

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 2880
MISSOURI PACIFIC RAILROAD COMPANY
REPORT IN RE ACCIDENT
AT CLAFLIN, KANS., ON
APRIL 2, 1945

SUMMARY

Railroad: Missouri Pacific
Date: April 2, 1945
Location: Claflin, Kans.
Kind of accident: Side collision
Trains involved: Freight : Passenger
Train numbers: 77 : 24
Engine numbers: 2116 : 5322
Consist: 3rd cars, caboose : 7 cars
Estimated speed: Standing : 40 m. p. h.
Operation: Timetable, train orders and
automatic block-signal system
Track: Single; 2^o18' curve; vertical curve
Weather: Cloudy
Time: 8:15 a. m.
Casualties: 3 killed; 7 injured
Cause: Train fouling main track immediately
in front of an opposing train
Recommendation: That the Missouri Pacific Railroad
Company install derails coordinated
with electric switch-locking at
clearance points on its sidings in
automatic block-signal territory on
the Council Grove Subdivision of the
Central Kansas and Colorado Divisions

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2880

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

MISSOURI PACIFIC RAILROAD COMPANY

June 2, 1945.

Accident at Claflin, Kans., on April 2, 1945, caused by
a train fouling the main track immediately in front
of an opposing train.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

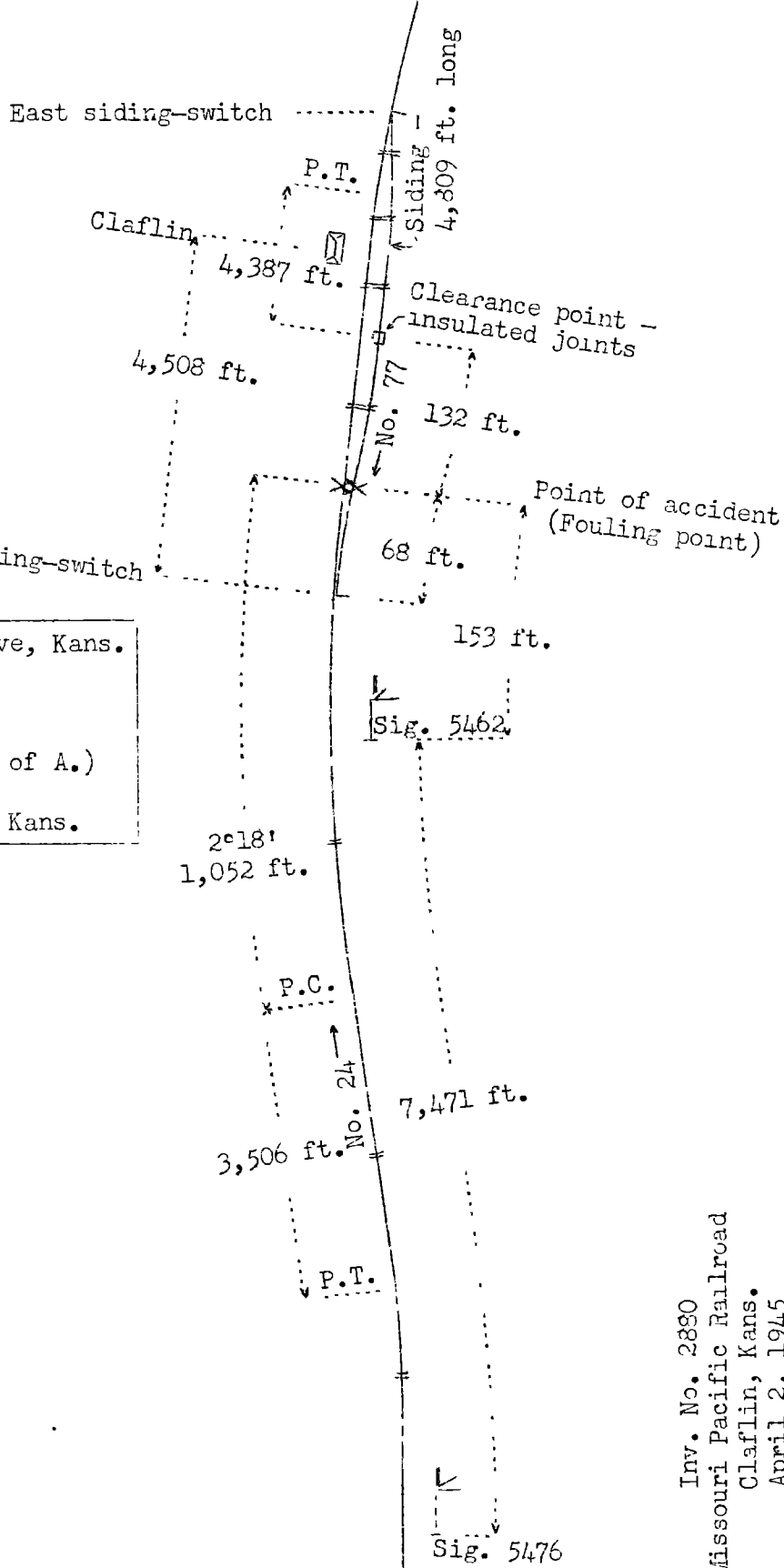
On April 2, 1945, there was a side collision between a passenger train and a freight train on the Missouri Pacific Railroad at Claflin, Kans., which resulted in the death of three train-service employees, and the injury of one passenger, one baggage-express messenger, four dining-car employees and one train porter.

