

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3350

CHICAGO, ROCK ISLAND AND PACIFIC
RAILROAD COMPANY

IN RE ACCIDENT

AT COLFAX, IOWA, ON

AUGUST 6, 1950

SUMMARY

Date: August 6, 1950

Railroad: Chicago, Rock Island and Pacific

Location: Colfax, Iowa

Kind of accident: Head-end collision

Trains involved: Passenger : Freight

Train numbers: 23 : 96

Engine numbers: Diesel-electric : Diesel-electric
units 624 and units 147, 146B,
633 and 148

Consists: 13 cars : 64 cars, caboose

Estimated speeds: 1 m. p. h. in : 30 m. p. h.
backward motion

Operation: Timetable, train orders and automatic
block-signal system

Track: Single; tangent; 0.07 percent
ascending grade westward on siding

Weather: Clear

Time: 3:20 a. m.

Casualties: 1 killed; 3 injured

Cause: Train fouling main track in front of
an opposing train

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3350

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

CHICAGO, ROCK ISLAND AND PACIFIC RAILROAD COMPANY

October 4, 1950

Accident at Colfax, Iowa, on August 6, 1950, caused by a
train fouling the main track in front of an opposing
train.

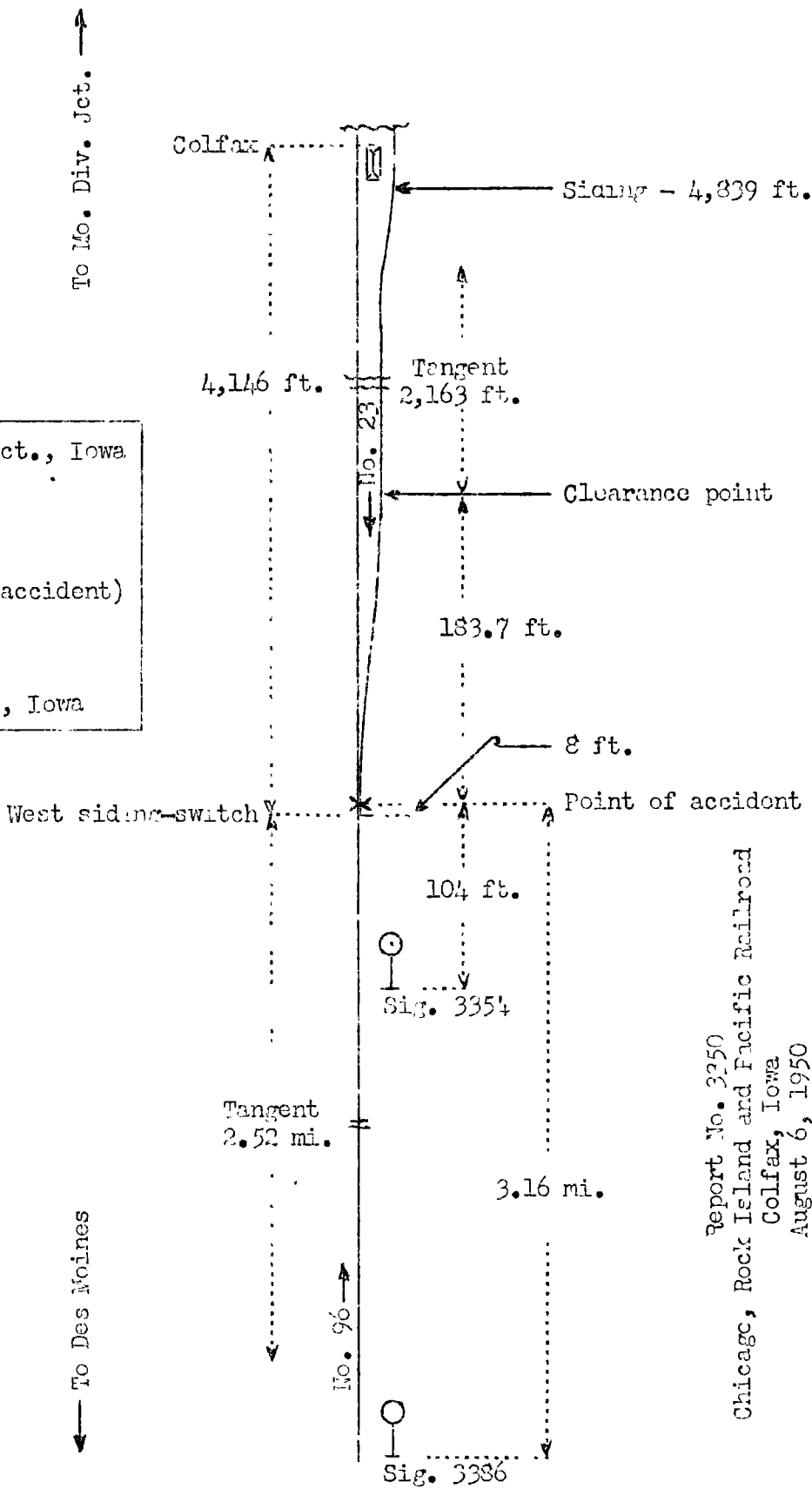
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On August 6, 1950, there was a head-end collision between a passenger train and a freight train on the Chicago, Rock Island and Pacific Railroad at Colfax, Iowa, which resulted in the death of one employee, and the injury of one passenger and two employees. This accident was investigated in conjunction with representatives of the Iowa State Commerce Commission.

