

Inv-2372

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

ACCIDENT ON THE
MISSOURI PACIFIC RAILROAD

NELSON, MO.

AUGUST 7, 1939

INVESTIGATION NO. 2372

SUMMARY

Inv-2372

Railroad:	Missouri Pacific	
Date:	August 7, 1939	
Location:	Nelson, Mo.	
Kind of accident:	Head-end collision	
Trains involved:	Passenger	: Freight
Train numbers:	33	78
Engine numbers:	6503	1906
Consist:	3 cars	104 cars and caboose
Speed:	Standing	5-10 m.p.h.
Operation:	Timetable and train orders	
Track:	Single: 4° curve to left; 0.30 percent descending eastward	
Weather:	Clear	
Time:	1:28 p.m.	
Casualties:	5 injured	
Cause:	Failure to control properly the speed of a freight train when approaching a meeting point.	

Inv-2372

September 28, 1939.

To the Commission:

On August 7, 1939, there was a head-end collision between a passenger train and a freight train on the Missouri Pacific Railroad at Nelson, Mo., which resulted in the injury of two passengers, two persons carried under contract, and one train-service employee.

Location and Method of Operation

This accident occurred on that part of the Eastern Division designated as the River District which extends between SR Junction and Eton, Mo., a distance of 148.17 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, no block system being in use. The accident occurred at the east switch of the siding at Nelson. This siding is 1,556 feet in length and parallels the main track on the south; the east switch is located 830 feet east of the station. Entry to the east end of the siding is made through a No. 10 turnout; the clearance point is located 136 feet west of the switch points. A station mile-board for east-bound trains is located 6,128 feet west of the east siding-switch at Nelson.

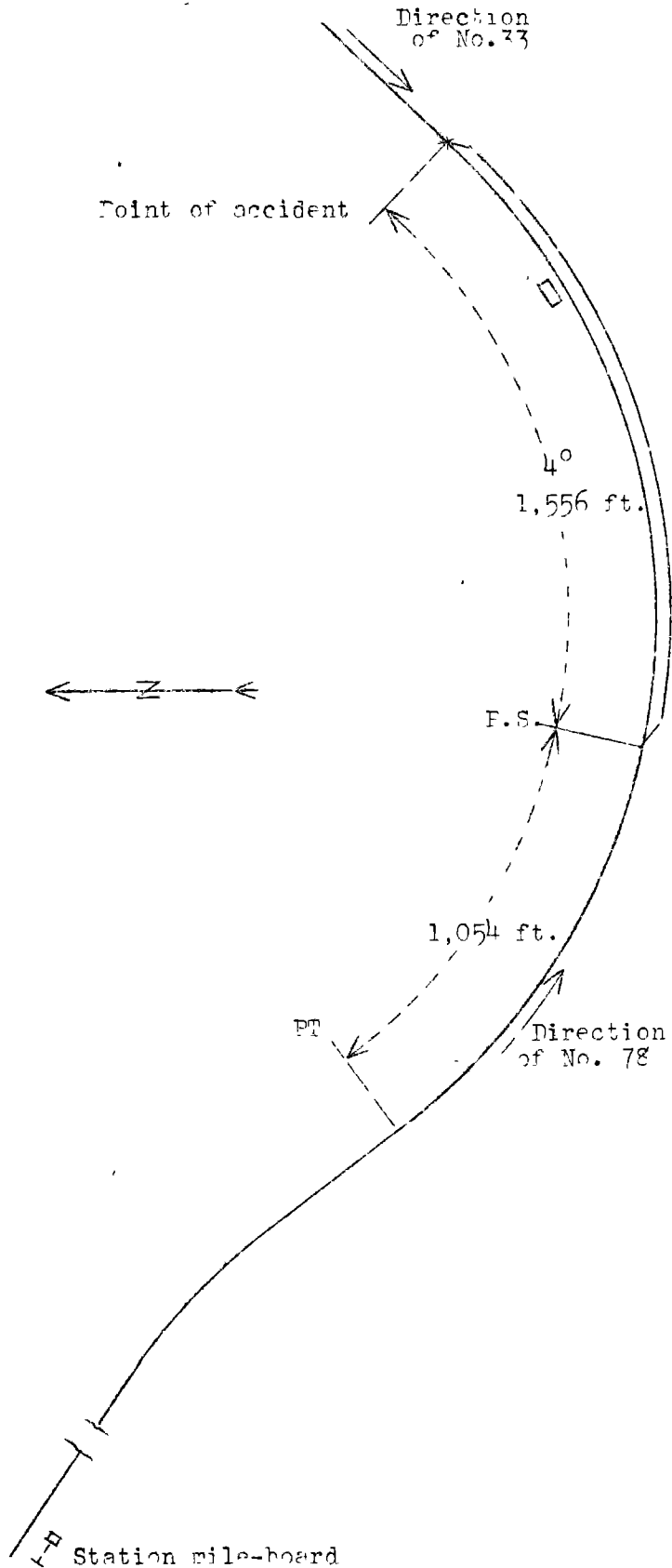
Approaching from the west there is a tangent 1,516 feet in length followed by a $30^{\circ}42'$ curve to the right 800 feet in length, a tangent 1,202 feet in length, and a 40° curve to the left 2,605 feet in length to the switch where the accident occurred. Approaching from the east a long tangent is followed by a spiral to the right 267 feet in length extending to the switch where the accident occurred. The grade for east-bound trains is 0.24 percent descending a distance of 1,110 feet and then 0.30 percent descending a distance of 230 feet to the point of accident.

