RAILROAD ACCIDENT INVESTIGATION

REPORT NO 4097

CHICAGO AND NORTH WESTERN RAILWAY COMPANY

LOWDEN, IOWA

JUNE 20, 1966

INTERSTATE COMMERCE COMMISSION

WASHINGTON

SUMMARY

DATE	June 20, 1966	
RAILROAD	Chicago and North Western	
LOCATION	Lowden, Ia	
KIND OF ACCIDENT	Rear end collision	
TRAINS INVOLVED	Freight	Freight
TRAIN NUMBERS	254	258
LOCOMOTIVE NUMBERS	Diesel-electric units 862, 849, 1751	Diesel-electric units 858, 834, 859
CONSISTS	98 cars, caboose	91 cars, caboose
ESTIMATED SPEEDS	Slow (in reverse)	25-35 m p h
OPERATION	Timetable, train orders, automatic train-control system	
TRACK	Double, tangent, 0 05 percent descending grade eastward	
WEATHER	Clear	
TIME	9 40 p m	
CASUALTIES	2 injured	
CAUSE	Failure of the conductor and flagman of the preceding train to provide protection against following trains, and failure of the engineer to operate the following train in	

accordance with cab signal indications and a speed restriction imposed when a device of the locomotive A T C apparatus is cut out

RECOMMENDATION

That the Chicago and North Western Railway Company immediately take such action as is necessary to insure compliance with its operating rules and Commission regulations

INTERSTATE COMMERCE COMMISSION

RAILROAD SAFETY AND SERVICE BOARD

RAILROAD ACCIDENT INVESTIGATION

REPORT NO 4097

CHICAGO AND NORTH WESTERN RAILWAY COMPANY

JUNE 20, 1966

SYNOPSIS

On June 20, 1966, a collision occurred between two Chicago and North Western Railway freight trains at Lowden, Iowa Two train-service employees were injured

The accident was caused by failure of the conductor and flagman of the preceding train to provide protection against following trains, and failure of the engineer to operate the following train in accordance with cab signal indications and a speed restriction imposed when a device of locomotive A T C apparatus is cut out

LOCATION AND METHOD OF OPERATION

The accident occurred on that part of the Iowa Division extending between Council Bluffs and Clinton, Iowa, a distance of 342 8 miles In the accident area this is a double-track line over which trains moving with the current of traffic, which is to the left, operate by timetable, train orders, and an automatic train-control system Boone Yard, a crew-change point, is 144 4 miles east of Council Bluffs At Lowden, 159 miles east of Boone Yard, a crossover connects the main tracks The east switch of the crossover is trailing point for eastbound movements on the eastward main track, and is 1,856 feet east of the station

The collision occurred on the eastward main track, 2,056 feet east of the Lowden station and 200 feet east of the east crossover-switch

Entrances to automatic train-control (A T C) blocks 46 and 44, governing eastbound movements on the eastward main track, are 3 miles and 3,881 feet west of the accident point, respectively

Details concerning the tracks, automatic train-control system, carrier's operating rules, Commission's Signal Rules, Standards and Instructions (Ex Parte No 171), trains involved, damages, and other factors are set forth in the appendix

DESCRIPTION AND DISCUSSION

No 254, an eastbound second-class freight train, left Boone Yard on the day of the accident at 3 55 p m , 25 minutes late, and performed switching operations en route At Beverly, 42 7 miles west of Lowden, the conductor telephoned the train dispatcher and received instructions not to delay No 258, a following train, which was expected to pass Beverly at 8 53 p m No 254 left Beverly at 8 15 p m and stopped at Stanwood, 11 9 miles west of Lowden, where one car was set out The train, consisting of 3 diesel-electric units, 98 cars and a caboose, left Stanwood at 9 15 p m and as it proceeded on the eastward main track, the conductor radio-telephoned the engineer He instructed the engineer to stop the train east of the crossover at Lowden, and to back it through the crossover to the westward main track in order to clear the eastward main track for No 258

