

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

ACCIDENT ON THE
CINCINNATI UNION TERMINAL

CINCINNATI, OHIO

JANUARY 31, 1936

INVESTIGATION NO. 2040

SUMMARY

Railroad: Cincinnati Union Terminal

Date: January 31, 1936

Location: Cincinnati, Ohio

Kind of accident: Side collision

Trains involved: Passenger : Passenger

Train numbers: C. & O. Train No. 4 : L. & N. Train
(outbound) No. 32 (inbound)

Engine numbers: 474 : 401

Consist: 14 cars : 12 cars

Speed: Standing : 5-12 m.p.h.

Track: Curve to left outbound; interlocking signals; engineman's view materially restricted, but fireman could obtain view across inside of curve for considerable distance; accident occurred at east end of double-track; route lined for inbound L. & N. train.

Weather: Clear

Time: 10:51 p.m.

Casualties: 54 injured

Cause: Failure of engineman and fireman of C. & O. train properly to observe and obey signal indications.

April 9, 1936

To the Commission:

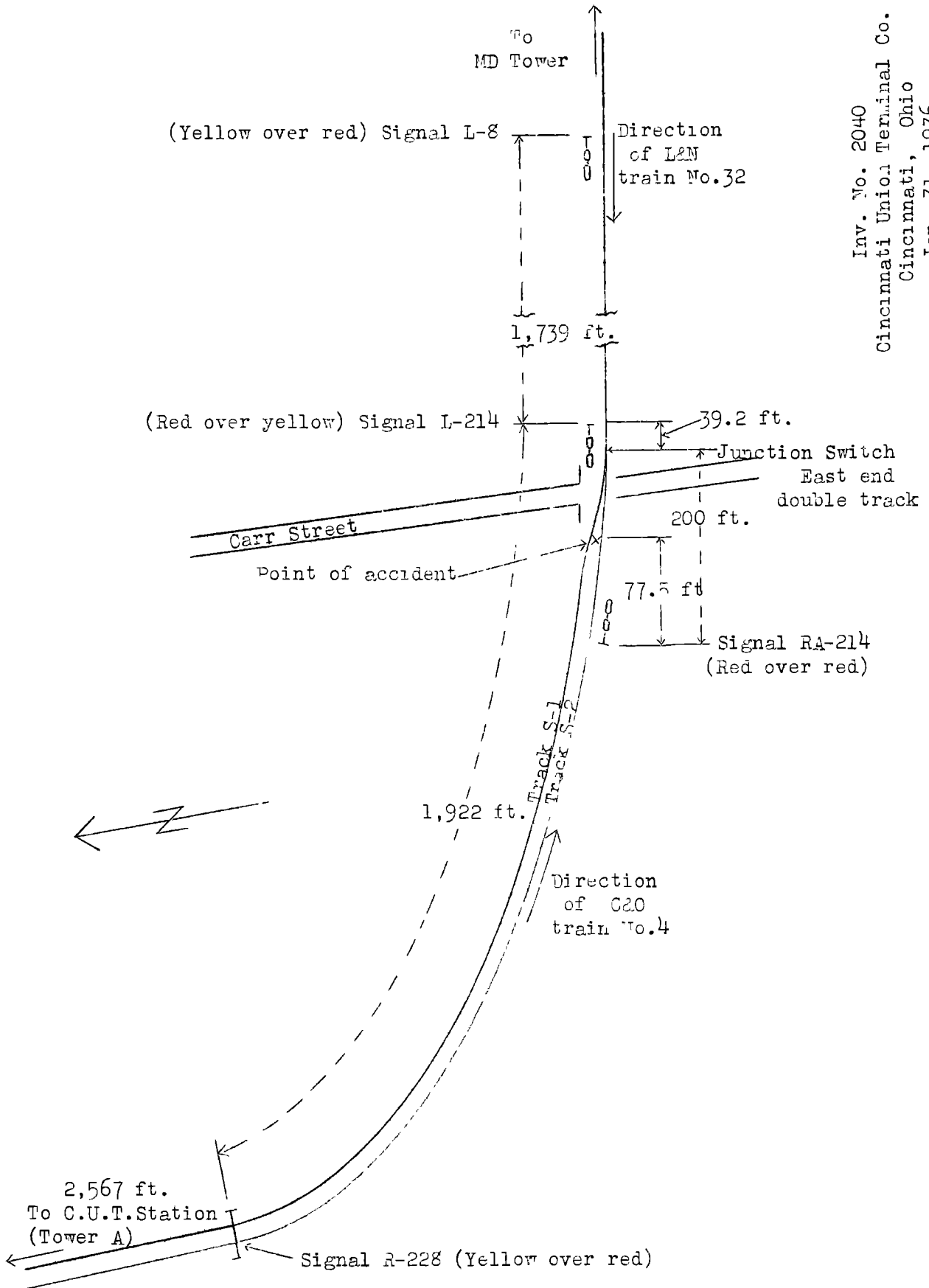
On January 31, 1936, there was a side collision between a passenger train of the Chesapeake & Ohio Railway and a passenger train of the Louisville & Nashville Railroad on the tracks of the Cincinnati Union Terminal Company at Cincinnati, Ohio, which resulted in the injury of 39 passengers, 6 postal employees, 4 Pullman employees, 1 dining car employee and 4 railroad employees.

