

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
CHICAGO & NORTH WESTERN RAILWAY AT CHICAGO, ILL.,
ON JANUARY 26, 1929.

April 29, 1929.

To the Commission:

On January 26, 1929, there was a side collision between a passenger train and a back-up movement of empty passenger equipment on the Chicago & North Western Railway at Chicago, Ill., resulting in the death of 1 passenger and the injury of 51 passengers. This accident was investigated in conjunction with representatives of the Illinois Commerce Commission

Location and method of operation

This accident occurred on Sub-Division 1 of the Galena Division, which extends between Chicago and West Chicago, Ill., a distance of 50 miles. In the immediate vicinity of the point of accident there are 6 lead tracks, these lead tracks extend northward by compass direction from the train shed of the Chicago passenger terminal at Madison Street and are numbered from west to east accordingly. In the time-table, however, outbound train movements are classed as westward and for the purpose of this report time-table directions are hereafter used. There are 16 tracks under the train shed and these tracks connect with the lead tracks; all of these tracks are elevated. The accident occurred within interlocking limits, at a point about 840 feet west of the west end of the train shed, at the east switch of a crossover which connects lead tracks 1 and 3. Approaching from the east the lead tracks are tangent to and for a distance of 190 feet west of the point of accident, then they curve toward the left. The grade for westbound trains is 0.63 per cent ascending at the point of accident.

Lake Street tower is located on the north side of the tracks and between the west end of the train shed and the point of accident. Signal bridge "A", which spans the lead tracks, is located about 95 feet west of the point of accident. Interlocking signal 13, the signal involved,

is of the three-position, semaphore type, it is located on the bridge and governs eastbound movements on lead track 2. A stop indication is displayed by this signal when the route is lined for a movement westbound from the station on lead track 2 and thence through the crossover to lead track 1. When an empty coach train makes a back-up movement eastward or incound, from the California Avenue coach yard to the passenger terminal at Madison Street, a distance of about 3 miles the movement is controlled by means of a tail-hose in charge of a back-up man. No train orders are issued covering these back-up movements, nor are such movements recorded on train sheets, they being governed entirely by signal indications.

The weather was clear and the temperature was about 18° above zero at the time of the accident, which occurred at about 1.30 p.m.

Description

Westbound passenger train No. 559, en route from Chicago to West Chicago, consisted of one smoking car, eight coaches, one combination passenger and baggage car, and one coach, in the order named, all of wooden construction, hauled by engine 2205, and was in charge of Conductor Crickman and Engineman Fish. At 1.18 p.m., the time train No. 559 is scheduled to depart, the leverman at Lake Street tower lined the route for a movement from track 3 in the train shed to lead track 1, via lead track 2 and the crossover. The movement was then started but as the train was moving through the crossover from lead track 2 to lead track 1, at a speed estimated to have been between 7 and 8 miles per hour, the seventh car was struck on its right side by the leading car of the equipment of train No. 155 which was being backed into the station.

The eastbound train of empty equipment was en route from the California Avenue coach yard to the passenger terminal at Madison Street, it consisted from east to west of one observation-parlor car, three coaches, one smoking car, one baggage car, two milk cars and one cafe car, shoved by engine 1557, which was operating backing-up, and was in charge of Back-up Man Barse and Engineman Williams. The two milk cars were of steel-underframe construction, while the remainder were of all-steel construction. This train was backing toward the station on lead track 2, it passed signal 13, which was displaying a stop indication, and collided with the side of the seventh car in train No. 559,

while traveling at a speed estimated to have been between 3 and 6 miles per hour.

The sixth car in train No. 559 had its platform damaged, the seventh car was overturned to the left and practically destroyed, while the eighth car had its platform demolished and one end and the roof damaged. The leading car in train No. 155 had its platform damaged, as well as the interior of the car.

Summary of evidence

After empty coach trains are made up in the California Avenue coach yard they are inspected and the car inspectors test the air brakes by means of the yard plant. When a train is ready to start the movement to the passenger terminal the back-up man makes the coupling between the road engine and the train and after the air is pumped up the engineman makes a service air-brake application. The back-up man then walks the length of the train, inspecting the piston travel on the cars; on arrival at the rear end of the train, provided the air brakes have set properly on all of the cars and the piston travel is normal, the back-up man gives the engineman an air whistle signal to release brakes, then attaches his tail hose to the leading car and opens the valve on the tail hose to ascertain that the air flow is all right and that the brakes apply when operated from the leading end. The train then departs from the yard and the backup man makes a running test of the air brakes to determine whether they are working properly. During the course of the backup movement enginemen leave the brake valve in the running position, placing the air brakes entirely under the control of the back-up man.