No 254 proceeded through A T C block 46, entered A T C block 44, and decreased speed to about 20 miles per hour as it neared the Lowden crossover It decelerated further while passing the crossover At this time, the conductor instructed the flagman to alight from the caboose at the crossover and to line the crossover switches for the intended reverse movement to the westward main track He also instructed the flagman to remain at the crossover and to restore its switches to normal position after their train backed through the crossover and cleared the eastward main track According to the conductor's and flagman's statements, they did not throw off any lighted fusees as their train moved at reduced speed in the vicinity of the Lowden crossover, or make any arrangement to provide protection against following trains when their train stopped at Lowden As the rear of No 254 passed the crossover, the flagman alighted from the caboose with a lighted white lantern and began to line the crossover switches as instructed The conductor remained on the caboose According to his statements, he placed a lighted fusee on the rear platform for protection at

rail-highway grade crossings during the intended reverse movement and radio-telephoned the engineer to stop the train Immediately thereafter, at about 9 35 p m , No 254 stopped on the eastward main track, in A T C block 44, with the rear end a short distance east of the east crossover-switch The front brakeman alighted from the locomotive at this time and lighted a fusee to provide protection against westbound trains on the westward main track when his train backed onto that track The engineer, the only other crew member on the locomotive, remained in the control compartment of the first diesel-electric unit

About two minutes after No 254 stopped at Lowden, the conductor saw that the flagman had lined the crossover switches for the intended reverse movement He then radio-telephoned the engineer and instructed him to back the train to the westward main track Immediately afterward, the conductor saw the headlight of No 258 come into view on the 1°01' curve located about three miles westward He said he promptly lighted a fusee, then alighted from the caboose and proceeded westward while giving the approaching train stop signals with the fusee The flagman first became aware of the approaching train when he saw the conductor on the caboose platform with a lighted fusee He also gave No 258 stop signals, with a lighted white lantern from a point near the east crossover-switch Soon after they first saw No 258, both the conductor and flagman realized it could not stop short of a collision They ran away from the track structure and a few seconds later, about 9:40 p m , No 258 struck the rear end of No 254 on the eastward main track, 200 feet east of the east crossover-switch The flagman of No 254 estimated that No 258 was moving about 35 miles per hour at the time of the collision The engineer and front brakeman of No 254 said their train had moved only a short distance in reverse when its brakes applied in emergency as a result of the collision

The engineer and front brakeman of No 258 were injured

No 258, an eastbound second-class freight train, left Council Bluffs on the day of the accident at 12 25 p m , 55 minutes late While it was en route to Boone Yard, the engineer radio-telephoned the train dispatcher and reported that the aspect of the locomotive A T C cab signal had changed from Green to red-over-yellow on several occasions for no apparent reason After hearing this, the dispatcher arranged for a traveling engineer to meet the train at Boone Yard and examine the locomotive A T C apparatus

No 258 arrived at Boone Yard at 6 30 p m While the incoming train and engine crew was being relieved by the outgoing crew, the traveling engineer and a mechanic-in-charge boarded the first locomotive unit and examined its A T C apparatus Their examination disclosed the token, or key, was in the lock of the cutout cock of the brake-valve actuator and the cutout cock was in cut-out position, indicating that the incoming engineer had cut out the brake-valve actuator to prevent A T C brake applications en route to Boone Yard The examination also disclosed that the motor generator set, which provides power to the A T C apparatus, was adjusted for 30 volts, or below normal, and the low voltage had apparently caused the cab signal to display red-over-yellow aspects en route to Boone Yard The mechanic-in-charge re-adjusted the voltage to 32 75 volts, the nominal standard, and the traveling engineer restored the cutout cock of the brake-valve actuator to cut-in position The traveling engineer said he then removed the token from the lock of the cutout cock and left it, with a box-car type seal, on the control stand in the locomotive control compartment According to his statements, the traveling engineer alighted from the locomotive after instructing the outgoing train engineer to seal the token in the control compartment, away from the lock of the cutout cock However, the train engineer said the traveling engineer wrapped a seal around the wire ring attached to the token and left the token in the lock of the cutout cock