The switch stand at the switch involved is of the standard ground-throw type and is located on the south side of the main track. A metal target, 33 inches long and 14 inches wide, with circular ends, is attached to the shaft about 6 feet above its base. This target parallels the main track when the switch is set for a main-track movement, and when set for movement into the siding it displays a red aspect to an approaching train.

The maximum authorized speed for freight trains is 45 miles per hour.

Rule 90 of the Book of Operating Rules, in use on the lines of this carrier, reads in part:

o	SF Jct., Mo.
	1.29 mi.
o	Cole Jct.
	57.53 mi.
o	Blackwater
	2.74 mi.
x	Nelson
	5.37 mi.
o	Vanton
	20.21 mi.
o	Malta Bend
	61.03 mi.
o	Eton, Mo.



Inv. No. 2374
Missouri Pacific R.R.
Nelson, Mo.
August 7, 1939

"Train must stop clear of the switch used by the train to be met in going on the siding."

"The engineman of each train will give signal 14(n) at least one mile before reaching a meeting or waiting point ****."

The weather was clear at the time of accident, which occurred about 1:28 p. m.

Description

No. 33, a west-bound first-class passenger train, consisted of one express car, one baggage car, and one combination mail car and coach, in the order named, hauled by engine 6503, and was in charge of Conductor Purvis and Engineman Yost. All cars were of all-steel construction except the first car, which was of wooden construction with steel underframe. At Cole Junction, 60.27 miles east of Nelson, the crew received train order No. 59, Form 19, reading:

No 33 eng 6503 meet No 78 eng 1906 at Nelson
No 78 hold main track at Nelson

This train left Blackwater at 1:22 p. m., according to the train sheet, 17 minutes late and, when standing on the east siding-switch at Nelson, was struck by No. 78.

No. 78, an east-bound second-class freight train, consisted of 104 cars and a caboose, hauled by engine 1906, and was in charge of Conductor Richardson and Engineman Cortner. This train left Malta Bend, at which point the crew received order No. 59, Form 19, previously quoted, at 12:49 p. m., according to the train sheet, 1 hour 10 minutes late, and, while moving at a speed estimated to have been between 5 and 10 miles per hour, collided with No. 33 at the east siding-switch at Nelson.

The force of the collision shoved No. 33 backward about 30 feet. Both engines were slightly damaged. The employee injured was the brakeman of No. 78.

Summary of Evidence

Engineman Cortner, of No. 78, stated that the brakes were tested before leaving Kansas City and functioned properly en route. The train approached Nelson at a speed of 35 or 40 miles per hour and he sounded the whistle signal as prescribed for approaching a meeting point. Just after passing the mile-board he

made an initial brake-pipe reduction of about 8 pounds. Entering the curve approaching the west siding-switch, he made a second brake-pipe reduction, which was 10 or 12 pounds, and he thought the brake action was sufficient to stop the train before fouling the east siding-switch. The train was moving at a speed of 12 or 15 miles per hour when, at a point between the west siding-switch and the station, the fireman informed him that No. 33 was not in the siding; he immediately made an emergency application of the brakes, but on account of the two previous brake-pipe reductions emergency action was not received. He jumped from his engine at a point about five car lengths from the point of collision, at which time the speed was about 10 miles per hour. He said that he was thoroughly familiar with the physical characteristics of this district. The weather was clear at the time of accident. After the accident the same engine was used to haul the train to Jefferson City and the air brakes functioned properly en route. He indicated that the accident was caused by his failure to make brake applications soon enough.

