

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

:
: ACCIDENT ON THE
:
CHICAGO, ROCK ISLAND AND PACIFIC RAILWAY

WASHBURN, IOWA

OCTOBER 15, 1938

INVESTIGATION NO. 2300

- 2 -

SUMMARY

Inv-2300

Railroad: Chicago, Rock Island & Pacific
Date: October 15, 1938
Location: Washburn, Iowa
Kind of accident: Head-end collision
Trains involved: Freight : Freight
Train numbers: 99 : 94
Engine numbers: 2521 : 2561
Consist: 40 cars and caboose : 39 cars and caboose
Speed: Standing 15-25 m.p.h.
Operation: Timetable and train orders
Track: Single; 0° 40' curve; 0.18 percent descending eastward.
Weather: Clear
Time 2:55 p.m.
Casualties: 2 injured.
Cause: Unauthorized main-track movement without flag protection.

November 25, 1938.

To the Commission:

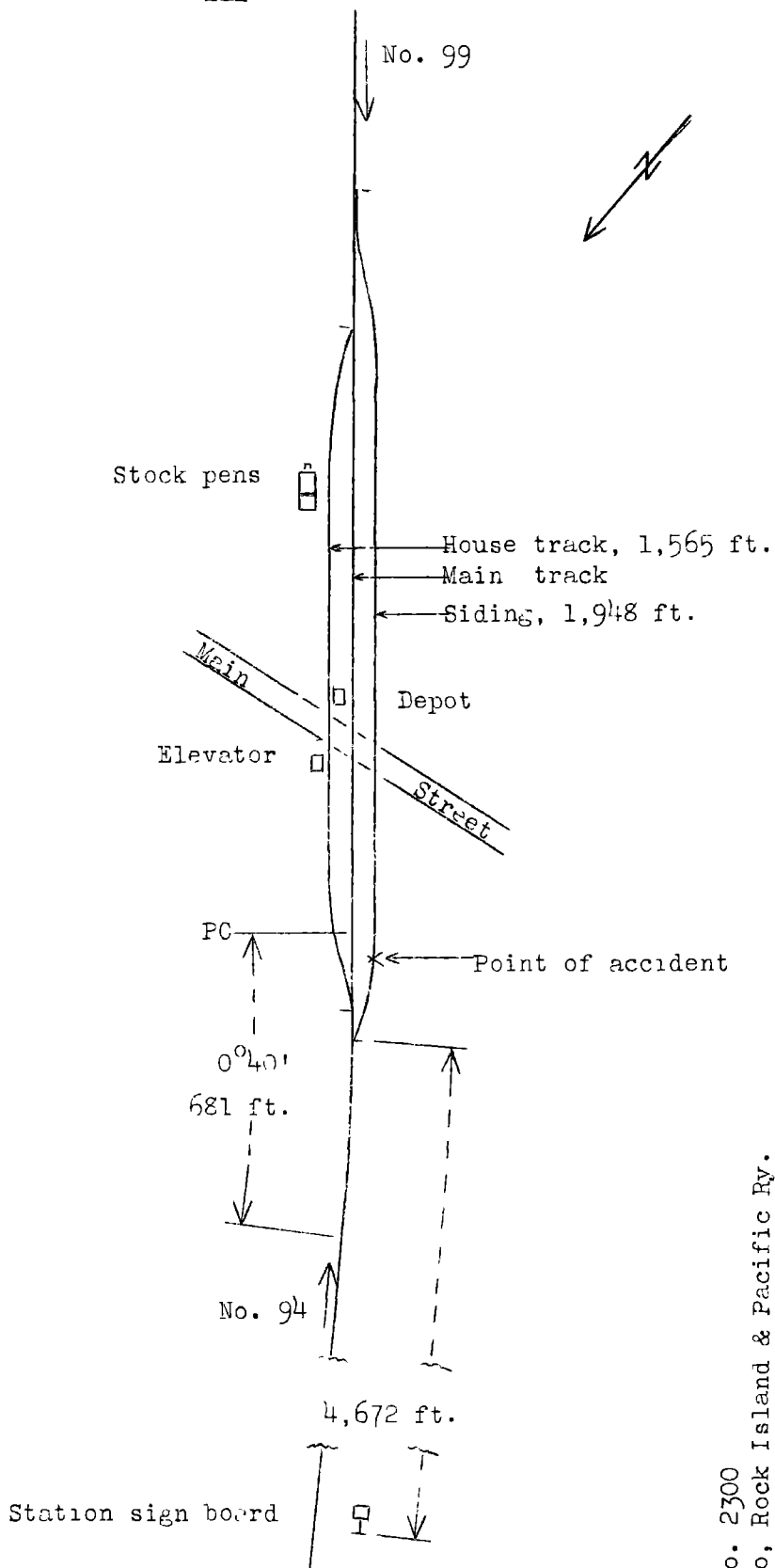
On October 15, 1938, there was a head-end collision between two freight trains on the Chicago, Rock Island & Pacific Railway at Washburn, Iowa, which resulted in the injury of two employees. This accident was investigated in conjunction with a representative of the Iowa State Commission.