¹ Under 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.

- | | | |
|---|---------------------|---------------------|
| o | Mo. Div. Jct., Iowa | 138.8 mi. |
| o | Newton | 12.2 mi. |
| X | Colfax | (Point of accident) |
| | | 12.2 mi. |
| o | Altoona | 10.9 mi. |
| o | Des Moines, Iowa | |



Report No. 3250
 Chicago, Rock Island and Pacific Railroad
 Colfax, Iowa
 August 6, 1950

Location of Accident and Method of Operation

This accident occurred on that part of the Des Moines Division extending between Missouri Division Jct. and Des Moines, Iowa, 174.1 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 an automatic block-signal system. At Colfax, 151 miles west of Missouri Division Jct., a siding 4,839 feet in length parallels the main track on the south. The west switch of this siding is 4,146 feet west of the station. The accident occurred at the west end of the siding at a point 183.7 feet west of the clearance point and 8 feet east of the switch points. The siding is tangent throughout a distance of 2,163 feet immediately east of the clearance point. The main track is tangent throughout a distance of 2.52 miles immediately west of the west siding-switch. The grade on the siding averages 0.07 percent ascending westward throughout a distance of 1,143 feet immediately east of the point of accident. The grade on the main track is 0.12 percent descending eastward throughout a distance of 1.18 miles immediately west of the point of accident.

Automatic signals 3386 and 3354, governing east-bound movements, are located, respectively, 3.16 miles and 104 feet west of the point of accident. These signals are of the color-light type and are approach lighted. Each signal displays three aspects. The aspects applicable to this investigation and the corresponding indications and names are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
3386) 3354)	Green	Proceed.	CLEAR
3354	Red, over number plate	Stop, Then Proceed at Low Speed through the entire block.	STOP AND PROCEED

The controlling circuits of these signals are so arranged that when any portion of the siding between the clearance point and the west switch is occupied each signal indicates Stop and Proceed.

This carrier's operating rules read in part as follows:

DEFINITIONS.

Low Speed.--A speed that will permit stopping short of train, engine, obstruction or switch not properly lined and looking out for broken rail, but not exceeding 15 miles per hour.

17. Headlights.--The standard white headlight must be displayed brightly to the front of every train * * * by night.

When a train turns out to meet another train, the standard headlight must be kept burning brightly until entire train is clear of main track; it will be dimmed while train is moving on siding entirely clear of main track, and must be extinguished when train has stopped entirely clear of main track.

