

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN
ACCIDENT ON THE ST. LOUIS - SAN FRANCISCO RAILWAY AT SWIFT,
MO., ON JANUARY 3, 1934.

March 8, 1934

To the Commission:

On January 3, 1934, there was a head-end collision between two freight trains on the St. Louis - San Francisco Railway at Swift, Mo., which resulted in the injury of four employees.

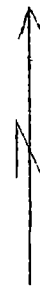
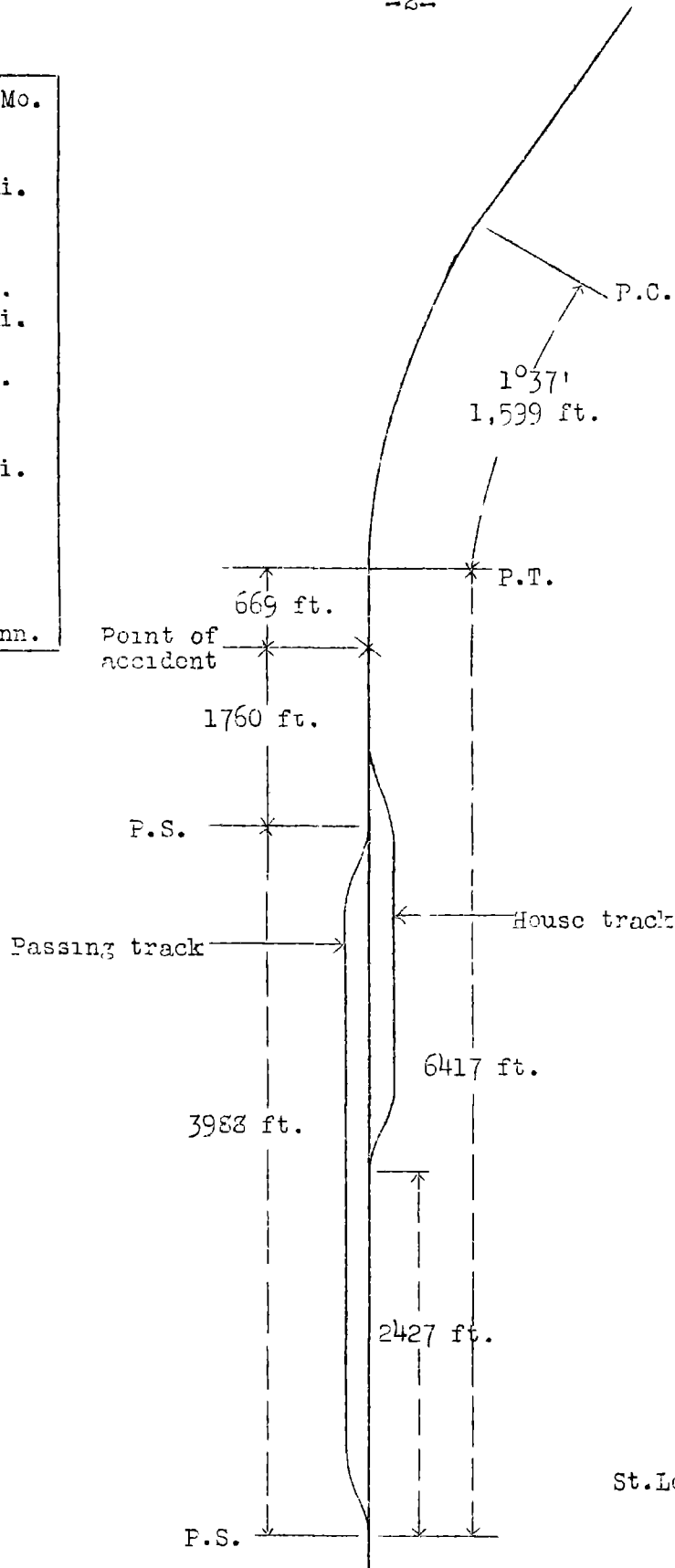
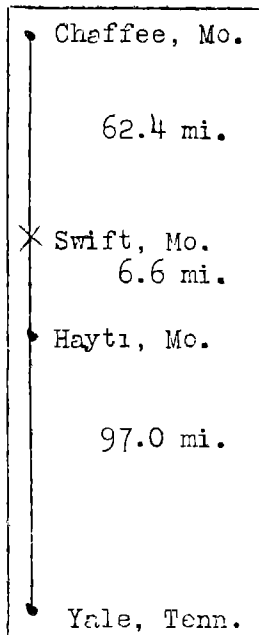
Location and method of operation

