

RAILROAD ACCIDENT INVESTIGATION

REPORT NO. 4109

JUN 12 1967

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CHICAGO AND NORTH WESTERN RAILWAY COMPANY

SERGEANT BLUFF, IOWA

JANUARY 3, 1967

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

WASHINGTON

SUMMARY

DATE: January 3, 1967

RAILROAD: Chicago and North Western

LOCATION: Sergeant Bluff, Iowa

KIND OF ACCIDENT: Collision

EQUIPMENT INVOLVED: Track motorcar Freight train

TRAIN NUMBER: Extra 157 West

LOCOMOTIVE NUMBER: Diesel-electric
unit 157

CONSIST: 1 car, caboos

ESTIMATED SPEEDS: Slow 25-30 m.p.h.

OPERATION: Timetable, train
orders, automatic
block-signal system

TRACK: Single; tangent, 0.15
percent descending
grade westward

WEATHER: Foggy

TIME: 7:45 a.m., dawn

CASUALTIES: 1 killed

CAUSE: Failure to provide adequate protection for
the operation of a track motorcar

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY BOARD

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SYNOPSIS

On January 3, 1967, a collision occurred between a track motorcar and a freight train on the Chicago and North Western Railway near Sergeant Bluff, Iowa, resulting in the death of one maintenance-of-way employee.

The accident was caused by failure to provide adequate protection for the operation of a track motorcar.

LOCATION AND METHOD OF OPERATION

The accident occurred on that part of the Nebraska Division extending between Sioux City and Sergeant Bluff, Iowa, a distance of 7.9 miles. This is a single-track line over which trains operate by timetable, train orders, and an automatic block-signal system. An auxiliary track designated as the Paco spur track parallels the main track on the north. The spur-track switch is facing point for westbound movements on the main track and is 3.1 miles east of Sergeant Bluff.

The collision occurred 3.1 miles east of Sergeant Bluff and 10 feet west of the Paco spur-track switch, at the turnout of the spur track.

Track motorcar setoffs are adjacent to the main track 2,855 and 206 feet east of the Paco spur-track switch. A private road crosses the main track at grade 283 feet east of that switch.

Automatic signals 152 and 151, governing westbound and eastbound movements on the main track, respectively, are 3,896 feet east of the Paco spur-track switch.

Details concerning the main track, carrier's operating rules, carrier's rules governing the operation of track cars, track motorcar involved, damages, and other factors are set forth in the appendix.

DESCRIPTION AND DISCUSSION

At 5:58 a.m. the day of the accident, the train dispatcher issued a line-up of train movements to the operator at Sioux City. The line-up read in part as follows:

* * *

EXTRA WEST OUT OF SIOUX CITY ABOUT 7:10 AM TO
SERGEANT BLUFF AND RETURN TO SIOUX CITY

* * *

About 6:10 a.m., a track supervisor reported on duty at a section tool house in Sioux City and prepared his track motorcar for a trip westward. Approximately 20 minutes later, he telephoned the Sioux City operator and was issued the line-up. A roadmaster and a track foreman then arrived at the tool house, and they discussed the day's work with the track supervisor. During the discussion, the track supervisor informed both the roadmaster and track foreman that a westbound extra freight train was expected to leave Sioux City about 7:10 a.m. Soon afterward, at 6:50 a.m., the track supervisor left Sioux City and proceeded westward on his track motorcar to Sergeant Bluff.

Shortly before 7:00 a.m., two trackmen reported on duty at the Sioux City section tool house for service with the track foreman. Soon afterward, according to the roadmaster and one of the