No 258, consisting of 3 diesel-electric units, 91 cars and a caboose, left Boone Yard at 6 35 p m , 3 hours 35 minutes la[illegible] The locomotive moved over an A T C test section soon afterward and, according to the engineer, its A T C apparatus functioned properly, except for the over-speed warning whistle which sounded weakly The engineer stated that as the train approached Ames, 13 1 miles east of Boone Yard, he made a heavy service brake application and the aspect of the cab signal changed to red-over-yellow for no apparent reason He said the cab signal aspect changed to green soon afterward and this aspect was displayed until the locomotive passed a relay for an automatic gate at a rail-highway grade crossing located a short distance east of Ames According to the engineer, when the locomotive passed the relay, the cab signal aspect again changed to red-over-yellow and an A T C brake application occurred He said the PC switch also functioned at this time, causing loss of power to the locomotive traction motors He stated that he then moved the cutout cock of the brake-valve actuator to cut-out position and restored the PC

switch to normal position, at which time the train speed had been reduced to about 12 miles per hour The engineer said the aspect of the cab signal changed to green soon thereafter and he informed the conductor by radio-telephone of the A T C brake application According to the engineer an unidentified person radio-telephoned him immediately afterward and inquired as to whether he was experiencing trouble with the locomotive A T C apparatus He replied in the affirmative and advised that something else was wrong as he was unable to increase speed The front brakeman proceeded to the second and third diesel-electric units at this time and found the ground relays of those units had tripped, causing loss of power to the traction motors He reset the ground relays and returned to the control compartment of the first unit

The engineer stated he restored the cutout cock of the brake-valve actuator to cut-in position while the front brakeman was resetting the ground relays of the trailing units, and at this time the train was approaching a relay for an automatic warning signal at a rail-highway crossing near Nevada, 8 5 miles east of Ames He further stated that when the locomotive passed this relay, the aspect of the cab signal again changed to red-over-yellow and another A T C brake application occurred According to his statements, the engineer then moved the cutout cock of the brake-valve actuator to cut-out position and released the A T C brake application He said he did not return the cutout cock to cut-in position prior to the accident Under these circumstances, the cab signal and over-speed warning whistle of the locomotive A T C apparatus would continue to function as the train proceeded eastward, but the brake-valve actuator could not function to cause an A T C brake application The engineer stated that as the train continued eastward, the aspect displayed by the cab signal momentarily changed from green to red-over-yellow whenever the locomotive passed a relay for an automatic protective device at a rail-highway crossing

About 9 37 p m , while moving at 60 miles per hour, as estimated by the crew members, No 258 entered the 1°01' curve located approximately three miles west of the crossover at Lowden As it proceeded on the curve, it also entered A,T C, block 46 and the engineer looked back along the train to observe the cars He said the cab signal was displaying a green aspect at that time and the aspect did not change after the locomotive entered A T C block 46 He also said he did not hear the A T C over-speed warning whistle

sound The front brakeman said the cab signal aspect momentarily changed from green to red-over-yellow on several occasions en route from Boone Yard and was displaying a green aspect when he last looked at it before entering the curve He said he was unaware that the brake-valve actuator had been cut out and was maintaining a lookout ahead when the train entered A T C block 46 He did not hear the over-speed warning whistle sound or notice whether the cab signal aspect changed

After moving through the curve, No 258 proceeded on the descending grade west of the Lowden station and approached the entrance to A T C block 44, 3,881 feet west of the accident point The engineer stated that he initiated a 12- to 15-pound brake pipe reduction while moving on the descending grade and that as the train neared the Lowden station, apparently when the locomotive entered A T C block 44, the aspect displayed by the locomotive cab signal changed to red-over-yellow About the same time, according to his statements, the engineer saw a lighted fusee and promptly applied the brakes of his train in emergency He stated the fusee was being swung in the same manner prescribed for stop signals and he also saw the caboose of No 254 in the reflection of the fusee According to statements of the front brakeman of No 258, he first saw the lighted fusee displayed at the rear end of No 254 about one mile ahead and also saw the lighted fusee being displayed by the front brakeman of No 254 near the front of that train He said he promptly called a warning to the engineer but the engineer had already applied the train brakes in emergency Immediately after the brakes were applied, both the engineer and front brakeman realized their train was moving too fast to stop short of No 254, and the collision occurred shortly thereafter Nothing was developed in the investigation to indicate the engineer or front brakeman saw the lighted fusee which the conductor of No 254 said he previously had placed on the rear platform of his caboose

