

IN RE INVESTIGATION OF AN ACCIDENT WHICH  
OCCURRED ON THE TEXAS & PACIFIC RAILWAY  
NEAR STRAWN, TEXAS, ON NOVEMBER 26, 1916.

December 30, 1916.

On November 26, 1916, there was a rear-end collision between two passenger trains on the Texas & Pacific Railway, near Strawn, Texas, which resulted in the death of 2 employees and injury to 17 passengers, 5 employees and 4 dining car employees. After investigation of this accident, the Chief of the Division of Safety reports as follows:

The Fort Worth sub-division of the Rio Grande Division of the Texas & Pacific Railway, on which this accident occurred, extends from Baird, Texas, eastward to Fort Worth, Texas, a distance of 140 miles. It is a single track line and the movement of trains is governed by time-table and train orders, eastbound trains being superior by direction.

Eastbound passenger train No. 2, known as the "Sunshine Limited" en route from El Paso, Texas to St. Louis, Mo., and which by time-table is superior to all trains, consisted of locomotive 412, one baggage car, 2 coaches, one chair car, dining car Alexandria, Pullman sleeping car Huesca, Pullman observation-sleeper Ben Attuw, all of wooden construction, except sleeping car Huesca, which was of steel construction. The train was in charge of Conductor Witherspoon and Engineman Dean and left Baird at 1.05 p. m., 3 hours 5 minutes late. Leaving Baird it held train order No. 60 which read as follows:

"No. 4 Eng 256 run ahead of No. 2 eng 412,  
Baird until overtaken."

At Cisco, 25 miles east of Baird it received train order No. 66 reading:

"No. 4 Eng 256 and No. 2 eng 421 wait at  
Wiles until two forty five (2:45) P.M. for No.  
3 Eng 249."

At Olden, a non-telegraph office, 13.5 miles east of Cisco, the train stopped and passed train No. 4 which was on the siding at that point. The train passed Ranger, 8.4 miles east of Olden at 2.45 p. m.; it stopped at Wiles, 7.1 miles east of Ranger, and departed from that point at 3.04 p. m.; at Canyon Emergency Tank 3.64 miles east of Wiles, it stopped to take water. The train stood at this point approximately 8 minutes and was ~~just~~ starting ahead and had moved about 175

feet when its rear was struck by train No. 4.

Eastbound local passenger train No. 4, en route Sweetwater, Texas to Fort Worth, consisted of locomotive 286, 2 baggage cars, one combination mail and coach, 1 coach and 2 chair cars, all of wooden construction. The train was in charge of Conductor Smith and Engineman Givens, and left Baird at 12.35 p.m., 1 hour and 2 minutes late, after having received a copy of train order No. 60; at Cisco it received train order No. 66; at Olden, the train took siding to permit train No. 2 to pass; after the passage of train No. 2 train No. 4 departed following No. 2 in 7 or 8 minutes. The train arrived at Ranger at 12.50 p.m., 8 minutes behind No. 2 and after unloading express departed some 6 or 7 minutes later. It stopped at Canyon Viaduct, east of Ranger, slowed down at Wiles and collided with the rear of train No. 2 at a point about 300 feet west of Canyon Emergency Tank at about 3.15 p.m., while running at a speed estimated to have been between 15 and 20 miles an hour.

Both trains ran about 180 feet after the collision occurred. The engine of train No. 4 telescoped the observation end of Pullman car Ben Attuw. The first baggage car in train No. 4 telescoped the tank of the engine, tore the tank from the tender frame and forced it forward into the cab and against the boiler, killing Engineman Givens and Fireman McGrew. The weather at the time of the accident was clear.

Beginning at a point about .8 mile west of the point of accident and proceeding eastward the track is tangent for 1,500 feet, this is followed by a curve to the north varying from 5 degrees 28 minutes to 6 degrees 30 minutes, 2,000 feet in length, the track is then tangent for 1,500 feet. The point of collision is on this tangent 466 feet from its west end. In this vicinity there is a grade averaging about .5 percent descending eastward.

Engineman Dean of train No. 2 stated that after his engine had taken its supply of water, he sounded the whistle signal to recall the flagman, after waiting a few minutes he sounded the signal a second time; the flagman had returned and the train was just starting when the collision occurred. He stated further that Canyon Emergency Tank was a usual stop for his train and that had he been the engineman on train No. 4 he would have approached that point under control expecting to find the track occupied in accordance with Rule 90-a.

Conductor Witherspoon of train No. 2 stated that the flagman of his train got off and started back before the train came to a stop; he had gone around the curve and out of sight when he was recalled. About the time the flagman had returned to the rear of the train, he looked back and saw train No. 4 approaching at a high rate of speed; when the train had reached a point about 7 telegraph poles distant from the rear of train No. 2, he saw the engineer of train No. 4 reverse his engine.

