

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
BALTIMORE AND OHIO RAILROAD AT WILLOW VALLEY,
IND., ON FEBRUARY 8, 1929.

May 7, 1929.

To the Commission:

On February 8, 1929, there was a head-end collision between two freight trains on the Baltimore and Ohio Railroad at Willow Valley, Ind., which resulted in the injury of one employee.

Location and method of operation

This accident occurred on the Washington Sub-Division of the St. Louis Division, extending between Shops and Mt. Vernon, Ind., a distance of 98.3 miles, in the vicinity of the point of accident this is a single-track line over which trains are operated by time table, train orders and a manual block-signal system. The accident occurred at a point 290 feet west of the east passing-track switch at Willow Valley, approaching this point from the west the track is tangent for a distance of 1,285.1 feet, the accident occurring on this tangent at a point 260 feet from its eastern end. Approaching from the east there is a $4^{\circ} 06'$ curve to the right 1,500.7 feet in length, followed by the tangent on which the accident occurred. The grade in the vicinity is generally descending for westbound trains and is 0.12 per cent at the point of accident. A semaphore type distant signal is located on the north side of the track 1,353.7 feet east of the east passing-track switch, this signal is connected with the east passing-track switch. Owing to an embankment on the inside of the curve east of the point of accident the view from an approaching westbound train is restricted to about 1,000 feet. The maximum speed permitted for freight trains is 40 miles per hour.

It was snowing at the time of the accident, which occurred at about 1.05 a.m.

Description

Eastbound freight train first No. 94 consisted of 53 cars and a caboose, hauled by engine 2871, and was in charge of Conductor Jacobs and Engineman Redman. This train departed from Loogootee, 14.1 miles west of Willow Valley, at 12.22 a.m., 1 hour and 52 minutes late, the crew having received at that point a copy of train order No. 202, Form 19, directing them to meet extra 2896 at Willow Valley. Upon arrival at Shoals, the last open office, 8.5 miles beyond Loogootee, a clearance card, Form A, was received which called attention to the meet with extra 2896 as provided for by train order No. 202. Train first No. 94 departed from Shoals at 12.47 a.m., two hours and two minutes late, and was brought to a stop on the main track west of the east passing-track ^{switch} at Willow Valley, where it was struck shortly afterwards by extra 2896.

Westbound freight train extra 2896 consisted of 34 cars and a caboose, hauled by engine 2896, and was in charge of Conductor Robertson and Engineman Henry. At Mitchell, 15 miles east of Willow Valley, the crew received a copy of train order No. 302, Form 19, previously mentioned, 3 cars were set off and 15 were picked up, the train departing from that point at 12.30 a.m. with 46 cars and a caboose. As it passed Huron, 3.4 miles from Willow Valley, at 1.01 a.m., according to the train sheet, the crew received a clearance card, Form A, calling attention to the meet at Willow Valley with train first No. 94. Extra 2896 reached Willow Valley, passed the east passing-track switch without stopping, and collided with train first No. 94 while traveling at a speed estimated to have been between 10 and 20 miles per hour.

Engine 2871 was partly derailed, and the 11th, 12th and 13th cars in train first No. 94 were also derailed. Engine 2896 and the first 10 cars in extra 2896 were also derailed, the engine came to rest in an upright position and the cars were in various positions along the right of way.

Summary of evidence

Engineman Redman, of train first No. 94, stated that his train passed the west passing-track switch at 1 a.m. and was brought to a stop on the main track about four or five car-lengths west of the clearance point at the east switch. He instructed the head brakeman to go ahead and open the switch and then got off the engine and started to fill a grease cup but before completing this task he looked ahead and saw extra 2896 approaching, the engine then being past the switch, he estimated the speed of that train at the time of the accident as between 10 and 15 miles per hour and said he noticed fire flying from the wheels, 25 or 30 car-lengths back from the engine, and heard the engine working steam, which indicated to him that it had been reversed.

Fireman Jackson, of train first No. 94, stated that shortly after his train came to a stop he heard the rumble of an approaching train, as well as the exhaust of the engine of that train, which sounded as though the reverse lever was in backward motion. He saw the headlight of the opposing train when it was about 25 car-lengths distant and at the same time he noticed considerable fire flying from the wheels.

Brakeman Myers, of train first No. 94, stated that as soon as his train came to a stop he proceeded to the switch, threw the distant signal lever, and then attempted to open the switch but before this could be accomplished he decided that the approaching train was too close and for his own safety he ran away from the switch. There was nothing of importance brought out by the statements of Conductor Jacobs and Flagman Hunter, of train first No. 94.

