

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
ST. LOUIS-SAN FRANCISCO RAILROAD AT RACINE, MO., ON
NOVEMBER 3, 1920.

January 6, 1921.

On November 3, 1920, there was a rear-end collision between a passenger train and a freight train on the St. Louis-San Francisco Railway at Racine, Mo., which resulted in the death of 2 passengers and 1 employee, and the injury of 36 passengers and 7 employees. After investigation of this accident the Chief of the Bureau of Safety submits the following report.

The accident occurred on the Cherokee Sub-Division of the Southwestern Division, which extends between Monett, Mo., and Sapulpa, Okla. In the vicinity of the point of accident the line is single-track, and extends east and west. The movement of trains is governed by time-table and train orders, no block-signal system is used. The maximum speed of freight trains over this section is limited by time-table to 35 miles per hour.

Beginning at the point of accident, which was 20 feet east of the station at Racine, and proceeding eastward, the track is tangent for 1585 feet followed by a 1-degree 30-minute curve to the right 1,500 feet in length and is then tangent for 9,400 feet. There is a grade descending westward of from .2 to .7 per cent for about 2 miles. At a point 2,024 feet east of the point of accident is located the east switch of the passing siding, which leads off to the south.

Westbound passenger train No 403, running between Monett, Mo., and Oklahoma City, Okla., was in charge of Conductor Connerly and Engineman Callender, and consisted of engine 4028, 3 express - baggage cars, of steel-underframe construction, 3

coaches, of wooden construction, and a business car, having a steel underframe. The train departed from Monett at 7:05 p.m., 35 minutes late, left Neosho, the last reporting station, 9.4 miles east of Racine, at 8:20 p.m., and arrived at Racine at 8:40 p.m. After doing station work the train was delayed about 10 minutes on account of a hot-box on the tender of the engine. After this was packed the flagman was recalled and the train started, but it had moved only a short distance when it was struck by extra 4016 from the rear.

Westbound freight train extra 4016, en route from Monett, Mo., to Afton, Okla., was in charge of Conductor Oldham and Engineman Mathis. This train, consisting of engine 4016, 42 cars, and a caboose, left Monett at 6:10 p.m., passed Neosho at 8:25 p.m., and at about 8:50 p.m. collided with the rear of train No. 403 at Racine Station while running at a speed of 25 or 30 miles per hour.

The impact of the collision elevated the rear end of the business car, lowering its front end so that the coach immediately ahead of it telescoped the business car for its entire length, demolishing it and badly damaging the coach. The damage to the other cars in train No. 403 was slight. The engine, tender, and forward car of extra 4016 remained on the track, the next 3 cars were derailed and turned over to the north while the following 8 cars were derailed, 4 of them buckling to the south. Superintendent of Motive Power Higgins, who was occupying the business car, was killed.

Engineman Callender, of train No. 403, stated that upon arrival at Racine, shortly after the train stopped, it was dis-

covered that there was a hot box on one of the tender trucks; the fireman immediately sounded the whistle signal for the flagman to go back to protect the rear of the train, after which he and the fireman began to pack the hot box. When they had finished he sounded the whistle to recall the flagman, at that time the Conductor said to him that he thought a train was coming around the curve and to move ahead. He released the brakes and started ahead and had gone about two car-lengths when there was an emergency application of the brakes, from an unknown cause, and before he could release the brakes and again start the train the collision occurred. He estimated that his train had been at Racine about 2 minutes when the flagman was signalled to go back, and about 12 minutes when the collision occurred.

Fireman Causey, of train No. 403, stated that just after the train started to leave Racine the brakes were applied in emergency, he looked back and saw fire flying from the rear of the train and told the engineman that they had been struck.

Roadmaster Campbell stated that he was on train 403 when it arrived at Racine and when he heard the signal for the flagman to go back to protect the train he got off and went up to the engine to see what the trouble was. He assisted in cooling the hot box and when it was completed the flagman was called in and he walked to the rear of the train. He heard a train approaching in the distance, looked back and saw a red fusee burning. He thought the freight train was running at a high rate of speed. He did not hear the explosion of any torpedoes or hear the engineman answer the flagman's signal.

Conductor Connerly, of train No. 403, stated that his

train stopped at Racine at 8:40 p.m. After finishing the station work he gave the engineman a signal to proceed, but just as he did so the engineman sounded the whistle for the flagman to go back to protect the rear of the train. He saw the flagman go back immediately but he, Connerly, went up to the engine to see what the trouble was. As soon as the work on the hot box was finished the flagman was recalled and about that time he heard a train approaching in the distance and told the engineman that there was a train approaching, to move ahead and not wait for the flagman. The train started and had moved four or five car-lengths when the brakes went into emergency and just as the train came to a stop the collision occurred. He saw the fusee burning in the rear and heard the explosion of torpedoes. He estimated the speed of the freight train to have been about 30 miles per hour when the collision occurred. He did not know what caused the brakes to be set in emergency and an examination of the train after the accident failed to disclose any open brake valves or defect.