Location and method of operation

This accident occurred on that part of the Cedar Rapids Division designated as Sub-Division 16 which extends between Cedar Rapids and Manly, Iowa, a distance of 127.9 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-signal system being in use. The accident occurred on the siding at Washburn at a point approximately 250 feet east of the west switch. Approaching this point from the west the track is tangent 9,170 feet followed by a $0^{\circ} 40'$ curve to the left 681 feet in length, the accident occurred on this curve at a point about 44 feet west of its east end. The grade for east-bound trains is slightly ascending a distance of 1,300 feet, and then descending 0.18 percent a distance of approximately 1,630 feet to the point of accident. Approaching from the east the track is tangent a distance of 4,995^{1/2} feet followed by the curve on which the accident occurred. The siding at Washburn is 1,948 feet in length, has a capacity of 32 cars, and parallels the main track on the south. A house track, 1,565 feet in length, the west switch of which is located approximately 100 feet east of the west switch of the siding, parallels the main track on the north. Stock pens are located near the west end and to the north of the house track. The depot is located between the main track and the house track approximately 741 feet east of the west house-track switch. Immediately west of the depot Main Street extends across the three tracks at grade and at an angle of about 60 degrees. There is an elevator located just west of the crossing and to the north of the house track approximately 604 feet east of the west house-track switch. The switches at the west end of both the siding and the house track are equipped with high Star switch stands, each having an 18-inch, red-enameled, round-disc target, the center of which is 61 inches above the top of the ties. The station board for east-bound trains is located 4,672 feet west of the west switch of the siding.

Eastward trains are superior to westward trains of the same class.

o Cedar Rapids, Iowa (Union Station)	0.8 mi.
o Cedar Rapids Yard	22.9 mi.
o Vinton	14.3 mi.
o LaPorte City	8.0 mi.
o Washburn (P of A)	4.9 mi.
o East Yard	2.0 mi.
o Waterloo	74.9 mi.
o Manly, Iowa	



Inv. No. 2300
Chicago, Rock Island & Pacific Ry.
Washburn, Iowa
October 15, 1938.

The maximum authorized speed for freight trains is 45 m.p.h..

Rule 34 reads in part:

"The engineman and fireman, and trainman when riding on the engine, must communicate to each other BY ITS NAME the indications of all interlocking, train order and automatic block entrance signals, and when practicable all other signals affecting the movement of their trains.***."

Rule 90 reads in part:

" *** Trains must stop clear of the switch used by the train to be met in going on the siding. Where there is more than one siding, the one first reached must be taken, when practicable; when not practicable, the train must first be protected as per Rule 99 beyond the switch of the siding first reached."

Rule 99 reads in part:

"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.

When recalled and safety to the train will permit he may return.

When the conditions require, he will leave the torpedoes and a lighted fusee.

The front of a train must be protected in the same way when necessary by the brakeman, or in his absence by the fireman. *** .

*** Conductors and Enginemen are responsible for the protection of their trains."

Rule 104e reads in part:

"When a train backs in on a siding to be met or passed by another, the engineman, when engine is clear of the main track, must also see that the switch is properly lined for the main track. ***".

The weather was clear at the time of the accident, which occurred at 2:55 p. m.

