INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

ILLINOIS CENTRAL RAILROAD

AND THE

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILROAD

CHARLES CITY, IOWA

FEBRUARY 9, 1939

INVESTIGATION NO. 2329

SUMMARY

Inv-2329

Railroads:	Illinois Central	Chicago, Milwaukee, St. Paul & Pacific
Date:	February 9, 1939	
Location:	Charles City, Iowa	
Kind of accident:	Side collision	
Trains involved:	I.C. freight	C.M.St.P.& P. freight
Train numbers:	573	Second 22
Engine numbers:	1921	415
Consist:	17 cars, caboose	29 cars, caboose
Speed:	5 m.p.h.	8-10 m.p.h.
Operation:	Timetable and train orders; stop boards at railroad grade crossing.	Timetable, train orders; manual block-signal system. Stop boards at railroad grade crossing.
Track:	I.C.: Single; 7° compound curve to the right 770 feet; tangent 337 feet to crossing. Grade level at crossing.	
	C.M.St.P.& P.: Single, tangent. Grade 0.60 percent descending eastward about 1,360 feet, then 40 feet level to crossing.	
Weather:	Clear	
Time:	12:10 a.m.	
Casualties:	4 injured	
Cause:	Failure to maintain proper lookout and to operate both trains under proper control prepared to stop at railroad crossing at grade.	

March 29, 1939.

To the Commission:

On February 9, 1939, there was a side collision between a freight train of the Illinois Central Railroad, and a freight train of the Chicago, Milwaukee, St. Paul & Pacific Railroad at the intersection of their tracks at Charles City, Iowa, which resulted in the injury of four employees. This accident was investigated in conjunction with the Iowa State Commerce Commission.

