

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3308
CHICAGO, ROCK ISLAND AND PACIFIC
RAILROAD COMPANY
IN RE ACCIDENT
NEAR STUART, IOWA, ON
FEBRUARY 12, 1950

SUMMARY

Date: February 12, 1950

Railroad: Chicago, Rock Island and Pacific

Location: Stuart, Iowa

Kind of accident: Rear-end collision

Equipment involved: Track motor-car : Freight train
RI-752

Train number: : Extra 5100
East

Engine number: : 5100

Consist: : 41 cars,
caboose

Estimated speeds: Standing : 30 m. p. h.

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

Track: Single; 1°59' curve; 0.35 percent
descending grade eastward

Weather: Sleeting

Time: 12:40 p. m.

Casualties: 1 killed

Cause: Failure to provide adequate protection
for movement of track motor-car

Recommendation: That the Chicago, Rock Island and
Pacific Railroad Company provide
adequate protection for movement
of track motor-cars on its line

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3308

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

CHICAGO, ROCK ISLAND AND PACIFIC RAILROAD COMPANY

March 16, 1950

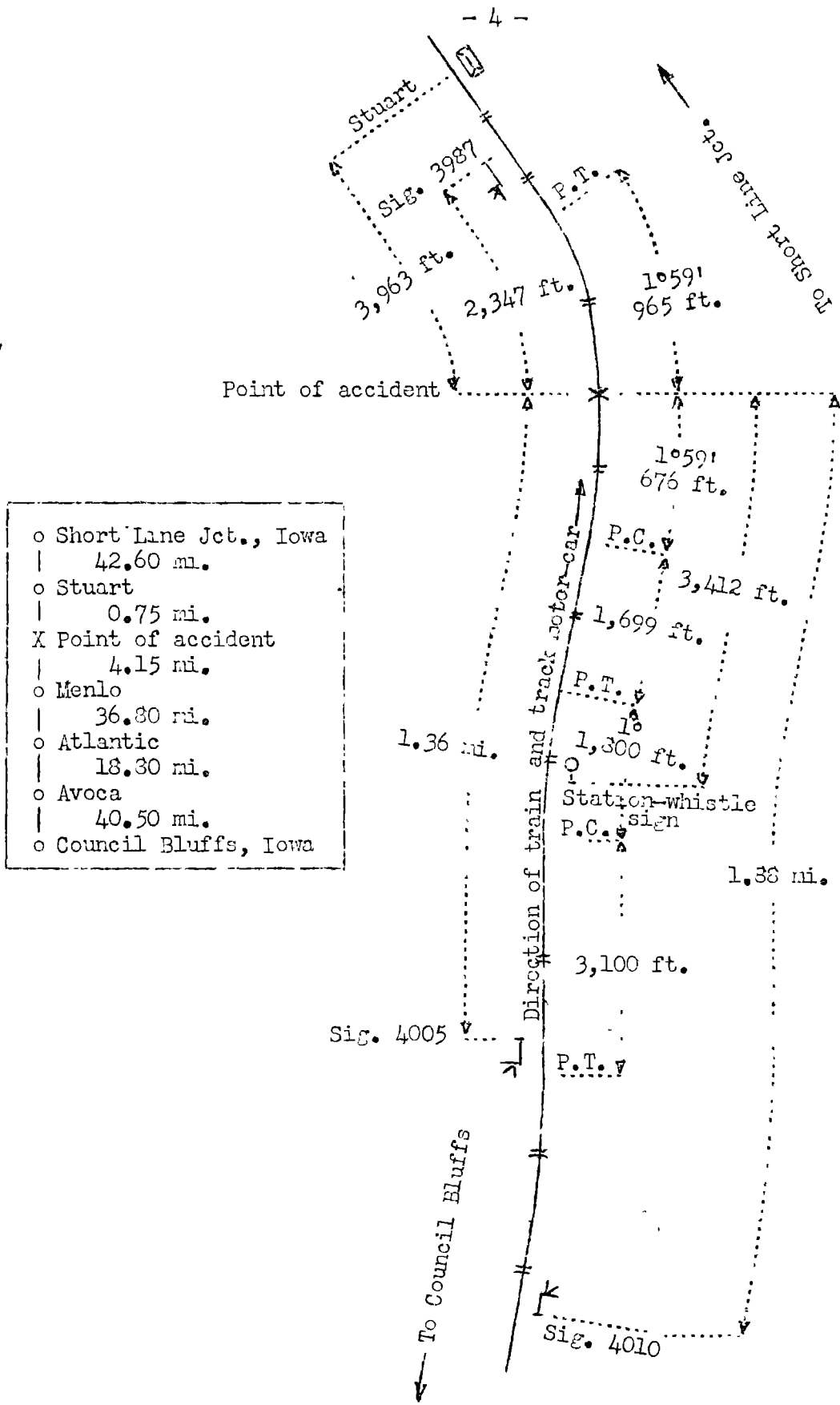
Accident near Stuart, Iowa, on February 12, 1950, caused
by failure to provide adequate protection for the
movement of a track motor-car.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On February 12, 1950, there was a rear-end collision
between a track motor-car and a freight train on the
Chicago, Rock Island and Pacific Railroad near Stuart,
Iowa, which resulted in the death of one maintenance-of-
way employee.

