INTERSTATE COMMERCE COMMISSION

REPORT OF ACCIDENT ON THE CHICAGO, BURLINGTON & QUINCY RAILROAD AT WESTERN SPRINGS, ILL. JULY 14, 1912

BY THE CHIEF INSPECTOR OF
SAFETY APPLIANCES

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REPORT OF THE CHIEF INSPECTOR OF SAFETY APPLIANCES COVERING HIS INVESTIGATION OF A COLLISION ON THE CHICAGO, BURLINGTON & QUINCY RAILROAD AT WESTERN SPRINGS, ILL., JULY 14, 1912.

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TO THE COMMISSION

On Sunday, July 14, 1912, there was a rear-end collision on the Chicago, Burlington & Quincy Railroad at Western Springs, Ill, between eastbound trains No 2 and No 8, resulting in the death of 11 passengers and 2 employees and the injury of 26 passengers and 2 employees

After an investigation as to the nature and causes of this accident I beg to submit the following report

Train No 2, known as the Overland Express, runs from Denver, Colo, to Chicago, Ill, and at the time of the accident was in charge of Engineman Eno and Conductor Hughes, it consisted of engine No 2816, two baggage cars, two coaches, one chair car, two tourist sleepers, and three standard sleepers, all of wooden construction, one baggage car and the chair car having steel underframes The train was running on time When it arrived at Western Springs, a station 15 3 miles west of Chicago, the block signals were at danger The train was brought to a stop with its rear end about 850 feet past the block signals While standing at this place train No 2 was struck by train No 8

Train No 8 was known as the Fast Mail, running between U P Transfer, Omaha, and Chicago It carried no passengers and at the time of the accident was in charge of Engineman Brownson and Conductor Johnson This train consisted of engine No 2521 and four mail and three baggage cars of wooden construction, three mail and one baggage cars having steel underframes It was running on time and on approaching Western Springs ran past the flagman of train No 2, the block signals which were at danger, and the brakeman of No 2, colliding at 6 36 a m with the rear end of No 2

This subdivision of the Chicago, Burlington & Quincy Railroad extends from Aurora, Ill, to Chicago, Ill, a distance of 37 4 miles At the place where the accident occurred there are three main tracks running east and west, the north track is the westbound track, the south track is the eastbound track, and the middle track is used for trains running in either direction, but at the time of the accident was being used for eastbound trains Trains are operated under a manual

block-signal system, information being transmitted by means of telephones In ordinary operation no train orders are used, the right of trains to proceed being governed entirely by the block-signal indications

The first block station east of Western Springs is Congress Park, 2 3 miles distant, and the first block station west of Western Springs is West Hinsdale, 2 4 miles distant The grade between West Hinsdale and Western Springs is slightly descending eastward, but where the accident occurred the grade is practically level, the track is straight and the view unobstructed

Passenger trains are operated under a positive block Permissive blocking is allowed for freight trains following freight trains, but under no circumstances in any movement involving a passenger train At Western Springs the signals governing the movement of eastbound trains are located on a bracket pole almost opposite the block station There are two semaphore signals for each track, and they are normally kept in the horizontal or danger position The upper semaphore is red, having a square end, and the lower semaphore is green, having a fish-tail end To give a clear indication to a passenger train both semaphores are dropped to an angle of 60° To authorize permissive movements for freight trains the upper semaphore is dropped to an angle of 60°, the lower semaphore is left in the horizontal position and a caution card is issued

Each block operator keeps a train sheet showing when each train enters and clears the block Before a passenger train is allowed to enter the block it must be known to be clear and permission must be granted by the block operator in advance, as soon as a train clears the block 150 feet the block operator must report the fact to the block operator at the next block station in the rear

The rules of the company require that the block signals be kept in the stop position at all times except when a clear indication for the purpose of allowing a train to proceed is given All trains must be brought to a stop before passing a block signal in the stop position There are no advance or caution signals in connection with the block signals at Western Springs, so that enginemen of approaching trains do not know the position of the signals until they can be seen

