INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2786

THE MISSOURI PACIFIC RAILROAD COMPANY

REPORT IN RE ACCIDENT

NEAR OSAGE, MO., ON

MARCH 21, 1944

SUMMARY

Railroad:	Missouri Pacific	
Date:	March 21, 1944	
Location:	Osage, Mo.	
Kind of accident:	Side collision	
Trains involved:	Freight	: Freight
Train numbers:	Extra 2201 West	: Extra 2210 East
Engine numbers:	2201	: 2210
Consist:	1 auxiliary water car, 83 cars, caboose	: 1 auxiliary water car, 123 cars, caboose
Speed:	Standing	: 8 m. p. h.
Operation:	Centralized-traffic-control system	
Track:	Double; tangent; level	
Weather:	Clear	
Time:	5:06 p. m.	
Casualties:	1 killed; 1 injured	
Cause:	Failure properly to control speed of Extra 2201 West in accordance with signal indications and approaching end of double track	

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2786

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE MISSOURI PACIFIC RAILROAD COMPANY

May 1, 1944.

Accident near Osage, Mo., on March 21, 1944, caused by failure properly to control the speed of Extra 2201 West in accordance with signal indications and approaching the end of double track.

REPORT OF THE COMMISSION[1]

PATTERSON, Chairman:

On March 21, 1944, there was a side collision between two freight trains on the Missouri Pacific Railroad near Osage, Mo., which resulted in the death of one employee and the injury of one employee. This accident was investigated in conjunction with representatives of the Missouri Public Service Commission.

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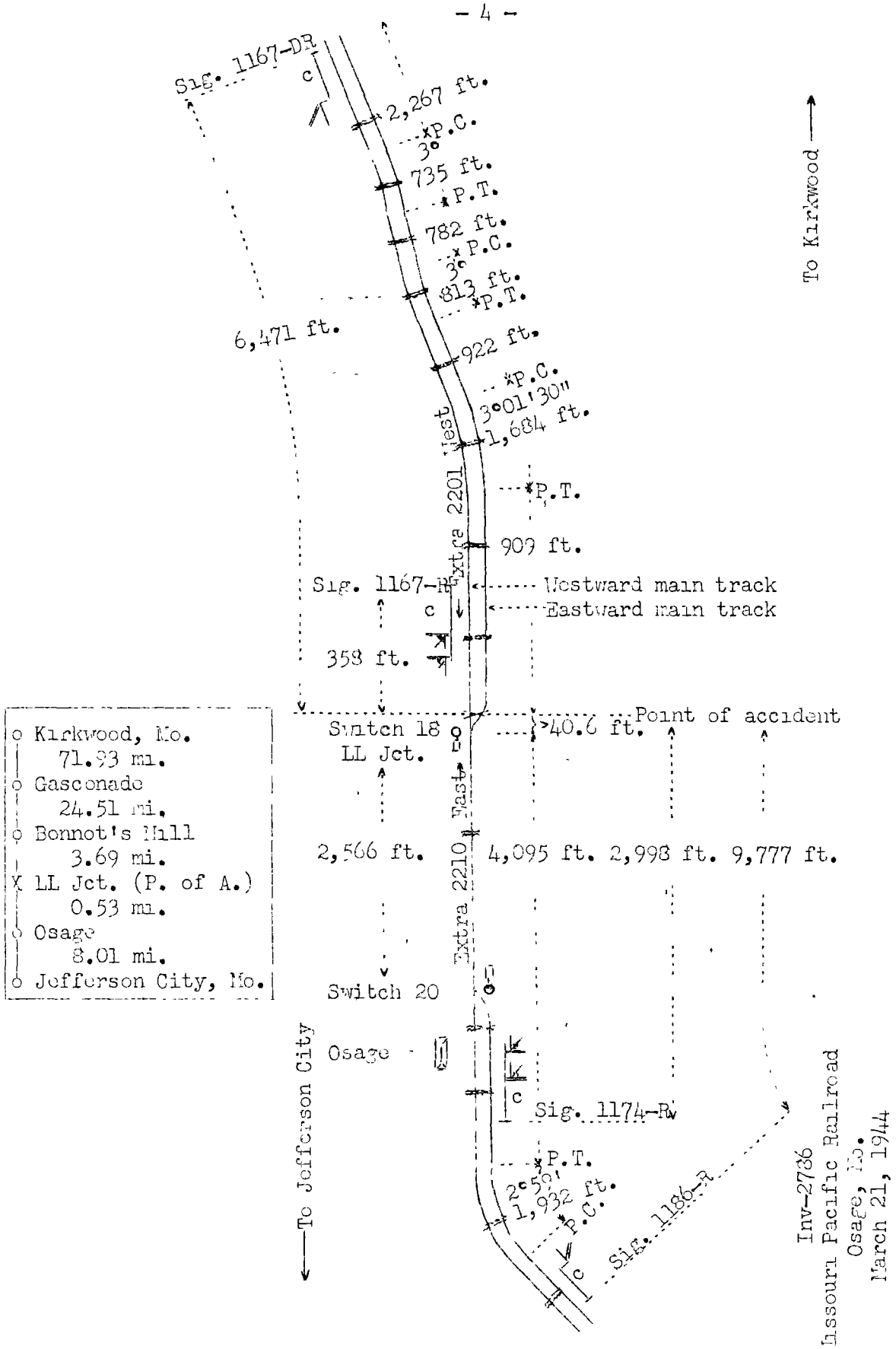
[1]Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Chairman Patterson for consideration and disposition.



