

INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2533

THE MISSOURI PACIFIC RAILROAD COMPANY

REPORT IN RE ACCIDENT

AT GREENWICH, KANS., ON

OCTOBER 2, 1941

-2-

SUMMARY

Railroad: Missouri Pacific
Date: October 2, 1941
Location: Greenwich, Kans.
Kind of accident: Head-end collision
Trains involved: Passenger : Passenger
Train numbers: 420 : 411
Engine numbers: 5538 : 5524
Consist: 4 cars : 2 cars
Estimated speed: Standing : 30 m. p. n.
Operation: Timetable and train orders
Track: Single; tangent; 0.43 percent
descending grade westward
Weather: Cloudy
Time: About 8:23 p. m.
Casualties: 2 killed; 30 injured
Cause: Accident caused by failure to obey
meet order
Recommendation: That the Missouri Pacific Railroad
Company establish an adequate block
system on the line involved in this
accident

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2533

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

THE MISSOURI PACIFIC RAILROAD COMPANY

December 2, 1941

Accident at Greenwich, Kans., on October 2, 1941, caused
by failure to obey meet order.

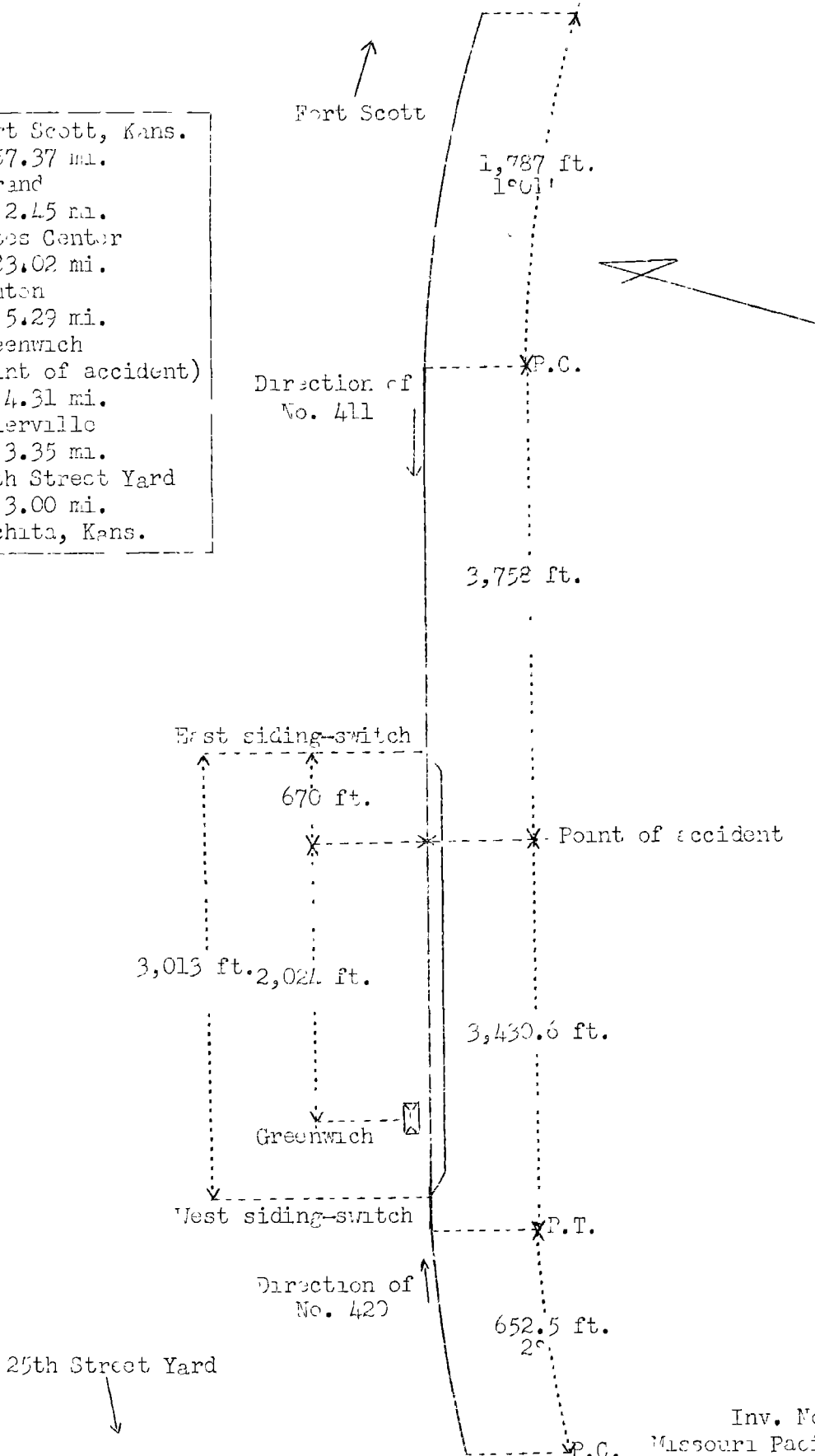
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On October 2, 1941, there was a head-end collision between two passenger trains on the Missouri Pacific Railroad at Greenwich, Kans., which resulted in the death of 2 train-service employees and the injury of 18 passengers, 2 railway-mail clerks, 2 dining-car employees, 1 Pullman porter and 7 train-service employees.