trackmen, the track foreman telephoned an unidentified person and requested a line-up of train movements. They then observed the foreman copying the line-up. After concluding his telephone conversation, the foreman told both trackmen that the crew of a westbound freight train had been called to go on duty at Sioux City at 7:00 a.m., and this indicated to the trackmen that the westbound freight train would depart from Sioux City soon. The foreman also told the trackmen to fix a spike maul. When the maul was fixed, he instructed the trackmen to place a track motorcar on an auxiliary track at the section tool house and prepare to depart from Sioux City. As the trackmen placed the track motorcar on the auxiliary track, one of them asked the foreman if they were going to follow the westbound freight train from Sioux City, and the foreman replied in the negative. He then instructed this trackman to walk over to the main track and look eastward to determine whether the westbound freight train had left the train yard east of the section tool house. A few seconds later, after the trackman reported that he could see no train approaching, the track motorcar moved a short distance on the auxiliary track and entered the main track. It then proceeded westward, in reverse, toward Sergeant Bluff with the two trackmen seated at the west end, one on each side. The foreman was seated at the controls, at the east end. The trackmen said the foreman had not previously read the line-up to them, as required.

As the track motorcar proceeded westward on the main track, the range of vision of the foreman and trackmen was somewhat restricted because of patches of fog. The engine of the track motorcar began to malfunction while approaching the location of signals 152 and 151, 3,896 feet east of the Paco spur-track switch, resulting in the speed being reduced to 5 or 10 miles per hour, as estimated by a trackman. A few moments after passing signals 152 and 151, the track foreman looked back and observed the aspect of eastward signal 151 change from Clear to Approach, indicating that a westbound train was approaching from the direction of Sioux City. He called this to the attention of the trackmen. Soon afterward, apparently as the track motorcar moved in the vicinity of the setoff located 2,855 feet east of the Paco spur-track switch, the foreman and trackmen saw the aspect of eastward signal 151 change from Approach to Stop, and this indicated to them that the approaching train was rapidly overtaking their track motorcar. Both trackmen became alarmed at this time and one of them suggested to the track foreman that they should find

a place to clear the main track for the approaching train. In reply, the foreman informed the trackmen that he intended to remove the track motorcar from the main track at the Paco spur-track switch.

When the track motorcar was approximately 1,000 feet from the Paco spur-track switch, one of the trackmen looked back again and saw the headlight of the approaching train come into view at a relatively short distance. He called this to the attention of the foreman, who then directed the trackman to light a fusee. The trackman said that by the time he found a fusee, the track motorcar had passed the private road crossing and setoff located short distances east of the Paco spur-track switch, and had stopped on the main track immediately west of that switch. He said the foreman then told him to forget about the fusee and gave instructions to place the track motorcar on the rails of the spur-track turnout. The trackmen and foreman promptly lifted the track motorcar from the main track to the spur-track turnout and one of the trackman then saw that the approaching train was nearing the spur-track switch. He called a warning, and the foreman instructed the trackmen to try to push the track motorcar westward on the spur-track turnout far enough to clear the main track for the train. After the track motorcar had been pushed only a few feet westward, both trackmen saw that a collision was imminent. They called a warning, and ran away from the track structure. Immediately thereafter, at 7:45 a.m., while the foreman continued to push it, the track motorcar was struck by Extra 157 West, 10 feet west of the Paco spur-track switch.

The track foreman was killed.

Extra 157 West, consisting of road-switcher type diesel-electric unit 157, one car and a caboose, left the train yard in Sioux City at 7:25 a.m. The engineer, fireman, conductor, front brakeman, and flagman were in the locomotive control compartment. The train brakes had been tested and had functioned properly. The headlight was lighted brightly. After leaving the train yard, Extra 157 West passed the section tool house and continued westward on the main track at slow speed within the Sioux City yard limits, because of foggy weather conditions. After it passed the west yard-limit sign at Sioux City, the train increased speed while approaching signals 152 and 151. The engineer said that westward signal 152 displayed a Clear aspect, and that as the train moved in the vicinity of this signal its speed was 43 miles per hour, as indicated by the speed recorder. He said that he then reduced

power to avoid exceeding the maximum authorized speed of 45 miles per hour, and that visibility was not good at this time due to patches of fog and because it was just after daybreak. The engineer started to sound the locomotive horn as the train approached the private road crossing located 283 feet east of the Paco spur-track switch and was still sounding the horn when he first saw the track motorcar at the turnout of the spur track. He estimated that the train was about 600 feet from the track motorcar at this time, and said he immediately applied the train brakes in emergency. He then saw the two trackmen run away from the track motorcar and saw the track foreman continue to push that car. He said the collision occurred immediately afterward, when train speed had been reduced to 25 or 30 miles per hour. Statements of the other crew members on the locomotive corroborated those of the engineer.

