

RAILROAD ACCIDENT INVESTIGATION

Report No. 4121

MISSOURI-KANSAS-TEXAS RAILROAD COMPANY

ELGIN, TEXAS

JUNE 3, 1967

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
Washington

Summary

DATE: June 3, 1967

RAILROAD: Missouri-Kansas-Texas

LOCATION: Elgin, Texas

KIND OF ACCIDENT: Collision

EQUIPMENT INVOLVED: Freight train Cut of
 freight cars

TRAIN NUMBER: 6

LOCOMOTIVE NUMBERS: Diesel-electric units
181, 83-C, 177

CONSISTS: 59 cars, caboose 33 cars

SPEEDS: 21 m.p.h Standing

OPERATION: Timetable, train
orders

TRACK: Single; 3° curve;
slightly descend-
ing grade northward

WEATHER: Cloudy

TIME: 3:55 a.m.

CASUALTIES: 2 killed; 1 injured

CAUSE: Failure to apply
sufficient number
of hand brakes on
cut of cars left on
descending grade on
siding resulting in
cars trailing through
siding switch and stopping
on main track.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY BOARD

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Synopsis

On June 3, 1967, a Missouri-Kansas-Texas Railroad Company freight train struck a cut of freight cars standing on the main track near Elgin, Texas, resulting in death to the engineer and injury to the front brakeman. In addition, the engineer's son, who was on the locomotive, was fatally injured.

The accident was caused by failure to apply sufficient number of hand brakes on cut of cars left on descending grade on siding resulting in cars trailing through siding switch and stopping on main track.

Location and Method of Operation

The accident occurred on that part of the Southern Division extending between Smithville and Bellmead, Texas, a distance of 126.5 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 at Elgin, 34.4 miles north of Smithville, a siding 6,389 feet long parallels the main track on the west. The south switch of the siding is 6,375 feet south of the station. Two auxiliary tracks are connected to the siding near its north end, as indicated in the sketch appended to this report.

The collision occurred on the main track, 1.9 miles south of the Elgin station and 3,662 feet south of the south siding-switch.

Between a point near the Elgin station and the south siding-switch, the grade of the main track and siding averages 0.68 percent descending southward. It is 1 00 percent descending southward throughout 2,150 feet north of the south siding-switch.

Details concerning the track, carrier's operating rules, train involved, damages and other factors are set forth in the appendix.

Description and Discussion

No. 6, a northbound second-class freight train, consisting of 3 diesel-electric units, 59 cars and a caboose, left Smithville at 2:50 a.m. the day of the accident. The engineer and front brakeman, the only crew members on the locomotive, were in the control compartment at the north end of the first diesel-electric unit, which was of the road-switcher type. The 17-year old son of the engineer was also in this control compartment, without the carrier's permission. The conductor and flagman were in the caboose. The headlight at the front of the locomotive was lighted brightly. The speed-recorder device on the first locomotive unit was defective and did not properly indicate or record train speed.

About one hour after leaving Smithville, No. 6 moved over the summit of a grade about $2\frac{1}{2}$ miles south of Elgin. Train speed at that time was 34 miles per hour, as indicated by the speed-recording tape of one of the trailing locomotive units which was calibrated after the accident occurred. Soon afterward, while the train was moving northward on a descending grade and a tangent the speed increased to 38 miles per hour, eight miles per hour in excess of the maximum authorized speed. The front brakeman estimated the speed was about 30 miles per hour when he saw the south end of a cut of 33 unattended hopper cars standing on the main track a short distance ahead, at the south end of a curve to the right. He called a warning and the engineer immediately applied the train brakes in emergency. The front brakeman then left the control compartment and proceeded to the platform at the south end of the first diesel-electric unit. A few seconds later, at 3:55 a.m., when its speed had reduced to 21 miles per hour nearing the bottom of the descending grade, No. 6 entered the curve to the right and struck the south end of the cut of hopper cars, 1.9 miles south of the Elgin station and 3,662 feet south of the south switch of the Elgin siding.

The front brakeman alighted from the locomotive before the collision and was slightly injured. The engineer and his son remained in the control compartment, and were killed.

The 33 hopper cars comprising the cut of cars struck by No. 6 were loaded with ballast. All the cars had roller bearings, vertical-wheel hand brakes, and ABD air brake equipment.

On May 28th, six days before the accident, a southbound freight train set out 18 hopper cars, loaded with ballast, on the south end of the siding at Elgin. After the cars were placed on the siding, the front brakeman and flagman

applied the hand brakes on the two southernmost and two northernmost cars. On May 30th, the locomotive of a northbound freight train entered the siding at the south switch and was coupled to the south end of the cut of 18 cars. After the four hand brakes were released and the air brake system of the cut of cars was charged, the locomotive pushed the 18 cars to the auxiliary tracks near the north end of the siding and performed switching operations involving other cars on the auxiliary tracks. When the switching was completed, the locomotive pulled the cut of 18 cars southward and left it standing on the south end of the siding. The front brakeman said he reapplied the hand brakes of the two southernmost and two northernmost cars before the locomotive was detached.