According to statements of the conductor and flagman of No 258, they had no knowledge as to whether the engineer experienced difficulty with the locomotive A T C apparatus en route from Boone Yard to the accident point They felt a service brake application as the train neared the Lowden station and were unaware of anything being wrong until they heard the train brakes apply in emergency immediately thereafter They estimated that after the brakes were applied, the train continued eastward about one mile before the collision According to the flagman's estimate, the

speed of the train was reduced to 25 or 30 miles per hour when the collision occurred

As No 258 left Boone Yard, the train dispatcher radio-telephoned the engineer and inquired as to whether the locomotive A T C apparatus had been repaired He said the engineer replied in the affirmative As the train neared Tama, 63 3 miles east of Boone Yard, the dispatcher called the Tama operator and requested him to ascertain whether the engineer was experiencing any difficulty with the locomotive A T C apparatus According to the dispatcher's statements, the Tama operator returned the call a few minutes later, and reported he had been informed the locomotive A T C apparatus was functioning properly with the exception that the cab signal displayed a red-over-yellow aspect for a brief period east of Ames The dispatcher said he had no further conversation with anyone concerning the A T C apparatus on the locomotive of No 258 and had made no arrangement for No 258 to proceed with the brake-valve actuator of the locomotive A T C apparatus cut out

Tests made after the accident disclosed that the portion of the wayside automatic train control system involving the circuits of A T C blocks 46 and 44 functioned properly

Examination after the accident revealed that some components of the A T C apparatus of the first diesel-electric unit of No 258 were either badly damaged or missing The A T C apparatus was tested to the extent possible after repairs and replacements were made The tests disclosed no defective conditions of the locomotive A T C apparatus which could have contributed to the accident

FINDINGS

After moving through the $1^{\circ}01'$ curve located west of Lowden, No 254 approached and passed the Lowden crossover at reduced speed and was moving under circumstances in which it could be overtaken by another train When it stopped with the rear end east of the Lowden crossover, the flagman was required by rule to go back immediately with flagman's signals a sufficient distance to insure full protection against following trains Neither the flagman nor the conductor threw off lighted fusees while their train was moving at reduced speed approaching the Lowden crossover and neither provided flagging protection against following trains, as required by rule, after their train stopped east of the

crossover Had they provided adequate protection against following trains as prescribed, the accident probably would have been avoided

When No 258 left Boone Yard, the cutout cock of the brake-valve actuator of the locomotive A T C apparatus was in cut-in position as required, but the token for the cutout cock was not sealed as prescribed by the Commission's Signal Rules, Standards and Instructions (Ex Parte No 171) Although the locomotive A T C apparatus functioned properly when repaired and tested after the accident, the engineer apparently experienced difficulty with it shortly after leaving Boone Yard Soon after the train passed Nevada, he moved the cutout cock of the brake-valve actuator to cut-out position This action cut out the pneumatic feature of the locomotive A T C apparatus and prevented automatic actuation of the brake valve if cab signal indications and audible warning signals were not complied with while moving in a restricted zone, or in case the train speed exceeded 70 miles per hour Under these circumstances, the train was authorized under the carrier's operating rules and the Commission's Signal Rules, Standards and Instructions (Ex Parte No 171) to proceed according to cab signal indications, but not exceeding 40 miles per hour In addition, the engineer was required to promptly report that the brake valve actuator of the locomotive A T C apparatus had been cut out, and be governed by the dispatcher's instructions It is apparent the engineer did not report that the brake-valve actuator had been cut out, and operated the train in excess of 40 miles per hour as it proceeded eastward from Nevada

As No 258 approached the entrance to A T C block 46 and the 1°01' curve west of Lowden, the locomotive cab signal displayed a green aspect The train speed at this time was about 60 miles per hour, 20 miles per hour in excess of the maximum speed authorized when a cab signal is displaying a green aspect with a device of the locomotive A T C apparatus cut out The train entered A T C block 46 while moving eastward on the curve At this time, the aspect of the locomotive cab signal should have changed to red-over-yellow and the over-speed warning whistle should have sounded, due to the train having entered the restricted speed zone to the rear of No 254 Under these circumstances, the train was authorized to proceed at restricted speed, not exceeding 20 miles per hour, prepared to stop short of another train The engineer apparently was mistaken when he said the cab signal continued to display a green aspect after the train entered the restricted speed

zone to the rear of No 254 Both he and the front brakeman were apparently unaware that anything was wrong until they saw the lighted fusee displayed by the conductor of No 254 a relatively short distance ahead The engineer immediately applied the brakes in emergency, but the train was moving at excessive speed and could not stop short of a collision due to insufficient braking distance Had the engineer controlled the speed of No 258 in accordance with cab signal indications and the speed restriction imposed when a device of the locomotive A T C apparatus is cut out, the accident probably would have been averted