At 6 10 a m train No 74, an eastbound freight train, was on the middle track and had work to do at Congress Park Before permitting this train to obstruct both eastbound tracks the operator at Congress Park asked the operator at Western Springs to inform him when No 4 passed West Hinsdale The operator at Western Springs misunderstood this request, and thinking she was to hold No 4 she left the block signal at danger Train No 4 approached at high speed, and as there was a dense fog it overran the signals, and the rear end of the train stopped some 250 or 300 feet east of them

Mrs Wilcox, the operator at Western Springs, stated that the flagman on this train came back to the crossing east of the tower where he could see the signals, when she was notified that No 74 was not obstructing the block and it was proper for No 4 to proceed she displayed a clear signal to the flagman He then returned to his train and No 4 proceeded Before train No 4 had cleared the block, however, train No 2 approached Western Springs at high speed, ran past the block signals which were in the danger position, and stopped with the rear end 850 feet east of the signals Mrs Wilcox stated that the flagman on this train came back to the crossing east of the tower where he could see the signals and, when she had been notified by the operator at Congress Park that No 4 had cleared the block, she displayed a clear signal for train No 2 She stated that the flagman then started back toward his train Thinking that this train had proceeded she notified the operator at West Hinsdale that train No 2 had cleared the block between West Hinsdale and Western Springs, releasing No 8 She then saw the flagman of train No 2 returning toward the tower and she again displayed a clear signal for train No 2 She then notified the dispatcher and the operator at West Hinsdale that No 2 was still at Western Springs, standing beyond the signals The operator at West Hinsdale told her to display a stop signal indication for No 8, and she did so The flagman came up to the station, the operator asked him why his train did not proceed, and he answered that he thought something was wrong on the engine She said she informed him that No 8 had left West Hinsdale, and the flagman went on to a point a little west of the tower and put down two torpedoes When No 8 passed over them the operator heard the detonations of the torpedoes, but the engineman did not answer the flagman's signal

Engineman Eno of train No 2 stated that as he approached Western Springs his train was running at a speed of about 50 miles per hour or over The block signals at Western Springs were in the stop position when his train passed them but the fog was so dense that he could not see beyond the front end of the engine, and he did not see the signals until he was almost under them He immediately applied the brakes and brought the train to a stop as quickly as he could Engineman Eno said that when the train came to a stop the fog had lifted so that the air was quite clear for about 6 feet above the ground, and looking under the fog he saw the flagman get off the train and start back, he therefore did not sound the whistle signal for the flagman to go back and protect the train

Flagman Woodworth of train No 2 stated that when the brakes were applied he went to the rear end of the train and looked out just as the rear end of the train passed the signals, and at that time the signals were at clear As soon as the train stopped, he got off

from the rear car, looked up toward the engine, but he could see nothing as the fog was heavier toward the front end of the train, and then he started back to protect his train As he neared the tower he heard the operator talking over the telephone and saying that No 2 had stopped beyond the signal The signals were clear as he approached the tower, and he said the operator told him to return to his train and she would protect it He replied that he didn't know what was the trouble with the train, and he was going back to flag No 8 He said that during this conversation he did not stop but kept walking along back, and when he reached the platform east of the Western Springs depot he heard No 8 coming and put down two torpedoes and then began to wave his flag He stated that he could see the train when it was about 700 feet distant, and the engineman was leaning out of the window, just before the train reached him, the engineman jerked his head in the cab window, and the train passed him, without answering his flag, at a speed which he estimated to be over 50 miles an hour He did not think that an emergency application of the brakes was made

Brakeman Wicke of train No 2 stated that when the train stopped he jumped off from the third car, saw the flagman starting back, and then he ran up to the engine to find out the reason for the stop When he learned that the signal was in the stop position he started to run back toward the block station, telling Conductor Hughes that he would go to the block station and find out the reason for the stop. Conductor Hughes was injured in the collision As Brakeman Wicke approached the station he saw that the signals were in the stop position, and just before reaching the station he heard No 8 coming He put down one torpedo between 75 and 100 feet east of the signal He stated that No 8 passed both Flagman Woodworth, who, he stated was at the west end of the depot, and himself without answering their signals, running at a speed of between 50 and 60 miles per hour Brakeman Wicke stated that the brakes were not applied, and that steam had not been shut off when the train passed him

