

Inv-2366

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

ACCIDENT ON THE
CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILROAD

GRETNA, S. DAK.

JUNE 26, 1939

INVESTIGATION NO. 2366

SUMMARY

Inv-2366

Railroad: Chicago, Milwaukee, St. Paul & Pacific
Date: June 26, 1939
Location: Gretna, S. Dak.
Kind of accident: Head-end collision
Trains involved: Freight : Freight
Train numbers: Extra 227 East : First 263
Engine numbers: 227 : 224
Consist: 78 cars and caboose : 77 cars and caboose
Speed: 28 m.p.h. : Standing
Operation: Timetable, train orders, and manual block system
Track: Single; tangent; 0.62 percent descending eastward
Weather: Clear
Time: 5:33 a.m.
Casualties: 1 killed, 4 injured
Cause: Failure to control properly the speed of a freight train approaching a meeting point

July 28, 1939.

To the Commission:

On June 26, 1939, there was a head-end collision between two freight trains on the Chicago, Milwaukee, St. Paul & Pacific Railroad at Gretna, S. Dak., which resulted in the death of one trespasser and the injury of two trespassers and two employees.

Location and Method of Operation

This accident occurred on that part of the Hastings and Dakota Division designated as the Third Subdivision, which extends between Aberdeen and Mobridge, S. Dak., a distance of 98.2 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable, train orders, and a manual block system. The accident occurred on the main track at a point 2,745 feet west of the station at Gretna. Approaching from the west there is a tangent 2,104 feet, followed by a 1° right curve 708 feet long, then a tangent 6,153 feet long to the point of accident. Approaching from the east there is a tangent a distance of 12,517 feet. The grade for eastbound trains is generally descending a distance of 3.8 miles and varies between level and 1 percent, being 0.62 percent at the point of accident. A siding at Gretna, 5,429 feet in length, parallels the main track on the south and its west switch is located 3,219 feet west of the station and 474 feet west of the point of accident.

A station mile-board for eastward trains is located 5,322 feet west of the west siding-switch at Gretna.

The maximum authorized speed for freight trains is 50 miles per hour.

Rule S-89 of the Consolidated Operating Rules, in use on the lines of this carrier, provides in part: ***At train order meeting points, the train holding the main track must stop clear of the switch used by the train to be met in going on siding***.

Rule S-90 reads in part: *** the engineman will give signal 14(n) at least one mile before reaching a meeting or waiting point.

Rule 317 provides in part: *** A train must not be admitted to a block which is occupied by an opposing train or by a passenger train, except as provided *** or by train order. ***.

The weather was clear and it was daylight at the time of the accident, which occurred about 5:33 a.m.

Direction of
First 263

o	Aberdeen, S. Dak.
	41.6 mi.
o	Roscoe
	8.6 mi.
x	Gretna, (P of A)
	14.3 mi.
o	Alamo
	33.7 mi.
o	Mobridge, S. Dak.

Gretna
Station

Siding,
5,429 ft.

3,219 ft.

Point of
Accident

474 ft.

West switch

5,322 ft.

5,579 ft.

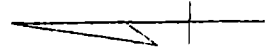
Direction of
Extra 227 East

Mile board

1°, 708 ft.

PC

2,104 ft.



Inv. No. 2366
C., M., St.P. & P. R.R.
Gretna, South Dakota
June 26, 1939

Description

First 263, a west-bound second-class freight train, consisted of 56 loaded and 21 empty cars and a caboose, hauled by engine 224, and was in charge of Conductor Ryan and Engineman Andrus. At Roscoe, the last open office 8.6 miles east of Gretna, the crew received orders Nos. 3 and 11, Form 19, reading:

Order No. 3-

Engine 227 run extra Mobridge to Aberdeen Yard has right over first and second 263 Mobridge to Roscoe. First and second 263 get this order at Roscoe.

Order No. 11-

Extra 227 east meet first 263 at Gretna.
Extra 227 east take siding.

This train departed from Roscoe at 5:10 a.m., according to the train sheet, 2 hours 45 minutes late, and stopped about 5:33 a.m. on the main track with the engine 474 feet east of the west siding-switch and soon thereafter it was struck by Extra 227 East.

Extra 227, an east-bound freight train, consisted of 77 loaded cars, 1 empty car, and a caboose, hauled by engine 227, and was in charge of Conductor Allgier and Engineman Hitchcock. At Mobridge this crew received order No. 3, Form 19, previously quoted, and received also Clearance Form A reading, "Block clear," and departed from Mobridge, 48 miles west of Gretna, at 1:15 a.m., according to the train sheet. This train doubled into Alamo, 14.3 miles west of Gretna. The conductor copied order No. 11, Form 31, previously quoted, and shortly after 4:40 a.m. the train departed from Alamo, passed the west siding-switch at Gretna, and collided with First 263 while moving at a speed of 28 miles per hour, as indicated by the speed recorder with which the engine was equipped.