Flagman Kruger, of train No. 403, stated that as soon as the engineman sounded the whistle for him to go back he started back with red and white lanterns, fusees and torpedoes. He reached a point 3 telegraph poles east of the east switch of the passing siding, or approximately 2,500 feet from the rear of the train, and there placed one torpedo. He waited there 3 or 4 minutes until called in. He did not place a second torpedo when recalled as required by the rules, as he thought the approaching train was too close. After placing the torpedo he started to walk to the switch, where he expected to get on the

engine of the freight train and ride to the rear of his train. At the switch he lighted a fusee and dropped it on the engine-man's side of the track and stood there giving a stop signal with his lanterns until the engine had passed. The engineman of the freight train did not answer his stop signal. He estimated the speed of the train when it passed him to have been about 50 miles per hour. He heard the torpedo explode when the engine passed over it.

Engineman Moore, who was deadheading on train No. 403, stated that at Racine he was in the smoking compartment of the rear coach of train No. 403 while it was standing at Racine. He heard a train approaching, looked out a window and made the remark to a passenger that they might not get stopped; about this time Brakeman Boyer, who was also deadheading on the train, passed and remarked that a train was coming. They all then went to the rear platform, he stepped down to the lower step and at that time he could see the freight train approaching, he also saw the flagman flagging them but the train passed him. By this time train No. 403 had started and he began to think that it would succeed in getting away, but the freight train continued to gain and he jumped off just before the collision occurred. Train No. 403 was moving when he got off.

Brakeman Boyer's statement corroborates that of Engineman Moore. He estimated that train No. 403 had moved about the length of one coach when the collision occurred. He could not say whether train No. 403 was moving at the time of the accident, or whether the air brakes were set prior to the collision.

Motor Car Inspector Toupin, who was also a passenger

on train No. 403, stated that while the train was standing at the station at Racine he heard two explosions about ten seconds apart and shortly afterwards the collision occurred.

Engineman Mathis, of extra 4016, stated that while rounding the curve east of Racine the brakemen and fireman shouted "There is a red one" he immediately made an emergency application of the brakes; as soon as the locomotive entered the tangent he observed a burning fusee about two telegraph pole lengths west of the east switch; his engine passed the flagman about midway between the fusee and the rear of train No. 403; about the time he passed the flagman he saw the rear lights of extra 403. His engine did not explode any torpedoes neither did the flagman give him any stop signal. When about 12 car lengths from the rear of train No. 403 he realized that he would be unable to bring the train to a stop and jumped. He estimated the speed of his train to have been about 30 miles per hour at the time the fusee was first discovered and about 25 miles per hour at the time of the collision. He had had no trouble with the air brakes and they seemed to be working all right.

Fireman Allen, of extra 4016, stated that approaching Racine he saw the burning fusee and the lights on the rear of train No. 403 at the same time, at that time the fusee was about 800 feet distant, and the flagman was about midway between the fusee and the rear of his train running toward the train, he did not give any signal. He corroborated the statement of Engineman Mathis as to the application of the brakes and the speed of the train.

Brakeman O'Connor of extra 4016 stated that he was riding

on the fireman's seat ahead of the fireman when the train approached Racine. He discovered the fusee when about 10 car-lengths from it and shouted to the engineman. He did not hear the explosion of any torpedo

Subsequent to the accident the remains of the burned fusee were found on the right side of the track 1672 feet east of the point of collision. A test made indicates that the lighted fusee could have been seen by the fireman for 1232 feet or a total distance of 2904 feet from the point of collision.

The evidence as to whether train No. 403 was moving at the time of the accident is conflicting, but it is believed that it was moving, and that the emergency application of the brakes described by Conductor Connerly and Engineman Callender was the result of the breaking of the train line by the collision. This seems to be borne out by the statement of Fireman Causey and Engineman Moore and further by the damage to the equipment which considering the speed of extra 4016 would have been much greater had train No. 403 been standing with the brakes set

This accident was caused by extra 4016 running at such a high speed that it was unable to stop when signalled to do so, for which Engineman Mathis and Conductor Oldham are responsible. The undisputed evidence is that there was a distance of over 2,000 feet in which to bring the train to a stop and according to the statement of Engineman Mathis himself he only succeeded in reducing the speed of the train about five miles per hour in the above distance.

General Rule 99 is as follows:

When a train stops or is delayed under circumstances in which it may be overtaken by another train, the flagman must go back immediately with stop signals a sufficient

distance to insure full protection

He must at once place one torpedo on the rail on the Engineman's side, and remain until recalled. When recalled he may return after placing a second torpedo on the rail 60 feet from the first one.

The front of a train must be protected in the same way, when necessary, by the Fireman, if the front Brakeman is not available. When Flagman is recalled and there is not a clear view for a quarter of a mile in rear of train, the train must be moved ahead. Whistle recalling flagman not to be sounded until train is in motion.

Flagman Kruger is also subject to criticism. Although there was ample time for him to have gone back a considerable distance, the evidence indicates that he was back not more than 1,672 feet from the rear of his train, at which point he left the fusee, and this notwithstanding the fact that there was at that point a descending grade and a curve just beyond. The testimony in regard to the use of torpedoes is conflicting. Flagman Kruger claims that he used one torpedo, while there is other evidence that two explosions were heard, and the engineman and fireman of extra 4016 are positive in their statements that there was no explosion. It appears that there was shooting or blasting in the vicinity about the time of the accident; it is possible that these sounds were misinterpreted as torpedo explosions, and that Flagman Kruger failed to place any torpedoes.

The employees involved in this accident were experienced men with good records. None were on duty in violation of any of the provisions of the Hours of Service Act.