Flagman Taylor of train No. 2 stated that when his train was at Olden he saw train No. 4, backing out of the siding; just before his train came to a stop at Canyon Emergency Tank he got off and started to go back to protect the rear; as he proceeded, he counted the telegraph poles and when he reached a point 12 or 14 poles from the rear of the train, which consumed about three minutes, he was recalled by the whistle signal from the engine; he placed two torpedoes on the rail and returned; when he had nearly reached the rear of his train he gave the engineer a proceed signal and the train started just before he got on. He stated that he heard train No. 4 explode the torpedoes and heard the engineer answer them with the engine whistle; when he first saw train No. 4, it was about 300 yards distant. Flagman Taylor further stated that it is customary for the flagman to go back with a flag when trains stop at a water tank, and in his judgment he went back a sufficient distance to permit a following train to stop without a collision.

Bridge Foreman Hall, who was a passenger on train No. 2, stated that just before train No. 2 stopped at the water tank, Flagman Taylor got off and started back; he estimates that he had reached a point about 1,200 feet or 1,300 feet from the rear of the train before he was recalled; when the flagman returned a signal was given and the train started, it had moved about 100 feet when the flagman got on; he did not hear the torpedoes explode but he did hear the engineer of train No. 4 acknowledge the signal. He stated that he was in the rear car of train No. 2 when he saw train No. 4 approaching; he saw the train getting pretty close and when he heard the engine working in back motion, it occurred to him that something was wrong, so he went out and got off.

Conductor Smith of train No. 4 stated that at Dothan, about 18 miles east of Baird, the porter informed him that the brakes on their regular chair car were not working properly; he instructed the porter to cut the brakes out; upon arrival at Cisco 7 miles farther east he asked the car repairer to examine the brakes, but the car repairer was unable to remedy

the trouble, so the car was taken along in his train; at Olden his train took the siding to let No. 2 pass, after which, train No. 4 backed out and followed No. 2 in 7 or 8 minutes. At Ranger the train stopped from 5 to 7 minutes to unload express. Approaching Canyon Viaduct he noticed that the train was not being slowed down so as to stop at the usual place of stopping for this bridge so he signaled the engineman to stop at that point. This signal was acknowledged by the engineman, an immediate application of the air brakes was made and upon reaching the viaduct the train slowed down and stopped at the west end of the bridge to let a watchman off; at Wiles the train was also slowed down in obedience to a signal given by the conductor of one of the trains on the siding at that point. Conductor Smith stated that approaching the point of accident he was riding in the coach; the train was running at a speed of approximately 15 miles an hour; he heard no torpedoes explode or felt no application of the brakes; his first intimation of the impending accident was when the collision occurred. Conductor Smith further stated leaving Sweetwater the brakes are tested by the train crew and car inspectors, but on this date no report of their condition was made to him. He said that special instructions require all east-bound trains to stop before crossing Canyon Viaduct; and on this trip there was no indication of lack of braking power until the train failed to stop at the west end of the viaduct. He stated that he did not go forward to see why the stop had not been properly made but intended to find out at some later stop. Conductor Smith further stated after the accident occurred he reached the conclusion that there was something the matter with the air brakes as one of the passengers on the rear of train No. 2 said he saw the engineman standing up doing something with the air. Conductor Smith also stated that after the accident he made no investigation to ascertain whether or not the air was set on the train.

Baggagemaster Ellis of train No. 4 stated that approaching the point of accident he was sitting in the baggage car, when he heard the torpedoes explode and the engineman acknowledge the signal he got up and started to look out the door, but later changed his mind and braced himself and that shortly after the collision occurred. He did not feel any application of the brakes prior to the collision.

Brakeman Hodgdon of train No. 4 stated that when his train had reached a point about one-quarter of a mile west of the point of accident he felt an application of the brakes; at that time he thought the train was going to stop at the tank. He did not hear the explosion of the torpedoes or the acknowledgment of his engineman. Immediately after the accident, he looked at his watch and it was then 3.15.

Express Messenger McMichael of train No. 4 stated that after leaving Wiles he noticed that the train was running faster than usual; he heard the explosion of the torpedoes and the engineman's acknowledgment but he felt no application of the brakes prior to the collision.