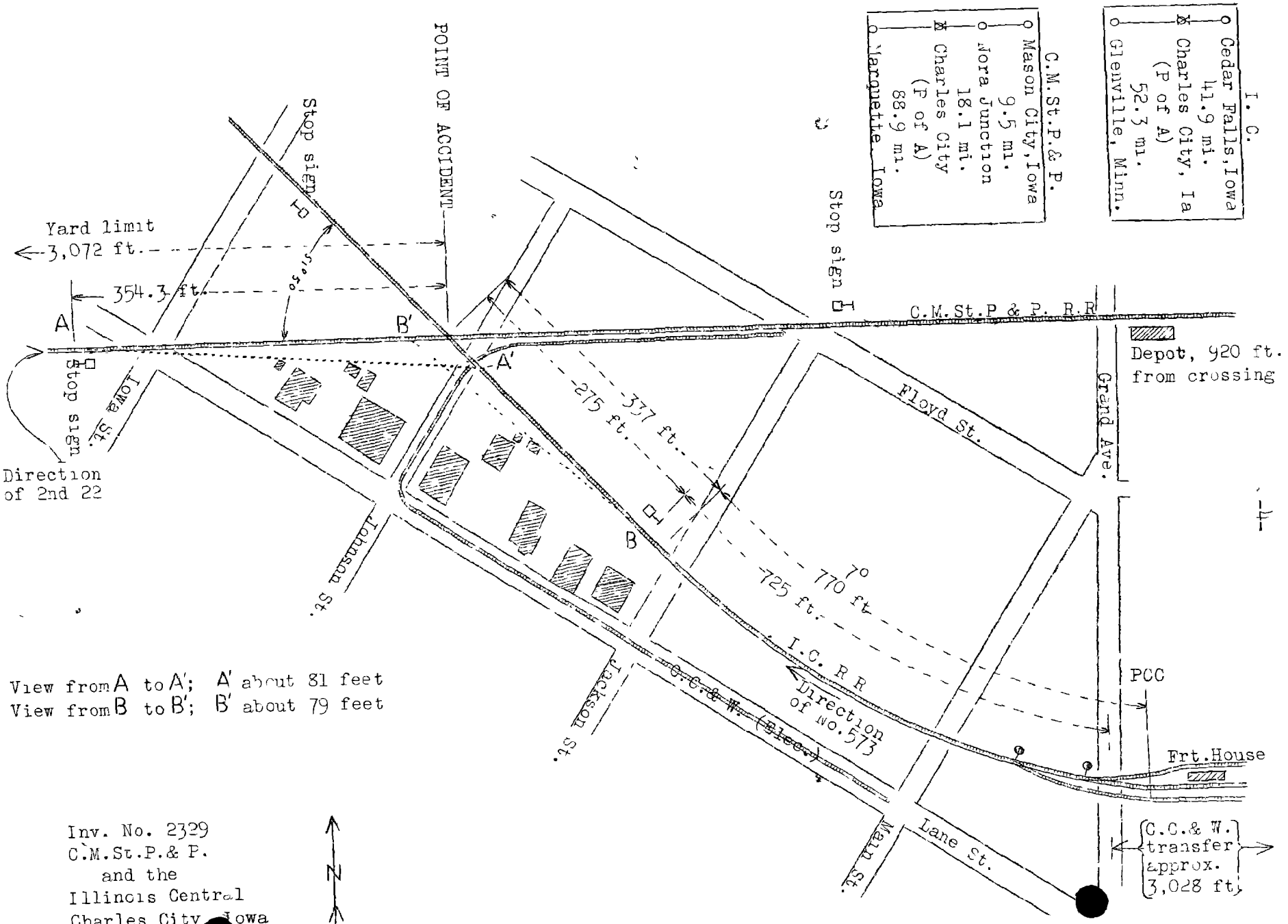
Location and Method of Operation

This accident occurred within yard limits at the intersection of the track of the Chicago, Milwaukee, St. Paul & Pacific Railroad, hereinafter referred to as the C.M.St.P.& P., and the track of the Illinois Central Railroad, hereinafter referred to as the I.C. Charles City is located on that part of the Iowa and Dakota Division of the C.M.St.P.& P. designated as the Marquette and Mason City Subdivision which extends between Marquette and Mason City, Iowa, a distance of 116.5 miles, and also on that part of the Iowa Division of the I.C. designated as the Albert Lea District which extends between Cedar Falls, Iowa, and Glenville, Minn., a distance of 94.2 miles.

At the crossing involved both roads are single-track lines; the crossing is not protected by interlocking. In this vicinity I.C. trains are operated by timetable and train orders, no block-signal system being in use; C.M.St.P.& P. trains are operated by timetable, train orders and a manual block-signal system. The C.M.St.P.& P. track extends from west to east; the I.C. track extends from southeast to northwest and crosses that of the C.M. St.P.& P. at an angle of 51°50'. Time-table directions on both roads are east and west.

Approaching from the east on the I.C. there is a compound curve to the right 770 feet in length, with a maximum curvature of 7°, then 337 feet of tangent extending to the crossing and 431 feet beyond. The grade for west-bound trains is 0.48 percent descending a distance of 700 feet and then practically level a distance of 500 feet to the crossing and beyond. Approaching from the west on the C.M.St.P.& P. the track is tangent 3,072 feet to the point of accident and a considerable distance beyond; the grade for east-bound trains is descending and the maximum is 0.60 percent approximately 1,360 feet, then level 40 feet to the crossing and beyond.

Stop boards are located on all four sides of the crossing. The I.C. stop board involved, on which the word "STOP" is painted, governs west-bound trains and is located 275 feet east of the center-line of the crossing and about 8 feet north of the



View from A to A'; A' about 81 feet
View from B to B'; B' about 79 feet

track; it also governs westward movements over the crossing of the Charles City & Western Railway, an electric line, hereinafter referred to as the C.C.& W., which crosses the I.C. track at right angles 71 feet east of the C.M.St.P.& P. crossing. About 725 feet east of the stop board Grand Avenue crosses the tracks of the railroads and the electric line.

The C.M.St.P.& P. stop board involved, on which the words "R.R.CROSSING - STOP - 400 FT." are painted, governs eastward movements and is located 354.3 feet west of the center-line of the crossing and about 20 feet south of the track. The C.M.St. P.& P. depot is located on the south side of the track about 920 feet east of the crossing.

The crossings are situated in a residential section and buildings restrict the view from the fireman's side of an I.C. engine, with its pilot opposite the I.C. stop board, to a distance of 78.5 feet west of the center-line of the C.M.St.P.& P. crossing, and the view from the engineman's side of a C.M.St.P. & P. east-bound engine standing with its pilot opposite the C.M. St.P.& P. stop board is restricted to 81 feet east of the center-line of the crossing on the I.C. track.

