INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN ACCIDENT AT THE INTERSECTION OF THE TRACKS OF THE CHICAGO AND EASTERN ILLINOIS RAILWAY AND THE SOUTHERN RAILWAY AT PRINCETON, IND., ON DECEMBER 24, 1933

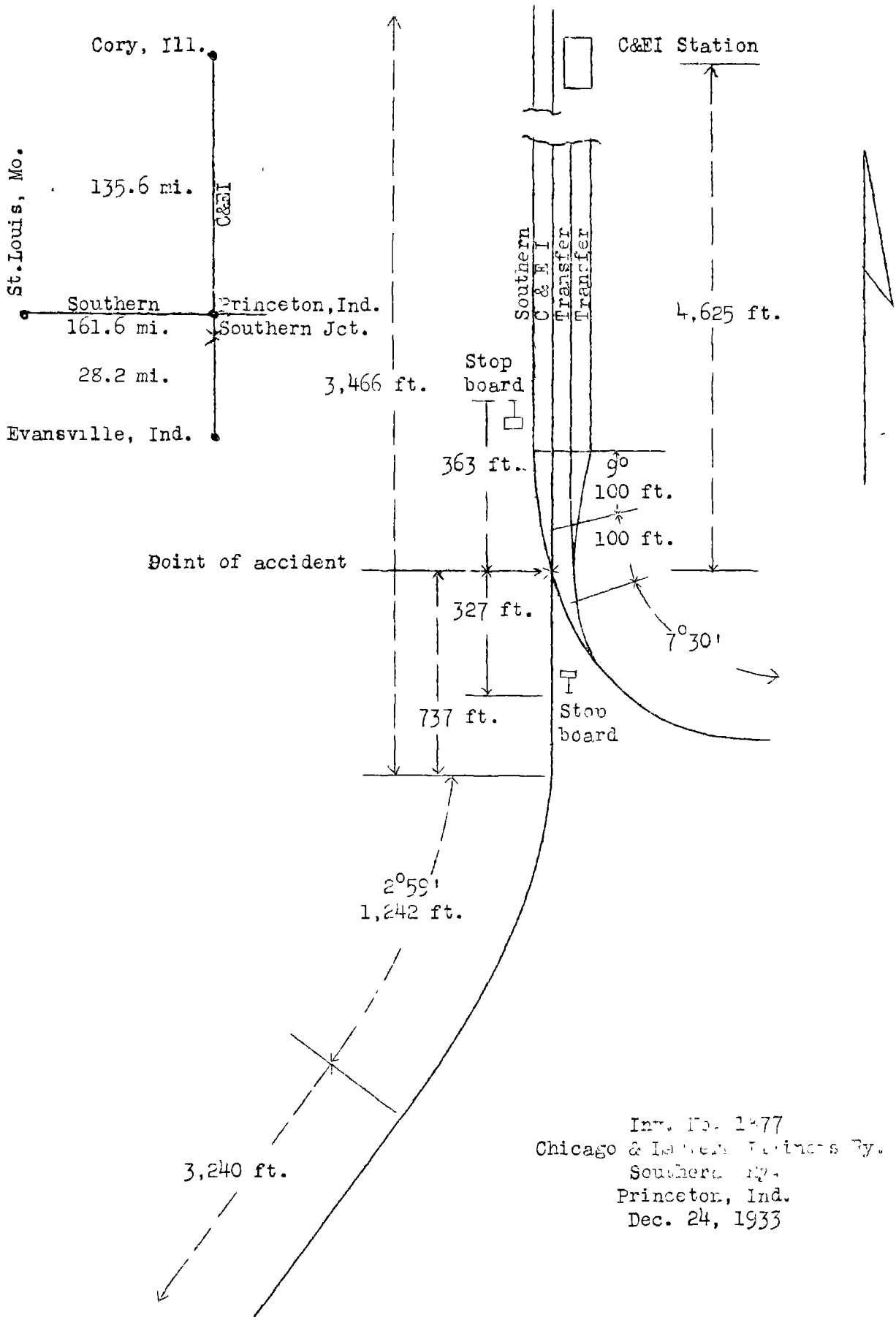
March 1, 1934.

To the Commission:

On December 24, 1933, there was a side collision between a passenger train of the Chicago and Eastern Illinois Railway and a transfer train of the Southern Railway at Princeton, Ind., which resulted in the injury of two employees. The investigation of this accident was made in conjunction with a representative of the Public Service Commission of Indiana.