Train Porter Thurman of train No. 4 stated that when the train left Baird the brakes on the fourth car from the engine were sticking; he notified the conductor, who stopped the train, and the conductor told him to cut the brakes out. This he did and notified the engineman; upon arrival at Cisco he asked the car inspector to fix the brakes. The inspector examined the brakes and said that he could fix them, but that it would delay the train too long, let the car go to Fort Worth and repair it there. He stated that he was riding in the combination car when he heard the explosion of the torpedoes; he felt the slack of the train come up against the engine and he thought the engineman had reversed the engine; he then looked out of the window across the curve, saw train No. 2 and fearing there would be a collision, he ran to the platform to get off. He further stated that at the time of the collision the train was running at a speed of about 15 miles an hour. He thought that after the train left Wiles it ran rather faster than usual.

B. R. Hunt, employed as pumper at Canyon Emergency Tank stated that train No. 2 stood at the water tank approximately 8 minutes, four or five of which were consumed in taking water, the remainder waiting for the flagman. As train No. 2 started he heard the torpedoes explode and heard the acknowledgement of train No. 4; he then saw the train coming around the curve, apparently not working steam; the speed of the train did not appear to slacken before the collision occurred.

Operator Newman, on duty at Ranger, stated that train No. 2 passed his station at 2.45 p.m. Train No. 4 arrived at 2.50 p.m. and knowing they had express to unload gave the train a clear signal; they were detained from 5 to 7 minutes unloading express, but as he had been in the habit of reporting the train as leaving one minute after it arrived, he reported to the dispatcher that it arrived at 2.50 and departed at 2.51.

Conductor Crauser and Brakeman Brooks, who were on a westbound train which was on the siding at Wiles waiting to meet both No. 2 and No. 4, stated that train No. 2 passed Wiles at 2.04 p.m. and train No. 4 passed there at 3.16 p.m. twelve minutes later.

After the accident the remains of the torpedoes were found about a rail length apart at a point 1,422 feet west of the point of collision.

Locomotive 256 is of the 4-6-0 type, total weight engine and tender 222,380 pounds; it is equipped with Westinghouse G-6 brake valve and two 9-1/2 inch pumps located on the left side of the engine. On an examination of the engine after the accident the brake valve handle was found in the emergency position, the throttle and sanders closed and the reverse lever in the forward motion.

On December 1st a test of the air-brake apparatus on engine 256 was made at Fort Worth. This test disclosed that the brake valve feed valve, pumps and governors were in good condition at the time of the test. The brake valve feed valve was set at 69 pounds, seventy pounds train line pressure being used on train No. 4. The cars of train No. 4 were equipped with the ordinary quick action triples. Upon arrival at Fort Worth the piston travel on each car was measured and found as follows:

|             |        |
|-------------|--------|
| Baggage car | 8-3/4" |
| Baggage car | 5"     |
| Mail car    | 5-3/4" |
| Coach       | 4-3/4" |
| Chair car   | 7"     |

A test was made of the triple valve on chair car 512, on which the brake was out out at Dothan, but it disclosed nothing wrong.

On November 29th a test was made with a view to ascertaining, if possible, the distance in which a train similar to No. 4 could under like conditions be brought to a stop. Train No. 4 of the above date having the same number of cars, with the brakes on one car out out for this purpose, was used for this test. Approaching the curve the train was running at a speed of twenty-five miles an hour; when the torpedoes, which had been placed in the same location as those placed by Flagman Taylor on the day of the accident, were exploded, a service application of the brakes was made and the train came to a stop at a point 466 feet west of the point of collision.

The direct cause of this accident was the failure of Engineman Givens of train No. 4, to comply with the rules governing the use of torpedoes. General Rule 15 is in part as follows:

"The explosion of one torpedo is a signal to stop; the explosion of two not more than 200 feet apart is a signal to reduce speed and look out for a stop signal."

The evidence indicates that the torpedoes were placed approximately 1,200 feet from the rear of train No. 2 and that

their explosion was acknowledged by Engineman Givens, and that a short distance east of this point the rear of train No. 2 could be seen from the engine of an approaching train. Taking into consideration the speed of train No. 4, and the fact that train No. 2 had moved forward 175 feet and was moving at the time of the collision, together with the result of the test made on November 29th, it would appear that under ordinary conditions, the distance was sufficient to have permitted Engineman Givens to have brought his train to a stop in time to avert the collision. Engineman Givens knew that train No. 2 was not far ahead; he knew the speed at which his train had been running and that Canyon Emergency Tank was not an unusual stop for trains to take water. These conditions should have prompted him to use an unusual degree of care and watchfulness in approaching that point.