¹Under 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.

↑ To Council Grove

↓ To Hoisington

- | | |
|---|----------------------|
| o | Council Grove, Kans. |
| | 99.17 mi. |
| o | Geneso |
| | 20.66 mi. |
| X | Claflin (P. of A.) |
| | 13.60 mi. |
| o | Hoisington, Kans. |



Inv. No. 2880
 Missouri Pacific Railroad
 Claflin, Kans.
 April 2, 1945

Location of Accident and Method of Operation

This accident occurred on that part of the Central Kansas and Colorado Divisions designated as the Council Grove Subdivision and extending westward from Council Grove to Hoisington, Kans., 133.43 miles, a single-track line over which trains are operated by timetable, train orders and an automatic block-signal system. At Claflin, 119.83 miles west of Council Grove, a siding 4,809 feet long parallels the main track on the south. The switches of this siding are hand operated. The west switch of this siding is 4,508 feet west of the station. The clearance point at the west end of the siding is 200 feet east of the switch. The accident occurred at the fouling point of the main track and the turnout of the west siding-switch, at a point 132 feet west of the clearance point and 63 feet east of the switch. From the east on the siding there is a tangent 4,387 feet to the clearance point of the west switch, which is followed by a No. 10 turnout to the right 132 feet to the point of accident. From the west on the main track there is a tangent 3,503 feet in length, which is followed by a 2°19' curve to the right 1,052 feet to the point of accident. On the siding the grade for west-bound trains is, successively, 1.01 percent descending 1,000 feet and 1.16 percent descending 300 feet, then there is a vertical curve 1,100 feet to the point of accident. The grade for east-bound trains varies between 0.50 and 1.05 percent descending throughout a distance of 3,500 feet, then there is a vertical curve 300 feet to the point of accident.

Automatic signals 5476 and 5462, governing east-bound movements, are, respectively, 7,624 feet and 153 feet west of the point of accident. These signals are of the one-unit, three-indication, color-light type, and are continuously lighted. The aspects and corresponding indications and names of these signals are as follows:

<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
Green	PROCEED	CLEAR SIGNAL
Yellow	PROCEED AT RESTRICTED SPEED THROUGH THE ENTIRE BLOCK	PERMISSIVE SIGNAL
Red, with number plate	STOP, THEN PROCEED AT RESTRICTED SPEED THROUGH THE ENTIRE BLOCK * * *	STOP AND PROCEED SIGNAL

A track circuit on the turnout of the west siding-switch extends 200 feet east of the switch. The angle bars at the insulated joints are painted white to indicate the clearance point.

Operating rules read in part as follows:

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.

* * *

S-72. Trains of the first class are superior to those of the second; * * *

* * *

S-89. At meeting points, the inferior train must take the siding * * *

* * *

S-89 (a). * * *

* * *

At meeting and passing points, a train awaiting the arrival of another train must, if practicable, stop at least three hundred feet from clearance of facing point switch over which expected train will pass.

99. When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes, and when necessary, in addition, displaying lighted fuses.

* * *

The front of the train must be protected in the same way when necessary by the forward trainman or fireman.

* * *

FORMS OF
TRAIN ORDERS.

* * *

Fixing Meeting Points For Opposing Trains.

(1) No 1 Eng 25 meet No 2 Eng 31 at B.

* * *

Trains receiving these orders will run with respect to each other to the designated point and there meet in the manner prescribed by the rules.

The maximum authorized speed for the passenger train involved was 70 miles per hour.

Description of Accident

No. 77, a west-bound second-class freight train, consisted of engine 2116, 39 cars and a caboose. At Geneseo, 20.66 miles east of Claflin, the crew received copies of train order No. 26 reading as follows:

No 24 Eng 5322 Meet No 77 Eng 2116 at
Claflin

No. 77 passed Geneseo at 7:32 a. m., 2 hours 11 minutes late, entered the siding at Claflin at the east switch and stopped into clear about 8:09 a. m. About 8:15 a. m., after this train had moved westward on the siding and stopped with the engine fouling the main track west of the clearance point of the west siding-switch, the engine was struck by No. 24.