Location and method of operation

This accident occurred at the intersection of the tracks of the Evansville District of the Chicago Division of the Chicago and Eastern Illinois Railway, hereinafter referred to as the C&EI, extending between L. & N. Station, near Evansville, Ind., and Cory, Ill., a distance of 183.8 miles, and that part of the St. Louis Division of the Southern Railway extending between St.Louis, Mo., and Princeton, Ind., a distance of 161.6 miles. Each railroad is a single-track line; in the vicinity of the point of accident trains on the C&EI are operated by time table, train orders, and an automatic block-signal system and trains on the Southern are operated by time table, train orders, and a manual block-signal system. Time table directions on the C&EI are north and south, and on the Southern they are east and west. In the immediate vicinity of the point of accident the C&EI track runs practically north and south by compass directions; the Southern track parallels the C&EI track on the west to a point 4,625 feet south of the C&EI station and then crosses the C&EI track at an angle of 45° at a point known on the C&EI as Southern Junction, and continues eastward. Southern Junction is located within yard limits and is 1.68 miles south of a station on the Southern Railway known as West Junction. Just north of this crossing two transfer tracks parallel the C&EI track on the east, connecting with the Southern track east of the crossing.



Inv. No. 1477
Chicago & Eastern Illinois Ry.
Southern Ry.
Princeton, Ind.
Dec. 24, 1933

Approaching the crossing from the south on the C&EI, the track is tangent for a distance of approximately 3,240 feet, followed by a 2°59' curve to the left 1,342 feet in length, and then tangent track for a distance of 3,466 feet, the crossing being located on the latter tangent at a point 737 feet from its southern end. Approaching the crossing from the west on the Southern, the track is tangent for a distance of approximately 2,609 feet, followed by a 9° curve to the left 100 feet in length, tangent track for a distance of 100 feet, on which the crossing is located, and then a 7°30' curve to the left. The grade for northbound trains on the C&EI is generally ascending to within 250 feet of the crossing, from which point for some distance it is 0.37 percent descending.

There are stop signs but no other signals at this crossing. The stop sign for north-bound C&EI trains is located on the east side of the track about 327 feet south of the crossing, while the stop sign for east-bound Southern trains is located west of the track at a point 363 feet north of the crossing. The stop signs for both railroads are similar in design; the post is 9 feet in height with an oval board approximately 4 by 2 feet bearing the word "STOP"; a lamp is located above the board and displays a red light at night.

A clear view of the crossing could be had by the fireman of a north-bound C&EI train for a distance of 1,155 feet, while the engineman's view was restricted to 850 feet, due to the curve to the left.

The weather was clear at the time of the accident, which occurred at 11:47 p.m.

Description

An east-bound Southern transfer train consisting of two cars and a caboose, hauled by engine 863 headed west, in charge of Conductor Collins and Engineman Finney, had stopped at Southern Junction to pick up three cars on the interchange track at that point. The caboose was left standing just west of the crossing while these cars were picked up; they had been coupled to the caboose and the train had started eastward over the crossing at a low rate of speed when the third car in the train was struck by north-bound C&EI train no. 10.

North-bound C&EI passenger Train No. 10 consisted of 1 combination baggage and smoking car, 1 coach, and 2 Pullman sleeping cars, hauled by engine 1006, and was in charge of Conductor Jantz and Engineman Enyart. This train departed from Evansville, 27.4

miles south of Princeton, at 11:15 p.m., according to the train sheet, 10 minutes late, passed the stop board without stopping and collided with the transfer train while traveling at a speed estimated to have been between 5 and 12 miles per hour.

The third car in the Southern train was forced from its trucks and overturned on its side on the C&EI and transfer tracks. The only other damage to Southern equipment was a broken coupler at the rear of the second car. Engine 1006 of the C&EI train stopped about 60 feet north of the crossing slightly damaged but not derailed; none of the remaining equipment in this train was derailed or damaged. The employees injured were the conductor and a switchman of the Southern train.

Summary of evidence.

Engineman Finney, of the transfer train, stated that after coupling up his train his engine was standing about one and one-half car lengths east of the crossing and he had just started moving eastward when he saw the reflection of a headlight flash by the fireman's window and as he turned around the crash occurred; he had not heard a whistle signal sounded by the C&EI train nor had he heard it approaching.