Both the train dispatcher and the operator at Sioux City stated that they had no communication with the track foreman on the day of the accident, and that they had not transmitted a line-up to him on the day involved.

FINDINGS

The engineer of Extra 157 West was unaware of the operation of the track motorcar until he first saw it fouling the main track at the Paco spur-track turnout, at a distance of about 600 feet. He immediately applied the train brakes in emergency, but could not prevent the collision because of the insufficient braking distance for the train to stop short of the turnout and track motorcar.

Although the track foreman did not obtain a line-up from the train dispatcher or Sioux City operator on the morning of the accident, he evidently received information from other sources about the operation of Extra 157 West and knew that it was expected to depart westward from Sioux City shortly after 7:00 a.m. He apparently moved his track motorcar to the main track at Sioux City about 7:10 a.m., the same time that Extra 157 West was expected to depart, as indicated in the line-up issued by the train dispatcher to the Sioux City operator. The track motorcar then proceeded westward from Sioux City ahead of Extra 157 West, under foggy weather conditions and without protection, as required when a track motorcar is operated under such weather conditions. Had the track foreman exercised due caution under

the existing circumstances and waited for Extra 157 West to leave Sioux City before moving his track motorcar to the main track at that point, the accident would have been avoided. It also would probably have been avoided had the track foreman taken action, as prescribed by flagging rules, to insure protection for the track motorcar when he first became aware that it was being overtaken by the train, or had promptly cleared the main track for the train at one of the setoffs, or at the private road crossing, located east of the Paco spur-track turnout. Instead, he elected to continue westward to that turnout without providing any protection against the closely approaching train, and after arrival at the turnout there was insufficient time to move the track motorcar clear of the main track for Extra 157 West, resulting in the accident.

CAUSE

This accident was caused by failure to provide adequate protection for the operation of a track motorcar.

*Dated at Washington, D. C., this 2nd day
of June 1967.
By the Federal Railroad Administration,
Railroad Safety Board.*

(SEAL)

Bette E. Holt
Acting Executive Secretary

APPENDIX

Track

The main track is tangent throughout a considerable distance east and west of the collision point. In this area, the grade for westbound trains is 0.15 percent descending.

Carrier's Operating Rules

Restricted Speed. - Proceed prepared to stop short of train, obstruction, or switch not properly lined * * * but not exceeding twenty miles per hour.

11. A freight train finding a fusee burning on or near its track must stop and extinguish the fusee, and then proceed at restricted speed.

99. * * *

When a train is moving under circumstances in which it may be overtaken by another train, the flagman must take such action as may be necessary to insure full protection. By night, or by day when the view is obscured, lighted fusees must be thrown off at proper intervals

* * *

Carrier's Rules Governing Operation of Track Cars

11. Employees operating track cars on main tracks shall secure, when practicable, a line up on prescribed form covering all train movements; and shall read such line up to all riders* * * Information received concerning the movement of trains will not relieve the operator from observing the rules for the protection of track cars.

30. A track car must not be used on the main track when view is not clear on account of fog or other weather conditions unless properly protected.

40. Cars must be removed from the track or protected by flag when not in use. When they cannot be removed from the track to clear an approaching train, they must be protected as prescribed by flagging rules.

Track Motorcar

The track motorcar was of the belt-drive type. It weighed 1,070 pounds, had a seating capacity for six persons, and was provided with a windshield.

Damages

Extra 157 West stopped with the front end 581 feet west of the collision point. None of its equipment was derailed or damaged.

The track motorcar was derailed and was heavily damaged. It stopped on the north side of the track structure, 175 feet west of the collision point.

