

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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REPORT OF THE DIRECTOR

BUREAU OF SAFETY

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ACCIDENT ON THE  
CHICAGO, ROCK ISLAND & PACIFIC RAILWAY

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WATERLOO, IOWA.

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JANUARY 25, 1938.

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INVESTIGATION NO. 2247

SUMMARY

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Inv-2247

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Railway: Chicago, Rock Island & Pacific  
Date: January 25, 1938.  
Location: Waterloo, Iowa.  
Kind of accident: Collision  
Trains involved: Freight : Switch engine  
Train number: 99 :  
Engine numbers: 2515 : 205  
Consist: 5 loads, 2 empties, : Box car coupled  
and caboose : ahead of engine  
Speed: 20-40 m.p.h. : 15-20 m.p.h.  
Track: Tangent  
Weather: Blizzard; considerable wind-blown  
snow; zero temperature  
Time: 2:38 p.m.  
Casualties: 2 killed; 2 injured  
Cause: Failure to control speed of freight  
train within yard limits, parti-  
cularly in view of existing weather  
conditions.

February 24, 1938.

To the Commission:

On January 25, 1938, there was a collision between a freight train and a yard engine on the Chicago, Rock Island & Pacific Railway at Waterloo, Iowa, which resulted in the death of two employees, and the injury of two employees. This accident was investigated in conjunction with the Iowa State Commerce Commission.

#### Location and method of operation

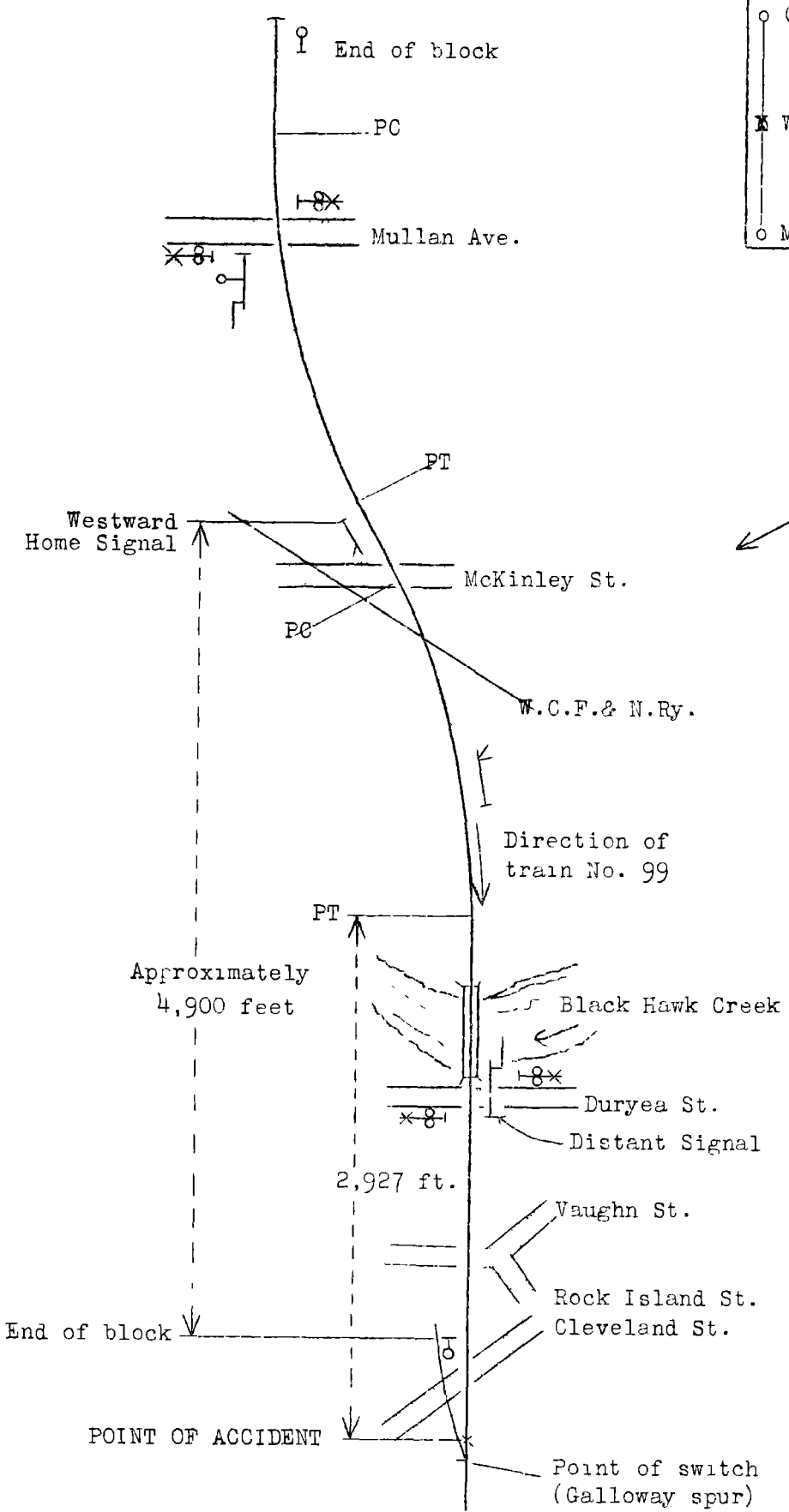
This accident occurred on Subdivision 16 of the Cedar Rapids Division, which extends between Cedar Rapids and Manly, Iowa, a distance of 127.8 miles. In the immediate vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders, no block-signal system being in use. The accident occurred on the main track within yard limits, at a point approximately 4.2 miles west of the east yard-limit board and 1,521 feet east of the west yard-limit board. Close to this point a trailing-point switch for westward movements leads from the main track to the Galloway Co. spur track which parallels the main track on the north. Approaching from the east the track is tangent for 2,927 feet to Galloway spur-track switch and for almost 2 miles beyond. The grade at the point of collision is 0.36 percent ascending for west-bound trains.