Fireman Judd, of the transfer train, stated that he saw the headlight of the C&EI train as it came around the curve at its usual speed, probably 25 or 30 miles per hour; it did not stop for the crossing but he did not realize that it was going to collide with their train until a few seconds before the accident. He could not estimate its speed at the time, but stated that it was not traveling very fast. Statements of the conductor and two switchmen of the transfer train contained no additional information of importance.

Engineman Enyart, of Train No. 10, stated that after coupling the engine to the train at Evansville about 10:48 p.m., he left the engine and did not return until 11:02 p.m. and in his absence the air brakes had been tested by the fireman; as he walked toward the engine he heard the car inspector tell the conductor that the brakes were all right. He was told the air whistle had not been working satisfactorily from the rear of the train and after he boarded the engine the whistle sounded and he applied the brakes again and heard the exhaust from the brake valve. The inspectors were on the left side of the train and he received a signal from the fireman to release and then a signal to proceed.

He had to take the slack twice before he could get the train started and then he was delayed by a signal from the fireman to stop and when he finally received the signal to proceed they were about 10 minutes late in leaving. He made a running test with his automatic brake at a speed of 12 miles per hour and was going 15 miles per hour when he applied the brakes in order to stop for a crossing shortly afterwards; this was his last stop, although he reduced speed on an ascending grade at Fort Branch, 7.6 miles from Princeton, and he said he experienced no difficulty with the brakes until he attempted to reduce the speed preparatory to stopping at the stop board at the Southern Junction crossing. His highest speed attained was 65 miles per hour and due to the high speed at which he was running in order to make up lost time, he made a 15-pound brake-pipe reduction at a point about 3,000 or 4,000 feet south of the crossing, and when he realized that he did not have the train under control he applied the air brakes in emergency and opened the sanders; on rounding the curve he saw the Southern train on the crossing and he shut off steam entirely and reversed the engine; he estimated the speed of his train at the time of the accident to have been from 5 to 8 miles per hour. A few minutes after the accident Engineman Enyart returned to his engine and applied the brakes, and on looking over the cars found that the brakes had not applied on the last two cars. He called the conductor's attention to this condition and the conductor sent an inspector over to ascertain the trouble. Examination by the inspector disclosed that the train line hose on the second car was connected to the signal line on the third car, and the signal line hose on the second car connected to the train line hose of the third car. The inspector then changed the couplings and after being properly connected a test of the brakes was again made, at which time they functioned properly, and he had no further difficulty en route to Terre Haute, a distance of 81.6 miles. Engineman Enyart further stated the general practice at Evansville has been to sound the whistle signal to set the brakes after the train line is charged; inspectors then walk over and tell him personally to release the brakes, and he also said that the inspectors have been very particular about it in the past. In the test made just before they left Evansville, the fireman gave him the signal to release, and had the release signal been given from the rear end by means of the air signal, he would not have heard it with the hose connected as found after the accident, but instead there would have been a reduction in the train line and the mistake would have been discovered.

Fireman Thompson, of Train No. 10, stated that he stayed on the engine after it was coupled to the train. The car inspector told him to cut in the steam and he then waited for a signal to apply the air. Inspector Klee finally came up to the engine and asked him what was the trouble, that he had signalled him twice, and the fireman told him the signals had failed to come through. The car inspector then said he would go back to the second car where he would give a signal; this signal was heard distinctly. Fireman Thompson applied the brakes, making a 40-pound reduction, was told by the inspector that the trouble was on the engine, and made the release in response to an air signal, but he did not know from where the release signal had been given. A few minutes later when the engineman boarded the engine an air signal was again received to test the brakes; he was busy with his fire at that time and did not know where the signal was from. He received the release signal, given by hand, and the train had gone about 10 feet when he received a hand signal to stop and he saw the car inspector running up from the rear end of the fourth car; in a few seconds the inspector gave a proceed signal as also did the conductor and the brakeman. Fireman Thompson's statements as to the handling of the train en route and the examination of the brakes after the accident, showing the hose was not properly coupled, were practically the same as those of Engineman Enyart.