Appropriate action had been initiated with respect to the violation of the Commission's Signal Rules, Standards and Instructions disclosed in this case

CAUSE

This accident was caused by failure of the conductor and flagman of the preceding train to provide protection against following trains, and failure of the engineer to operate the following train in accordance with cab signal indications and a speed restriction imposed when a device of the locomotive A T C apparatus is cut out

RECOMMENDATION

It is recommended that the Chicago and North Western Railway Company immediately take such action as is necessary to insure compliance with its operating rules and Commission regulations

Dated at Washington, D C this 12th *day of* December 1966
By the Commission, Railroad Safety and Service Board

(SEAL)

H NEIL GARSON
Secretary

APPENDIX

Tracks

From the west on the eastward main track there are, successively, a 1°01' curve to the right 1,596 feet long, and a tangent 2 8 miles to the collision point and a considerable distance eastward

The grade for eastbound trains averages 0 22 percent descending 3 1 miles to the collision point and is 0 05 percent descending at that point

Automatic Train Control System

The automatic train control (A T C) system is of the continuous-inductive type The control compartment of a locomotive unit equipped with A T C apparatus is provided with a two-aspect cab signal and audible indicators There are no wayside signals, except at interlockings The track is divided into blocks in the same manner as where wayside automatic signals are used

The A T C system is so arranged that when a block is occupied there is a restricted speed zone extending from the point of obstruction to a point at least stopping distance in approach of the entrance to the occupied block When a locomotive unit with A T C apparatus in operation enters a restricted speed zone, the cab signal aspect changes from green to red-over-yellow If the speed is in excess of 40 miles per hour at this time, an over-speed warning whistle immediately starts to sound and an A T C brake application occurs six seconds later, stopping the train The engineman, however, may suppress the A T C brake application by moving the handle of the automatic brake valve to service position within the six-second delay period and leaving it in that position until the acknowledging horn sounds, indicating that the speed has been reduced to less than 40 miles per hour An A T C brake application occurs within six seconds after the acknowledging horn starts to sound, unless the engineman operates the acknowledging lever within this six-second period and takes action to reduce the speed to 23 miles per hour within the following 75-second period The over-speed warning whistle stops sounding when the speed is reduced to less than 23 miles per hour, at which time the engineman may release the brake application The acknowledging horn again begins to sound at the

expiration of the 75-second period mentioned above, and sounds thereafter at 100-second intervals To avoid an A T C brake application while moving in the speed restriction zone after the speed has been reduced to less than 23 miles per hour, the speed must not be increased to more than 23 miles per hour and the acknowledging lever must be operated within six seconds after the acknowledging horn starts to sound at the expiration of each 100-second interval

An A T C brake application is affected by means of an electro-pneumatic valve, and a brake-valve actuator super-imposed upon the brake valve housing The electro-pneumatic valve controls the supply of air to the brake-valve actuator, which operates the brake valve automatically to the service position in the same manner as the engineman when he manually initiates a service application of the brakes The brake-valve actuator is provided with a cutout cock, which is required to be locked in cut-in position while the locomotive is operating in A T C territory Two tokens (keys) are provided for the lock of the cutout cock Both tokens and the lock are stamped with the same identifying numbers Each token is provided with a metal tag showing the number of the locomotive unit to which the token and the corresponding lock are assigned One token is a spare token and is sealed within a metal box having a sealed glass lid This box is located in the control compartment of the locomotive unit The other token is used to lock the cutout cock of the brake-valve actuator in cut-in position, as required when the locomotive unit is operating in A T C territory, and it cannot be removed from the lock unless the cutout cock is in cut-in position According to rules and instructions of the carrier, after the cutout cock of the brake-valve actuator is locked in cut-in position the token, which is attached to a short chain and a metal ring having a diameter of about 7 inches, is required to be removed from the lock The ring to which the token is attached is then required to be sealed to an electrical conduit inside the control compartment in such manner that the token cannot be re-inserted in the lock of the cutout cock of the brake-valve actuator without breaking the seal