At a point approximately 4,400 feet east of the point of collision a spur track of the W.C.F. & N. Ry., crosses the tracks of the C.R.I. & P. Ry. Westward movements over this crossing on the main track of the latter-named company are controlled by a signal which also indicates track occupancy conditions for a distance of about 4,500 feet west of the crossing. This signal was not involved as the accident occurred at a point west of the west limits of the block.

Cleveland Street, Rock Island Street, and Duryea Street cross the railway at grade at points approximately 300 feet, 1,000 feet, and 2,000 feet, respectively, east of the point of accident.

Timetable rule 10 requires that speed restrictions be fully complied with, and that enginemen use good judgment and handle trains at a speed that will insure absolute safety; movements through yard limits at Waterloo must be made at restricted speed. Restricted speed is defined in the book of operating rules as "proceed prepared to stop short of a train, obstruction or anything that may require the speed of a train to be reduced".

o Cedar Rapids, Iowa
52.9 mi.
x Waterloo (P of A)
74.9 mi.
o Manly, Iowa



Inv. No. 2247  
Chicago, Rock Island & Pacific Ry.  
Waterloo, Iowa  
Jan. 25, 1938

Rule 9 of the book of operating rules provides that day signals must be displayed from sunrise to sunset, but when day signals cannot be plainly seen, night signals must be used in addition.

Rule 93 provides that yard limits will be indicated by yard-limit boards. Unless the main track is seen or known to be clear, second and third class and extra trains must move within yard limits at restricted speed. In case of collision responsibility rests with moving train. By night or in stormy weather proper lights must be displayed on all trains, cars or engines obstructing main tracks within yard limits.

At Waterloo a yard engine with a crew consisting of an engineman, a fireman, a foreman and one trainman is maintained for industrial service, and its movements are protected by yard-limit boards for a distance of 4.5 miles.

On the tangent track approaching the point of accident no structures or other obstructions interfere with vision.

The weather was changeable; blizzard conditions prevailed, with considerable wind-blown snow in the air, but at intervals the sun shone. The accident occurred about 2:38 p.m.

#### Description

Yard engine 205, headed west, with one box car coupled ahead of it, was in charge of Engine Foreman Hileman and Engineman Shanks. This engine had moved westward on the Galloway spur to the main track, and had then backed eastward about 300 feet when an approaching west-bound train was observed. Yard engine 205 was brought to a stop, its movement was reversed and it had attained a speed estimated to have been about 15 to 20 miles per hour when it was overtaken and the rear end of its tender was struck by No. 99.

No. 99, a west-bound second-class freight train, consisted of five loaded cars, two empty cars and a caboose, hauled by engine 2515, and was in charge of Conductor Haynes and Engineman Chapin. This train, en route from Cedar Rapids to Manly, passed Waterloo depot at 2:35 p.m., according to the train sheet, 10 minutes late, and on reaching a point approximately 1.6 miles farther west it struck the tender of switch engine 205 while traveling at a speed variously estimated to have been between 20 and 40 miles per hour.

All of the equipment stopped upright and together on the track; the front coupler of switch engine 205 was resting on the coupler of the box car ahead of it; the front drivers were raised off the rails about 1 foot; the rear tender truck was derailed and was loose from the tender, and the rear end of the tank was resting on the pilot beam of engine 2515. None of the cars in No. 99 was derailed or damaged. Engine 2515 stopped with its front end 871 feet west of the point of collision. The employees killed were the fireman and head brakeman of No. 99, who jumped from the cab of engine 2515 just prior to the accident; the employees injured were the engineman and fireman of switch engine 205.