* * *

S-89 (a). Precautions at Meeting and Passing Points.--
* * *

At meeting * * * points, a train on siding awaiting the arrival of another train must, if practicable, stop at least 300 feet from clearance point of facing point switch over which the expected train will pass.

* * *

104. Hand Operated Switches.--

* * *

(5) A train or engine must not foul a main track * * * until switches connected with the movement are properly lined.

* * *

FORMS OF TRAIN ORDERS.

S-A.

Fixing Meeting Points For Opposing Trains.

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

These examples may be modified by adding:

No 1 hold main track at B.

* * *

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

Description of Accident

No. 23, a west-bound first-class passenger train, consisted of Diesel-electric units 624 and 633, coupled in multiple-unit control, four mail cars, one express car, one mail car, one baggage car, two mail cars, two coaches, one sleeping car, and one club car, in the order named. The first nine cars were of conventional all-steel construction, and the other cars were of light-weight steel construction. At Newton, the last open office, 12.2 miles east of Colfax, the crew received copies of train order No. 13 reading as follows:

No. 96 Eng. 147 meet No. 23 Eng. 624 at Colfax.
No. 96 hold main track at Colfax

This train departed from Newton at 2:55 a. m., 18 minutes late, entered the siding at Colfax at the east switch, and stopped about 3:13 a. m., with the front end of the train about 215 feet east of the clearance point at the west end of the siding. Several minutes later the train moved westward and stopped with the front end about 191 feet west of the clearance point. An eastward movement was then started, but the train had moved only a few feet when the front end was struck by No. 96.

No. 96, an east-bound second-class freight train, consisted of Diesel-electric units 147, 146B and 148, coupled in multiple-unit control, 64 cars and a caboose. At Altoona, the last open office, 12.2 miles west of Colfax, the crew received copies of train order No. 13. This train passed Altoona at 3:03 a. m., 6 hours 8 minutes late, passed signal 3386, which indicated Proceed, passed signal 3354, which indicated Stop and Proceed, and while moving at an estimated speed of 30 miles per hour it struck the front end of No. 23.

Both Diesel-electric units and the first three cars of No. 23 were derailed. The first Diesel-electric unit stopped on its right side, with its front end 30 feet east of the point of accident and 26 feet north of the center-line of the main track and its rear end 10 feet north of the center-line of the main track. The second Diesel-electric unit stopped upright, 5 feet south of the center-line of the main track and parallel to it, with its front end 28 feet east of the rear end of the first Diesel-electric unit. The first car stopped on its left side, south of the track and opposite the rear end of the first Diesel-electric unit. The second car was derailed to the south and stopped upright, opposite the second Diesel-electric unit, with its front end 18 feet south of the center-line of the main track. The third car stopped upright and in line with the siding. The first Diesel-electric unit was badly damaged, the second Diesel-electric unit and the first and the second cars were somewhat damaged, and the third and the eighth cars were slightly damaged. The first Diesel-electric unit of No. 96 stopped on its left side, north of the track, with its front end against the front end of the first Diesel-electric unit of No. 23. It was considerably damaged. The second and third Diesel-electric units were derailed and stopped upright and in line with the track. They were somewhat damaged. The first 17 cars were demolished, and the eighteenth car was derailed and slightly damaged.

The engineer of No. 23 was killed. The flagman of No. 23 and the front brakeman of No. 96 were injured.

The weather was clear at the time of the accident, which occurred about 3:20 a. m.

Diesel-electric units 624 and 633 are of the 0-6-6-0 type. Each unit is equipped with two 1000-horse-power Diesel engines, each of which drives a generator to supply power to two traction motors of each truck. When the accident occurred, one Diesel engine of Diesel-electric unit 633 was isolated, and the train was being operated with three engines.