The force of the collision moved engine 224 back 89 feet. The front of the smoke-box was demolished, the pilot destroyed, the air pumps loosened, and the engine frame bent; this engine was not derailed. The third car of First 263 was thrown out of the train at an angle of 45 degrees, the second car telescoped the fourth car half its length, and the sixteenth car was buckled but was not derailed. Engine 227 was derailed and stopped upright with its front end suspended from the front end of engine 224; the pilot was demolished, the air pumps loosened, the engine frame broken, and the engine-truck frame bent. The third to

ninth cars, inclusive, of Extra 227, were derailed and stopped at various angles on or near the main track. The tenth car, slightly damaged, was derailed but stopped in line with the track. The employees injured were the engineman and the fireman of Extra 227.

Summary of Evidence

Engineman Andrus, of First 263, stated that an air-brake test was made at Aberdeen and the brakes functioned properly en route. The train stopped at Gretna at 5:54 a.m., with the engine about 10 car lengths east of the west siding-switch which he expected Extra 227 to use in taking siding. Seeing Extra 227 approaching, he instructed the front brakeman to line the switch for it to enter the siding. The front brakeman proceeded toward the switch but did not reach there in time to line it for Extra 227, which passed the switch and struck First 263. The weather was clear at the time of accident but rail conditions were bad and it was necessary to use sand all the way from Roscoe to Gretna.

Fireman Crippen, of First 263, was of the opinion that his train had stopped at Gretna at 5:30 a.m. and that Extra 227 was moving at a speed between 20 and 25 miles per hour when the accident occurred, at which time the weather was clear and the sun was shining.

Front Brakeman Anderson, of First 263, stated that his train stopped at Gretna about 5:31 a.m. and was struck by Extra 227 about two minutes later. He had seen Extra 227 approaching and, in compliance with the request of Engineman Andrus, he had started toward the switch to line it for the siding but was unable to reach it in time. Extra 227 with the brakes applied passed him at a speed between 10 and 15 miles per hour.

Conductor Ryan, of First 263, stated that the train had stopped at Gretna at 5:30 a.m. and the accident occurred at 5:33 a.m. He understood the provisions of the meet order.

Engineman Hitchcock, of Extra 227, stated that rain had fallen during the night and the condition of the rail was bad. The train stalled and it was doubled into Alamo. After the train was reassembled an air-brake test was made. When approaching the mile-board west of Gretna, at which time the speed was between 45 and 50 miles per hour, he made a 10 or 12-pound brake-pipe reduction and dropped sand on the rails, and as the speed did not decrease as expected he made another reduction, the two totaling 20 pounds. Realizing that the engine would not stop short of the siding switch, he made an emergency application of the brakes but struck First 263 while moving at

a speed which he estimated at 12 or 15 miles per hour. The brake-pipe pressure had been maintained and there was no excessive leakage, but he thought that the brakes did not hold so well as on other similar trains. It had been his intention to stop for the west siding-switch at Gretna. He did not expect the switch to be lined for the siding.

Fireman Tracy, of Extra 227, stated that he had fired for Engineman Hitchcock frequently and considered him a careful engineman. He understood that order No. 11 required Extra 227 to take siding at Gretna. When the train approached Gretna the meeting-point whistle-signal was sounded and the first application of the brakes was made. The brake-pipe exhaust was clear and long, indicating that a heavy reduction had been made. The weather was clear, and the view ahead was not obscured by steam or smoke. He saw the smoke of No. 263 when about 2 miles west of Gretna and mentioned this fact to the engineman who acknowledged the information. When they were at the mile-board he could not see the switch but as they moved nearer he saw that it was not lined for the siding. The speed was about 45 miles per hour when the first application of the brakes was made; after the second reduction the speed was not decreased sufficiently and he called out, "We are not going to stop," and the engineman made an emergency application of the brakes. He estimated that the speed was 20 miles per hour at the time of the collision.