#### Summary of evidence

Engine Foreman Hileman, of switch engine 205, stated that it was a blustery day with a strong northwest wind which at times filled the air with wind-blown snow. Overhead conditions were changeable; sometimes it was cloudy and at other times the sun was shining. At noon time while at the office he obtained information that No. 99 was called for on time at Cedar Rapids. His engine arrived at the Galloway plant at about 2:10 p.m. and after the switching had been performed there he handled the switch for his engine to return to the main track. His engine then started to back up eastward toward Waterloo station, at a speed of about 2 miles per hour, hauling one box car, and he was on the right rear footboard of the tender. After proceeding a distance of about 5 or 6 car lengths he saw No. 99 approaching, whereupon he immediately gave his own engineman a signal to stop and reverse direction. A hurried movement was then made westward in an endeavor to keep out of the way of No. 99. In the meantime Engine Foreman Hileman ran eastward and from the engineman's side of the track he gave stop signals with his hand. He had run about 200 or 300 feet when the engine of No. 99 passed him at a speed of about 35 miles per hour. At that time he noted that the bell was not ringing and that the window on the engineman's side of the cab of engine 2515 was closed. He did not hear any whistle signals sounded but he expressed the opinion that the strong northwest wind might have blown the sound away from him; his flag signals were not answered.

Prior to re-entering the main track at Galloway Spur he had not made note of the time, but he had looked along the track for approaching trains and although he could see a distance of about 2,200 feet he did not see No. 99. During clear weather a view to the east from the Galloway spur-track switch can be had for a distance of about 3,000 feet. The switch engine was equipped with a back-up headlight, but it did not occur to him to see that his engineman lighted it as they never used the headlight in the day time and it was not necessary to use night signals on this occasion.

Switchman Fry stated that they left the yard en route to Galloway Spur at 2:05 p.m. On the return trip he was on the fireman's side of the rear footboard of the tender and they had reached a point about 300 feet east of the spur-track switch when he observed No. 99 approaching at a distance of 600 or 700 feet. After the switch engine reversed direction he got off and also gave stop signals with his arms. He estimated that the switch engine had attained a speed of about 15 or 18 miles per hour when it was struck by No. 99, which was traveling at a speed of about 35 or 40 miles per hour. Weather conditions varied but were not such as to require the use of lighted lanterns, nor was it necessary to display night signals. At times it was cloudy and snowing, with a 60 mile-per-hour wind blowing from the northwest, and at such times vision was restricted to a distance of about 2 city blocks. It was snowing and blowing at the time of the accident and No. 99 was between 600 and 700 feet away when the reflection from the headlight of the engine of that train became visible. He did not hear any whistle signals sounded, but his cap was pulled over his ears and the wind was blowing away from him.

Engineman Shanks, of switch engine 205, stated that while they were moving from Galloway spur track to the main track the weather was clear, but after getting out on the main track the wind blew in gusts and the snow was blown across the track. When the back-up movement eastward was started the engine foreman and switchman boarded the rear footboard of the tender. He was looking eastward out of the open side window of the engine cab and after moving a very short distance he saw the headlight of No. 99, about 600 or 700 feet east of Cleveland Street. At the same time the engine foreman gave him a signal to stop and reverse direction, which he did, and moved westward as fast as he could with the intention of moving over Galloway switch and then backing in the clear to let No. 99 by. Before reaching the switch, however, he realized that No. 99 was not going to stop and he kept going ahead as fast as he could. When he had moved a distance of about 350 feet to the spur-track switch stand and was traveling at a speed of about 18 or 20 miles per hour the collision occurred; at that time the speed of No. 99 was about 30 miles per hour. After the collision he applied the straight air brake on the switch engine and both trains moved westward a considerable distance before stopping. At lunch time he had received verbal information that the crew of No. 99 was called on time, and he did not receive any later information concerning that train but he knew it had not passed. In moving out upon the main track from Galloway spur he depended upon the man at the switch to know that everything was all right. His switch engine was equipped with front and rear headlights, but neither was lighted at the time of the accident as it was bright where he was working and in his judgment the use of headlights was not required

for his purposes; neither did he think that it would have been beneficial to No. 99. At times the snow was blowing and at other times the sun was shining.

Fireman Myers, of switch engine 205, stated that he looked from his open-side cab window for highway traffic over the crossing at Cleveland Street and also for any approaching train or engine movements before going out upon the main track, but did not see or hear anything. While backing eastward he saw both the engine and headlight of No. 99 emerge from a cloud of wind-blown snow about 700 or 800 feet away. It was apparent that the engineman too had seen No. 99 for he immediately stopped the engine and then started to move in the opposite direction as fast as possible; they had moved ahead about 350 feet and had attained a speed of 15 or 18 miles per hour when the impact occurred. At that time No. 99 was running about 35 or 40 miles per hour. With respect to weather conditions and the necessity for displaying lighted headlights and other night signals, his statement agreed with that of Engineman Shanks.