Fireman Lucas, of No. 78, stated that his train approached Nelson at a speed of about 40 miles per hour. The first brake application was made when passing the mile-board and the second reduction was made near the west siding-switch; as a result the speed was reduced to 25 or 35 miles per hour. When passing the west siding-switch he saw that No. 33 was not into clear and he shouted a warning to the engineman, who made an emergency application of the brakes. He estimated the speed just prior to the collision to be about 10 miles per hour.

Front Brakeman Speck, of No. 78, estimated the speed approaching Nelson at 35 miles per hour. Riding in the brakeman's cabin on the rear of the tender he heard the engineman sound the whistle signal prescribed for approaching a meeting point. About one mile from the point of accident there was a reduction in speed. He thought that from this point there was a continual reduction in speed which indicated they would stop clear of the east siding-switch. He jumped from the engine a short distance west of the switch, at which time the speed was about 5 miles per hour.

Conductor Richardson, of No. 78, estimated the speed approaching Nelson at 35 or 40 miles per hour. He felt the first brake application about 40 car lengths west of the mile-board, and at that point the caboose gauge indicated an 8-pound reduction. Before his train stopped he observed that the brake-pipe pressure was depleted. He estimated that the accident occurred about 1:27 p. m.

The testimony of Rear Brakeman Funk, of No. 78, added nothing of importance.

Engineman Yost, of No. 33, stated that on arrival at the east siding-switch at Nelson about 1:26 p. m. a slight delay was incurred in entering the siding because the fireman could not unlock either the switch lock or the derail lock; it was necessary that the brakeman operate both the switch and the derail. He said that after entering the turnout a distance of about 25 feet he saw No. 78 about ten car lengths distant approaching at a speed which he thought was about 20 miles per hour. Realizing that No. 78 could not be stopped before fouling the switch he reversed his engine, moved backward about 10 or 15 feet, and, No. 78 being very close, he applied the brakes and jumped from the engine. He thought No. 33 was moved backward about 30 feet by the impact.

Fireman Wyrick, of No. 33, stated that on arrival at the east switch of Nelson siding he attempted to unlock both the switch and the derail but was unable to unlock either and it was necessary for the head brakeman to do so; this resulted in a little delay. On previous occasions his switch key had functioned properly. When his train was moving into the siding he saw No. 78 closely approaching at a speed of about 20 miles per hour and heard it whistling back-up signals. He estimated the speed at the time of impact at 8 or 10 miles per hour and thought that No. 33 was shoved back about 30 feet.

Brakeman Kimball, of No. 33, stated that when his train was entering the siding at Nelson he saw No. 78 approaching at a speed of about 20 miles per hour. He gave the engineman of No. 33 a stop signal and then a back-up signal. He thought that No. 78 was moving about 8 miles per hour at the time of the impact.

Car Foreman Endicott stated that the brakes on No. 78 were tested before leaving Kansas City and that all brakes functioned properly.

Discussion

According to the evidence, all employees involved understood that No. 33 was to enter the east switch of the siding at Nelson for No. 78. When the latter train was approaching Nelson, at which time the speed was about 35 or 40 miles per hour, the engineman sounded the meeting-point whistle signal, made an 8-pound brake-pipe reduction, and when the train had reached a point about 1,500 feet west of the east switch he made a 12-pound brake-pipe reduction. Members of this crew thought the speed was being reduced sufficiently to stop west of the clearance point. Soon thereafter the fireman could see across the inside of the curve that No. 33 was not clear of the main track and he warned the engineman accordingly. The engineman attempted to make an emergency application of the brakes but because of the two previous brake-pipe reductions, which aggregated about 20 pounds, an emergency application was not obtained and while No. 78 was moving at

a speed estimated to have been between 5 and 10 miles per hour it struck No. 33. The latter train had entered the siding a few feet when the engineman of that train saw that No. 78 was approaching at a speed he thought to be too high for it to be able to stop short of the clearance point. Observing that his train would be sideswiped by No. 78 if he continued in forward motion, the engineman of No. 33 stopped his train, backed up a short distance, set the brakes and then jumped. Under the rules No. 78 was not permitted to pass the clearance point until No. 33 was into clear on the siding.

The brakes on No. 78 had been tested and they had functioned properly en route; they also functioned properly when the train was moved after the accident occurred. The engineman indicated that he did not make the brake-pipe reductions soon enough.

Conclusion

This accident was caused by failure to control properly the speed of a freight train when approaching a meeting point.

Respectfully submitted,

S. N. MILLS,

Assistant Director.