Back-up Man Barse, of the equipment train, stated that the air brakes were tested in the usual manner and that after the running test had been made he gave the engineman a back-up signal by means of the air whistle. The speed of the train was about 20 miles per hour as it approached signal bridge "D", located about four city blocks west of signal bridge "A", and he brought the train to a stop at a point about one and one-half car-lengths west of the signal bridge, as the signal was displaying a stop indication. After the train had stood at this point about 10 minutes a clear indication was displayed and he gave the engineman a back-up signal. On reaching a point in the immediate vicinity of signal bridge "C", located about two city blocks west of signal bridge "A", he looked

across the inside of the curve and observed that signal 13, on signal bridge "A" was displaying a stop indication. He attempted to make an air-brake application when the leading car was about halfway between signal bridges "C" and "A", at which time the speed of his train was between 8 and 10 miles per hour, and at first the brakes seemed to apply, but when about three car-lengths from signal bridge "A" it became apparent that the air brakes had not taken proper effect. Back-up Man Barse therefore opened the tail hose valve wider and as this failed to check the speed of the train he opened it completely, just as the leading car passed under the bridge, but to no avail; he jumped just before the collision occurred and estimated the speed of his train to have been not more than 6 miles per hour at the time of the accident. Back-up Man Barse further stated that when he attempted to make the air-brake application there seemed to be the usual flow of air through the tail hose and that the flow increased temporarily and then stopped completely. In his opinion there was no flow of air whatever when the leading car passed under signal bridge "A", he being of the impression that the air gave out at about that point. He also said that he cleans and lubricates his tail hose every other day and that he last did this on the day prior to the accident. This was the first experience he had ever had of this nature, although he had had many years experience in this kind of service, and after the accident he was too excited to endeavor to ascertain why he had not been able to bring the train to a stop.

Engineman Williams, of train No. 155, said that when approaching signal bridge "A", at a speed of about 6 or 8 miles per hour, the back-up man made a light air-brake reduction, between 5 and 8 pounds, which was noticeable on the gauge, and he therefore shut off steam. He was unaware of anything wrong until Fireman Sherman informed him that it looked as though their train was running by signal 13, which was displaying a stop indication, but the collision occurred before the engineman had time to take any action toward bringing the train to a stop, at which time it was drifting at a speed he estimated to have been about 3 or 4 miles per hour. Engineman Williams stated that at the time of the accident the air gauge on the engine registered full pressure, 90 pounds brake pipe and 120 pounds main reservoir, there having been no further reduction after the initial reduction of from 5 to 8 pounds. It also appeared from his statements that his brake valve remained in the running position until the accident occurred and that with the valve in this

position the brake application made by the back-up man would not remain applied.

Statements of members of the crew of train No. 559 developed nothing of additional importance; they were unaware of anything wrong prior to the accident.

The leading car was uncoupled from the equipment of train No. 155 after the accident, Back-up Man Henry was instructed to have the balance of the equipment pulled ahead and then racked into the station on another track. He signaled the engineman to pull ahead a short distance so that he could go between the cars and couple his tail hose to the rear of the train line and at that time he discovered ice in the hose on the rear of the car. He tried to blow it out by opening the angle cock quickly but had no success; he then signaled the engineman to pull ahead and after reaching signal bridge "D" the train was again stopped and at about this time he saw Assistant Division Superintendent Koch and called the latter's attention to the matter. Mr. Koch stated that on examining the hose on the rear of the car he found that ice had formed in the hose and he expressed the opinion that it resulted in the opening being from 65 to 75 per cent closed. After they succeeded in blowing it out it was found that the piece of ice was very dark, indicating the presence of oil; it varied 1 1/8 to 2 inches in length and was from 3/4 to 1 inch in diameter and irregular in shape. There was an impression of a rim on one edge of it, where apparently it had lodged against the air hose gasket. After its removal the air brakes were tested and the train was then backed into the terminal and brought to a stop without incident by means of the tail hose valve. One of the employees who made the cut between the leading car and the balance of the train, after the accident, said he noticed that the brakes were set on the leading car; he did not notice the brakes on the other cars.

Conclusions

This accident was caused by the failure of the back-up man to stop the train before passing interlocking signal 13, due to a stoppage of the flow of air through the brake pipe in the equipment of train No. 155 as a result of the formation of an ice plug which became lodged in the air hose at the head end of the next to the leading car, thereby preventing the air brakes from taking effect when an attempt was made to apply them by means of

the tail hose valve.

The investigation developed that the customary tests were made of the air brakes on train No. 155 before and after starting the back-up movement from the California Avenue coach yard and that they worked properly when the train was brought to a stop just west of signal bridge "D" by means of the tail hose valve. It is possible that at this time the ice formation became lodged in the air hose at the leading end of coach 3251, the car next to the leading car, causing a partial stoppage of the flow of air and making it impossible to make an effective application of the air brakes by means of the tail hose valve, although the gauge on the engine registered full brake-pipe pressure at the time of the accident.

Careful inspection of the tail hose used in the back-up movement failed to disclose anything that would have caused or contributed to the accident, and the cause for the formation of the ice could not be determined. According to the records this was the first accident to occur on this railroad from such a cause since January, 1915, a period of 14 years, during which time between 2,200,000 and 2,500,000 back-up movements were controlled by means of tail hose. Coach 3251 had been in service on 16 trips between Chicago and northern Wisconsin from January 1, 1929, up to the time of the accident.

The terminal superintendent said it was the policy to replace wooden cars with steel cars and that during the preceding 18 months, 125 steel coaches had been placed in suburban service and 160 wooden coaches retired from such service. In view of the low rates of speed at which the trains involved were moving, it is very doubtful if the results of this accident would have been serious had the equipment in train No. 559 been of steel construction.

All of the employees involved were experienced men and at the time of the accident none of them had been on duty contrary to any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,

Director.