Conductor Allgier, of Extra 227, stated that a terminal air-brake test was made at Mobridge and the brakes were reported by the inspector as being operative. He received order No. 3 at Mobridge. The train stalled when approaching Alamo and they doubled into Alamo, at which point he copied order No. 11, Form 31, and delivered a copy to the engineman. The engineman read it and they both understood the provisions of the order. An air-brake test was made after reassembling the train at Alamo. As indicated by the caboose air gauge the air was restored to 70 pounds pressure. He had not heard the meeting-point signal given at the mileboard west of Gretna as he had been unable to hear the whistle during the entire trip. When on the curve about 1-1/4 miles west of the siding switch, at which time the speed was between 40 and 45 miles per hour, he observed that a reduction of 8 or 10 pounds in the brake-pipe pressure was made but the speed of the train was not reduced appreciably. The train was handled in the usual manner and he thought that the stop at Gretna would be made satisfactorily and was not further concerned in the manner of braking, being busy with other duties. After a short time he felt an emergency application of the brakes which was followed by the collision, at which time the speed was between 20 and 30 miles per hour. The accident occurred at 5:30 a.m. at which time the weather was clear. He inspected the train after the accident and found all brakes applied.

Flagman Davis, of Extra 227, stated that he had not read order No. 11 but the conductor had told him of the meeting point. The weather was clear and he could see First 263 at Gretna when the first brake application was made, at which time the speed was about 40 miles per hour. He felt no further brake application. The accident occurred about 5:30 a.m.

Front Brakeman Beltz, of Extra 227, added nothing of importance.

Trainmaster Palmquist and Traveling Engineer Ludington arrived at the point of accident about two hours after its occurrence. They inspected that portion of Extra 227's train that remained on the rails, and found all angle cocks open, and the brake-cylinder pistons out varying between 7 and 9 inches; all release rods were pulled and air was in all auxiliary reservoirs. When the relief engine pulled the train back an air-brake test was made; all brakes applied and released and the pressure on the caboose gauge was 70 pounds. An ample supply of sand remained in the sand-box of the engine of Extra 227.

Car Inspector Stapf, of Moberidge, stated that he was at the rear of Extra 227, at 1:15 a.m., when the brakes were applied and he had walked two-thirds of the way toward the head end when the brakes were released. He was unable to see the condition of the remainder of the train. When the train moved past him as it departed all brakes were released. It is customary for him to give a "high-ball" lantern signal to inform the crew of a train that the brakes are working; he personally informs the conductor of a train only when there are defective brakes.

Division Superintendent Gillick stated that the speed-recorder tape removed from engine 227 disclosed a speed of 48 miles per hour at a point 4,630 feet west of the point of accident, or 3,867 feet west of the west siding-switch at Gretna; at that time a brake-pipe reduction of 10 pounds was made but did not cause an appreciable deceleration. An emergency application of the brakes was made at a point about 1,300 feet west of the west siding-switch which reduced the speed to 28 miles per hour at the time of accident.

Discussion

According to the evidence First 263 stopped on the main track at Gretna with its engine clear of the west siding-switch, and before the front brakeman could arrive at the switch to line it for the siding Extra 227 passed the switch and collided with First 263 while moving at a speed of 28 miles per hour as indi-

cated on the speed-recorder tape. The crew of Extra 227 understood that their train was to enter the siding at Gretna for First 263.

The engineman of Extra 227 stated that he did not stop short of the switch because the brakes on his train did not hold so well as on other similar trains. The rail was wet and this train was descending a 0.62 percent grade; no doubt these conditions had some bearing on his failure to stop the train at the desired point.

Extra 227 departed from Mobridge after a terminal air-brake test which consisted of an inspection of the brakes on only the rear two-thirds of the train. The investigation disclosed that it was customary for trains to depart from Mobridge after receiving a lantern signal from a car inspector, which is intended to inform the departing crew that all the brakes are operative; if any brakes are defective the inspector informs the conductor. The rules of the Association of American Railroads prescribe that an examination must be made to determine whether the brake on each car applies and releases properly; when the test is completed the employee who made the test will inform the engineman and the conductor regarding the condition of the brakes. It is obvious that these rules were not complied with in this instance.

When Extra 227 was reassembled at Alamo the caboose air-gauge indicated a brake-pipe pressure of 70 pounds. The crew of this train said that the engineman made a 10-pound brake-pipe reduction at a point about 5,320 feet west of the west siding-switch at Gretna. The speed-recorder tape indicated that a reduction in speed took place about 3,867 feet west of the switch, or 1,455 feet nearer the switch. A train of this length approaching at a speed of 48 miles per hour, as indicated on the speed-recorder tape, should traverse only a distance of about 700 feet before the speed would be retarded. From this it would appear that the engine was about 4,500 feet west of the switch at the time the engineman made the first reduction.

After the accident all brakes were found applied. There was no difficulty in charging the brake-pipe to 70 pounds pressure. It is apparent that either the engineman did not start braking in time or did not make a sufficiently heavy brake-pipe reduction to stop the train short of the switch.

Conclusion

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

Respectfully submitted,

W. J. PATTERSON,

Director.