Fireman Crain of train No 8 stated that when he heard the first torpedo the engineman applied the brakes in emergency and reversed the engine He did not see the flagman nor the block signals, he was thrown from the engine at the time of the collision The engineman was killed

Conductor Johnson of train No 8 stated that the brakes were applied when the train was about opposite the depot at Western Springs He thought the collision occurred seven or eight seconds later, and at that time the speed of the train had been reduced to about 30 miles per hour Flagman Eckel of train No 8 stated that the first he knew of anything unusual was when a heavy appli-

cation of the brakes was made immediately preceding the collision Railway Postal Clerk Fuller stated that the brakes were applied before the collision, he thought an emergency application was made

All the fatalities to passengers occurred in the rear sleeper of train No 2, which was completely demolished The second car from the rear of train No 2 was derailed and partly overturned These were the only cars in this train that were materially damaged The locomotive of train No 8 was derailed and stripped, and the first car in the train was derailed The other cars in the train were not damaged

This accident was caused primarily by the failure of Flagman Woodworth properly to protect the rear end of train No 2 Trains Nos 2 and 8 passed both West Hinsdale and Western Springs approximately nine minutes apart, giving the flagman ample time to go back far enough properly to protect his train He was well aware that fast mail train No 8 was following his train, and in view of the dense fog prevailing he should have taken extraordinary precaution in the performance of his duty as flagman In the hearing before the Illinois State railroad commission he said that he went back as far as he could, stating that he ran part of the distance He put down two torpedoes only about 1,200 feet from the rear of his train and was standing near by when train No 8 passed him After the accident a test was made at Western Springs for the purpose of ascertaining how far back the flagman could have gone in the time at his disposal In this test a man at a brisk walk covered a distance of 2,277 feet in six minutes It was thus conclusively proven that the flagman did not go back as far as he might have gone had he sufficiently regarded the responsibility resting upon him He also displayed exceedingly poor judgment in applying two torpedoes to the rail, thus arranging for a caution signal, instead of putting down only one torpedo, which would give a stop signal

In this connection attention is again called to the lack of definiteness in the rules of this and many other railroads covering flagging instructions to employees A simple requirement that a flagman must go back a sufficient distance leaves it entirely to the judgment of the individual employee to determine what is a sufficient distance, and an error of judgment may prove disastrous, as in this case Many railroads by their rules fix a minimum distance which the flagman is required to go back, and this is considered the safer practice Attention is called to the following testimony of Mr F C Rice, general inspector of transportation of the Chicago, Burlington & Quincy Railroad, at the investigation conducted by the Illinois Railroad and Warehouse Commission, relating to this subject

Chairman O F Berry Ordinarily there is a distance back of a train standing where, if the flagman was and would give the signal, he would protect the train every time?

F C RICE Yes, I think you could say there is such a distance

Q In other words, that distance would be in a large measure the distance for the train following to stop?—A It would still depend upon the weather, whether they would have greasy rails, whether it would be a descending grade, or whether stormy Those things all come in, and if I said 2,000 feet was a safe distance, if I were instructing the flagman I would say you better go another thousand feet because of these conditions, and that is what we suppose our men know We hope they do

Q Wouldn't a minimum distance under the most unfavorable circumstances be a very safe rule?—A Oh yes

Q When there is as much at stake as there is ordinarily?—A Yes, but we could not afford—I mean the public could not afford—to have a flagman every time he steps to the rear end of the train to go back that distance

A contributing cause of this accident was the failure of Engineman Brownson, of train No 8, properly to control the speed of his train and to obey the indications of fixed signals Had he approached Western Springs with his train under control so that he could have brought his train to a stop before passing the block signal, as required by the rules of the company, this collision would not nave occurred