Conductor Jantz, of Train No. 10, stated that when he saw they were overdue in leaving Evansville he went back to see the inspector at the rear end of the train and the inspector told him he was unable to get the air to release. The inspector then went to the engine and after coming back, the air was released and he told the conductor that the train was ready to leave. On proceeding about a car length an inspector stopped the train, due to brakes sticking on the rear car, and got under the car and opened the release valve, and Conductor Jantz said he heard the air escaping and could see that the brake shoes had left the wheels. Inspector Klee first inspected the train, but Inspector Poindexter came over to assist him when he saw they were having trouble, and it was Inspector Poindexter who opened the release valve. After the accident, on seeing that the brakes were not applied on two rear cars, he opened the valve on the back-up hose at the rear end and got some pressure but it was not very strong, and noted then that the brakes were set on the two rear cars. He then instructed Car Inspector Utterback to find the trouble and the inspector later reported to him that the train and air line were not coupled properly between the second and third cars. The statements of Flagman Donnewald brought out nothing additional of importance except that he too saw Inspector Poindexter bleed the air on the rear car when the train was stopped due to sticking brakes.

Car Inspector Utterback, of the C&EI, located at Princeton, stated that when he heard of the accident he immediately went to the scene, arriving there between 12:10 and 12:15 a.m. The conductor and engineman requested him to find the cause for the failure of the brakes to apply on the two rear cars, and he found that the train and signal lines were crossed between the second and third cars. He uncoupled them, having to use a hammer to knock one of the couplings apart, but had no difficulty in coupling them in the correct manner. A test was then made, using the air whistle cord to signal for a release, and the brakes functioned properly.

Car Inspector Klee, of the C&EI, on duty at Evansville, stated that he made the couplings between the first two cars and the two Pullman cars that made up Train No. 10 sometime between 7:30 and 8 p.m. and that he had no difficulty in making the couplings. After the engine was backed on to the train, about 10:55 p.m., he coupled the hose, went to the rear of the train,and gave a signal from the rear platform of the rear car, using the signal cord for an application of the brakes; the brakes were applied and he then started ahead looking over the cars and on reaching the engine asked the fireman to release the brakes, that being the usual practice and on returning to the rear he found the brakes released on all the cars with the exception of the rear car. He walked back to the engine to make sure that the fireman had released them, and on finding that he had done so he returned to the rear end, found the brake on the rear car still applied, and called on Inspector Poindexter to assist in examining the train. Inspector Poindexter looked over the train on the east side while he went over the west side, but nothing wrong was found. Inspector Poindexter boarded the vestibule of the first car and signaled for brakes, using the air signal, and then went to the rear of the train, found all brakes set, and called for a release from the rear platform of the rear car by means of the signal line. Inspector Klee started back toward the rear, was then informed that the train was all right and the conductor gave a signal with his lantern to proceed. Inspector Poindexter then signaled the train to stop as the brakes on the rear car were dragging, but when the train stopped the brakes were found to have released and the train then proceeded. Inspector Klee denied that the release valve was used in letting off the brakes on the rear car, saying he personally saw them release; he also denied having any conversation with the conductor, or that he told the fireman he had signaled him to apply the brakes.

Car Inspector Poindexter stated that shortly after 11 p.m. Inspector Klee asked him to assist him with Train No. 10, telling him to look at the signal valves. He started from the rear of the train, found the signal valve end partly open on the rear car, with some air escaping, and closed the valve as tightly as possible and as he passed this car he noticed the brake cylinder push rod was not out. He continued his inspection up to the engine, noting the valves and angle cocks and finding nothing wrong, then boarded the first car and pulled the signal cord for the engineman to apply the brakes, noted that the brakes were applied on his return to the rear of the train, and with the signal cord from the rear car he signaled for a release. When he got down on the ground he saw that the brakes had not released on the rear car and he again signalled for a release from the front end of the last car, after which he noted that the brakes on both trucks were released. At that time Inspector Klee had returned to the rear end and after finding that the brakes on the rear car had released Inspector Klee stated that the train was all right. After the train had traveled a distance of about three car lengths, however, Inspector Poindexter heard a noise indicating that the brakes were set and the wheels sliding on the rear car. He gave a stop signal with his lantern and the conductor got off, and wanted to know what was the matter and Inspector Poindexter said the wheels were sliding, but on examination they saw that the brakes were released, and the train then departed; he denied using the release valve. Inspector Poindexter further stated that in making his inspection of the angle cocks and signal line cocks he listened for leaks but paid no particular attention to any of the connections and the lines could have been crossed without his noticing it. In a joint statement made by Inspectors Klee and Poindexter, it appeared that Inspector Klee heard the signal sound on the engine when Inspector Poindexter signaled for the brakes to be released from the rear of the rear car; Inspector Klee was standing near the first car at that time.

