

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON  
THE TEXAS & PACIFIC RAILWAY NEAR MARINGUIN, LA.,  
ON FEBRUARY 20, 1921.

March 23, 1921.

On February 20, 1921, there was a derailment of a passenger train on the Texas & Pacific Railway near Maringuin, La., which resulted in the death of 2 employees, and the injury of 1 passenger, 1 express employee, and 2 mail clerks. After investigation of this accident the Chief of the Bureau of Safety reports as follows:

#### Location.

This accident occurred on the Alexandria Sub-Division of the Louisiana Division, which in the vicinity of the point of accident is a single-track line over which trains are operated by time-table, train orders transmitted by telephone, and a manual block signal system. Approaching the point of accident from the west, the track is straight and practically level. The track in this vicinity is laid with 75-pound rails, 33 feet in length, with staggered joints, and single-spiked with an average of about 20 cypress and treated pine ties to the rail, a small percentage of which are tie plated. The track is ballasted with gravel, about 16 inches in depth, and was maintained in fair condition. The weather at the time was cloudy.

#### Description.

The train involved was eastbound passenger train No. 22, operating between Fort Worth, Texas, and New Orleans, La., and was in charge of Conductor Edwards and Engineman White. It consisted of 1 combination mail and baggage car,

1 combination baggage and express car, 2 coaches, 1 dining car, and 4 Pullman sleeping cars, in the order named, hauled by engine 359. The first five cars were of all-steel construction, the next two were of steel-underframe construction, and the last two were of wooden construction. According to the train sheet, the train left Melville, 19.5 miles from Maringouin, at 2.25 a.m., 35 minutes late, passed Maringouin, the last open telegraph office, at 2.51 a.m., 18 minutes late, and was derailed at a point about 2 miles east of Maringouin, while running at a speed variously estimated to have been between 30 and 70 miles an hour.

Engine 359, together with its tender, was derailed to the right and came to rest bottom up, approximately 425 feet beyond the point of derailment, its front end fouling the track. The first car came to rest practically on its right side, the front end jammed against the tender, the second car was leaning to the right at an angle of about  $45^{\circ}$ , while the third and fourth cars and the front wheels of the forward truck of the fifth car were derailed, these cars remaining upright. The engine and first car were considerably damaged. The employees killed were the engineman and fireman

#### Summary of evidence.

The statements of the surviving members of the crew of train No. 22 indicated that their first knowledge of anything wrong was when they felt the shock of the derailment, although some of them thought the air brakes were applied first. On examining the track none of them was able to discover what had caused the accident. Their estimates as to the speed

of the train varied from 30 to 37 miles an hour, although one of the mail clerks estimated it to have been 60 miles an hour and another mail clerk at between 60 and 70 miles an hour.

Examination of the track showed that there was a flange mark on the head of the south rail, beginning at about the center of the head and extending eastward a distance of about 6 feet to where it reached the outside of the head, the next mark was on a tie on the outside of the south rail at a point about  $3\frac{1}{4}$  inches from the base of the rail and about 4 feet beyond the end of the mark on the head of the rail. Beyond this point there were no other marks on the ties for a distance of 16 feet, the track was then badly torn up for a distance of about 400 feet. There were no marks inside of the north rail corresponding with those found on the south rail. Car Foreman Gordon, who reached the scene of the accident about 5 hours after its occurrence, said the mark on the rail was visible only in spots, that it was about  $\frac{5}{8}$  inch wide at the point where it finally went off the outside of the rail and that it appeared to have been made by something scraping, although it might have been made by a wheel flange. Section Foreman Hubbard saw the marks on the rail and tie, but did not think they looked like wheel marks. Roadmaster Chapman found a few joints a little loose, but in his opinion not enough to cause a derailment, he also found a joint just west of the point of accident a little out of gauge. He had been over this track on the third day previous to the accident but

noticed nothing wrong except a few kinks, Superintendent De France found no defect in the track which in his opinion would have caused the train to be derailed provided it was not moving at a rate of speed in excess of the maximum rate allowed on this division, 45 miles an hour. He expressed the opinion that the accident was due to the derailment of the forward tender truck as the result of excessive speed.

Measurements made of the surface of the track beginning at a point about  $9\frac{1}{2}$  rail-lengths west of the point of derailment disclosed considerable irregularity, while two joints were  $\frac{3}{8}$  inch lower than the centers of the adjoining rails. With the exception of the centers of two rails, the south rail was found to be lower than the north rail for the first 161 feet of the distance measured; it was then higher than the north rail for a distance of about 50 feet, following which it was from  $\frac{1}{2}$  to  $\frac{3}{8}$  inch lower than the north rail to the point of accident, a distance of about 100 feet. Observation of the low joints showed that some of them went down about an additional inch under the weight of a slowly moving passenger train.

Examination of the engine and tender showed that the draw bar between them was twisted to the right, beginning at the rear end, indicating that the tender was the first to overturn. The marks on the forward tender truck, as well as the damage sustained by it, indicated that after the derailment it had headed toward the right and that it had then been dragged along at right angles to the track, with its left side toward the head end of the train. After the accident it

was round bottom up, back of the rear tender truck. The engine showed no signs of having been off the track prior to overturning, except that the counterbalances of the left driving wheels appeared to have been striking on the rails, probably just before the engine overturned. This engine is an oil burner of the 4-6-0 type, having a total weight, engine and tender loaded, of 285,500 pounds; the tender has a capacity of 6,500 gallons of water and 2,800 gallons of fuel oil, and at the time of the accident was about half full of each. The engine had received a general overhauling in December, 1940, and examination showed it to be in good condition throughout.

In May, 1940, bulletin instructions were issued reducing the speed limit of passenger trains from 50 to 45 miles an hour. The train sheet shows that train No. 22 made up 17 minutes lost time between Melville and Waringouin, travelling the distance of 19.5 miles in 33 minutes, or at an average rate of 45 miles an hour for the entire distance, the distance of 8.7 miles between Forcoche and Waringouin was covered in 10 minutes, a gain of 8 minutes lost time, or at an average speed of about 52 miles an hour. It is also noted that between Morrows and Palchetto, a distance of 13.5 miles, the train was operated at an average speed of 51 miles an hour, although slow orders were in effect covering four different points within this territory.

#### Conclusions.

This accident was caused by excessive speed over uneven track.

While the conductor said the speed of the train passing through Maringouin was only 25 miles an hour, and he did not think it had been increased to more than 35 miles an hour at the time of the accident, the conditions of the wreckage, statements of the mail clerks, and the high rate of speed at which the train had been operated for a considerable distance indicate that the speed undoubtedly was much higher than the maximum speed allowed under the bulletin instructions. The investigation developed that there was considerable unevenness in the surface of the track, with many low joints, and undoubtedly this condition, coupled with the excessive rate of speed, caused the tender to rock to such an extent that finally the south wheel of the forward tender truck mounted the rail, resulting in the subsequent derailment of the train.

Engineman White entered the service as fireman in 1890, was promoted to switch engineman in 1898, and to engineman in 1900; his record was clear. The crew of train No. 22 had been on duty about 3 hours, previous to which they had been off duty about 19 hours.