The signals in use on this division are considered inadequate to safely direct and govern the movement of fast trains, especially during foggy or stormy weather There are no distant or caution signals in use at this point, and the engineman knows nothing of the condition of the block he is approaching until he sees the signals at the entrance of that block This investigation also disclosed the fact that it was not an uncommon occurrence for trains to run past signals in the stop position during foggy or stormy weather In this instance three fast trains in succession ran past signals in the stop position at Western Springs The enginemen on trains No 4 and No 2 saw the signals, but were unable to stop their trains until they had run several hundred feet past the signals The engineman on train No 8, after running over the torpedoes, apparently made every effort to stop his train, but was unable to do so in time to avert the collision If distant signals were installed, so that the engineman would have information regarding the condition of a block a sufficient distance before reaching it to permit him to bring his train to a stop before entering it, if the block were occupied the signal system would be much safer It is understood that distant signals were being installed on this division, had a distant signal been installed at Western Springs this accident might have been averted But where trains are operated at high speed when the weather is so foggy or stormy that signals can be seen a distance of only a few feet, no system of fixed signals can provide that measure of protection to which the traveling public is entitled, and for this reason positive and definite instructions should be given prohibiting the running of trains at high speed during foggy or stormy weather

Rule 319 of the Chicago, Burlington & Quincy Railroad requires that when the rear end of a train has passed 150 feet beyond the home block signal the operator must report to the next block station in the rear that the block has been cleared This rule, in its present form, may result in dangerous situations, the rule as worded requires the block to be reported clear even though a train may have improperly passed the home block signal Two trains had already run past the signals in the stop position at Western Springs, notwithstanding the fact that Operator Wilcox violated no rule, she exercised poor judgment in releasing train No 8 at West Hinsdale when she did

Flagman Woodworth had been in the employ of this company about 10 years, 4 years of which he served as a brakeman and the remainder as a flagman Prior to the trip on which this accident occurred he had been off duty at Chicago 20 hours and 21 minutes He was on duty from Chicago to Burlington 5 hours and 21 minutes, and off duty at Burlington 3 hours and 42 minutes The trip from Burlington to Chicago began at 1 33 a m , and the collision occurred 5 hours and 3 minutes later Flagman Woodworth's record was good

Engineman Brownson had been off duty 23 hours and 30 minutes before starting out on this trip He was employed as an engineer in 1888, and he was considered a competent man His record shows that since 1891 he had been reprimanded or suspended on three different occasions for failure properly to observe signals

Operator Wilcox was employed in January, 1911, as an extra operator This was her first period on duty at Western Springs for some time She had been on duty 6 hours and 36 minutes when the accident occurred

On this division of the Chicago, Burlington & Quincy Railroad the rules require that passenger trains must not exceed a speed of 60 miles per hour Engines are equipped with speed recorders which are examined regularly to ascertain whether or not trains have been run at excessive speeds But there is no limit to the speed of mail trains, and it was brought out at the investigation that train No 8 frequently ran at speeds of from 75 to 80 miles per hour In foggy or stormy weather the only additional speed restriction is that delayed trains must not make up lost time, engineman are, however, expected to make schedule time

One circumstance which greatly contributed to this collision was the high rate of speed at which these trains were run This was particularly dangerous in view of the dense fog which prevailed on the morning of the accident As the train schedules in many cases are fast for clear weather, it is apparent that in fog enginemen must run at high speed between signals, or not reduce speed as they approach signals, or fail to make schedule time, since in foggy weather

signals can be distinguished at a comparatively short distance Either of the first two conditions may be dangerous, and yet, notwithstanding the rule which requires enginemen to approach signals with their trains under control prepared to stop, the desire to maintain schedule speed and make a good showing by bringing their trains in on time will impel enginemen to take chances against the dictates of good judgment

At the investigation conducted by the Illinois Railroad and Warehouse Commission, Engineman Eno, of train No 2, testified as follows

Chairman O F BEBBY Did you make any difference in the speed on the night you speak of as when it is clear?