This accident occurred on the Chaffee Sub-Division of the River Division, which extends between Chaffee, Mo., and Yale, Tenn., a distance of 166 miles, and is a single-track line over which trains are operated by time table and train orders, no block-signal system being in use. The passing track at Swift is 3,228 feet in length and parallels the main track on the west; the accident occurred at a point 1,760 feet north of the north passing-track switch. Approaching this point from the south, beginning at the south passing-track switch, the track is tangent for a distance of 3,417 feet, the accident occurring on this tangent at a point 669 feet from its northern end. Approaching from the north the track is tangent for a considerable distance, and then there is $1^{\circ} 37'$ curve to the left 1,599 feet in length followed by the tangent on which the accident occurred. The grade is level at the point of accident.

The weather was clear at the time of the accident, which occurred about 3:15 a. m.

Description

North-bound second-class freight Train No. 832 consisted of 26 cars and a caboose, hauled by engine 4026, and was in charge of Conductor Stokeley and Engineman Welker. Upon arrival at Hayti, 6.6 miles south of Swift, the crew received, among others, a copy of train order 5, form 19, providing in part for a wait at Swift until 3:25 a. m. for Extra 4005. Train No. 832 left Hayti at 3:05 a. m., 1 hour and 6 minutes late, passed Swift and was stopped north of the passing track, where it was either standing or had just started a back-up movement when it was struck by Extra 4005.



Inv. No. 1883
St. Louis-San Francisco Ry.
Swift, Mo.
Jan. 3, 1934

South-bound freight train Extra 4005 consisted of 19 cars and a caboose, hauled by engine 4005, and was in charge of Conductor Horn and Engineman Aubuchon. At Chaffee, 62.4 miles north of Swift, the crew received a copy of train order 5, form 19, referred to above; the train left Chaffee at 1:10 a. m. and was approaching Swift when it collided with Train No. 832 while traveling at an estimated speed of about 20 miles per hour.

Both engines remained on the rails except the engine truck of engine 4026; the tender of engine 4005 was derailed and stopped leaning to the right, and the first car in Extra 4005 was also derailed and stopped partly on top of the tender. The employees injured were the engineman, fireman and head brakeman of Extra 4005, and the fireman of Train No. 832.

Summary of evidence

Engineman Welker, of Train No. 832, stated that a terminal air-brake test was made before leaving Yale and the brakes functioned properly en route. He received train order 5 at Hayti and understood his train was required to wait at Swift until 3:25 a. m. for Extra 4005, and while in the vicinity of Netherlands, 2.1 miles from Swift, he looked at his watch, read it to be 3:24 a. m., and remarked to the fireman that the wait order would not delay them. Being confident that he had checked the time correctly he did not sound the station or waiting-point whistle signal approaching Swift and made no preparations to stop at that point. The train was traveling between 42 and 45 miles per hour when it passed the south switch and when the engine reached a point about 15 car lengths beyond that point he felt the brakes apply. Thinking this brake application was caused either by a burst air hose or by the train breaking in two, he placed the brake-valve in lap position and continued to work steam to prevent the two sections from colliding with each other. Just about the time the train stopped north of the passing track he observed the reflection of the headlight of an approaching train about 1 mile distant and told the head brakeman, who had gotten off to inspect the train, to go forward and flag the approaching train with a fusee. He then attempted to back up, but it required 2 or 3 minutes to release the brakes and get the train in motion, and he thought it was moving between 2 and 4 miles per hour at the time of the accident. During the course of the investigation of this accident Engineman Welker was questioned as to the time actually shown by his watch and at the time he misread it, and he said he did not know, but that evidently it was not showing the time as 3:24 a. m.