¹
Under authority of section 17 (2) of the Interstate Com-
merce Act the above-entitled proceeding was referred by the
Commission to Commissioner Patterson for consideration and
disposition.



- | | | |
|---|-----------------------|-----------|
| o | Short Line Jct., Iowa | 42.60 mi. |
| o | Stuart | 0.75 mi. |
| X | Point of accident | 4.15 mi. |
| o | Menlo | 36.80 mi. |
| o | Atlantic | 18.30 mi. |
| o | Avoca | 40.50 mi. |
| o | Council Bluffs, Iowa | |

Report No. 3303
 Chicago, Rock Island and Pacific Railroad
 Stuart, Iowa
 February 12, 1950

Location of Accident and Method of Operation

This accident occurred on that part of the Des Moines Division extending between Council Bluffs and Short Line Jct., Iowa, 143.6 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. The accident occurred on the main track at a point 100.25 miles east of Council Bluffs and 3,965 feet west of the station at Stuart. From the west there are, in succession, a tangent 3,100 feet in length, a 1° curve to the right 1,800 feet, a tangent 1,699 feet, and a 1°59' curve to the left 676 feet to the point of accident and 965 feet eastward. The grade for east-bound movements varies between 0.16 percent and 0.35 percent descending throughout a distance of 3,800 feet immediately west of the point of accident, and is 0.35 percent descending at that point.

Automatic signal 4010, governing east-bound movements, and automatic signals 4005 and 3987, governing west-bound movements, are located, respectively, 1.88 miles west, 1.36 miles west, and 2,347 feet east of the point of accident. These signals are of the one-arm, upper-quadrant, semaphore type. They display three aspects and are continuously lighted. The involved day aspects and corresponding indications and names are as follows:

<u>Day Aspect</u>	<u>Indication</u>	<u>Name</u>
Vertical	PROCEED	CLEAR SIGNAL
45 degrees above horizontal	PROCEED AT RESTRICTED SPEED THROUGH THE ENTIRE BLOCK	PERMISSIVE SIGNAL
Horizontal	STOP	STOP SIGNAL

The controlling circuits are arranged on the overlap principle. Signal 4005 indicates PROCEED AT RESTRICTED SPEED when an east-bound train occupies any portion of the main track between points 6.07 miles and 2.27 miles west of the signal, and indicates STOP when an east-bound train occupies any portion of the main track throughout a distance of 2.27 miles immediately west of the signal. Signal 3987 indicates PROCEED AT RESTRICTED SPEED when an east-bound train occupies

any portion of the main track between points 6.16 miles and 2.31 miles west of the signal, and indicates STOP when an east-bound train occupies any portion of the main track throughout a distance of 2.31 miles immediately west of the signal.