Rule 14 (m) of the books of operating rules of both railroads provides for one long sound of the engine whistle when approaching stations, junctions, railroad crossings at grade, * * *.

Rule 98 of the I.C. book of operating rules and a timetable rule of the C.M.St.P.& P. provide that "Trains must approach * * * railroad crossings at grade * * * prepared to stop * * * unless track is clear. Where required by law, trains must stop."

The Iowa State Law relative to unprotected grade crossings reads in part as follows:

> * * * all trains run upon any steam railroad in this state which intersects and crosses any other railroad upon the same level, shall be brought to a full stop at a distance of not less than two hundred feet nor more than eight hundred feet from the point of intersection or crossing, before such intersection or crossing is passed.

The weather was clear at the time of the accident, which occurred about 12:10 a.m.

Description

No. 573, an I.C. west-bound second-class freight train, consisted of 23 cars and a caboose, hauled by engine 1921, and was in charge of Conductor Fern and Engineman Dunlavey. This train left Waterloo, 49 miles east of Charles City, at 10 p.m., February 8, according to the train sheet, 4 hours late, passed West Tower, the last open office, 46.8 miles east of Charles City, at 10:08 p.m., 4 hours 1 minute late, arrived at Charles City at 11:45 p.m., according to the evidence, where 6 cars were set out; departed from the vicinity of Grand Avenue at 12:05 a.m., February 9, and then stopped at the stop board, after which it proceeded and was moving over the railroad crossing of the C.M. St.P. & P. at a speed of about 5 miles per hour when the first car in its train was struck on the left side directly over the lead truck by C.M.St.P. & P. train Second 22.

Second 22, an east-bound C.M.St.P. & P. freight train being operated on a first-class schedule, consisted of 29 cars and a caboose, hauled by engine 415, and was in charge of Conductor Everts and Engineman Hanson. This train left Mason City, 27.6 miles west of Charles City, at 11:25 p.m., February 8, according to the train sheet, 1 hour 45 minutes late, passed Nora Junction, the last open office, 18.1 miles west of Charles City, at 11:44 p.m., 1 hour 49 minutes late, and stopped at the stop board for the I.C. crossing about 12:08 a.m., February 9, according to the evidence, then proceeded and was moving at a speed estimated to have been between 8 and 10 miles per hour when it collided with I.C. No. 573.

The I.C. engine, which was neither derailed nor damaged, stopped about 30 feet west of the crossing; the first car stopped on its right side east of and parallel to the C.M.St.P. & P. engine and clear of the C.M.St.P. & P. track; the second car with about 4 feet of its north end sheared off was derailed but remained in upright position across the C.M.St.P. & P. track and east of the crossing. The C.M.St.P. & P. engine, badly damaged, stopped on its left side with its rear end down a 10-foot embankment north of the C.M.St.P. & P. track, its front end fouling both rails of the C.M.St.P. & P.; the front end of the tender was against the cab and the rear end fouled the I.C. track near the crossing. The first car of this train, slightly damaged and derailed, remained in upright position with the front end on the crossing.

The employees injured were the C.M.St.P. & P. traveling engineer, the engineman, the fireman and the brakeman.

Summary of Evidence

Engineman Dunlavey, of the I.C. train, stated that an air-brake test was made at Waterloo, two stops were made en route, and the brakes functioned properly; the engine was in first-class condition. The train arrived at Charles City at 11:45 p.m.; two cars were set out on the C.C.& W. transfer and four cars were placed on the house track; they departed from this point at 12:05 a.m. and stopped with pilot of engine opposite the stop board where he sounded two distinct blasts of the engine whistle for the railroad crossings. The fireman, who was at the left cab window looking out, called, "All clear"; when proceeding two short blasts of the whistle were sounded in answer to the conductor's signal. The headlight of his engine was burning brightly, the cab windows on both sides were open, and he neither saw nor heard the C.M.St.P.& P. train, nor did he receive any warning from his fireman. He was working a fair throttle and moving at a speed of 5 miles per hour when he observed the reflection from the headlight of the C.M.St.P.& P. engine on the second drivers of his engine. He then asked the fireman what he had over there and the latter replied that a train was approaching the stop board from the west; he did not apply the air brakes or take any other action because he assumed that that train had to stop at the stop board. When the first car in his train was struck by the C.M.St.P.& P. engine it caused the air brakes to become applied in emergency, and his engine stopped about 25 or 30 feet north of the crossing. He stated that the C.M.St.P.& P. engineman was brought to his engine after the accident; the only conversation other than about his injuries was that this engineman asked if he had stopped at the stop board and Engineman Dunlavey informed him that he had, and the C.M.St.P.& P. engineman said that he did not see him. The accident occurred at 12:10 a.m.; the weather was cloudy and there was a strong northeast wind. It was his understanding that the rules required him to approach the crossing expecting to find it occupied.