Description

No. 99, a west-bound second-class freight train consisted of 40 cars and a caboose, hauled by engine 2521, and was in charge of Conductor Arendts and Engineman Rollins. This train departed from Cedar Rapids Yards, 45.2 miles east of Washburn, at 1:35 p.m., according to the train sheet, 50 minutes late, passed Vinton, 22.3 miles east of Washburn, at 2:18 p. m., where train order No. 371, Form 19, was received, reading, "No. 94 engine 2561 meet No. 99 engine 2521 at Washburn", and a message reading, "No. 94 has 39 cars and will be at Washburn about 2:58 p.m., one car at Washburn." No. 99 passed La Porte City, the last open office, 8 miles east of Washburn, at 2:37 p.m., 47 minutes late, stopped at the east switch at Washburn, at 2:49 p.m., pulled into the siding and stopped at the west end with the rear end of the train on the main track. Cutting off the first two cars, the engine headed out upon the main track and "kicked" them into the house track, then backed into the siding and coupled to the remainder of the train intending to pull the rear end into clear and double over to the house track, leaving the two main-track switches open, but was struck by No. 94 immediately afterwards.

No. 94, an east-bound second-class freight train, consisted of 39 cars and a caboose, hauled by engine 2561, and was in charge of Conductor Haynes and Engineman Streeter. This train passed Waterloo, the last open office, 6.9 miles west of Washburn, at 2:34 p. m., according to the train sheet, nine minutes late, received train order No. 371, quoted above, and proceeded to Washburn where it headed into the siding and collided with No. 99 while traveling at a speed estimated to have been between 15 and 25 miles per hour.

The force of the collision shoved engine 2521 backward a distance of about 73 feet. The tenders of both engines were forced into the cabs and against the boiler heads. Engine 2561 remained upright, with the third and fourth pairs of drivers derailed, the pilot beam broken off and the front end of the frame resting on the frame of engine 2521. The front truck of the first car of No. 94 was derailed, the second, third, fourth and fifth cars were not derailed, the sixth car was derailed but remained upright, the seventh car stopped on top of the sixth car, the eighth and ninth cars stopped on their sides diagonally across the tracks and badly crushed, the tenth car stopped parallel to the track and badly crushed, the eleventh car leaned to the right at an angle of 45 degrees, and the twelfth and thirteenth cars were derailed but remained upright and in line with the track. The truck castings and the pilot beam of engine 2521 were broken off, the trailer wheel and drivers on the left side were derailed. The lead truck

of the first car of No. 99 was derailed and telescoped half its length under the tender, the second and third cars were not derailed, the rear truck of the fourth car was derailed, the fifth and sixth cars were derailed and crushed, and the lead truck of the seventh car was derailed.

Summary of evidence

Engineman Rollins, of No. 99, stated that at Vinton he received train order No. 371, which fixed the meeting point with No. 94 at Washburn, and a message advising that No. 94 would be at Washburn about 2:58 p. m., and that it had 39 cars. No. 99 had 40 cars, the first two of which contained stock to be spotted at the stock chutes at Washburn. Leaving La Porte City, 8 miles east of Washburn, the head brakeman suggested that after heading in at Washburn they cut off the first two cars, "kick" them into the house track, pull the rear end of the train into clear, double over with the head end to the house track and at the same time spot the stock before No. 99 arrived; the engineman agreed to this and thought the fireman was present during this conversation. Nothing was said about protecting these proposed movements. They arrived at the east switch at Washburn at 2:45 p. m., pulled into the siding and stopped at the west end. The head brakeman cut the first two cars off and lined the switches; before pulling out upon the main line the engineman looked in the direction of No. 94 but could not see any sign of it, at which time he was about to tell the brakeman to take the red flag, go out and slow down No. 94, but for some unknown reason he did not tell him to do so, and as far as he knew he was the only member of the crew that thought about protecting. After pulling out upon the main track, without flag protection, the two cars were "kicked" into the house track where the conductor, who was about ten car lengths away, stopped them near the road crossing west of the depot. About the time those cars were "kicked" he first saw No. 94 about $1\frac{1}{2}$ or 2 miles distant but he did not take any steps to provide protection. Leaving both main-line switches open the engine was then backed in and coupled to the remainder of the train to pull the rear end into clear and to double over to the house track; the accident occurred immediately thereafter. He was not aware that a collision was imminent until the fireman called to him to jump just prior to its occurrence. He understood under the rules that he had no authority to use the main track west of the east switch without flag protection. He had no conversation with the conductor relative to the work to be done at Washburn.