No. 24, an east-bound first-class passenger train, consisted of engine 5322, one passenger-box car, one mail-baggage car, one baggage car, two coaches, one Pullman sleeping car and one dining car, in the order named. All cars were of steel construction. At Hoisington, 13.6 miles west of Claflin, the crew received copies of train order No. 26. This train departed from Hoisington at 7:58 a. m., 8 minutes late, passed signal 5476, which displayed proceed, passed signal 5462, which displayed stop-then-proceed, and while moving at an estimated speed of 40 miles per hour it struck No. 77 at a point 153 feet east of signal 5462.

The engine of No. 24 was derailed and stopped, headed westward, on its right side, about 25 feet north of the track and opposite the point of collision. The tender was torn loose and stopped against the engine. The first three cars and the front truck of the fourth car were derailed. The engine of No. 77 was overturned and stopped on its left side. The front truck of the first car was derailed. Both engines, and the first three cars of No. 24 were badly damaged.

It was cloudy at the time of the accident, which occurred about 8:15 a. m.

The engineer, the fireman and a student fireman of No. 24 were killed.

Discussion

The crews of both trains held copies of train order No. 26, which established Claflin as the meeting point between No. 24, an east-bound first-class train, and No. 77, a second-class west-bound train. No. 77 was inferior by class. This train was required to enter the siding at Claflin at the east switch and to remain clear of the main track until it met No. 24. The surviving employees concerned so understood.

As No. 24 was approaching Claflin the speed was about 50 miles per hour. The air brakes had functioned properly en route. The conductor was in the fourth car and the flagman was in the rear car. The first these employees were aware of anything being wrong was when the brakes were applied in emergency about 10 seconds prior to the collision.

About 30 seconds before the accident occurred, the engine of No. 77 entered the track circuit of the turnout. Since the average speed of No. 24 was 50 miles per hour, an interval of approximately 1 minute 30 seconds elapsed between the time this train passed signal 5476, located 7,756 feet west of the insulated joints at the clearance point of the west siding-switch, and the time the engine of No. 77 entered the fouling section. Therefore, signal 5476 displayed a green aspect when the engine of No. 24 passed this signal, and signal 5462 displayed a green aspect until the engine of No. 24 was within a short distance west of this signal. It is not known when the employees on the engine of No. 24 became aware of the presence of No. 77, but it is evident that the engineer of No. 24 moved the brake valve to emergency position immediately after the aspect of signal 5462 changed from green to red.

As No. 77 was approaching the west siding-switch the engineer was maintaining a lookout ahead, and the fireman and the front brakeman were on the engine deck. There was no condition of the engine that distracted the engineer's attention or obscured his view of the track ahead. He said that between Council Grove and Claflin, a distance of about 120 miles, the train air-brake system functioned properly at 12 points where used en route, and functioned properly also when used to stop the train at the east siding-switch at Claflin and to stop after the train was into clear at the east end of the siding. However, when he attempted to make a service brake-pipe reduction to stop his train short of the clearance point at the west end of the siding, a proper brake application was not obtained. Then he moved the brake valve to emergency position, but the engine passed the clearance point and fouled the main track on the turnout before the train was stopped. When No. 77 stopped, the front brakeman lighted a red fusee and ran forward to provide

protection. He had reached a point about 250 feet west of his engine when the engine of No. 24 passed him. The conductor and the flagman of No. 77 were in the caboose. They were not aware of anything being wrong until they felt the brakes become applied in emergency about 30 seconds before the collision occurred.

In addition to the present accident, the Commission has investigated during the past two years eight accidents in which trains, without providing adequate protection, fouled the main track immediately in front of approaching trains, such as occurred in the accident under discussion. These accidents resulted in the death of 45 and the injury of 202 persons. Of these, seven occurred in territories where the operation was by timetable, train orders and automatic block-signal system, and one occurred in territory where the operation was by timetable and train orders only.

During the 32-day period preceding the day of the accident, the average daily movement on this subdivision was 20.5 trains. Maximum authorized speeds on this line are 85 miles per hour for streamlined passenger trains, 70 miles per hour for conventional passenger trains and 50 miles per hour for freight trains. In view of the nature and volume of traffic on this line, all available facilities for adequate protection should be provided. Derails located at the clearance points and arranged to operate in conjunction with electrically locked switches would prevent trains from fouling the main track immediately in front of an approaching train, such as occurred in the present case.

Cause

It is found that this accident was caused by a train fouling the main track immediately in front of an opposing train.

Recommendation

It is recommended that the Missouri Pacific Railroad Company install derails coordinated with electric switch-locking at clearance points on its sidings in automatic block-signal territory on the Council Grove Subdivision of the Central Kansas and Colorado Divisions.

Dated at Washington, D. C., this second day of June, 1945.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.