Fireman Briggs, of Train No. 832, stated that he had a standard watch and compared time with the engineman, there being a difference of about 20 seconds between the two watches. He read the train orders received at Hayti and understood his train was required to wait at Swift until 3:25 a. m., but he did not note the time it left Hayti or approached Swift as he was still engaged in getting up steam, and he did not check the time because of the fact that near Netherlands the engineman told him the time would be up by the time the train reached Swift and he was depending on the engineman. He thought it was just before the engine reached the north switch that the brakes were applied in emergency.

Head Brakeman Bisplinghoff, of Train No. 832, was also depending on the engineman, and did not check the time; when the brakes were applied in emergency he estimated the engine was 15 or 20 car lengths south of the north switch. He first saw the headlight of the approaching train when his own train was between 12 and 15 pole lengths north of the passing track, and immediately procured a fusee, lighted it and got off before his train came to a full stop, and ran forward as rapidly as possible giving stop signals continuously until engine 4005 passed him, at which time he was eight or nine car lengths from his own train. He estimated the speed of Extra 4005 to have been 15 or 20 miles per hour and saw sparks flying from under the train.

Conductor Stokeley, of Train No. 832, stated that he compared time with the engineman before starting the trip and the engineman's watch was a few seconds slower than his. He received three train orders at Hayti, among them being train order 5, which he read and understood. The train departed from Hayti at 3 a. m. and when it attained a speed of about 45 miles per hour approaching Swift he knew it would be delayed at that point providing Extra 4005 was not into clear. He did not hear the station or waiting-point signals sounded and when the caboose reached the south switch the flagman came down from the cupola and asked him to compare time, the flagman then stating that apparently the engineman did not intend to stop. Conductor Stokeley immediately went from his desk to the rear platform and applied the brakes in emergency by opening the valve on the tail hose. At that time the caboose was 10 or 12 car lengths beyond the south switch, but on account of the brakes being applied from the rear end the speed did not begin to be reduced until the train had traveled an additional distance of 15 or 20 car lengths and when it stopped the caboose was approximately 9 car lengths north of the passing track, the collision occurring

about 1 or $1\frac{1}{2}$ minutes later. He estimated that the train moved about 80 car lengths after the emergency application was made, and said there was nothing wrong with the air brakes.

The statements of Flagman Bailey practically corroborated those of Conductor Stokeley as to what transpired prior to the accident. He looked at the air gauge in the caboose after leaving Hayti and it registered 75 pounds pressure, but no noticeable reduction in speed took place for some distance after the brakes were applied in emergency at Swift, which he thought was probably caused by frost on the rails and the engine working steam.

Engineman Aubuchon, of Extra 4005, had received train order 5 and understood that under the rules his train was required to be into clear at Swift at 3:20 a. m., and as the train passed Portageville, 7.1 miles north of Swift, at 3 a. m., he considered there was sufficient time to clear at Swift and comply with the requirements of the wait order without exceeding the speed limit of 45 miles per hour. His train was traveling about 40 miles per hour when he eased off the throttle and made a light service application of the brakes approaching the curve north of the point of accident. Just before reaching the curve the fireman notified him that the opposing train was at Swift, and while rounding the curve both the fireman and head brakeman crossed over to his side of the cab and told him to stop as the other train was north of the passing track. By that time the engine was leaving the curve and he saw the headlight of Train No. 832 directly in front of him and immediately applied the brakes in emergency and opened the sanders; he was not certain whether he closed the throttle, neither did he remember of having seen a burning fusee. Realizing that a collision could not be prevented he jumped off, at which time he judged the speed had been reduced to between 20 and 25 miles, or possibly less; he could not estimate the speed of his train at the time of the accident.

Fireman Briggs, of Extra 4005, said that upon reaching a point about $1\frac{1}{2}$ or 2 miles north of Swift he saw a headlight in the vicinity of the passing track and informed the engineman to this effect, and when his engine was 20 or 25 car lengths from the opposing train a fusee suddenly appeared; he immediately called a warning to the engineman who in turn closed the throttle, applied the brakes in emergency, and opened the sanders. The brakes took hold properly and the speed had been reduced from approximately 40 miles per hour to 20 miles per hour when he jumped off about six car lengths from the point of accident.

