car inspectors who examined the train before it left St. Louis stated that the brakes were in proper condition and the engineman who handled the train on the day previous to the accident stated that he experienced no trouble.

Conclusions.

This accident was caused by the failure of Engineman Weston to comply with a train order fixing a meeting point for his train.

Under train order No. 28, train No. 801 was required to enter the north switch of the passing siding at Horine and meet train No. 806. On account of the death of Engineman Weston it is impossible to ascertain the reason for his failure to approach the meeting point prepared to take siding, but in view of the statements made to his son, the fireman, relative to having a clearance on train No. 806 it is believed that he misunderstood the train order and was under the impression that train No. 806 had arrived at Southeastern Junction, the end of double track, before his train reached that point. The investigation disclosed that it was the practice to give such clearances to trains before leaving St. Louis on a form 19 train order.

While the defective condition of engine 633 could have no direct bearing on the misinterpretation of the train order, it may have prevented Engineman Weston from discovering the presence of train No. 806 in time to bring his train to a stop to avert the collision.

General Operating Rule 210a is as follows:

> "Freight Conductors will show their orders to rear Brakeman, passenger Conductors to Brakeman or porter, and Engineman to Fireman and front Brakeman."

Had Engineman Weston complied with this rule, or had Fireman Weston insisted on a compliance with this rule by his engineman, and read the train orders himself, it is probable that the error or oversight on the part of Engineman Weston would have been discovered and the accident averted.

The accident emphasizes the necessity for all members of both engine and train crews actually reading all orders involving the movement of their train.

Under any system of train operation it is necessary for the rules and regulations to be strictly observed if the safeguards provided by such rules are to be placed in effect. As has been pointed out in previous reports, the time-table and train order system of train operation offers frequent opportunities for errors on the part of employees, which may result in dangerous conditions. Under the block system there is less chance for disasterous errors; had an adequate block system been in use on this line this accident would probaly have been prevented.

Engineman Weston entered the service of the St. Louis-San Francisco Railway as an engineman in 1902. An examination of his service record discloses that he had been dismissed once and disciplined assessed on two other occasions for his responsibility in connection with collisions, he has also been disciplined for his responsibility in meeting a train on the main line, and once for running by a flag, however, at the time of the accident his record was clear.

Fireman Weston entered the service as a fireman in 1910 and has a clear record.

None of the employees involved in this accident were on duty in excess of the period allowed by law and all had had the required period off duty before beginning this trip.

Respectfully submitted,

W. P. Borland,

Chief, Bureau of Safety.