When the cutout cock of the brake-valve actuator is in cutout position, the cab signal and over-speed warning whistle of the A T C apparatus on a locomotive unit moving in A T C territory function in the same manner as when this cock is in cut-in position

The entrance to A T C block 44, the block of the eastward main track in which the collision occurred, is 3,881 feet west of the collision point A T C block 46 is immediately west of A T C block 44, and its entrance is located three miles west of the collision point The track circuits of the A T C system are so arranged that when A T C block 44 is occupied, an A T C speed restriction zone is imposed on the eastward main track between the point where A T C block 44 is occupied and the entrance to A T C block 46

Carrier's Operating Rules

35 The following signals will be used by flagmen

***

Night signals - A white light
Torpedoes
Fusees

99 When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes and when necessary, in addition, displaying lighted fusees. ***

***

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.

520 Engines equipped with train control must have same Cut-In before entering train control territory

***

523 In train control territory when a train or engine is being operated under low speed restrictions, the engineman must operate at restricted speed.

529 The train control device, or any part of it must not be cut out unless it is unworkable. When through failure of the engine device it becomes necessary to cut out the train control brake applying apparatus *** the engineman must immediately notify the conductor *** After cut out is completed, the train will then proceed to first point where communication can be had with, and facts reported to, the train dispatcher, being governed as follows

(a) If the cab signals are operating properly after the brake applying apparatus, or a speed control contact is CUT OUT, train will be governed by the indication displayed, except, when the indication displayed is Green

train must not exceed 40 MPH until the train dispatcher is notified and his instructions are received

***

Commission's Signal Rules, Standards and Instructions
(Ex Parte No. 171)

RULES AND INSTRUCTIONS LOCOMOTIVES

§136 553 Seal, where required. - Seal shall be maintained on any device other than brake-pipe cut-out cock (double-heading cock), by means of which the operation of the pneumatic portion of automatic train-stop or train-control apparatus can be cut out

§136 567 Restrictions imposed when device fails or cut out en route - Where an automatic train-stop, train-control, or cab-signal device fails and/or is cut out en route, train may proceed at restricted speed or if an automatic block-signal system is in operation according to signal indication but not to exceed medium speed, to the next available point of communication where report must be made to a designated officer ***

DEFINITIONS

§136 811 Speed, medium. - A speed not exceeding 40 miles per hour.

§136 812 Speed, restricted. - A speed that will permit stopping short of another train or obstruction, but not exceeding 20 miles per hour

§136 824 System, automatic block-signal. - A block-signal system wherein the use of each block is governed by an automatic block signal, cab signal, or

Trains Involved

No 254 consisted of road-switcher type diesel-electric units 862, 849 and 1751, coupled in multiple-unit control, 98 cars and a caboose The train brakes had been tested and had functioned properly when used en route

No 258 consisted of road-switcher type diesel-electric units 858, 834 and 859, coupled in multiple-unit control, 91 cars and a caboose The train brakes had been tested and had functioned properly when used en route The headlight was lighted As the train approached the collision point, the engineer and front brakeman, the only crew members on the locomotive, were in the control compartment of the first diesel-electric unit The conductor and flagman were in caboose

Damages

The caboose and the last five cars of No 254 were derailed and stopped in various positions on or near the track structure Of this derailed equipment, the caboose and three cars were destroyed, and two cars were considerably damaged

No 258 stopped with the front end 175 feet east of the collision point All three diesel-electric units and the 1st to 17th cars, inclusive, were derailed The first diesel-electric unit overturned onto its right side and stopped south of, and parallel to, the westward main track The second and third units stopped upright on the structure of the main tracks, at right angles to the rails The derailed cars stopped in various positions on or near the track structure The locomotive units were heavily damaged Of the derailed cars, ten were destroyed, six were heavily damaged, and one was slightly damaged