Location and method of operation

The Cincinnati Union Terminal Co. consists of station and terminal facilities including 48.6 miles of track, of which 6.6 miles are main line, and the remaining 42 miles yard tracks and sidings; it is owned jointly by several railroads, and passenger station service is rendered to these lines. Trains of the Chesapeake & Ohio Railway, hereinafter referred to as the C. & O., and trains of the Louisville & Nashville Railroad, hereinafter referred to as the L. & N., move into and out of the terminal over tracks known as the southeast connection, which extend from the southeast end of the throat tracks of the Terminal Company to a connection with the high line of the C. & O.; leaving the throat tracks this connection is double track for about 2,600 feet, then single track to the C. & O. high line, a distance of 1,958 feet. The double tracks are designated as Track S-1 and Track S-2 and movement is permitted over each track in either direction subject to signal indications, the signals being electrically controlled by interlocking from MD Tower, located near the C. & O. high line, and Tower A, located in the station building of the Cincinnati Union Terminal Company; approach and route locking are used in the two interlocking plants. The accident occurred within the interlocking limits of Tower A, the point of accident being on a viaduct near the fouling point of the switch at east end of double track, 77.5 feet east of signal RA-214.

Approaching the end of double track from the west, there is a compound curve to the left consisting of a 30° 20' curve for a distance of 1,380 feet, then a 10° 30' curve for a distance of 368 feet, to the junction switch. Approaching from the east there is a compound curve to the right with a curvature of 40° for the first 477 feet, followed by 10° 30' for a distance of 602 feet, to the junction switch. The grade is level at the point of accident and the switch is a No. 10 turnout.

Signals R-228 and RA-214 govern outbound movements on track S-2; they are located 5,122 feet and 200 feet, respectively, west of the junction switch and are operated from Tower A. Signals L-8 and L-214, governing inbound movements from single-track to double-track, are located 1,778 feet and 39.2 feet, respectively, east of the junction switch. The signals are of the color-light,



Inv. No. 2040
 Cincinnati Union Terminal Co.
 Cincinnati, Ohio
 Jan. 31, 1936

two-unit type, continuously lighted electrically, and display red, yellow, and green, separately or in combination. Yellow-over-red indicates prepare to stop at next signal; red-over-red indicates stop; red-over-yellow indicates proceed at restricted speed. The integrity of the signal system is not involved in this accident.

Approaching from the west on track S-2 a full view of both units of signal RA-214 is restricted to 260 feet from the engineman's side of the cab; from the fireman's side of the cab a view can be had of this signal from a point 791 feet distant to a point 208 feet from the signal, then it is obscured by the front end of the engine.

The weather was clear at the time of the accident, which occurred about 10:51 p.m.

Description

Train No. 4, an outbound train of the C. & O., consisted of 3 express cars, 1 storage-mail car, 1 postal car, 1 express car, 1 combination car, 2 coaches, and 5 Pullman cars, in the order named, all of steel construction, hauled by C. & O. engine 474, and was in charge of Conductor Gaynor and Engineman Belton. This train departed from the terminal station at 10:47 p.m., according to the train sheet, 1 hour 2 minutes late, passed signal R-228, which was displaying yellow-over-red, prepare to stop at next signal, traveling at a speed estimated to have been 10 or 12 miles per hour, passed signal RA-214, which was displaying red-over-red, stop; the train overran this signal and stopped with the engine fouling track S-1 at the junction switch. Immediately thereafter the left front side of C. & O. engine 474 was struck by the left front side of L. & N. engine 401.

Train No. 32, an inbound passenger train of the L. & N., consisted of 2 express cars, 1 mail-express car, 1 express car, 1 combination car, 1 coach, 1 dining car and 5 Pullman cars, in the order named, hauled by L. & N. engine 401, and was in charge of Conductor Yaden and Engineman Bowling. The first two cars were of steel-underframe construction, and the remainder were of all-steel construction. The route was lined for this train, with the junction switch set for a movement from single-track to track S-1, and thence to the terminal station. L. & N. Train No. 32 passed signal L-8, which was displaying yellow-over-red, prepare to stop at next signal, passed signal L-214, which was displaying a red-over-yellow aspect, proceed at restricted speed, entered the turnout of the junction switch, the engine colliding with the opposing C. & O. engine while traveling at a speed estimated to have been between 5 and 12 miles per hour.

