

Inv-2427

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

ACCIDENT ON THE
NORTHERN PACIFIC RAILWAY

CROW WING, MINN.

MAY 19, 1940

INVESTIGATION NO. 2427

SUMMARY

Inv-2427

Railroad: Northern Pacific
Date: May 19, 1940
Location: Crow Wing, Minn.
Kind of accident: Head-end collision
Trains involved: Passenger : Freight
Train numbers: 12 : Extra 2458 West
Engine numbers: 2169 : 2458
Consist: 5 cars : 21 cars, caboose
Speed: Standing : 10-15 m. p. h.
Operation: Timetable and train orders
Track: Single; tangent; 0.278 percent
ascending grade westward
Weather: Cloudy
Time: 3:34 a. m.
Casualties: 15 injured
Cause: Failure to control speed of freight
train properly when approaching
meeting point

June 24, 1940.

To the Commission:

On May 19, 1940, there was a head-end collision between a passenger train and a freight train on the Northern Pacific Railway at Crow Wing, Minn., which resulted in the injury of 14 passengers and 1 employee.

Location and Method of Operation

This accident occurred on that part of the St. Paul Division designated as the Third Sub-Division which extends between Little Falls and Brainerd, Minn., a distance of 31.5 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. The accident occurred on the main track at a point 553 feet west of Crow Wing station. Approaching from the east there are, in succession, a 1° curve to the right, 1,255 feet in length, and a tangent extending 4,995 feet to the point of accident and more than 1 mile beyond. The grade is 0.278 percent ascending westward a distance of 1,802 feet to the point of accident.

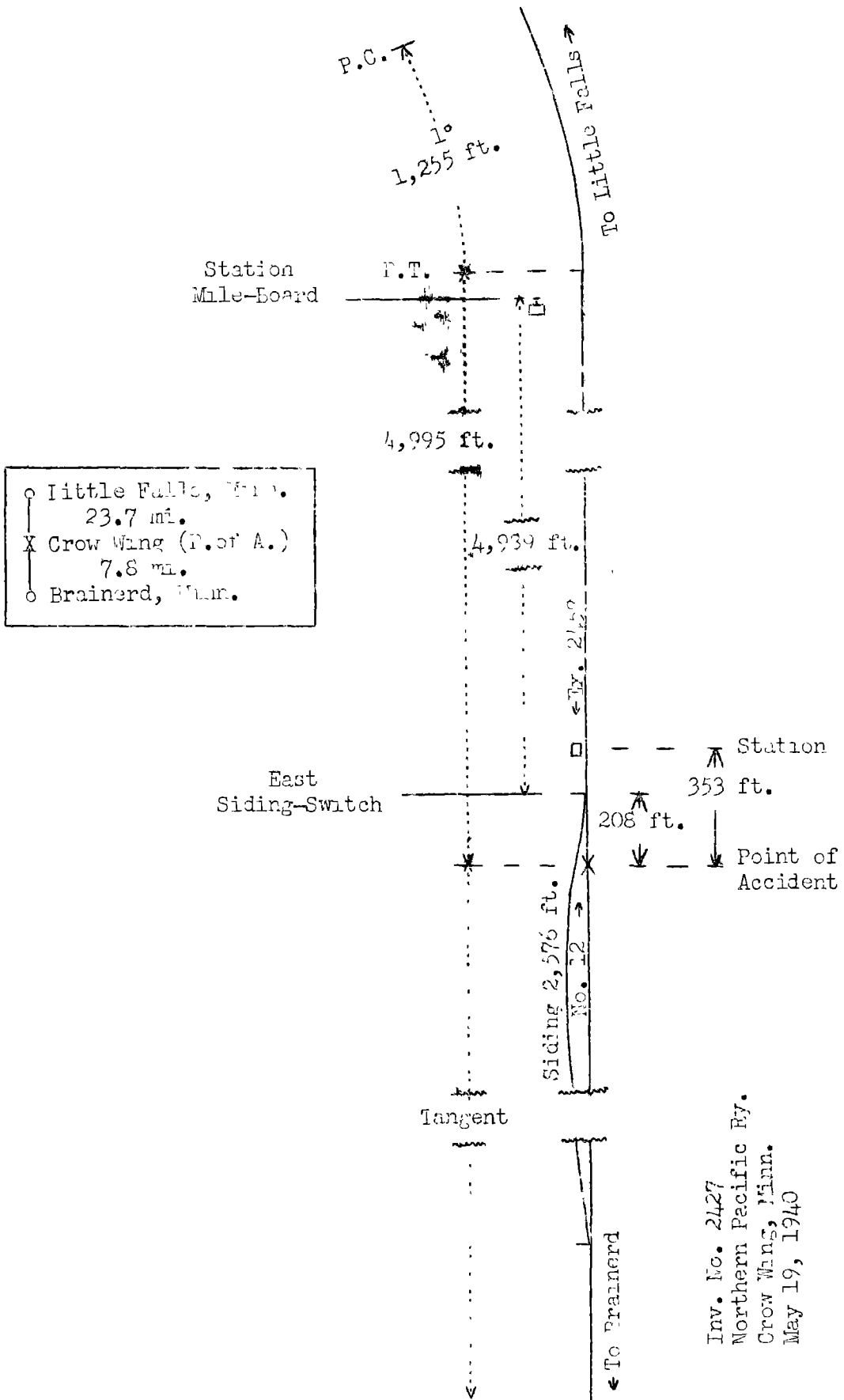
A siding 2,576 feet in length parallels the main track on the north and its east switch is located 145 feet west of the station; the accident occurred at a point 208 feet west of this switch.