The statement of Fireman Fox, of the I.C. train, corroborated that of the engineman in all details; in addition he stated that he did not hear the C.M.St.P.& P. train, and because of buildings restricting his view he did not know of its approach until reaching a point over the south rail of the C.C.& W., when he first saw the reflection of a headlight, which he did not call to the attention of his engineman, although they were moving slowly and could have stopped. When the No. 1 drivers of his engine were about on the crossing involved he saw the engine headlight and he thought it was at some point west of the C.M.St.P.& P. stop board, and upon inquiry of his engineman, he advised him accordingly. He gave no additional warning of the approaching train. He heard the conversation of the two enginemen after the accident.

Brakeman Talcott, of the I.C. train, gave testimony similar to that of the engineman and the fireman. After departing from the stop board he was in the gang-way of the engine behind the engineman and then became engaged in closing the cab curtains, and neither saw nor heard the C.M.St.P. & P. train, nor did he hear the fireman inform the engineman of the approaching train. He said that about 30 or 35 minutes after the accident he talked with the C.M.St.P. & P. conductor in the presence of his conductor, in the vicinity of the wreckage, and the former remarked that he "had instructed this man and talked to him and talked to him about coming to a complete stop at this crossing, and he will not do it and there are the results," but about 45 minutes later in his presence the C.M.St.P. & P. conductor stated to the I.C. conductor that he was looking out the caboose window when the C.M.St.P. & P. train stopped at the stop board.

Conductor Fern, of the I.C. train, stated that when his train stopped at the stop board he heard two long blasts of his engine whistle from the front end of the caboose and after train was again proceeding he gave a proceed signal which was acknowledged by two short blasts of the engine whistle; it was then 12:10 a.m. He corroborated the statement of Brakeman Talcott relative to conversations had with the C.M.St.P. & P. conductor after the occurrence of the accident.

The statement of Flagman Webster, of the I.C. train, corroborated that of Conductor Fern and other members of the crew regarding the movement of the train prior to the accident.

Engineman Hanson, of the C.M.St.P. & P. train, stated that the air brakes were tested before leaving Mason City; one stop was made en route to Charles City, and a full stop was made at their stop board for the I.C. crossing at Charles City and the brakes functioned properly. After stopping at this latter point he sounded two long blasts of the engine whistle; the fireman and the brakeman who were sitting on the left seat box of the engine called, "All clear here," and he repeated, "All clear." He did not see anything out of the ordinary from his side of the engine, and after proceeding saw the train-order signal at the depot displayed, the indication of which was called by the fireman and the brakeman. He answered them accordingly and the operator from the station platform gave him a proceed signal with a lantern which he acknowledged by two short blasts of the engine whistle. The train had attained a speed of 8 or 10 miles per hour and when reaching a point between two and three car lengths from the crossing, he saw the I.C. train approaching and immediately applied the air brakes in emergency and called, "Look out"; his engine collided with the first car in the I.C. train. He stated he was looking out the open side cab-window, but neither heard nor saw anything which would indicate that the I.C. train was in the vicinity until he

saw its headlight about three car lengths from the crossing; the headlight of the I.C. engine being shielded or hooded does not reflect to the sides as does that of the C.M.St.P. & P. engine. He thought the speed of the I.C. train was much greater than that of his own train, and did not believe that that train could have stopped at its stop board and then attained the speed at which it was moving when it passed in front of his engine; he did not notice any one at the left window of the I.C. engine. He was of the opinion that had he not applied the brakes in emergency, his engine would have been struck by the I.C. engine. The traveling engineer was on the deck of his engine at the time of the accident which occurred about 12:10 a.m., at which time the weather was clear. After the I.C. crew assisted him to the I.C. engine, they informed him that they neither saw nor heard his train and that they had a light train, and indicated they were going rather fast. It was his understanding that in case two trains arrived at a crossing at grade, the crossing must be approached under control and not crossed until it was known that the other train was stopped.