This carrier's rules and instructions for maintenance-of-way and structures read in part as follows:

MOTOR CAR OPERATORS OR GANG FOREMEN

115. Assigned Place on Car for Men. They must assign each man to a place on the car and see that he rides in his assigned place, locating the men so there will be at least one facing in each direction.
* * *

GENERAL MOTOR CAR RULES

126. Protection of Movements. Employees going to and coming from their work must exercise care to avoid accident. Information regarding train movements should be obtained from the dispatcher when practicable, but such information will under no circumstances relieve the person in charge of the car from fully protecting car and train movements at all times.

During * * * stormy weather and on curves * * * where trains cannot be seen sufficiently in advance to remove cars from track, special precaution must be taken to avoid accident. The operator of a car must protect himself with proper signals, when necessary. In case of doubt remove car from the track and know that it is safe to proceed before again attempting to operate car.

Employees must expect cars or trains to operate in either direction, on any track, at any time. * * *

134. Flagging Equipment. A minimum of 12 torpedoes, two red fuses and two red flags must be carried on track cars * * *.

GENERAL RULES FOR TRACK FOREMEN

266. Ascertain Location of Trains. When possible, before going to work or whenever passing an open telegraph office or available telephone, Foremen must ascertain whether all trains due have passed; also ascertain location of extra trains.

269. Insulated * * * Section Cars. None but insulated * * * section cars shall be used where there are track circuits in connection with automatic signals * * *.

The maximum authorized speed for the train involved was 50 miles per hour on tangent track and 45 miles per hour on curves. The maximum authorized speed for the track motor-car was 15 miles per hour.

Description of Accident

Track motor-car RI-752, occupied by a maintenance-of-way section foreman and two employees, departed east-bound from Menlo, 4.15 miles west of the point where the accident occurred, at 12 o'clock noon. At 12:40 p. m. it was stopped on the main track at a point 3,963 feet west of the station at Stuart, and immediately afterward was struck by Extra 5100 East.

Extra 5100 East, an east-bound freight train, consisted of engine 5100, 41 cars and a caboose. This train departed from Atlantic, the last open office, 40.95 miles west of the point of accident, at 11:26 a. m., passed signal 4010, which indicated PROCEED, and while moving at an estimated speed of 30 miles per hour it struck track motor-car RI-752.

Extra 5100 East stopped with the front end of the engine approximately 1,350 feet east of the point of accident. None of the equipment of this train was derailed or damaged. The track motor-car stopped on the south side of the track, 417 feet east of the point of accident, and was badly damaged.

A maintenance-of-way employee, who was on the track motor-car, was killed.

Sleet was falling at the time of the accident, which occurred at 12:40 p. m.

Track motor-car RI-752 was of the 4-wheel type, equipped with 4-wheel brakes, powered by a 5-8 horse-power gasoline motor, and was insulated to prevent it from shunting track circuits. It weighed 805 pounds, and had seating capacity for six persons and load capacity of 1,200 pounds. It was equipped with a windshield.

During the 30-day period preceding the day of the accident the average daily movement in the vicinity of the point of accident was 13.8 trains.

Discussion

The maintenance-of-way section force at Stuart, consisting of a foreman and two sectionmen, reported for duty at 9 a. m. on the day of the accident for the purpose of patrolling the track in their territory. The foreman obtained from the operator a line-up of train movements, which had been issued by the dispatcher at 8:05 a. m. and which read as follows:

No. 92 Avoca 7:48 a. m.
Extra 5100 East Council Bluffs 8:45 a. m.
Third 91 out Short Line 8:05 a. m.
No. 5 and No. 14 annulled.

Avoca is 60.5 miles west of Stuart. No. 92, an east-bound freight train, passed Stuart at 9:58 a. m., and the section force then departed westward on the track motor-car. Sleet was falling, and when the section force reached Menlo they found that further operation of the track motor-car was impossible because of ice on the rails. They removed the track motor-car from the track and waited until Third 91, a west-bound freight train, passed, then replaced the track motor-car on the track and departed eastward. They proceeded at a speed of about 15 miles per hour throughout a distance of approximately 2 miles. At this time the rails had again become coated with ice, and progress on the track motor-car became extremely slow and difficult. The foreman instructed each of the sectionmen to direct the flame of a lighted fusee toward the tops of the rails in order to melt the ice to provide better traction for the wheels. After a few minutes of this procedure, he instructed one of the men to drop his fusee and to take a position at the rear of the

