RAILROAD ACCIDENT INVESTIGATION

Report No. 4122

LOUISVILLE AND NASHVILLE RAILROAD COMPANY

ARGYLE, FLA.

JUNE 26, 1967

DEPARTMENT OF TRANSPORTATION

FEDERAL RAILROAD ADMINISTRATION

Washington

Summary

DATE:	June 26, 1967
RAILROAD:	Louisville and Nashville
LOCATION:	Argyle, Fla.
KIND OF ACCIDENT:	Derailment
TRAIN INVOLVED:	Passenger
TRAIN NUMBER:	60
LOCOMOTIVE NUMBERS:	Diesel-electric units 757, 753
CONSIST:	5 cars
ESTIMATED SPEED:	40-45 m.p.h
OPERATION:	Timetable, train orders
TRACK:	Single; $4^{\circ}20'$ curve; 1 0 percent descending grade northward
WEATHER:	Cloudy
TIME:	10:50 p.m.
CASUALTIES:	31 injured
CAUSE:	Broken rail

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RAILROAD SAFETY BOARD

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Synopsis

On June 26, 1967, a Louisville and Nashville passenger train derailed near Argyle, Fla., resulting in the injury of 31 passengers and employees

The accident was caused by a broken rail

Location and Method of Operation

The accident occurred on that part of the Montgomery, New Orleans and Pensacola Division extending between Chattahoochee and Pensacola, Fla., a distance of 160.7 miles. In the accident area, this is a single-track line over which trains operate by timetable and train orders There is no block-signal system in use.

The derailment occurred on the main track, 73 7 miles north of Chattahoochee and 3 3 miles south of Argyle

Details of the track, train, damages and other factors are provided in the appendix.

Description and Discussion

No. 60, a northbound first-class passenger train, left Chattahoochee at 8:55 p.m , 10 minutes late This train, consisting of 2 diesel-electric units, 1 baggage car, 1 sleeping car, 1 coach and 2 piggyback flat cars, in that order, left Marianna, 25 6 miles north of Chattahoochee, at 9:40 p.m , and passed Cottondale, 34 8 miles north of Chattahoochee at 9:56 p m., 17 minutes late. At 10:50 p m.,

while it was moving northward on a 4°20' curve to the left, the engineer noticed that the east rail was broken about 50 feet ahead. He estimated that about 14 inches of rail was missing at this break. He immediately called a warning to the fireman and applied the train brakes in emergency. Both enginemen then felt a bump, as the first diesel-electric unit moved over the broken rail. Immediately thereafter, while the train was moving at 40 to 45 miles per hour, as estimated by both enginemen, the right rear wheel of the rear truck of the first diesel-electric unit, and all wheels of the trucks of the second unit and five cars derailed at the break in the east rail, 3.3 miles south of Argyle.

The conductor, two sleeping-car employees and twenty-eight passengers were injured.

Examination of the train equipment after the accident disclosed no condition which could have contributed to the cause of the derailment.

Examination of the track structure throughout a considerable distance south of the derailment point disclosed no indications of dragging equipment or of an obstruction having been on the track.

The main track was destroyed throughout a distance of 636 feet north of the derailment point

Examination of the main track at the derailment point disclosed that the east rail was broken at a rail joint. At this joint, a section of the leaving end of the east rail, 33-5/8 inches, long was broken into five pieces. The adjoining rail was not broken nor was its receiving end battered. The joint bars remained fastened to the receiving end of this rail. They were unbroken, except for a 3-inch piece broken off the bottom of the south end of the gage-side joint bar. The joint bar bolts were not broken, but the south bolt and nut on the gage side were heavily battered. The top shoulder of the gage-side joint bar bore a wheel mark throughout its entire length and was heavily battered at the south end. A 6-inch diagonal scrape mark appeared on the gage side of the head of the broken rail about 90 inches from the south end. Flange marks appeared on the gage side of the web and base of the broken rail, 117 inches north of the south end. They extended northward to a point 5½ inches south of the joint bar at the leaving end. The first mark on the ties was a flange mark. It appeared 9 inches east of the west rail, at a point 90 inches north of the south end of the broken rail. It is apparent that the marks which appeared on the rail and ties toward the south end of the broken rail were caused by derailed equipment to the rear of the locomotive

Inspection of the broken rail disclosed that all the fractures were new, except an old fracture which appeared on the field side between the head and the web at the north, or leaving, end of the rail. The old break was about ¼ inch deep and extended 2 inches horizontally southward from the end of the rail. Irregular new breaks extending from the old break separated the fragments of the rail previously

escribed It is evident that new breaks resulted from the ccident after the first fragment was displaced at the north nd of the rail which was later observed to be missing by the ngineer of No 60

The broken rail was manufactured by the Tennessee Coal, ron & R. R Co. in 1934 and had been relaid prior to 1951.

The track in the vicinity of the accident point was last tested by a rail-defect detector car in March 1967, and no defects were found The track in the derailment area was given an out-of-face surfacing on July 25, 1966 It was last inspected by a track foreman on June 22, 1967, and no exceptions were taken.

Extra 621 south, the last train through the Argyle rea, passed the derailment point about 4½ hours prior to the accident Its crew members noticed nothing unusual

Findings

Apparently as a result of the old break at the north end of the rail involved, a section of the head and web, 15-5/8 inches long, broke off from the rail at the north end when Extra 621 South moved over the rail about 4½ hours before the derailment Subsequent fractures followed as the north end of the rail deteriorated under wheels of the locomotive of No 60, causing the right rear wheel of the rear truck of the first diesel-electric unit of No. 60 and all wheels of the following train equipment to derail.