The statement of Fireman Rose, of No. 99, corroborated that of the engineman with regard to movements of the train. He understood the contents of train order No. 371 and that under the rules No. 99 should not use the main track beyond the east switch without flag protection; however, no protection was given. He did not hear any discussion about how the work was to be done there. He understood that in the absence of the brakeman the fireman was required to protect the head end of the train but nothing was said to him about flagging and, as the head brakeman was on the head end and from information given him by the engineman that the conductor was near the head end, he did not go out to flag. He did not see any indication of No. 94 approaching until immediately after his engine had been recoupled to the remainder of the train; he looked around, saw No. 94 about 12 or 15 car lengths distant, warned the engineman, and the collision occurred immediately thereafter.

Head Brakeman Stahl, of No. 99, stated that after pulling to the west end of the siding at Washburn, he cut off the two head cars, lined the switches, and at this time he saw nothing of No. 94; they then headed out on the main track and "kicked" the cars into the house track and without looking further backed in and coupled the engine to the remainder of the train, leaving both main track switches open, and his engine was struck by No. 94 within 30 seconds thereafter. He understood the train order received at Vinton and that the rules required them to protect their train while using the main track. The conductor had not instructed him as to how the work was to be done there. His reason for not providing flag protection was that he was in a hurry to get the work done before No. 94 arrived. Brakeman Stahl further stated that Conductor Arendts was west of the depot when the two cars were "kicked" into the house track and the latter stopped the cars west of Main Street crossing and then walked toward the head end of the train. The brakeman further stated that had he observed No. 94 approaching when his engine was backing into the siding he would have lined up the switches properly, which would have prevented the accident.

Conductor Arendts, of No. 99, corroborated the statement of Engineman Rollins with respect to the movement up to the time of arrival at Washburn. He stated that when his train began to slow up for Washburn he started forward over the top of the train to assist in the work and continued going forward until they reached the west end of the siding, at which time he was within 20 car lengths of the head end; he then descended to the ground and continued toward the head end. Before getting off the top of the train he could see the smoke of No. 94 in the distance. He had not given any instructions about doing the work at Washburn but

knew that it would be necessary to double over as each train had more cars than the siding would hold. After the engine and two cars moved out upon the main track, he was given a signal by the head brakeman that they were "kicking" the two cars into the house track, and he ran to stop them before they reached the crossing west of the depot; the engine was backing against his train at this time and after coupling to the train it was struck by No. 94 at 2:55 p. m. He knew that flag protection should have been provided while doing this work and he expected protection to be given; he could see that the brakeman was not flagging but could not tell whether the fireman was protecting the movement or not; however, he gave no signals to prevent his engine occupying the main track without protection.

Rear Brakeman Barrett, of No. 99, corroborated the statements of other members of the crew as to the movements until his train stopped at Washburn. He was standing near the caboose when the accident occurred.

Engineman Streeter, of No. 94, stated that the air brakes were tested before leaving Manly; the brakes functioned properly en route. At Waterloo, he received train order No. 371 directing No. 94 to meet No. 99 at Washburn. Approaching Washburn he could see from a point $1\frac{3}{4}$ miles west that No. 99 was standing at the station. He was operating his train at a speed of about 32 miles per hour at the station sign board where he sounded the station whistle signal and the meeting-point whistle signal; he then made a 15-pound brake-pipe reduction, and the speed was about 25 miles per hour when at a point approximately seven car lengths west of the vest switch, from which point he was able to see that the engine of No. 99 was in the clear on the siding. He then released the air brakes and at that time discovered that the switch target was displaying a red aspect; thinking he might be mistaken he opened the throttle enough to raise the smoke for better vision and then saw that the switch was lined for the siding. He immediately applied the air brakes in emergency but, due to having just released from the previous application, an emergency effect was not obtained. He jumped off when the trains were about one car length apart. He did not think the speed of the train was reduced after the emergency application of the brakes was made. He further stated that it was impossible for him to see the switch target earlier due to the curve to the left. There was no flagman or other member of the crew of No. 99 in sight as No. 94 approached. The fireman and the head brakeman were sitting on their seat boxes on the left side of the engine approaching Washburn, and there was no smoke or obstruction to interfere with their vision; he received no warning

from either the fireman or the brakeman until the train had reached the point from which he could see the switch target. He stated the weather was clear, and the time of the accident was 2:55 p. m.