Other Factors

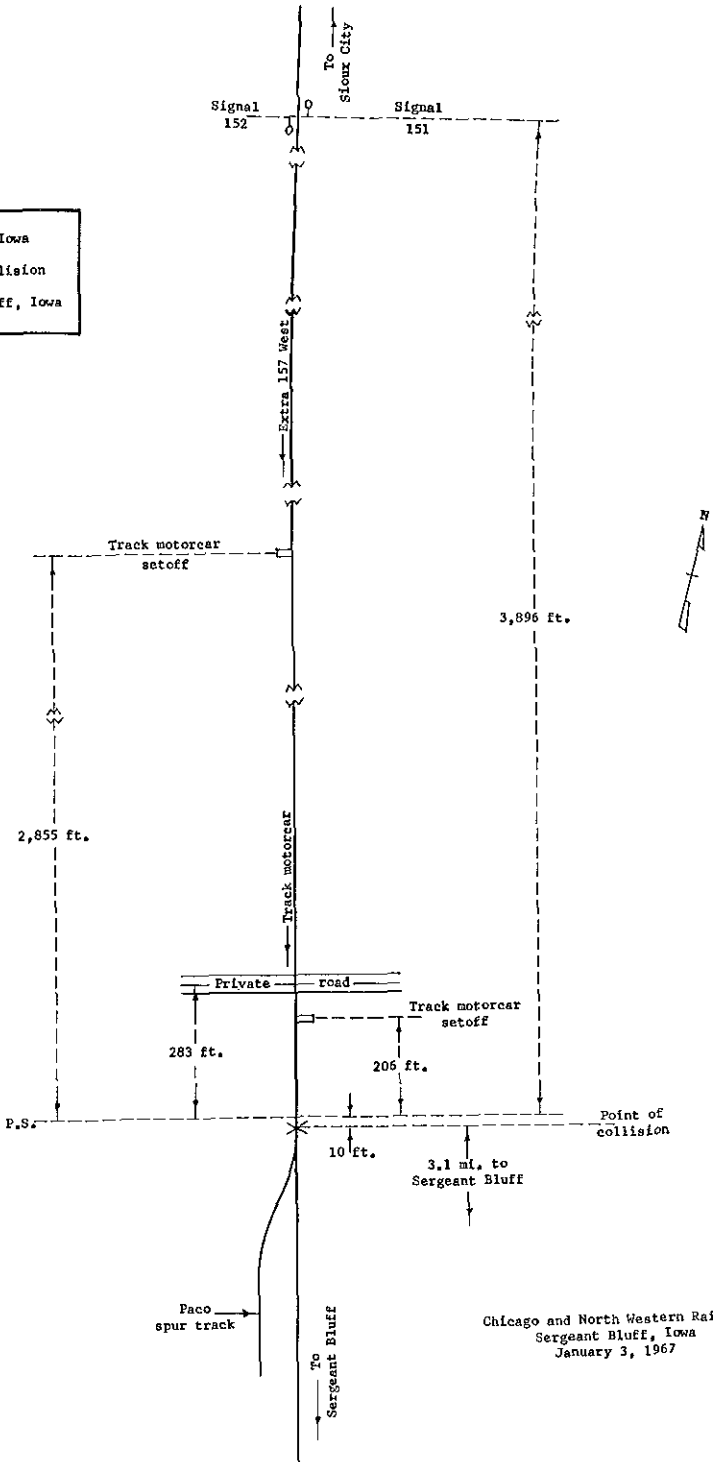
The accident occurred at 7:45 a.m., in foggy weather.

The maximum authorized speeds for track motorcars and freight trains in the accident area are 20 and 45 miles per hour, respectively.

During the last ten years, investigations have been made of 36 accidents involving track motorcars. These accidents resulted in the death of 48 persons and in the injury of 80 persons.

According to their daily time returns, the engineer, fireman, conductor, front brakeman and flagman of Extra 157 West had been on duty 45 minutes at the time of the accident. The engineer, front brakeman and flagman were previously off duty 24 hours. The fireman and conductor were previously off duty 15 hours 55 minutes and 15 hours 50 minutes, respectively.

○	Sioux City, Iowa
	4.8 mi.
×	Point of collision
	3.1 mi.
○	Sergeant Bluff, Iowa



Chicago and North Western Railway
 Sergeant Bluff, Iowa
 January 3, 1967