Engineman ENO We don't make up any time We figure on making schedule time

Q The schedule time is for a clear day, it is fast for a clear day?—A Yes, it is plenty fast

Q And too fast for a foggy morning?—A Yes, it is

Q But you are expected, as I understand the rules, to, and you undertake to make time?—A As I understand it we are expected to make time

Q If you are scheduled 50 miles an hour you are expected to run it?—A Yes

Q But if clear and everything is favorable, then you may make up?—A Yes

Q What is the limit?—A That is, we don't exceed 60 miles an hour

Q Do you frequently run that?—A Very often

There is a limit to the speed at which trains can safely be operated This limit is variable, depending upon numerous local conditions In several derailments which have been investigated it was evident that speed was above the limit of safety, in view of the condition of track and equipment In a number of collisions, also, notably those at Kinmundy, Ill, on the Illinois Central Railroad, and Corning, N Y, on the Delaware, Lackawanna & Western Railroad, speed was too high for safety While these accidents were caused by a disregard of signals or rules, there can be no question that the attempt to make up time or to maintain schedule time led to high speed which no doubt caused the employees involved to take dangerous chances, in the absence of which the accidents might have been avoided, or at least their severity greatly mitigated

In this connection attention is called to the following testimony before the Illinois Railroad and Warehouse Commission by Mr F C Rice, general inspector of transportation of the Chicago, Burlington & Quincy Railroad

Chairman O F BEBBY Isn't it a fact one of the dangers to day is the tremendous demand for speed?

Mr F C RICE Yes sir Excessive speed is the cause of about 75 to 80 per cent of the catastrophes in the last few years

Q Isn't it a fact that many of the blocking systems of precaution were practically safe at 35 to 40 miles an hour, but are wholly inadequate now?—A I had not thought of that, but it strikes me you are correct Many of the block systems through the country were put in when the speed of trains was less

The railroad people, the public, had not yet got to the craze for high speed, and it is possible some of those installations, adequate originally, are now inadequate

Q I noticed an account the other day of the time of the New York Central between Syracuse and Albany, 148 miles, if I am making my statement correctly, and according to the schedules is run in 162 minutes The same report showed 256 signals that the engineer was to see in order to know that he was safe That would be, if my mathematics are right, one about every 35 seconds I want to ask you, as a railroad man of nearly a half century, if that is not too rapid Can he see them and properly manage his engine?—A There is a good deal of doubt in my mind whether any human being can do that

Commissioner ECKHART With reference to speed, you say 80 to 85 per cent of accidents are due to excessive speed, who is responsible for this speed?—A The public, in my opinion.

Q How is the public responsible?—A Because they ride on the railroad that has the fastest train and the railroad that doesn't make that fast time is not patronized The railroads are forced to do it They don't want to do it I can not think any man wants to do it

It is believed that Mr Rice has not properly placed the responsibility for high speed It is true that the public patronizes the railroad that makes the fastest time But did the public have knowledge that any railroad was operating its trains at such high speed as to make travel upon that road unsafe its patronage would quickly be withdrawn The great majority of people who ride on railroads desire to travel quickly if it can be done with safety, but their first consideration is safety They rely upon the judgment of railroad managers, knowing that they are the only ones who have full knowledge of conditions existing upon their roads, and the assumption always is that the road operating high-speed trains will bring them safely, as well as quickly, to their journey's end It is apparent, therefore, that if trains are run at such a high rate of speed as to sacrifice safety the railroads themselves must bear the responsibility

Moreover, in view of Mr Rice's statement that "excessive speed is the cause of about 75 to 80 per cent of the catastrophes in the last few years," a double responsibility rests upon the managers of railroads If Mr Rice's statement is correct, it lies wholly within the power of the railroad managers to virtually put an end to from 75 to 80 per cent of these harrowing railway disasters, and in this one feature of railway operation alone lies an opportunity for railroad managers to introduce an entirely practicable reform which will be of vast benefit to the public and meet with commendation on every hand

Respectfully submitted

H W BELNAP,
Chief Inspector of Safety Appliances

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