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

o	Fort Scott, Kans.	57.37 mi.
o	Durand	2.45 mi.
o	Yates Center	23.02 mi.
o	Benton	5.29 mi.
X	Greenwich	
	(Point of accident)	4.31 mi.
o	Tolerville	3.35 mi.
o	25th Street Yard	3.00 mi.
o	Wachita, Kans.	



Inv. No. 2533
 Missouri Pacific Railroad
 Greenwich, Kans.,
 October 2, 1941.

Location of Accident and Method of Operation

This accident occurred on that part of the Wichita Division designated as the Wichita Subdivision, which extends between Fort Scott and 25th Street Yard, Wichita, Kans., a distance of 155.79 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders; there is no block system in use. At Greenwich a siding 3,013 feet in length parallels the main track on the south. The east switch of this siding is 2,694 feet east of the station. The accident occurred on the main track at a point 2,024 feet east of the station and 670 feet west of the east siding-switch. As the point of accident is approached from the west there is a 2° curve to the right 652.5 feet in length, which is followed by a tangent 3,430.6 feet to the point of accident. As the point of accident is approached from the east there is a 1°01' curve to the left 1,787 feet in length, which is followed by a tangent 3,758 feet to the point of accident. The grade for west-bound trains is 0.77 percent ascending 1,000 feet, then there is a vertical curve 1,000 feet, which is followed by a 0.43-percent descending grade 421 feet to the point of accident.

A one-mile sign is located 5,290 feet east of the east siding-switch.

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. The sound of the whistle should be distinct, with intensity and duration proportionate to the distance signal is to be conveyed.

* * *

(n) _____ o Approaching meeting or waiting points. See Rule S-90.

* * *

16. Communicating Signals.

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

* * *

(1) _____ Approaching meeting or waiting points. See Rule S-90.

* * *

17. The headlight will be displayed to the front of every train by night. It must be concealed or extinguished when a train turns out to meet another and has stopped clear of main track.

It must be dimmed:

* * *

(c) Approaching * * * meeting points, or while standing on main track at meeting points; * * *

S-72. * * *

Trains in the direction specified by the time-table are superior to trains of the same class in the opposite direction.

S-90. On trains equipped with communicating signal system, the conductor must give signal 16 (1) to the engineman after passing the last station but not less than one mile preceding a schedule meeting point with a train of the same or superior class, or a point where by train order it is to meet, or wait for, an opposing train. The engineman will immediately reply with signal 14(n). If the engineman fails to answer by signal 14(n), the conductor must take immediate action to stop the train.

* * *

FORMS OF TRAIN ORDERS

* * *

Superseding An Order Or a Part Of An Order.

This order will be given by adding to prescribed forms the words "instead of ____."

(1) No 1 Eng 22 meet No 2 Eng 23 at C instead of B.

* * *

When a train is directed by train order to hold main track at a meeting point with another train, such instructions apply only at the point designated in that order, and do not apply to the superseding order unless so specified.