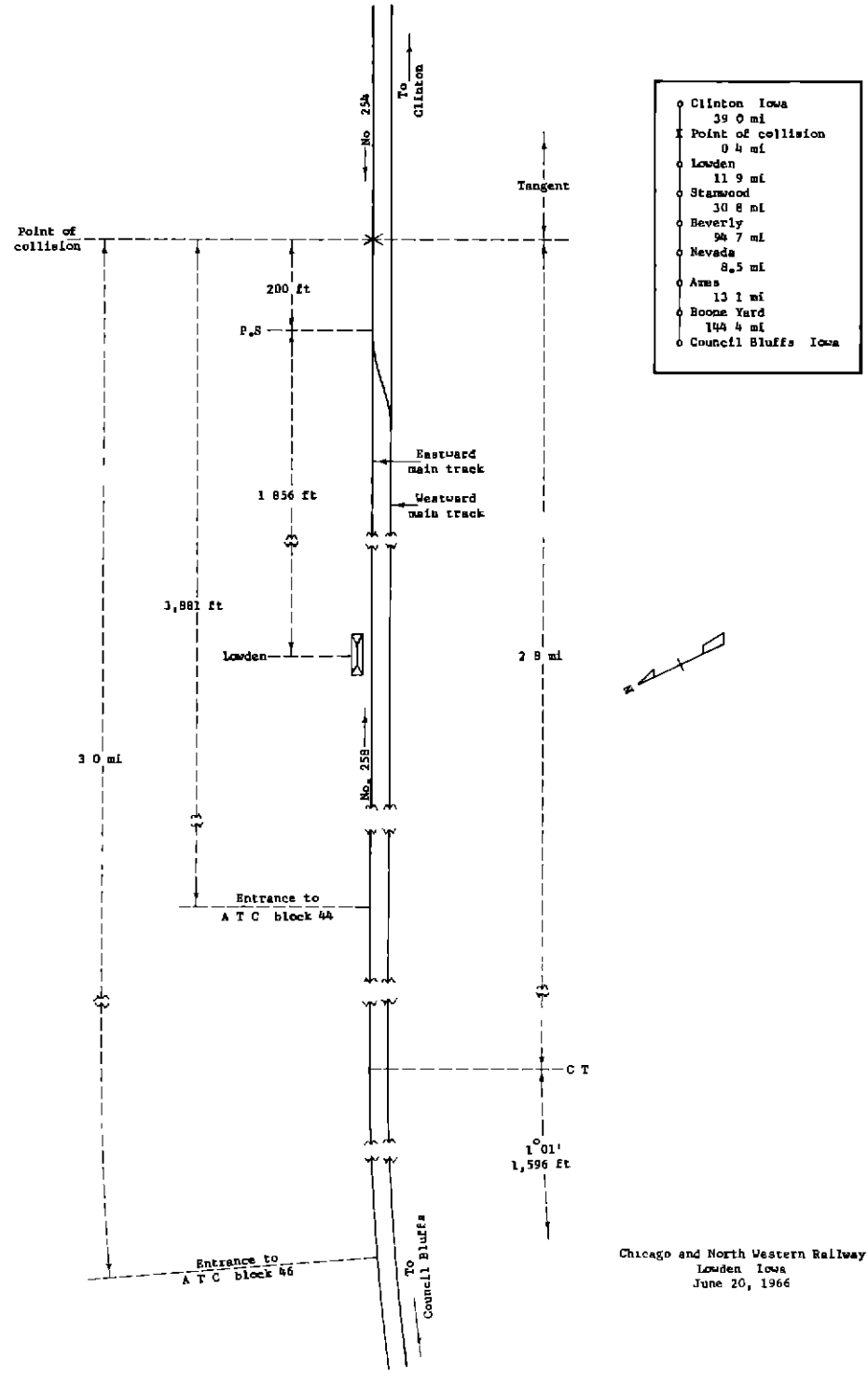
Other Factors

The accident occurred at 9 40 p m , in clear weather

In the territory involved, the maximum authorized speed for freight trains is 60 miles per hour

According to their daily time returns, the crew members of No 254 had been on duty 6 hours 40 minutes at the time of the accident after having been off duty 24 hours or more The crew members of No 258 had been on duty 4 hours 10 minutes at the time of the accident The engineer had been off duty 20 hours 40 minutes, and the other crew members had been off duty 18 hours, prior to this trip

The accident was investigated in conjunction with a representative of the Iowa Commerce Commission



Chicago and North Western Railway
Lowden Iowa
June 20, 1966

Interstate Commerce Commission
Washington, D. C. 20423

Official Business
Return After Five Days

Postage and Fees Paid
Interstate Commerce Commission