About 4:45 p.m., June 1st, approximately 35 hours before the accident, First 1, a southbound freight train, stopped at Elgin to set out a cut of 15 hopper cars loaded with ballast on the south end of the siding. The locomotive pushed this cut of cars through the south siding-switch to a coupling with the cut of 18 cars standing on the siding with four hand brakes applied. After the air hose between the cuts of cars were coupled and the air brake system of the combined cut of 33 cars was charged, the locomotive pushed the cars northward with the four hand brakes applied, and stopped on the siding with the south end of the cut of cars about 350 feet north of the south siding-switch. Immediately afterward, the engineer caused the air brakes of the cars to become applied, and the flagman detached the locomotive from the southernmost car. The locomotive then returned to the train, leaving the cut of 33 cars on the siding with its air brakes applied and with the hand brakes of the 16th, 17th, 18th and 33rd cars from the south end also applied. The flagman stated that after detaching the locomotive from the south end of the cut of 33 cars, he applied the hand brakes of the two southernmost cars, then walked northward to the caboose of his train. The front brakeman and two persons residing near the siding said they saw the flagman apply the hand brake of the southernmost car. They then saw him walking toward the adjacent car, but did not observe whether he applied the hand brake of that car.

The cut of 33 cars remained standing on the Elgin siding until approximately 10:30 p.m. the evening before the accident. About that time, within a few minutes after a southbound freight train passed Elgin, the two persons residing near the siding heard a squealing noise, which evidently emanated from hand brakes applied on the cars occupying the siding. They then looked toward the cut of 33 cars and saw that it was moving southward on the descending grade. They did not attach any significance to this, however, as they assumed the locomotive was moving the cars. The unattended cut of 33 cars moved on the siding to the south switch, where it entered the main track and continued southward on the descending grade. After reaching the bottom of this grade and entering an ascending grade, the cut of cars stopped on the main track with the south end 3,662 feet south of the south siding-switch at Elgin. Approximately five hours later, the south end of the cut of cars was struck by No. 6

Examination of the cut of 33 cars soon after the accident disclosed that the hand brakes of the two northernmost cars and the 16th and 17th cars from the south end were tightly applied. The hand brake of the 2nd car from the south end, which the flagman of First 1 said he had applied, was found to be not applied. The southernmost car, including its hand brake, was destroyed. The brake cylinder pistons of the cars were not extended and operation of the release rods associated with the air brake equipment resulted in little or no exhaust of air, indicating that the air brakes of the cars were released.

After the accident, there were reports that a trespasser was known to have tampered with the hand brakes of the cut of 33 cars sometime before the cars rolled from the Elgin siding. Investigation revealed that these reports were unfounded, and disclosed no evidence of any tampering with the hand brakes.

Findings

About 4:45 p.m., June 1st, crew members of First 1 left the cut of 33 cars standing on the Elgin siding, and on a relatively heavy grade, with the air brakes of all the cars applied and with the hand brakes of five or six cars also applied. During the approximately 30-hour period immediately following, sufficient air leaked from the brake system of the cars to cause release of the air brakes. The hand brakes applied on five or six of the cars then held the cut of 33 cars motionless on the siding until a south-bound freight train passed the siding about 10:30 p.m. the evening preceding the accident. At this time vibrations resulting from passage of the freight train apparently caused the cut of cars to start moving southward on the descending grade of the siding. The cut of cars then trailed through the south siding-switch, continued southward on the main track and descending grade and stopped at the point where it was struck by No. 6 about five hours later. It is evident that after the locomotive of First 1 left the cut of 33 cars on the siding, a sufficient number of hand brakes were not applied to secure the cars, as required by rule. As a result, the cars rolled from the siding to the main track sometime after their air brakes released, causing the accident.

It is also evident that No. 6 was moving in excess of its maximum authorized speed while approaching the collision point, and that the excessive speed had some bearing on the result of the accident.

Cause

The accident was caused by failure to apply sufficient number of hand brakes on cut of cars left on descending grade on siding resulting in cars trailing through siding switch and stopping on main track.

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 3,170 feet long, and a 3°00' curve to the right 65 feet to the collision point and 597 feet northward. From the south, the grade is, successively, about 1.00 percent descending 4,000 feet, and a vertical curve about 500 feet to the collision point and a short distance northward. The grade at the collision point is slightly descending northward. Between the north end of the vertical curve and the south switch of the siding at Elgin, the grade varies between 1.00 and 1.16 percent ascending northward.

At the collision point, the main track is laid on a fill about 15 feet high.