Timetable special instructions provide as follows:

All Eastward trains are superior to trains of the same class in the opposite direction, * * *.

In the vicinity of the point of accident the maximum authorized speed for passenger trains is 60 miles per hour.

Description of Accident

No. 420, an east-bound first-class passenger train, consisted of engine 5538, one mail-baggage car, one coach, one dining-lounge car and one Pullman sleeping car, in the order named; all cars were of steel construction. At Wichita, 3 miles west of 25th Street Yard, the crew received copies of a clearance card and, among others, train orders Nos. 46 and 47, Form 19, which read as follows:

46

No 420 Eng 5538 meet No 411 Eng 5524 at Tolerville. No 411 hold main track at Tolerville

47

No 411 Eng 5524 meet No 420 Eng
5538 at Greenwich instead of
Tolerville.

No. 420 departed from Wichita, 10.66 miles west of Greenwich, at 8 p.m., according to the dispatcher's record of movement of trains, on time, passed 25th Street Yard, 7.66 miles west of Greenwich, at 8:13 p.m., 3 minutes late, stopped on the main track at a point 670 feet west of the east siding-switch at Greenwich, and immediately afterward it was struck by No. 411.

No. 411, a west-bound first-class passenger train, consisted of engine 5524, one passenger-baggage car and one Pullman sleeping car, in the order named; both cars were of steel construction. At Durand, 90.76 miles east of Greenwich, a terminal air-brake test was made and the brakes functioned properly at all points where used en route. The crew received copies of a clearance card and, among others, train order No. 46, Form 19, previously quoted. This train departed from Durand at 6:44 p.m., according to the dispatcher's record of movement of trains, 39 minutes late. At Yates Center, 88.31 miles east of Greenwich, the crew received copies of a clearance card and train order No. 47, Form 19, previously quoted. This train departed from Yates Center at 6:52 p.m., 42 minutes late, passed the east siding-switch at Greenwich where it was required to take siding, and while moving at a speed estimated as 30 miles per hour collided with No. 420.

The force of impact moved the engine of No. 420 backward a distance of 26 feet 6 inches and the driving wheels were derailed to the left. The pilot, the engine truck, the smokebox and both cylinders were demolished. The front-end engine frame was broken. The cab was crushed and steam pipes were broken at the turret. The rear-end-frame casting was bent upward 12 inches. The rear truck of the tender was derailed and the rear end of the cistern was damaged. The coupler at the rear of the tender was torn loose. The front truck of the first car of No. 420 was derailed and the car stopped 10 feet to the rear of the tender; the front end of the car was crushed inward and both couplers were broken. The front coupler of the second car was broken and the car was slightly damaged. The engine of No. 411 stopped upright and in line with the track, with the front end of the engine 13 feet west of the point of collision. The engine truck was derailed and the Nos. 1 and 2 pairs of driving wheels were raised, respectively, 15 inches and 2 inches above the

rails. The engine truck, the front-deck casting, the cab and the smokebox were demolished. The main engine-frame was bent at the firebox location 10 inches out of normal alinement. The tender frame was bent. The first car of No. 411 was badly damaged.

After the accident occurred inspection of engine 5538, of No. 420, disclosed that the throttle was closed, the automatic-brake valve was in emergency position, and the reverse lever was in full forward position. On engine 5524 the throttle was closed, the automatic-brake valve was in emergency position, the sander valve was open, and the reverse lever was in position for short cut-off in forward motion.

The weather was cloudy at the time of the accident, which occurred about 8:23 p.m.

The train-service employees killed were the engineer of No. 411 and the fireman of No. 420, and the train-service employees injured were the fireman, a student fireman who was on the engine, the conductor, the baggageman and the flagman of No. 411, and the engineer and the conductor of No. 420.

Data

During the 30-day period preceding the day of the accident, the average daily movement in the vicinity of the point of accident was 10.02 trains.

Discussion

The rules governing operation on the line involved provide that when a train is directed by a train order to hold the main track at a meeting point, such instructions are applicable only at the point designated. If the meeting point is changed by a superseding order, the preceding instructions to hold the main track are not applicable unless so specified by the superseding order.