On December 28, tests were made on Train No. 10 before its departure from Evansville, using the same engine and rear Pullman car, with other cars similar to those in Train No. 10 on the night of the accident. The two Pullman cars had been standing in the usual manner from 8 a.m. with the air brakes applied and the train line bled, and the brakes on the first Pullman had released after 6 p.m. but those on the rear Pullman remained applied up to the time the tests were started; the first Pullman was equipped with UC brakes, single cylinder, while the other car had LN equipment,

two cylinders. A combination car and coach were coupled to these Pullman cars sometime after 8 p.m., but without coupling the air and signal lines. At 10:42 p.m. the air and signal lines were coupled in the proper manner between engine 1006 and the first car, the angle cocks at the rear end of the second car being closed and the signal valve closed, permitting charging up in the proper manner of both of these cars. The signal and train lines were then crossed between the second and third cars and air pressures were built up for 10 minutes, after which an attempt was made to communicate by air signal with the engine from the rear end of the last car. Four blasts on the air signal were repeated three times; the exhaust from the signal valve was heavy and clearly audible to those at the rear of the train, but the signal whistle on the engine did not sound. Without any change being made a signal was then given from the front end of the second car, and it was found that only three faint blasts were received on the engine; a second signal was given from the rear of the first car and this signal was received but it was not as clear as it should have been. The engineman then operated the brake valve but the brakes applied on only the first two and last cars.

The air and signal connections between the second and third cars were then disconnected and recoupled in the proper manner and immediately the brakes released on the last car. The train line was then fully charged, the angle cocks and signal valves closed on the front end of the third car and rear of the second, and the air and signal lines again crossed with each other. Immediately thereafter the brakes on the last two cars applied due to the air pressure of the 90-pound train line in the Pullmans equalizing with the 40-pound signal line on the coaches and engine; there was no operation of the brakes on the first two cars.

Conclusions

This accident was caused by an error by Car Inspector Klee in coupling air hose, resulting in the brake system of Train No. 10 not being in proper operating condition, and by the failure of Car Inspector Klee and other car inspectors at Evansville to discover this defective condition of the brakes before Train No. 10 departed from that terminal.

There is considerable conflict in the statements of the two car inspectors who tested the brakes, and the crew of Train No. 10, as to the manner in which the brakes were tested before leaving Evansville. The weight of evidence, however, indicates that the brakes were not functioning properly on leaving

Evansville, and it is very clear that their failure properly to apply and release was due to the fact that the air line on the second car was connected to the signal line on the third car and vice versa, this condition being discovered by Inspector Utterback, located at Princeton, on looking over the train a short time after the accident when it was found that there was no braking power on the two rear cars. Tests made several days after the occurrence of the accident disclosed that with the signal and air lines crossed between the second and third cars, the communicating signal could not be heard in the engine cab when sounded from the rear of the train, but when sounded from the first car it was heard, although not very clearly, and that the brakes applied only on the first two and last cars.

According to the statements of Inspector Klee, the brakes on the rear car did not release when the first test was made on the night of the accident and for that reason he called on Inspector Poindexter to help him but the statements of Inspector Poindexter indicated that he was told to look at the signal valves. Furthermore, after the brakes had been tested twice and the train had started, one of the inspectors stopped the train because the brakes were sticking on the rear car; the inspectors stated that the brakes then released of their own accord, but the conductor and brakeman said that Inspector Poindexter bled the air from the car. Irrespective of the conflict in the statements, the record is sufficiently clear to indicate that the air-brake system was not functioning properly and that this fact was known to the inspectors, and under such circumstances there is no excuse for their action in allowing the train to depart without first ascertaining the reason for the difficulty and then making the proper connections in order to have the brakes on this train in proper operative condition. Car Inspector Klee coupled the cars together and also was in charge of the inspection and test prior to the departure of Train No. 10, and he is primarily at fault.

Engineman Enyart had made a running test at 12 miles per hour followed by a stop made from a low rate of speed, as well as reducing speed at another point to about 20 miles per hour on an ascending grade. He did not notice any trouble at these times and consequently he was unaware of the fact that he did not have adequate braking power until he attempted to reduce speed from the high rate at which his train was running when it approached the crossing on which the accident occurred.

Respectfully submitted,
W. J. PATTERSON
Director.