The left front sides of both engines were considerably damaged. The engine truck of L. & N. engine 401 was derailed but it remained upright; the tender was derailed and part of the frame remained coupled to the engine; the tender trucks, cistern and the other part of the frame fell to the street below, along with the first car, which was loaded with express; this car was totally destroyed. The forward truck of the second car was derailed. C. & O. engine 474 was derailed with the exception of its two main driving wheels and the tender was telescoped to some extent by the first car; none of the other equipment in the C. & O. train was derailed. One rail was overturned under the right side of engine 474. The railroad employees injured were the baggagemaster of L. & N. Train No. 32 and the conductor of C. & O. Train No. 4, as well as a general yardmaster and a carpenter of the C. & O. Ry., both of whom were deadheading on the C. & O. train.

Summary of evidence

Engineman Belton, of C. & O. Train No. 4, stated that he had been in the service of this railroad for 45 years; this run, which he had held for 12 or 15 years, was his regular assignment. The air brakes were tested before departing from the terminal, and after leaving that point he did not exceed a speed of 10 or 12 miles per hour; the headlight was burning brightly. Signal R-228 was displaying a yellow-over-red aspect and he knew he was required to operate the train prepared to stop at the next signal. Signal RA-214 is located on the outside of the curve at the end of double-track and the view of this signal, from the engineman's side of the cab is materially restricted; the fireman can see across the inside of the curve and it is customary to depend upon him to call the indication displayed by this signal. Frequently, after receiving a restrictive indication at signal R-228, as was the case in this instance, the stop indication being displayed by signal RA-214 will clear before that signal is reached. On this occasion the rail was frosty and the driving wheels slipped and the engineman used the air valve to sand the rails; also, due to wet coal, the barrel of the stoker became clogged, causing steam to blow back into the cab, and the fireman was working on the stoker, all of which contributed, to some extent, toward distracting the engineman's attention from watching the track and signals ahead. He left the operation of the stoker entirely to the fireman, but was depending upon him to call the indication of signal RA-214. Engineman Belton was looking ahead through the windshield around the outside of the curve, and did not look across the cab to see what the fireman was doing; he did not see the stop indication displayed by signal RA-214 until the front end of the engine was almost opposite the signal, at which time the speed of his train was about 10 miles per hour. He immediately applied the air brakes in emergency, but the engine ran by the signal and stopped

fouling the switch, whereupon the fireman warned him of the approaching L. & N. train; immediately following this his own engine was struck. Engineman Belton did not see the opposing train prior to the accident; he was aware of his location as he neared signal RA-214 and was looking ahead for that signal; the fireman did not call its indication, however, nor did the engineman ask him what indication was displayed, saying that he was expecting the fireman to call it at any moment as it was visible from the left side of the cab only for any material distance and had it been properly called he could have stopped before passing the signal. This was Engineman Belton's second trip with Fireman Cavins; it was the practice for his regular fireman always to call this signal indication; on the trip prior to the accident Fireman Cavins called the indication, as customary.

Fireman Cavins, of C. & O. Train No. 4, stated that he was a qualified engineman, but that he had never operated an engine over this particular piece of track and therefore was not acquainted with the view to be had from the right side of the cab. Signal R-228 was displaying a yellow-over-red indication, which he called, and the engineman repeated. Just after passing this signal, the left distributor of the stoker became clogged, on account of wet coal, and he immediately started to clear it. While doing this he had his back to the window; he saw the engineman looking ahead, and he thought there would be time to clean it out before his engine reached the next signal. He knew there was a signal located at the east end of double-track, but it did not occur to him, at any time while working on the stoker, that his engine was as close to the signal as was actually the case, and he did not realize his exact location at the time. It took longer to clean out the stoker than he figured, but as soon as the barrel was cleaned he looked out and saw signal RA-214 displaying red-over-red, indicating stop, at which time his engine was almost to the signal, traveling at a speed of about 10 or 12 miles per hour; then the signal was obscured from his view by the front end of the engine. Fireman Cavins said that he shouted "red block" and that at the same time the engineman applied the air brakes in emergency, but that he had called the signal indication too late for his engineman to get the train stopped before reaching the signal. The engine stopped fouling the junction switch, and he then saw the reflection from the headlight of the opposing train for the first time; immediately afterwards his own engine was cornered by the L. & N. engine. He had made but four trips in and out of the terminal within the past six months; on the trip prior to the accident he called the indication of this signal to the engineman but on the trip in question the trouble that developed with the stoker distracted his attention, and not wanting to be reprimanded for steam failure, or to take any chance of being dismissed as fireman in passenger service,

he immediately started working on the stoker, thinking that he would have sufficient time to clean out the barrel and then observe the indication displayed by the signal.