Inv-2736
Missouri Pacific Railroad
Osage, Mo.
March 21, 1944

Location of Accident and Method of Operation

This accident occurred on that part of the Eastern Division designated as the St. Louis Subdivision and extending eastward from Jefferson City to Kirkwood, Mo., 108.67 miles. Between Jefferson City and Osage, 8.01 miles, this was a double-track line, between Osage and LL Jct., 0.53 mile, a single-track line, and between LL Jct. and Gasconade, 28.2 miles, a double-track line. Between Jefferson City and LL Jct. trains were operated by a centralized-traffic-control system. Trains moving with the current of traffic between LL Jct. and Gasconade were operated by an automatic block-signal system, the indications of which superseded time-table superiority. The switch at the east end of the double track at Osage was designated as switch 20. The switch at the west end of the double track at LL Jct. was designated as switch 18. The accident occurred at LL Jct., 40.6 feet east of switch 18. From the east there were, in succession, a tangent 2,267 feet in length, a 3° curve to the right 735 feet, a tangent 782 feet, a 3° curve to the left 813 feet, a tangent 922 feet, a 3°01'30" curve to the right 1,684 feet and a tangent 909 feet to the point of accident. From the west there were, in succession, a 2°59' curve to the right 1,932 feet, a tangent 4,095 feet to the switch at LL Jct. and a No. 20 turnout to the right 40.6 feet to the point of accident. At this point the grade was level.

Approach signal 1167-DR and home signal 1167-R, governing west-bound movements, were, respectively, 6,471 feet and 358 feet east of the point of accident. Approach signal 1186-R and home signal 1174-R, governing east-bound movements, were, respectively, 9,777 feet and 2,998 feet west of the point of accident. Signals 1167-DR and 1186-R were of the one-unit, color-light type, and signals 1167-R and 1174-R were of the two-unit, color-light type. Signals 1167-R, 1186-R and 1174-R were continuously lighted, and signal 1167-DR was approach lighted. The involved aspects and corresponding indications and names of these signals were as follows:

Signal	Aspect	Indication	Name
1167-DR	Yellow	Proceed at restricted speed through the entire block	Permissive signal
1167-R	Red-over-red	Stop	Stop signal
1186-R	Green	Proceed	Clear signal
1174-R	Red-over-green	Proceed at medium speed until entire train is through turnout	Clear restricting signal