Fireman Larson and Head Brakeman Toops, of No. 94, corroborated the statement of Engineman Streeter in all essential details. They stated that they were looking to see if the rear end of No. 99 was into clear and for this reason did not see the open switch until within a short distance of it.

Conductor Haynes, of No. 94, said that when approaching Washburn he was in the caboose, at which time the brake-pipe pressure was 70 pounds and the speed of the train was about 40 miles per hour; he felt the brakes being applied, after which he walked to the rear platform to be there to identify No. 99. He looked ahead on the left side and could see No. 99 on the siding; the collision occurred shortly afterwards, at which time the speed had been reduced to 20 or 25 miles per hour. He did not think the brakes had been released on the rear end after they were first applied.

Rear Brakeman Babcock, of No. 94, was in the caboose at the time of the accident. His statement added nothing of value to that of the conductor.

Observation of the Commission's Inspectors.

The Commission's inspectors made an inspection of the track and the right-of-way and found no obstruction to obscure the view for a distance of approximately two miles west of the point of accident.

An inspection of the engine disclosed nothing that would obstruct the vision in looking ahead. The targets of the switches involved were red-enameled, clean and in good condition, and when lined for either the house track or the siding they could be plainly seen for a distance of one-fourth mile.

Discussion

Train order No. 371, providing for a meet between No. 94 and No. 99 at Washburn, was read and understood by the members of both crews. According to the evidence No. 99 pulled into the siding at Washburn and stopped at the west end with the rear end on the main track as the train was too long for the siding, the two leading cars were cut off and the engine pulled them out on the main track without flag protection, "kicked" the two cars into the house track, then backed into the siding, leaving both switches

open; the engine had just been coupled to the train preparing to pull the rear of the train into clear and double over when it was struck by No. 94. Under the rules No. 99 was required to enter the east switch of the siding at Washburn and was not authorized to occupy the main track west of the east switch without flag protection against No. 94.

The evidence disclosed that neither the engineman, the fireman nor the head brakeman saw any indication of No. 94 approaching prior to moving out upon the main track, notwithstanding the fact that the conductor, who was about 20 car lengths behind the engine when these moves were started, saw the smoke of No. 94. The conductor made no effort to protect against No. 94. The engineman of No. 99 saw No. 94 approaching about the time the two cars were "kicked" into the house track but made no effort to provide flag protection or to see that the switches were closed after the engine had backed into the siding. The fireman and the head brakeman did not see No. 94 approaching until it was so close that nothing could be done to avert the accident. Had proper flag protection been provided this accident probably would have been prevented; had the main track switches been closed after No. 99 reentered the siding this accident would have been prevented.

The engineman of No. 94 was operating his train at a speed of 32 to 40 miles per hour, and shortly after passing the station board he applied the air brakes and had reduced the speed to about 25 miles per hour when within 7 or 8 car lengths of the west switch. He then released the brakes after he saw that the engine of No. 99 was in the clear on the siding and about the same time he saw that the switch to the siding was open; he immediately applied the brakes in emergency but, due to having just released from the previous service application, an emergency effect was not obtained. The fireman and the head brakeman of No. 94 were on the left side of the engine and had an unobstructed view of No. 99 for over a mile and could have seen the switch targets for a quarter of a mile, but they were looking beyond, at the east switch to determine if No. 99 was in the clear. The engineman's view of the switch was somewhat restricted as he was on the outside of the curve.

Conclusion

This accident was caused by an unauthorized main-track movement of train No. 99 without flag protection.

Respectfully submitted,

W. J. PATTERSON,

Director.