Engineman Chapin, of No. 99, stated that the air brakes were tested at Cedar Rapids and worked properly. The weather was squally and there was about a 35-mile-per-hour wind blowing. He lighted the headlight before starting the trip as he thought weather conditions were such as to require its use. The storm curtains were in use and fastened in the gangway. On arrival at Waterloo he stopped at the East Yard. After departing from that point he passed the station at a speed of about 5 to 8 miles per hour and moved over the W.C.F. & N. Ry. crossing at a speed of about 10 miles per hour, after which he increased speed to about 15 miles per hour. He sounded the whistle signal for Duryea Street crossing, and again for Rock Island Street crossing. Due to smoke and steam blowing down over the windows vision was not good, and it was further affected by steam from the engine whistle blowing over the window and into the cab; however, between whistle sounding periods he thought he could see the viaduct ahead. He then sounded the whistle signal for Cleveland Street crossing, and while so doing he was sitting on his seat box leaning on one elbow, and with his head out of the open side window. He saw an obstruction a short distance ahead, and at the same time he saw a flagman. He shouted a warning to the fireman and head brakeman, reversed the engine, closed the throttle and reached for the brake valve. Just then the fireman and head brakeman crossed over to his side and, in passing behind him and springing up to jump out of the window, they pushed him out of position, with the result that he did not succeed in getting the brake valve around to full-application position. He then made a full application of the brakes. He estimated the speed of his



train at the time of collision as between 20 and 22 miles per hour. The back-up headlight of the switch engine not being lighted, lessened his chance of seeing the engine. He thoroughly understood the requirements of the yard-limit rule, and expected that any obstruction on the main line would have a light on it on account of the stormy weather which existed.

Conductor Haynes and Flagman Rollings, of No. 99, were on the caboose; the first knowledge they had of anything wrong was when the air brakes became applied, at which time the speed was 20 or 25 miles per hour. The caboose stopped several car lengths west of Galloway switch and the conductor got out. At that time the wind was blowing hard and there was some snow in the air. He thought that the engineman was proceeding through the yard limits in accordance with the rules. He did not think it necessary to have the markers lighted.

Flagman Rollings stated that while the train was in motion he could not see back from the caboose at all, due to snow being whipped up behind the caboose. In spite of the existing weather conditions he did not have his markers lighted; however, he thought that if lighted they would have been beneficial in the event there had been any following movement; also, that with the headlight of a following engine lighted it probably would have been beneficial to the flagman of any preceding train.

Road Foreman of Equipment Enyart stated that sometime after the accident he made an air-brake test on No. 99 and found all brakes operative.

#### Discussion

The evidence is to the effect that on the day of the accident variable weather conditions prevailed in the territory involved, with temperatures hovering around zero. An intermittent light snowfall accompanied by a wind of high velocity kept snow in the air and at times this condition seriously interfered with visibility. Generally the sky was cloudy but at intervals the sun shone. Just prior to the time of collision, wind-blown snow-restricted the range of vision in the immediate vicinity of the point of accident to 600 or 700 feet. So far as No. 99 was concerned these conditions were aggravated by smoke and steam blowing down over the engine cab, particularly when the engine whistle was being sounded. The engineman of No. 99 considered weather conditions bad enough to require the display of a lighted headlight and in accordance with his judgment the headlight of his engine had been burning during the entire trip. However, the conductor and flagman of No. 99, did not think that it was necessary to have the caboose markers lighted, and the entire crew of

the switch engine also thought that the use of night signals was not necessary under the existing weather conditions, and they were operating in accordance with their judgment in that respect.

When the switching at Galloway had been completed the crew of switch engine 205 stopped to clear the main track and the yard crew made observations concerning occupancy of the main track before entering upon it. Since there was neither visual nor audible evidence of the approach of a train, they headed out upon the main track and started a back-up movement eastward. After backing a short distance, however, the headlight of No. 99 was observed when that train emerged from a cloud of wind-blown snow about 600 to 800 feet distant. Although switch engine 205 immediately stopped and then made a hurried movement in the opposite direction, while the engine foreman and switchman jumped off and waved stop signals to No. 99, the accident could not be averted because of the speed of No. 99. Had this train been operated within yard limits in accordance with the requirements of rule 93, particularly in view of existing weather conditions, the accident could have been averted.

While that portion of rule 93 requiring the display of night signals on trains, cars and engines obstructing the main track within yard limits during stormy weather, was not complied with by the crew of switch engine 205, it is doubtful that compliance with these provisions would have averted the collision.

#### Conclusion

This accident was caused by failure properly to control the speed of a freight train within yard limits, particularly in view of existing weather conditions.

Respectfully submitted,

W. J. PATTERSON,

Director.