The statement of Fireman Peterson, of the C.M.St.P. & P. train, corroborated that of Engineman Hanson, and in addition he stated that after his engine came to a full stop at the stop board the cab window on the left side was closed by the brakeman, but the one on the right side remained open. The train proceeded slowly after making this stop until reaching a point about 140 feet west of the crossing where the engineman gave the engine more steam and when within 40 or 50 feet of the crossing the engineman called a warning and applied the air brakes in emergency. He stated that he saw the I.C. engine moving over the crossing and observed that some one was sitting at the left cab window, which was closed, but he did not see the reflection of its headlight. At this time his train was moving at a speed of about 10 miles per hour and he estimated that of the I.C. engine to be about 20 miles per hour. Houses in this vicinity interfere with an engineman's view of an approaching I.C. train except at two points, one point being about 150 feet east of the stop board and the other farther on. He stated that although the weather was cloudy he could see some distance.

The statement of Brakeman Cahalan, of the C.M.St.P. & P. train, was similar to that of the engineman and the fireman.

Traveling Engineer Butler, of the C.M.St.P. & P., who was on the engine, corroborated the statements of the members of this crew. He observed that the engineman was leaning out the cab window, looking ahead. He stated that he did not see the reflection of the headlight of the I.C. engine.

The statement of Conductor Everts, of the C.M.St.P. & P. train, who was in the caboose, added nothing of value to the

statements made by other members of his crew except that he denied having had any conversation with the I.C. conductor or the brakeman other than having told them that he was looking out the right window of the caboose when his train stopped at the stop board.

The statement of Flagman Davis, of the C.M.St.P. & P. train, added nothing of value.

Assistant Superintendent Hansen, who was in the caboose of the C.M.St.P. & P. train, stated that after the accident occurred he made observations of the wreckage and concluded that their engine had struck the head car, between the doorway and trailing truck in the I.C. train. It was his opinion that the car was shoved out of the I.C. train by the C.M.St.P. & P. engine and this engine was struck from the south and shoved around clear of the I.C. track by the impact of the I.C. train.

The statement of Operator Gerling, who was on duty at the C.M.St.P. & P. depot, was to the effect that at 12:07 or 12:08 a.m., he went to the platform to hand an order to the crew. He saw the C.M.St.P. & P. train approaching the stop board and also heard it stop and start. Previously he had heard the I.C. engine working in the yard, and while on the platform heard that train start from a point near Grand Avenue; later he heard this engine working steam and the whistle sounded twice near the I.C. stop board; he stated that it did not stop but passed over the crossing at a speed of at least 10 or 15 miles per hour. Before he could give stop signals the collision occurred. He could not see the I.C. train from the point where he was located until its engine passed in front of the C.M.St.P. & P. engine.

Statements furnished the C.M.St.P. & P. officials by City Policeman John S. Obermier, also by Arnold Green and Harold C. Kranz, residents of Charles City, who were in this vicinity at the time of the accident, were to the effect that they did not observe the I.C. train stop at the stop board, while a statement furnished the officers of the I.C. by Mrs. Everett Monroe, also a resident, was to the effect that this train did stop at the stop board. It was also brought out during the investigation that certain members of each crew had made alleged statements to members of the crew of the other train, particularly with reference to their failure to stop at their respective stop boards, but such statements were afterwards denied by those concerned.

According to data submitted by the C.M.St.P. & P. officials, a test was made on February 18, from the cab of one of their engines spotted at various locations west of the crossing involved, which showed the visibility of a target 11.3 feet high, or the height of an I.C. engine cab, at points southeast of the crossing as follows:

Location west of crossing	View on I.C. south-east of crossing
400 feet	81 feet
350 "	85 "
300 "	92 "
250 "	113 "
200 "	149 "
150 "	244 "
100 "	281 "

Observations made by the I.C. on February 14, would indicate the above to be substantially correct. In addition, the I.C. furnished data to the effect that a west-bound engine on their road would have to reach a point about 51 feet east of the crossing before the fireman could see the stop board to the west on the C.M.St.P. & P.