Discussion

The crews of both trains held copies of train order No. 13, which established Colfax as the meeting point between No. 23 and No. 96. The order included the instruction for No. 96 to hold the main track at the meeting point. Under the rules,

No. 25 was required to enter the siding at the east siding-switch and to remain clear of the main track until No. 96 arrived.

No. 25 entered the siding at Colfax at the east siding-switch and was stopped near the west end of the siding by a service application of the brakes. Surviving members of the crew said that the brake application was released soon after the train stopped. A short time after the train stopped the front brakeman alighted on the north side of the train at the rear of the tenth car and proceeded toward the front end of the train. He said that when he was opposite the eighth car the train started to move forward. He assumed that the engineer desired to move the train closer to the switch, and he continued to walk westward at approximately the same speed as the train was moving. When he observed that the front end of the train was fouling the main track at the west end of the siding, he gave stop signals and called to other members of the train crew to stop the train by use of the emergency valve. The conductor said that after the train stopped he entered the tenth car and remained in the car for several minutes before he became aware that the train was in motion. When he reached the vestibule at the rear end of the car and observed the stop signals given by the front brakeman, he immediately gave a stop signal on the communicating signal system. Immediately afterward the train stopped and then started to move in backward motion. The collision occurred immediately afterward. The flagman was at the rear of the twelfth car when the train started to move forward. He said he was not aware that the front end of the train was closely approaching the west siding-switch until he observed that it was fouling the main track. He then gave a stop signal on the communicating signal system, and the train stopped several seconds later. The fireman said that when the train stopped on the siding the engineer dimmed the headlight, lighted an overhead lamp above his seat, and began writing in a book in which he kept a record of delays to the train. The fireman then entered the engine compartment of the Diesel-electric unit to inspect one of the engines. He said he thought that the engines were running at idling speed when the train stopped, and he did not notice any change in the sound of the engines while he was in the engine compartment. After several minutes he returned to the control compartment. As he entered the compartment he heard the communicating signal and then observed that the train was moving forward and was closely approaching the west siding-switch. He called a warning to the engineer, who was seated in his usual position. He said that the engineer immediately lighted the headlight brightly, stopped the train, and started it in backward motion. The train had moved eastward several feet when the front end was struck by No. 96.

As No. 96 was approaching the point where the accident occurred the enginemen and the front brakeman were maintaining a lookout ahead from the control compartment at the front of the first Diesel-electric unit, and the conductor and the flagman were in the caboose. The headlight was lighted brightly. The brakes of this train had been tested and had functioned properly when used en route. When the train entered the tangent immediately west of the point of accident, the enginemen and the front brakeman observed the headlight of No. 23. They said that the headlight was lighted brightly when they first observed it and that it was dimmed when their train was about 2.5 miles west of Colfax. This indicated to them that No. 23 was clear of the main track. Signal 3354 indicated Proceed, and the speed of their train was increased from 30 to about 40 miles per hour. When their train was about 800 feet west of signal 3354, they observed that the aspect had changed from Proceed to Stop and Proceed and at the same time the headlight of No. 23 was lighted brightly. The engineer immediately initiated an emergency brake application. The speed of the train was reduced to about 30 miles per hour when the collision occurred.

Surviving members of the crew of No. 23 said that there was nothing unusual in the handling of the train prior to the time that it moved forward after having been stopped on the siding at Colfax. The brakes of the train had been tested and had functioned properly when used. The fact that the train started on a slight ascending grade after the brakes were released indicates that current was being supplied to the traction motors, but the position of the engineer's controls at that time is not known. The fireman did not notice the position of the controls before he left the control compartment, and the train was stopped and then started in backward motion before the collision occurred. The engineer was killed in the accident. The immediate response of the engineer when a stop signal was sounded on the communicating signal system and when he was warned by the fireman indicates he had not been aware that the train had started to move.

Cause

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

Dated at Washington, D. C., this fourth day of October, 1950.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.