Engineman Henry, of extra 2896, stated that the air brakes were tested at Cincinnati with the assistance of a car inspector, after making an application of the brakes he received a signal from the inspector to release them, which indicated that all of them were operative, and then the train departed. Before arriving at Mitchell cars were picked up and set out at three points and after the train was coupled up the brakes were tested by releasing them, then making an application and again releasing; no difficulty was experienced in stopping at any of these points. The usual brake test was not made after the switching at Mitchell had been completed, although a good stop was afterwards made at the water crane by using the automatic brake valve, which Engineman

Henry considered a sufficient test. He received the order at Mitchell to meet train first No. 94 at Willow Valley, and also the clearance card at Huron calling attention to the meet. When his train reached a point approximately two-thirds of a mile from the east passing-track switch at Willow Valley, and while it was drifting at a speed of about 35 miles per hour, he sounded a meeting-point signal, and then made a 10 pound brake-pipe reduction, which was the first application of the brakes he had made since leaving Mitchell. The brakes did not take proper hold and after traveling about 20 car-lengths he made another 10-pound reduction without having released, and this also failed to check the speed of the train properly. He then moved the brake-valve handle to the emergency position and opened the sanders, this being at about the time the train passed the distant signal, which was displaying a green indication. He did not realize that his train could not be brought to a stop until within 15 or 20 car-lengths of the switch and he then reversed the engine and reopened the throttle. He estimated the speed at the time of the accident at about 10 miles per hour. Enginemen Henry further stated that before the brakes were first applied the gauge registered 100 pounds main-reservoir pressure and 70 pounds brake-pipe pressure, that he had experienced no trouble with the brakes until he attempted to bring his train to a stop at Willow Valley, and that the sound of the brake-pipe exhaust, at this time indicated an obstruction in the train line. The condition of the weather at the time had been taken into consideration and he was of the opinion that he began braking soon enough. After the accident he found an angle cock closed on one of the derailed cars, he had seen some persons at Mitchell who indicated by their actions that they intended to board the train and he expressed the opinion that they had done so as the train departed and that when they decided to get off they closed an angle cock in order to reduce the speed. He based this theory on the fact that he had experienced an occasion of this kind about a year ago.

Fireman Wilkerson, of extra 2893, stated that the air brakes were properly tested at Cincinnati but he did not remember whether they were tested at Mitchell. He read the train order received at Mitchell and the clearance card received at Huron and understood they were to meet train first No. 94 at Willow Valley. He said the engineman sounded the regular meeting-point signal in the vicinity of Green Springs water tank, located 3,427 feet east of the east passing-track switch at Willow Valley, and that the engineman applied the

brakes shortly afterwards, or just west of the water tank, at which time the speed was about 25 miles per hour. Fireman Wilkerson did not know whether the engineman reversed the engine after the brakes were applied, as he then put in a fire, but when he returned to his seatbox he saw fire flying from the engine wheels. He got off the engine just before the collision occurred and estimated the speed at that time at 15 miles per hour.

Head Brakeman Brown, of extra 2896, stated that after the switching was completed at Mitchell he coupled the train and air hose, after which the train was pulled down to the water crane where it was stopped by means of the automatic air brakes. No other test of the brakes was conducted at Mitchell. He got off the engine while the train was standing at that point and went back alongside the train but did not make an inspection of the brakes. As the train approached Willow Valley, running at a speed of about 35 miles per hour, a meeting-point whistle signal was sounded and the brakes applied when about 55 or 60 car-lengths from the east switch, this application gradually reducing the speed. He did not know whether the engineman made a further reduction of air, neither did he see the engineman reverse the engine although this might have been done after he got off, about two car-lengths east of the switch. He said the speed of his train was about 15 or 20 miles per hour at the time of the accident. Head Brakeman Brown inspected the train subsequent to the accident to determine what damage had been done but detected nothing wrong with the brakes and noticed that the brakes were still set on some of the cars in the rear of the train about one hour after the accident. It was his opinion that the accident was due to running too fast under the weather conditions existing at the time, coupled with failure to begin braking soon enough.