Signals 1167-R and 1174-R and switches 18 and 20 were controlled by a centralized-traffic-control machine at Jefferson City. Approach locking was provided, and the circuits of the controlled signals involved were so arranged that when switch 20 was lined for movement from the eastward main track to the single track at Osage and switch 18 was lined for movement from the single track to the eastward main track at LL Jct., signal 1186-R would display green; signal 1174-R, red-over-green; signal 1167-DR, yellow; and signal 1167-R, red-over-red. The control machine was provided with visual and audible indicators, and the controlling circuits were arranged to indicate the movement of trains within the centralized-traffic-control territory.

DEFINITIONS.

* * *

Restricted Speed.--Proceed prepared to stop short of train, obstruction, or anything that may require the speed of a train or engine to be reduced.

Medium Speed.--A speed not exceeding thirty miles per hour.

Operating rules read in part as follows:

14. Engine Whistle Signals.

NOTE.--The signals prescribed are illustrated by "o" for short sounds; "___" for longer sounds. * * *

	Sound.	Indication.
(a)	o	Apply brakes. Stop.

* * *

34. All members of engine and train crews must, when practicable, communicate to each other by its name the indication of each signal affecting the movement of their train or engine.

98. Trains and engines must approach the end of two or more tracks, * * * prepared to stop, unless the switches are properly lined, signals indicate proceed, and track is clear. * * *

663. Trains or engines must not pass an interlocking signal indicating Stop without receiving hand signals, and must send a man ahead, provided they cannot see that the track is properly lined; the movement must then be made at restricted speed.

666. A train or engine approaching a signal displaying a Stop-indication must stop before the leading wheels pass the signal.

The maximum authorized speed for freight trains was 55 miles per hour in the double-track territory and 30 miles per hour in the single-track territory.

Description of Accident

Extra 2201 West, a west-bound freight train, consisting of engine 2201, 1 auxiliary water car, 83 cars and a caboose, passed Bonnot's Mill, 3.69 miles east of LL Jct. and the last open office, at 5 p. m., passed signal 1167-DR, which displayed proceed-at-restricted-speed, passed signal 1167-R, which displayed stop, and stopped on the westward main track at LL Jct. at 5:05 p. m., with the engine fouling the eastward main track 358 feet west of signal 1167-R. About 1 minute later the engine was struck by Extra 2210 East.

Extra 2210 East, an east-bound freight train, consisting of engine 2210, 1 auxiliary water car, 123 cars and a caboose, passed signal 1186-R, which displayed proceed, passed signal 1174-R, which displayed proceed-at-medium-speed, passed Osage, the last open office, at 5:05 p. m., entered the single track at switch 20, and while moving at an estimated speed of 8 miles per hour it entered switch 18, which was lined for movement from the single track to the eastward main track, and at a point 40.6 feet east of switch 18 struck Extra 2201 West.

The force of the impact moved engine 2201 eastward 141 feet. The engine of each train, 2 cars of Extra 2201 and 16 cars of Extra 2210 were derailed and damaged.

Engine 2201 was provided with No. 8-ET brake equipment. Of the cars of Extra 2201, 43 were provided with AB-type and the remainder with K-type brake equipment. After the accident a braking test was conducted with a train consisting of an engine having No. 8-ET brake equipment, 81 undamaged cars of Extra 2201 and 2 cabooses. In this test, as the train approached signal 1167-DR, a speed of 45 miles per hour was attained, and the brake valve was operated in the same manner as the engineer stated he operated the brake valve on engine 2201. The train was stopped in a distance of 4,500 feet with the engine standing at a point 2,920 feet east of signal 1167-R, or 3,278 feet east of the point where the accident occurred. The brake-cylinder piston-travel on the cars varied between 2-1/2 and 11 inches. The piston-travel on 11 cars was less than 7 inches, and on 9 cars it was more than 9 inches. The brake of 1 car provided with K-type brake equipment was inoperative.