Cause

This accident was caused by a broken rail.

Dated at Washington, D. C., this 7th
day of December 1967
By the Federal Railroad Administration
Railroad Safety Board.

Bette E Holt
Acting Executive Secretary

Appendix

Track

From the south on the main track there are, in succession, a tangent 500 feet, a spiral 312 feet, and a 4°20' curve to the left 1,525 feet to the derailment point and a short distance northward. The grade for northbound trains is, successively, 1.4 percent ascending 100 feet, a vertical curve 1,000 feet, and 1.0 percent descending 800 feet to the derailment point

The structure of the main track in the derailment area consists of 100-pound rail, 39 feet in length, laid on an average of 22 treated ties to the rail length. It is fully tie plated with single-shoulder tie plates, spiked with 2 rail-holding spikes per tie plate and is provided with 4-hole 24-inch joint bars and an average of 4 rail anchors per rail on the west rail and no anchors on the east rail. It is ballasted with crushed slag to a depth of 12 inches below the ties, and is laid on a fill about 5 feet in height.

Train

No. 60 consisted of car-body type diesel-electric units 757 and 753, coupled in multiple-unit control, one baggage car, one sleeping car, one coach and two piggyback flat cars The cars were of all-steel construction The 2nd and 3rd cars were equipped with tightlock couplers. As the train approached the derailment point, the engineer and fireman were in the control compartment at the front of the first diesel-electric unit. The conductor and baggageman were in the sleeping car, and the flagman was in the coach. The brakes had been tested and had functioned properly when used en route. The headlight was lighted.

Damages

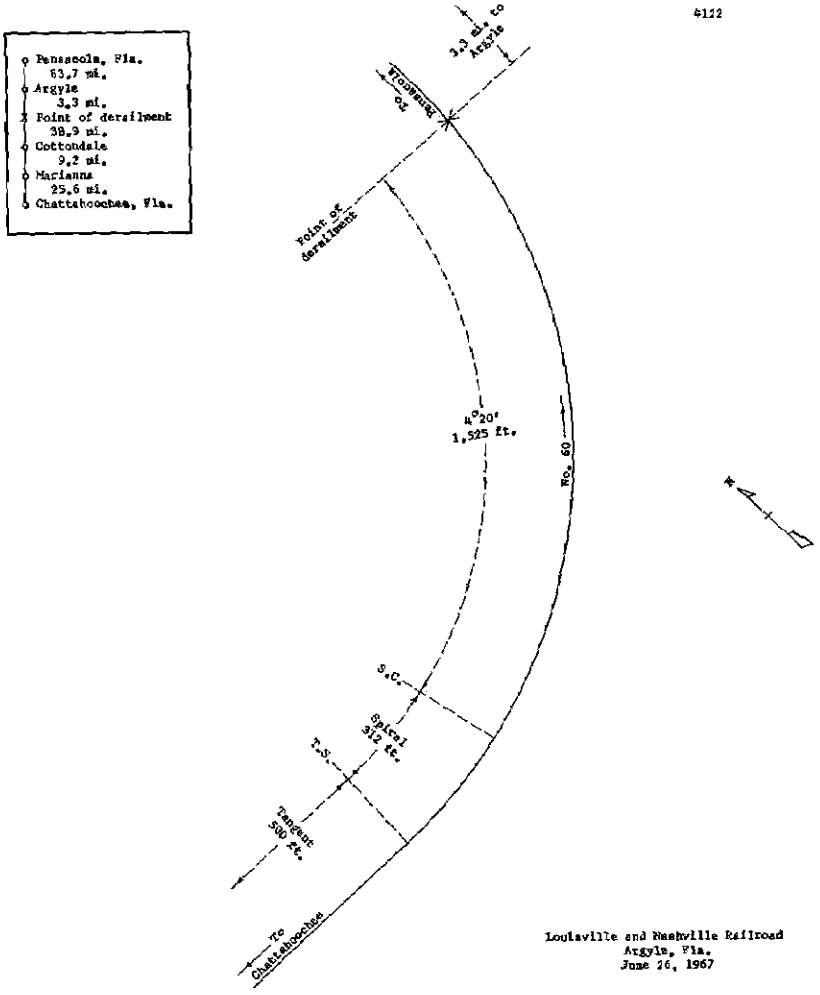
No. 60 stopped with the front end 705 feet north of the derailment point. The right rear wheel of the first diesel-electric unit and all wheels of the second unit and the 5 cars were derailed. There were no separations. Both diesel-electric units stopped upright on and in line with the track structure. The 1st car stopped upright with the rear end about 6 feet east of the track; the 2nd car stopped with the rear end about 20 feet east of the track and leaning eastward at an angle of 60°; the 3rd car stopped with the rear end about 30 feet east of the track and leaning eastward at an angle of 60°; the 4th and 5th cars stopped upright about 30 feet east of the track The 2nd diesel-electric unit, and the 1st and 2nd cars were slightly damaged. The 3rd, 4th and 5th cars were considerably damaged.

Other Factors

The accident occurred at 10:50 p.m., in cloudy weather.

The maximum authorized speed for the train involved in the accident area was 55 miles per hour.

According to their daily time returns, the crew members of No. 60 had been on duty 2 hours 35 minutes at the time of the accident, after having been off duty 9 hours 45 minutes.



Louisville and Nashville Railroad
Argyle, Fla.
June 26, 1967