Head Brakeman Ozee, of Extra 4005, first observed the headlight of Train No. 832 in the vicinity of Swift from a distance of $1\frac{1}{2}$ or 2 miles but could not determine whether that train was moving. When his engine reached a point probably five or six car lengths from the leaving end of the curve he saw a fusee flash immediately ahead of the headlight of that train which was his first intimation that it was north of the passing track.

Conductor Horn, of Extra 4005, had seen the headlight of a train and then saw a burning fusee, but from his position in the caboose he could not determine their location with respect to the passing track.

On January 9 tests were conducted by using the same type of engine and a train of approximately the tonnage of Train No. 832 on the night of the accident, to determine the distance in which a train could be stopped if handled in the manner described by the crew of Train No. 832. The test train was assembled at Hayti and before departing, the brakes were applied by means of the conductor's valve on the caboose and all brakes functioned properly. Then the caboose reached the south switch at Swift the train was traveling at a speed of about 42 miles per hour and the superintendent, who was riding in the cupola, then went through the same movements as Flagman Bailey and Conductor Stokeley said they did prior to the accident. During the time the superintendent went from the cupola to the conductor's desk and then to the rear platform where he applied the brakes in emergency the caboose traveled a distance of 775 feet, and it stopped 1,473 feet from where the emergency application was made, with the engine 505 feet south of the clearance point at the north end of the passing track, or 498 feet south of the switch. This test was repeated a second time with practically the same results except that the train stopped in approximately 150 feet less distance than in the first test.

The south house-track switch at Swift is located 2,437 feet north of the south passing-track switch. A third test was made with the train moving at a speed of about 45 miles per hour and when the caboose reached the house-track switch the conductor took the same action as on the two previous tests. The caboose was approximately 800 feet north of the house-track switch when the brakes were applied and the train stopped with the engine 396 feet north of the point where the collision occurred. During these tests the engine throttle was not shut off and steam was used until the train was stopped by the application of the brakes.

Conclusions

This accident was caused by failure to obey a wait order.

The evidence indicates that all members of the crew of Train No. 832 read and understood train order 5, received at Hayti, requiring their train to wait at Swift until 3:25 a. m., for Extra 4005. Engineman Welker said that he had the order in mind and looked at his watch approximately 2 miles south of the waiting point, but erroneously read the time to be 3:24 a. m. and remarked that the wait would expire by the time the train reached Swift; for this reason, he failed to sound the usual whistle signal when approaching Swift and did not make any effort to stop. Fireman Briggs and Head Brakeman Bisplinghoff had heard the engineman remark that the wait order would not delay them and did not look at their own watches to see if the engineman had checked his time correctly.

Conductor Stokeley stated that considering the time his train left Hayti and its speed approaching Swift he expected to be delayed somewhat if Extra 4005 was not in the clear at that point. He was busy at his desk, however, and did not attempt to stop the train until the flagman called his attention to the time when the caboose reached the south passing-track switch and he then applied the brakes in emergency. The evidence is conflicting, however, as to the exact location of Train No. 832 when the brakes were applied; the engineman said the engine was 15 car lengths beyond the south switch; the conductor said the caboose was 10 or 12 car lengths beyond the south switch when he opened the valve in the tail hose and that the train traveled an additional 15 or 20 car lengths before the speed began to be reduced, while the fireman and head brakeman thought the brakes were not applied until the head end of the train had almost reached the north switch. Tests subsequently conducted indicated that if the conductor had opened the tail hose valve when he said he did, the train would have stopped short of the clearance point at the north switch; in fact, not only did these tests indicate that the fireman and head brakeman were more nearly correct in the location of the train at the time the brakes were applied, but they also indicated that the conductor probably did not begin to act until the house-track switch was reached. The track at this point is straight and the weather was clear, with nothing to interfere with the view, and had either the conductor or flagman acted promptly they could have nullified the effect of the engineman's error in reading his watch.

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During the 30-day period prior to the date of this accident there was an average of $12\frac{1}{2}$ trains per day operated over this district. Traffic of this density on a single-track line, particularly under the present economic conditions, warrants the recommendation that this carrier give serious consideration to the installation of an adequate block-signal system with a view to the prevention of future accidents of this character.

Respectfully submitted,

W. J. PATTERSON,

Director.