Conductor Gaynor was not aware of anything wrong until the air brakes were applied in emergency, at which time he estimated the speed of his train was about 10 or 12 miles per hour, following which the train stopped and then the accident occurred; he said the air brakes were tested and worked properly.

Engineman Bowling, of L. & N. Train No. 32, stated that on entering the Cincinnati Union Terminal property, Signal L-8, the first one he encountered, was displaying yellow-over-red, prepare to stop at next signal, and that signal L-214, the next signal, at the west end of single-track, was displaying red-over-yellow, proceed at restricted speed. He was sitting on his seat box looking ahead and he first saw the indication of signal L-214 when about 10 or 12 passenger car lengths from it; he continued to watch it until the signal was passed, and the indication did not change during that time. He also saw the headlight of the outbound train but could not tell whether the train was standing or moving; the headlight of his engine was also burning brightly. Engineman Bowling was not aware of anything wrong until his engine struck the opposing engine, at which time he was working a very light throttle and the speed of his train was about 10 or 12 miles per hour; he immediately applied the air brakes in emergency.

Fireman Goebel was sitting on his seat box; he said that when the engineman called the indication of signal L-214, he repeated it; however, the fireman was on the outside of the curve and did not actually see the indication displayed, nor did he at any time see the opposing train prior to the accident, at which time he estimated the speed to have been about 10 or 12 miles per hour. Conductor Yaden and Flagman Watson estimated the speed to have been between 5 and 8 miles per hour when the accident occurred.

Train Director Kortecamp, Assistant Train Director Lane, Leverman Billiter, of Tower A, and Signal Foreman Rogers gave testimony to the effect that traffic locking between Tower A and MD Tower is accomplished by electric locking of two levers, one lever being located in each tower. The route in this instance was lined for inbound L. & N. Train No. 32 to move from single-track to track S-1, and the signals and route were not changed at any time after the line-up was made, the accident being caused by outbound C. & O. Train No. 4 overrunning the stop indication displayed by signal RA-214, at the east end of double-track, and fouling the junction switch, where it was struck by the inbound train.

The traffic clearance point at the east end of double-track is approximately 50 feet east of signal RA-214, and the front end of the C. & O. engine passed this point approximately 27 feet and stopped 77.5 feet east of the signal.

Discussion

Engineman Belton and Fireman Cavins, of outbound C. & O. Train No. 4, both observed the yellow-over-red aspect displayed by signal R-228, and they were fully aware of the fact that it required their train to be operated prepared to stop at the next signal. Engineman Belton was thoroughly familiar with conditions in this territory, but Fireman Cavins had made only four trips in and out of the terminal within the past six months. Approaching signal RA-214 on an outbound train, a compound curve to the left is encountered and the view from the engineman's side of the cab is restricted until the front end of the engine is but a short distance from the signal, however, a view of this signal can be had across the inside of the curve from the fireman's side of the cab for a considerable distance. The train was operated at a low rate of speed, about 10 or 12 miles per hour. Engineman Belton said that frequently the stop indication of signal RA-214 would clear up before his engine reached it. On this occasion he sat on his seat box looking ahead through the windshield and did not look across the cab to see what the fireman was doing, although he was depending upon Fireman Cavins to call the indication of signal RA-214, and was expecting the fireman to call it at any moment; he did not ask the fireman for the indication. When the engine finally reached a point on the curve where the engineman could see the signal, it was displaying a stop indication and he immediately applied the air brakes in emergency, but his engine overran the signal and stopped fouling the junction switch, immediately following which it was struck by the engine of inbound L. & N. Train No. 32. Engineman Belton maintained that he could have stopped without incident provided the stop indication had been properly called, as was customary for his regular fireman to do.

Fireman Cavins gave as the reason for his failure to observe the indication displayed by signal RA-214 that the stoker became clogged just after passing signal R-228 and he thought he would have sufficient time to clean it before reaching signal RA-214; that it did not occur to him at any time while working on the stoker that his engine was getting so close to the signal and he did not realize his exact location at the time. He said the work

of cleaning out the stoker took longer than he figured, and when he finally looked out and called "red block" to the engineman, it was then too late for the engineman to stop before reaching the signal.

Conclusion

This accident was caused by the failure of Engineman Belton and Fireman Cavins, of outbound C. & O. Train No. 4, properly to observe and obey signal indications.

Respectfully submitted,

W. J. PATTERSON

Director.