The dispatcher said that when he issued order No. 46, which established a meeting point between Nos. 420 and 411, he expected No. 420 to arrive at Tolerville before No. 411; therefore, to avoid delay he directed No. 411 to hold the main track at that point. Because No. 411 was delayed at Durand he issued order No. 47, which superseded order No. 46 and changed the meeting point to Greenwich instead of Tolerville. He expected No. 411 to arrive at Greenwich before

No. 420 arrived and, since he desired No. 411 to enter the siding at Greenwich and it was inferior by direction, he did not specify in order No. 47 which train was to hold the main track at that point. Both trains were operating on first-class schedules. No. 411 was required to enter the siding at Greenwich in meeting No. 420. The crews of both trains held copies of orders Nos. 46 and 47, and all surviving members of both crews involved understood the requirements of these orders.

When No. 420 passed the west siding-switch at Greenwich the speed was about 30 miles per hour and the engineer was maintaining a lookout ahead. He observed that No. 411 was not in the clear on the siding, and he further reduced speed. When his engine was about 1,600 feet west of the east siding-switch he observed No. 411 approaching, and he dimmed his headlight. About the same time, realizing that No. 411 would not stop short of the switch, he applied the brakes in emergency. His train stopped with the engine standing 670 feet west of the switch and immediately afterward it was struck by No. 411.

The engineer and the fireman of No. 411 had read orders Nos. 46 and 47 to each other. The fireman said that since the superseding order did not direct his train to hold the main track at Greenwich he understood that it was required to take siding at Greenwich in meeting No. 420. There was no discussion between the engineer and the fireman concerning which train was to hold the main track at Greenwich. A student fireman who was on the engine read both orders but did not discuss their provisions with the engine crew, nor did he hear them discuss the orders. As No. 411 was approaching Greenwich the throttle was open, the speed was about 45 or 50 miles per hour and the engineer and the fireman were maintaining a lookout ahead. There was no condition of the engine that either obscured the view ahead or distracted attention. The meeting-point signal had been sounded on the train air-signal whistle and the engineer had sounded the meeting-point whistle signal in response. When the train was at a point about 4,800 feet east of the east siding-switch and was moving on a curve to the left, the fireman informed the engineer that No. 420 was approaching Greenwich. The engineer partially closed the throttle and made a service brake-pipe reduction. At a point about 3,000 feet east of the east siding-switch the speed was about 40 miles per hour; however, the fireman was not alarmed since the engineer usually delayed longer than other engineers the braking of his train. When the engine was about 300 feet east of the switch the fireman called a warning to the engineer, who closed the throttle and moved the brake valve to emergency

position, but the train overran the switch and collided with No. 420. Since the engineer of No. 411 was killed in the accident it could not be determined definitely why he did not take action to stop his train short of the east siding-switch.

The conductor of No. 411 said that when the brakes were applied at a point about 3/4 mile east of the switch he thought the engineer was taking action to stop at the switch. The conductor expected his train to enter the siding at Greenwich. Since train order No. 47 had been handed to the engine crew as the engine passed the station at Yates Center, he did not have an opportunity to discuss its provisions with the engineer. The conductor was maintaining a lockout but trailing smoke obscured his view, and, becoming lost as to location, he did not take action to stop his train. The first he knew of anything being wrong was when the brakes were applied in emergency.

The brakes had been tested and functioned properly at all points where used en route. The fireman said that the brakes were applied east of Greenwich and remained in application until after the collision occurred; however, according to the statement of the conductor, the service application was released, then the brakes were applied in emergency.

On the line involved trains are operated by timetable and train orders only. If an adequate block system had been in use on this line, the crew of a train about to make an unauthorized movement into a block, because of overlooking or misunderstanding train orders, would receive information that the block in advance was occupied, and this accident would not have occurred.

Cause

It is found that this accident was caused by failure to obey a meet order.

Recommendation

That the Missouri Pacific Railroad Company establish an adequate block-signal system on the line involved in this accident.

Dated at Washington, D. C., this second day of December, 1941.

By the Commission, Commissioner Patterson.

W. P. BARTEL,

(SEAL)

Secretary.