Conductor Robertson, of extra 2893, stated that he was in the office at the time the train was made up at Cincinnati but he heard the usual whistle signals which indicated that the brakes were tested. Cars were picked up at Storrs, set off at Cochran and North Vernon, picked up at Seymour, and set off and picked up at Mitchell. Conductor Robertson was in the telegraph office at Mitchell when the switching was completed and the train moved to the water crane. When he boarded the caboose he asked the flagman if the brakes had been tested and the flagman replied that the train had been brought to a stop at the water station by an automatic brake application. Conductor Robertson said that neither he nor any

member of his crew, to his knowledge, made an inspection of each car at Mitchell to ascertain whether the brakes would operate but he thought all of the brakes were operative when the train departed from that point as the brakemen had informed him that the brakes were applied on the cars picked up when they were coupled to the train, he did not look at the air gauge in the caboose until after the accident. The speed increased rapidly when the train started down the grade in which the accident occurred and was about 35 miles per hour when Conductor Robertson felt an application of the brakes, the caboose then being 110 car-lengths or more from the passing track at Willow Valley. This brake application continued to reduce speed until the accident occurred, according to his judgment the speed at this latter time was between 15 and 20 miles per hour. About one hour after the accident he inspected the cars still remaining on the track and observed that more than one-half of the brake pistons were out, including the caboose.

Flagman Nolan, of extra 2893, stated that he watched the train pull by him after the cars were picked up at Mitchell, and while it was standing at the water crane he observed that the brakes were set on the rear cars, he did not look at the air gauge in the caboose when his train left Mitchell. Upon reaching a point about one-half way down the grade Flagman Nolan got down from the cupola and started discussing with the conductor the meeting points with certain passenger trains. He felt the slack run in and speed reduce when the train was approximately 150 car-lengths from Willow Valley but he did not hear the brakes apply on the caboose although they might have done so without his having heard them, due to the conversation. He paid no further attention to the speed and did not know how fast the train was traveling at the time of the accident, but at that time he did not feel much of a shock in the caboose.

Car Inspector Wardlow, on duty at Cincinnati at the time extra 2896 departed from that point, stated that he went from the head end to the rear end of the train, stopped all air leaks, and then signalled the engineer to make an application of the brakes. After this had been done he started forward on the opposite side of the train observing the piston travel and when he arrived at the fourth car from the engine the brakes were released and the train started; he did not know who signalled the engineer to proceed, and had no chance to inspect the brakes on the first three cars, or to see that the brakes released properly on any of the cars except by watching the cars as the train passed him. He made an effort to have the train stopped by giving hand signals and also by notifying the flagman of the

train, the yardmaster, and an assistant trainmaster that the brake test had not been completed, but no action was taken by any of these people. He stated, however, that there were no brakes out out and that they applied on all of the cars which he had inspected.

Master Mechanic Burkley stated that he arrived at the scene of accident with the wreck train and immediately inquired of Engineman Henry as to how the accident had occurred, to which the engineman replied that the brakes did not hold properly but that he had had no trouble with them prior to this time. The master mechanic said he and the engineman then went back and examined the derailed equipment but some of the cars were in such positions that the brake pipe and angle cocks could not be seen. The angle cocks that could be seen were all open with the exception of one, this angle cock was closed and was located on what he thought was the west end of what had been the ninth or tenth car in the train, which at that time was raised in the air approximately 8 or 10 feet. There was evidence on the handle of this angle cock of its having been struck by some object which indicated that it had been turned as a result of the accident. On account of the fact that the rear portion of the train had been pulled back when they completed their inspection of the derailed equipment no inspection was made of the cars in that end of the train, and because of the damage sustained in the accident it was impossible to make any test of the air on engine 2896.

Conclusions

This accident was caused by the failure of Engineman Henry, of extra 2896, properly to control the speed of his train approaching a meeting point, due either to his failure to begin braking soon enough or to the improper functioning of the brakes.

It appeared that Engineman Henry was on the alert and was aware that his train was required to meet train first No. 94 at Willow Valley. There was no conclusive evidence of excessive speed, and possibly he began braking soon enough to stop his train had the brakes been operating properly, this fact could not be definitely determined. On the other hand, however, nothing could be said as to the exact condition of the brakes. An examination of the derailed equipment subsequent to the accident disclosed that an angle cock on one of the cars was closed, but the handle of this angle cock showed that it had been struck by some object and it is not believed

that any one closed it maliciously and thereby caused the accident.

It clearly appeared, however, that the brakes were not properly inspected and tested before the train was allowed to depart from its initial terminal, nor was any test made subsequent to that time, although a number of cars had been picked up and set off at several points en route, including picking up 15 cars at Mitchell. A stop was then made at the water crane at that point and the next application of the brakes was when the attempt was made to bring the train under control as it was approaching the point of accident. All that the crew appeared to have done was to make sure that the train line was cut through from the engine to the caboose. As has been pointed out on many previous occasions this is in no sense a test of the brakes themselves. It was the duty of the conductor and engineer to know that the brakes were in proper working order.

The employees involved were experienced men and at the time of the accident they had not been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,

Director.