Carrier's Operating Rules

103 (a). Precautions in Switching. - ***

Employees must observe the following precautions in switching movements:

(1) See that cars left on tracks are properly secured ***

Train Involved

No. 6 consisted of road-switcher type diesel-electric unit 181, car-body type unit 83-C and road-switcher type unit 177, coupled in multiple-unit control, 59 cars and a caboose. As the train approached the collision point, the engineer and front brakeman, the only crew members on the locomotive, were in the control compartment at the front of the first diesel-electric unit. The engineer's son was also in that control compartment. The conductor and flagman were in the caboose. The train brakes had been tested and had functioned properly when used en route. The headlight was lighted.

Damages

The southernmost car of the cut of cars was derailed. It was destroyed.

No. 6 stopped with the front end about 25 feet north of the collision point. The first diesel-electric unit and 12th to 15th cars, inclusive, were derailed and stopped in various positions on or near the track structure. The 1st diesel-electric unit was destroyed and the 2nd unit was slightly damaged. Three of the derailed cars were considerably damaged.

Other Factors

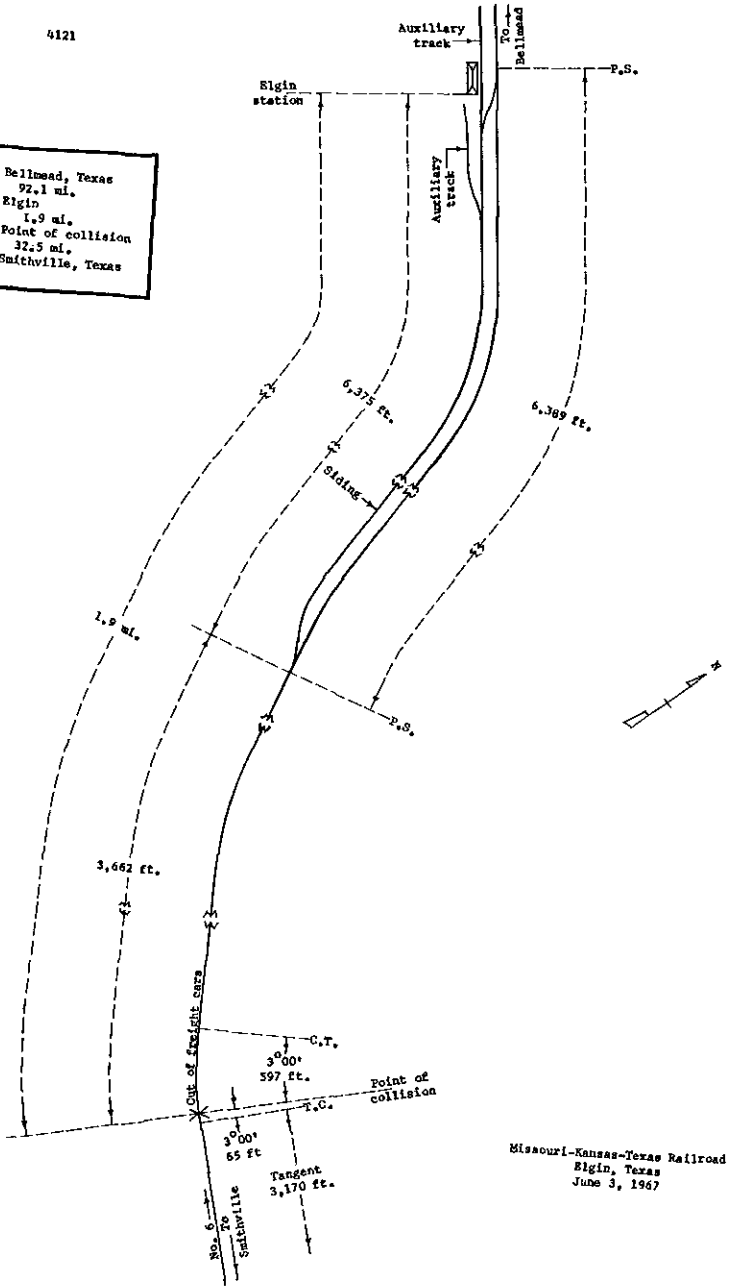
The accident occurred at 3:55 a.m., in cloudy weather.

The maximum authorized speed for freight trains in the accident area is 30 miles per hour.

According to daily time returns of the crew members of No. 6, the engineer, front brakeman, conductor and flagman had been on duty 1 hour 20 minutes when the accident occurred. The conductor had been previously off duty 8 hours 40 minutes, and the other crew members had been off duty more than 24 hours.

4121

- Bellmead, Texas
92.1 mi.
- Elgin
1.9 mi.
- ✕ Point of collision
32.5 mi.
- Smithville, Texas



Missouri-Kansas-Texas Railroad
Elgin, Texas
June 3, 1967