Statements of traffic density furnished by each railroad relative to train movements over this crossing, covering the 30-day period prior to the date of the accident, showed that on the C.M.St.P. & P. there were 253 C.M.St.P. & P. movements, and on the I.C. there were 185 I.C. movements. The total number of movements for both roads over this crossing was 438, or a daily average of 14.6 movements.

Observations of the Commission's Inspectors

The Commission's inspectors inspected C.M.St.P. & P. engine 415 at Mason City, and the I.C. cars at Waterloo; it appeared that when the pilot of the engine struck the first car in the I.C. train it shoved the car sidewise toward the east, scraping the entire west side thereof. The second car in the I.C. train appeared to have been shoved forward by the momentum of the train hard enough to make it come in contact with the engine which was shoved to the north and east to the point where the engine rolled down the embankment.

Discussion

According to the evidence, the I.C. train stopped at its stop board, located 275 feet east of the crossing, and after two long blasts on the whistle were sounded and after the fireman had advised the engineman that all was clear on the left side, this train proceeded toward the crossing at a speed not in excess of 5 miles per hour; the leading end of the first car was struck by the C.M.St.P. & P. train. The C.M.St.P. & P. train stopped at its stop board, located 354 feet west of the crossing, and after two long blasts on the whistle were sounded it proceeded at a speed of 8 to 10 miles per hour and struck the I.C. train.

Because of buildings near the crossing, the view on the engineman's side of an east-bound C.M.St.P. & P. train and the view on the fireman's side of a west-bound I.C. train were materially restricted. From the stop board on the C.M.St.P. & P. an engineman can see a distance of only 81 feet east of the crossing on the I.C. track and must reach a point within 100 feet of the crossing before he can see as far as the I.C. stop board; also, a fireman on a west-bound train at the I.C. stop board can see only about 79 feet of the C.M.St.P. & P. track west of the crossing and the engine must reach a point about 51 feet from the crossing before the fireman can see as far as the C.M.St.P. & P. stop board. According to the evidence, the fireman of the I.C. train first saw the reflection of the headlight of the other train when his own engine was about 71 feet from the crossing but he did not call his engineman's attention to this fact although they were moving slowly and could have stopped; when his train had advanced about 20 feet farther he saw the headlight of the other train which he thought was closely approaching its stop board, and he thought it would stop at that point; however, the engine of this train already had passed the stop board. About the time the I.C. train reached the crossing the I.C. engineman saw the reflection of the headlight of the C.M.St.P. & P. engine on the second pair of drivers of his engine and called to his fireman to inquire what was to the left of the engine. The C.M.St.P. & P. engineman said he was maintaining a lookout but did not see the I.C. train until he was only two or three car lengths from the crossing; he applied the brakes in emergency but was unable to stop short of the crossing. The headlights of both engines were burning brightly and it is apparent that had a proper lookout been maintained someone on each engine would have observed the presence of the other train in time to have averted the accident.

Under the rules both trains were required to travel from their respective stop boards to the crossing prepared to stop unless track is clear and each engineman stated that he understood the rules accordingly. Both trains left their respective stop boards at about the same time, since the C.M.St.P. & P. train had a greater distance to travel but was being operated at a higher rate of speed than the I.C. train; however, there was considerable discrepancy in the estimate of the speed of the I.C. train, all members of the I.C. crew maintaining that the speed was not in excess of 5 miles per hour while some employees of the other train estimated it at 20 miles per hour. According to the evidence the C.M.St.P. & P. train was traveling at a speed of not less than 8 miles per hour at a point not more than three car lengths from the crossing. It is evident that neither train crew complied with the rule to proceed prepared to stop unless the track was clear; if either train crew had complied with this rule the accident would not have occurred.

Because of the view approaching the crossing involved being so greatly restricted, a dangerous situation exists when a train approaches the crossing at a speed in excess of that which will enable it to stop short of the crossing, and it appears that greater protection is required.

Conclusion

This accident was caused by the failure of the crews of both trains to maintain a proper lookout and to proceed under proper control prepared to stop when approaching a railroad crossing at grade.

Recommendation

It is recommended that responsible officials of both railroads involved give immediate consideration to the necessity for increased protection for train movements over the crossing involved in this accident.

Respectfully submitted,

W. J. PATTERSON,

Director.