A station mile-board for west-bound trains is located 4,989 feet east of the east siding-switch.

The switch involved is facing-point for west-bound trains. This switch is equipped with a Northern Pacific standard type switch stand, which is located at the north side of the main track; the switch target, which is displayed only when the switch is lined for a movement to the siding, is a disk 18 inches in diameter, the center of which is 5 feet 2-1/2 inches above the head-block. The switch lamp displays a green aspect when it is lined for the main track, and is located 7 feet 5 inches above the head block; the lens of the lamp is 5 inches in diameter.

Rules of the Consolidated Operating Rules, which are in use on this railroad, read in whole or in part as follows:

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, or is standing



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to meet a train at end of two or more tracks or a junction.

* * *

1059. At main or branch line terminals the terminal test of brakes is required to be made after the brake system on a passenger or freight train is charged to not less than five pounds below the standard pressure for such trains; upon proper signal given by carmen or trainmen, engineman will make a 20-pound continuous reduction of brake pipe pressure with the automatic brake valve. Following this reduction, engineman must note by observing the air gauge on engine the amount of leakage from the brake pipe during the first minute.

An examination of the train brakes must be made by car inspectors or trainmen where carmen are not available, to determine if brakes are applied on each car.

Upon completion of examination, proper signal will be given for release of brakes, following such, each brake must be noted as having released properly.

Inspectors or trainmen making the test will inform the conductor and engineman relative to the number of cars in train having operative and inoperative brakes.

1069. Freight conductors must know by the caboos gauge that the air is cut into the caboos and train is being controlled safely, taking into consideration air pressure, speed, and grade. Where these indicate that aid is needed, either from hand brakes or use of conductor's valve, it must be rendered at once without awaiting call from engineman.

Approaching meeting points and other places where hazard would result from engineman not having the full use expected of air brakes, and at a distance not less than one mile or over two from such point, it must be determined by inspection of caboos gauge whether he has such full use. If not, action must be taken at once to stop.

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

The weather was cloudy, and in the vicinity of the point of accident occasional fog pockets existed. The accident occurred about 3:34 a. m.

Description

No. 12, an east-bound passenger train, with Conductor Smith and Engineman Wildes in charge, consisted of engine 2169, two baggage cars, one mail-express car, one coach and one Pullman sleeping car, in the order named; all cars were of steel construction. At Brainerd, 7.8 miles west of Crow Wing, the crew received a Clearance Form A, and a copy of train order No. 204, Form 19, which read as follows:

No 12 Eng unknown wait at Crow Wing
until 340 AM for Extra 2458 West

This train departed from Brainerd at 3:10 a. m., according to the train sheet, on time, stopped about 3:33 a. m. on the main track at Crow Wing with the pilot of the engine 208 feet west of the east siding-switch, and about 1 minute later was struck by Extra 2458 West.

Extra 2458, a west-bound freight train, with Conductor Trebby and Engineman Plankers in charge, consisted of engine 2458, 20 loaded cars and 1 empty car, and a caboose. At Little Falls, 23.7 miles east of Crow Wing, the crew received Clearance Form A, and a copy of train order No. 204, Form 19, previously quoted. This train departed from Little Falls at 2:45 a. m., according to the train sheet, passed the east siding-switch at Crow Wing where it was required to take siding and, while moving at a speed variously estimated to have been from 10 to 15 miles per hour, collided with No. 12.