As to why Engineman Givens failed to comply with Rule 15, all persons that can throw any light on the question are dead. It remains therefore, a matter of mere conjecture. It is known that the brake on one car of the train was out out and that a few miles back at Canyon Viaduct, the engineman apparently had some difficulty in controlling the speed of the train as he failed to stop as required by rule before entering upon the bridge. The statements as to the speed of the train are conflicting, but it appears by the preponderance of evidence to have been between 15 and 20 miles an hour. The statements agree that there was no application of the brakes made prior to the collision, and that the engine was reversed and was working in the backward motion. These facts point strongly toward a failure of the air brake system, however, if there was such a failure, subsequent examination and tests failed to disclose it.

Contributing to the cause of this accident was the failure of Flagman Taylor of train No. 2 to fully obey the provisions of flagging rule 99. General Rule 99 reads in part 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. When recalled he may return to his train, first placing two torpedoes on the rail, when the conditions require it.

"A sufficient distance to insure full protection requires that the flagman shall go back to a point one-fourth mile from the rear of his train, where he must place one torpedo on the rail. He must then continue to go back at least one-half mile from the rear of his train and place two torpedoes on the rail, no more than two rail lengths apart; he may then return to within one-fourth mile from the rear of his train and remain there until recalled. If a passenger train is due he must remain until it arrives. When he comes in he will remove the torpedo nearest to train, but the two torpedoes must be left on the rail as a caution signal to a following train.

"The recall of flagman is the most critical period and when there is not a clear view of at least one-half mile, a train must be moved forward a sufficient distance to insure safety before flagman is recalled."

In this instance Flagman Taylor was recalled before he had reached a "sufficient distance" as prescribed by the rule, and it was his duty, instead of returning to his train, to continue to go back until the required distance had been reached; and further, there being a passenger train in the same direction then overdue, it was his duty to remain out until the following train arrived. In connection with the application of this rule attention is called to statements made by Division Superintendent Andrews and General Superintendent Elliott. A question was addressed to Flagman Taylor as to whether or not under the rules a flagman was required to remain out in case a following passenger train is overdue, Superintendent Andrews replied to the question as follows:

"That depends upon the conditions and circumstances. We have never considered it necessary for a train at a water tank to observe the same flagging precautions as a train that has been stopped at some obscure or unexpected place."

To this statement General Superintendent Elliott added the following:



"I will give you a direct reply to that question. Our rules provide that all trains extras, second-class trains or sections of passenger trains shall approach time-table water stations under control expecting to find the main line occupied. The rules also provide that if there be an overdue passenger train that the flagman shall remain out. He shall not come in."

The rule (90-a) referred to by Mr. Elliott is as follows:

"Second and inferior class trains, and extras, also following sections of first-class trains, must approach time-table coal and water stations under control expecting to find the main track occupied."

Construing this rule strictly, it applies to trains of the first class, only when such trains are running in sections; consequently, it cannot be held to apply in this case. However, in the absence of express modification, it would appear that the rule requiring the flagman to go back a specified distance and to remain out in case there is a passenger train overdue is still in effect. Its requirements are positive and definite and it should have been obeyed by Flagman Taylor. Had this rule been complied with train No. 4 would have received warning of the danger much sooner, and in all probability would have stopped before the collision even though the air brake system may have failed.

Also contributing to the cause of this accident was the failure of Conductor Witherspoon and Engineman Dean of train No. 2 to obey that part of Rule 99 which requires that where there is not a clear view of at least half a mile the train must be moved forward before calling in the flagman. Had this rule been complied with, the distance within which train No. 4 had to stop would have been materially increased and the possibility of accident thereby decreased.

The investigation of this accident discloses that the flagging rule on this division is not being strictly observed in several respects, and that apparently there is not a uniform interpretation among the operating officials as to how the rule should be observed. It also discloses that there is a laxity on the part of both train crews and operators in respect to the observance of Rule 91, which requires that in the absence of block signals trains running in the same direction must keep at least ten minutes apart. It further discloses that the

car inspector at Cisco, for fear of causing delay, permitted a train to leave that station with the brakes cut out on one car, thus impairing the efficiency of the train-brake system.

Engineman Givens entered the service as roundhouse man about 1893; later was promoted to fireman and in 1906 was promoted to engineman. He was usually employed in freight service, but had been placed on this run the day previous. At the time of the accident he had been on duty approximately 7 hours.

Flagsman Taylor entered the service as caller in April, 1912 and was promoted to trainman in November, 1914. At the time of the accident he had been on duty 6 hours and 25 minutes.

Engineman Dean entered the service in 1884, was promoted to engineman in January, 1888. At the time of the accident he had been on duty 2 hours and 20 minutes.

Conductor Witherspoon entered the service as brakeman in July, 1884 and was promoted to conductor in July, 1887. At the time of the accident he had been on duty 6 hours and 25 minutes.