track motor-car to watch for the approach of Extra 5100 East. The other sectionman continued to use lighted fuses, and he dropped the burning portions on the track as new ones were lighted. The foreman said that signal 4005 was visible from the track motor-car until the track motor-car reached a point about 3,700 feet east of the signal. During the time that the signal was visible it indicated PROCEED. This indicated that no east-bound train was closer than 6.07 miles from the signal. When the track motor-car reached a point about 7,160 feet east of signal 4005, the foreman obtained a view of signal 3987 and observed that it indicated STOP. At the same time he observed Extra 5100 East approaching at a distance of about 1,500 feet. He immediately stopped the track motor-car and warned the sectionmen of the approach of the train. The track motor-car was struck by the train before an attempt could be made to remove it from the track. The employce who was assigned to watch for the approach of Extra 5100 East was killed. The surviving employees said that he did not warn them of the approach of the train and that they did not hear the engine whistle sounded prior to the time they first observed the approaching train.

As Extra 5100 East was approaching the point where the accident occurred the speed was about 30 miles per hour. The enginemen and the front brakeman were maintaining a lookout ahead from their respective positions in the cab of the engine, the flagman was seated behind the engineer, and the conductor was in the caboose. The brakes of this train had been tested and had functioned properly when used en route. The engineer sounded the station-approach engine-whistle signal when the engine passed the station-whistle sign located 3,412 feet west of the point of accident, and a few seconds later he began to sound the grade-crossing engine-whistle signal for a grade crossing located 285 feet east of the point of accident. The accident occurred near the east end of a shallow cut. Because of track curvature to the left, the view of the track ahead from the right side of the engine was obstructed, and because of the cut and track curvature the view from the left side was restricted to approximately 500 feet. The fireman first observed the track motor-car when it was about 500 feet from the engine. He called a warning to the engineer, who immediately initiated an emergency brake application. The accident occurred before the speed of the train had been materially reduced. Employees on the engine said they did not observe a burning fusee between Menlo and the point of accident.

The rules of this carrier provide that an operator of a track motor-car will obtain a line-up of train movements from the train dispatcher, when possible, before going to work or whenever passing an open telegraph office or available telephone. Under any circumstances, however, the information contained in a line-up does not relieve the track motor-car operator of responsibility for collision. A line-up does not confer authority for a track motor-car to occupy the main track. Train dispatchers and train crews are not informed when a track motor-car is occupying the main track, and track motor-car operators are not informed when another track motor-car is occupying the main track. Track motor-cars are insulated and do not shunt track circuits, therefore, automatic block-signal systems do not indicate to train crews or to the operators of other track motor-cars that the track is occupied by a track motor-car. Track motor-car operators are required to provide the same degree of protection when they have a line-up as when they do not have it.

In the instant case the telegraph office at Menlo was closed and there was no wayside telephone available between Menlo and Stuart. The section foreman said that with the protection afforded by the portions of burning fuses which were dropped and with the information provided by the automatic block signals he considered that he could safely proceed without the protection of a flagman. He stopped the car immediately when he first observed signal 3987 indicating Stop, but the car was struck before it could be removed from the track. He was aware that the rules require that protection for the track motor-car be provided during stormy weather and at places where the view is obscured, but he said that in order to comply with the rules it would have been necessary for him to send one flagman in each direction. Since the force consisted of only two employees this would have left him alone with the track motor-car, which weighed 205 pounds, and, without assistance, he would have been unable to remove it from the track.

During the past six years the Commission has investigated twenty-eight collisions, including the instant case, in which track motor-cars were involved. These accidents resulted in the death of 53 persons and the injury of 86 persons, and were caused by failure to provide adequate protection for the movement of track motor-cars.

Cause

It is found that this accident was caused by failure to provide adequate protection for the movement of a track motor-car.

Recommendation

It is recommended that the Chicago, Rock Island and Pacific Railroad Company provide adequate protection for the movement of track motor-cars on its line.

Dated at Washington, D. C., this sixteenth day of March, 1950.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.