It was clear at the time of the accident, which occurred about 5:06 p. m.

The engineer of Extra 2210 East was killed, and the fireman of Extra 2210 East was injured.

Discussion

The rules governing operation on this line provide that a train receiving a proceed-at-restricted-speed indication must, among other requirements, proceed prepared to stop short of the next signal. A train must stop short of an interlocking signal displaying stop, and must not pass the signal unless the train is preceded by a flagman and the route is known to be properly lined. All trains must approach the end of double track prepared to stop unless the signals indicate proceed, the switches are properly lined and the track is clear. All the surviving employees concerned so understood.

About 15 minutes before the accident occurred, the operator at Jefferson City placed the levers of the centralized-traffic-control machine in position for signal 1167-R to display stop for Extra 2201 West, and for signal 1174-R to display proceed-at-medium-speed for Extra 2210 East, and lined the route for Extra 2210 East to move through switch 20 to the single track and through switch 18 to the eastward main track.

As Extra 2201 West was approaching signal 1167-DR, located 6,113 feet east of signal 1167-R, the speed was about 45 miles per hour. The brakes had functioned properly at all points where used en route. The enginemen were maintaining a lookout ahead. There was no condition of the engine that distracted their attention or obstructed their view of the track ahead. Signal 1167-DR displayed proceed-at-restricted-speed, and the enginemen called the indication. When the engine was a short distance east of this signal the engineer made a 7-pound brake-pipe reduction. When the engine was about 2,000 feet east of signal 1167-R, the speed was about 30 miles per hour, and the engineer made a 10-pound brake-pipe reduction. Soon afterward the enginemen observed signal 1167-R displaying stop, and they called the indication. The engineer said he thought he had the train under proper control and that the engine would stop a considerable distance short of signal 1167-R, but when the engine was about 700 feet east of the signal he realized that the speed was excessive, and he moved the brake valve to emergency position in an attempt to stop the train short of the signal. However, the train was not stopped until the front end of the engine had passed the signal and had fouled the

eastward main track at a point 358 feet west of the signal and 40.6 feet east of switch 18. Just before Extra 2201 stopped, the enginemen saw Extra 2210 approaching. The engineer of Extra 2201 immediately sounded several short blasts on the engine whistle, and the fireman displayed a lighted fusee in an unsuccessful attempt to prevent the accident. Extra 2201 West stopped at 5:05 p. m., and about 1 minute later it was struck by Extra 2210 East. Under the rules, Extra 2201 was required to approach the end of double track at LL Jct. prepared to stop, and the stop indication displayed by signal 1167-R required this train to stop short of the signal. Had adequate measures been taken at the approach signal to bring the speed under proper control, this accident would have been prevented.

As Extra 2210 East was approaching LL Jct. the speed was about 20 miles per hour. Signal 1174-R, located about 2,950 feet west of switch 18, displayed proceed-at-medium-speed. The brakes had functioned properly en route. The enginemen were maintaining a lookout ahead. The fireman said that when the engine reached a point about 1,200 feet west of switch 18 he heard several short blasts of an engine whistle sounded, then his engineer moved the throttle to closed position and made a service brake-pipe reduction. When the engine reached a point about 600 feet west of switch 18 the engineer moved the brake valve to emergency position, and called a warning to the fireman. The enginemen jumped off just prior to the collision, and the engineer was killed. The speed of Extra 2210 was about 8 miles per hour when the collision occurred.

Cause

It is found that this accident was caused by failure properly to control the speed of Extra 2201 West in accordance with signal indications and approaching the end of double track.

Dated at Washington, D. C., this first day of May, 1944.

By the Commission, Chairman Patterson.

W. P. BARTEL,
Secretary.

(SEAL)