The force of the collision moved No. 12 backward a distance of 36 feet. Engine 2169 was not derailed; the front end was considerably damaged, the engine truck was demolished, and the pilot-beam and the engine frame were broken. The engine truck of engine 2458 and the No. 1 and the No. 2 pairs of driving wheels were derailed; the smoke-box and the pilot-beam were broken. The eighth car of Extra 2458 was damaged.

The employee injured was the front brakeman of Extra 2458.

Summary of Evidence

Engineman Wildes, of No. 12, stated that the air brakes were tested at Brainerd, a running test was made soon after leaving that point, and the brakes functioned properly en route. The train stopped at Crow Wing about 3:31 a. m. and he got off

his engine to inspect it. The headlight on his engine was lighted. As Extra 2458 approached the east siding-switch he became apprehensive that it would not stop. The fireman proceeded toward the switch but did not reach it in time to line it for Extra 2458 to enter the siding. Engineman Wildes said that after the accident the engineman of Extra 2458, who appeared normal, told him the air brakes did not respond as rapidly as they should. Engineman Wildes said that it was misty and the rail being wet probably affected braking conditions. On two occasions recently train orders had been received requiring No. 12 to wait at Crow Wing, in which instances a member of his crew lined the switch for the inferior train to enter the siding.

Fireman Quinn, of No. 12, corroborated the statement of Engineman Wildes.

Front Brakeman Davis, of No. 12, stated that his train stopped at Crow Wing about 5:34 a. m.; he alighted immediately from the front end of the fourth car and started forward to line the east siding-switch for the siding. The switch lamp was burning. It was misting and there were fog pockets; however, he could see the headlight of Extra 2458 as it approached. When he had proceeded about 1-1/2 car lengths and was about 6-1/2 car lengths distant from the switch the accident occurred. On two previous occasions train orders directing his train to wait at Crow Wing had been received and in each instance a member of his crew had lined the switch for the inferior train to enter the siding.

Conductor Smith, of No. 12, stated that he was in the fourth car of his train when the collision occurred. After the accident he observed that the switch lamp was burning. He said that the engineman of Extra 2458, who appeared normal, told him he thought No. 12 was standing at the switch. The conductor said that on previous occasions, when No. 12 was required to wait at a designated point for an inferior opposing train, a member of his crew lined the switch for the inferior train to enter the siding.

The statement of Flagman Frick, of No. 12, added nothing of importance.

Engineman Plankers, of Extra 2458, stated that the air-brake test of his train at Little Falls consisted of a brake application, which was made upon receiving a signal from a member of the crew stationed at the rear of the train; after an interval of 8 or 9 seconds he received another signal from the rear and released the brakes. There was no car-to-car inspection of the train brakes and he did not receive infor-

mation regarding the number of cars in the train or the number of operative brakes. He said that this method of making a terminal air-brake test is the usual practice. There was no brake-pipe leakage and the normal brake-pipe pressure was maintained. No air-brake application was made en route. The headlight on his engine was burning. Before departing from Little Falls he received train order No. 204, the terms of which gave his train ample time for clearing No. 12 at Crow Wing. The speed of the train approaching Crow Wing was about 50 miles per hour and he sounded the meeting-point signal. When his engine was rounding the curve east of Crow Wing he saw the headlight of No. 12, but because of its brilliance he could not determine whether No. 12 was standing or moving. Just after his engine passed the mile board he made a brake-pipe reduction of 10 or 12 pounds. In one statement he said that he then released the brakes, and 4 or 5 seconds later made a second application which consisted of a 10-pound brake-pipe reduction. In another statement he said that no release was made between the two brake-pipe reductions. The brakes responded but did not seem to reduce the speed properly. He could not see the position of the east siding-switch until his engine was about 370 feet distant. At this point the speed of his train was about 15 miles per hour and, realizing that it would not stop before it reached the switch, he moved the brake-valve to emergency position, reversed the engine, and opened the sander valve; however, because of the previous service reductions an emergency effect was not obtained, and his train struck No. 12. He estimated that the speed was 10 or 12 miles per hour at the time of accident. He could not see the lantern of the front brakeman of No. 12 as the latter proceeded toward the switch. The weather was misty, and there were fog pockets in low spots. The rail being wet affected braking conditions to some extent. In his opinion the air brakes functioned properly. He was familiar with the physical characteristics in this vicinity and knew that he was required to approach the siding-switch under control, but he misjudged the speed of his train and the distance he had in which to stop because he was temporarily blinded by the glare from the headlight of No. 12; also, he expected the switch to be lined for his train to enter the siding. The accident occurred about 3:34 a. m.

Fireman Brose, of Extra 2458, corroborated the statement of Engineman Plankers.

Front Brakeman Collett, of Extra 2458, stated that when his train was approaching Crow Wing he was on the left seat-box. After his engineman began to brake, no release that he recalled was made. He saw the lantern of the front brakeman of No. 12 as the brakeman moved toward the east siding-switch and he assumed that the switch would be lined for his train to enter

the siding. When a train stops on the main track to meet another train it is the practice for a member of the crew of the superior train to line the switch for the inferior train to take siding. He did not realize that an accident was imminent until his engine reached a point about 200 feet east of the switch.

Conductor Trebby, of Extra 2458, stated that at Little Falls he delivered the orders to the engineman. In one statement the conductor said that the flagman made the terminal air-brake inspection; in another statement, he said that he was at the engine when the engineman applied the air brakes and, proceeding toward the rear, he observed that all brakes were applied. He said that there was ample time for clearing No. 12 at Crow Wing by 3:35 a. m., or 5 minutes before the expiration of the wait order. When his train was approaching Crow Wing he was in the caboose cupola and could see the headlight of No. 12. The engineman sounded the meeting-point signal and then made a brake-pipe reduction near the mile-board; the brakes appeared to be effective. The conductor thought the train was under control and that the stop would be made satisfactorily. He said that he had no reason to take emergency action toward stopping the train. When his train was near the east siding-switch he descended from the cupola and soon afterward the accident occurred. After the accident he proceeded to the front end of his train and observed that the brakes were applied. The switch lamp was lighted and was displaying a green aspect. Subsequent to the accident the brakes were tested at Crow Wing and they functioned properly.

Flagman Flahave, of Extra 2458, stated that at Little Falls he gave a signal from the rear to test the train brakes and the engineman applied them. He observed that the brakes were applied on the fourth or fifth car ahead of the caboose; he then walked to the third car ahead of the caboose and gave the engineman a signal to release the brakes. He did not know whether the brakes became applied on each car; no examination was made to determine if they released properly. He did not know whether the conductor examined the brakes. When the flagman boarded the caboose the air-gauge indicated that the brake-pipe pressure had been restored. En route the gauge in the caboose indicated 70 pounds brake-pipe pressure and when the caboose was about 4,990 feet east of Crow Wing he felt the air brakes become applied and observed that an 8 or 10-pound brake-pipe reduction had been made. After the accident he proceeded to the front end of his train and observed that all brakes were applied. He understood that the rules required the brakes to be examined at terminals to ascertain whether each brake applies and releases; the employee making this examination must inform the conductor and the engineman before the train departs relative to the condition of the brakes. He said

that it is the practice to observe the application and the release of the brakes on only 4 or 5 cars near the rear of the train, then to observe whether the caboose gauge indicates that the brake-pipe pressure is restored.

Discussion

According to the evidence, No. 12 stopped on the main track at Crow Wing with its engine clear of the east siding-switch and before any member of its crew could line the switch for Extra 2458 to enter the siding, Extra 2458 passed the switch and collided with No. 12. The crew of Extra 2458 understood that their train was to enter the siding for No. 12.

The engineman of Extra 2458 said the reason he did not stop his engine short of the switch was that the brakes did not control the speed of his train as he expected. The speed of his train was about 50 miles per hour when he applied the brakes at a point about 4,990 feet east of the east siding-switch at Crow Wing. He said that the headlight of No. 12 blinded him to the extent that he was unable either to see the switch light or to determine the reduction of speed in relation to the distance the train moved after the brakes were applied; also, he expected the east siding-switch to be lined for his train to enter the siding.

The investigation disclosed that at Little Falls the customary test of the brakes of Extra 2458 was made, but that it was not the practice to conduct air brakes tests at that point in the manner prescribed by the rules of the carrier. Instead of an inspection to determine whether the brakes on each car applied and released properly, the test consisted merely of observing that the brakes applied on a few cars at the rear end of the train. If the test had been made as prescribed by the rules the condition of the train brakes would have been ascertained and it would have been known whether the requirements of law were being complied with. The lax practice disclosed should be corrected promptly.

Conclusion

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

Respectfully submitted,

S. N. MILLS,

Director.