

INV. 300  
November 2, 1915.

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON  
THE SOUTHERN RAILWAY, NEAR WELMONT, VA., OCT. 9, 1915.

\*\*\*\*\*

On October 9, 1915, there was a head-end collision between two passenger trains on the Southern Railway, near Welmont, Va., which resulted in the death of one employee and the injury of 22 passengers, 13 employees and 1 trespasser. After investigation of this accident the Chief of the Division of Safety submits the following report:

The part of the Washington Division of the Southern Railway on which this accident occurred is single track, the movement of trains being governed by time-table, train order and a manual block signal system, northbound trains being superior by direction.

Northbound passenger train No. 38, en route from New Orleans, La., to Washington, D. C., consisted of engine 1322, express car 278, mail car 7, mail and baggage car 1458, sleeping cars Neville and Summerland, and observation car Moncure, all of steel construction. The train was in charge of Conductor Loving and Engineman Keith and left Monroe, Va., the initial station for this division, at 6:41 a.m., 3 hours and 46 minutes late. At Mile Post 156.9, ten miles north of Monroe, it was given train order No. 39, reading as follows:

"Number thirty-eight (38) engine 1322, will meet  
Number nineteen (19), engine 1207, at Mile Post 142.9."

Train No. 38 left Mile Post 156.9 at 7:08 a.m. It arrived at the telegraph office located at the south end of the passing-

track at Mile Post 149.9 at 7:24 a.m. At this point it was given a clearance card permitting it to proceed on the main track, nine-tenths of a mile, to the north end of the passing siding, and there await the arrival of train No. 19, at which point it was to receive a dining car from that train. The train stopped 325 feet south of the switch point of the north switch of the passing siding, and had been standing there from a minute to a minute and a half when it was struck by train No. 19 at 7:35 a.m.

Southbound passenger train No. 19, en route from Charlottesville, Va., to Danville, Va., consisted of engine 1207, baggage car 459, express car 428, coach 1279, coach 1462 and dining car 3148. The train was in charge of Conductor Iseman and Engineman Ponton, and left Charlottesville at 6:05 a.m., 5 minutes late. At Mile Post 143.8, 31 miles south of Charlottesville, it received order No. 29 and departed from that station at 7:19 a.m. At Arrington, 4.4 miles south of Mile Post 143.8, it made a station stop and was delayed about 5 minutes unloading company material. About 1 mile south of Arrington it reduced speed on account of sectionmen working on the track. When about 500 feet south of that point the fireman saw train No. 38 standing at the north end of the passing siding and remarked to the engineer: "They are waiting for us." Engineman Ponton claims he made service application of his brakes about 700 feet south of the point where his attention was called to train 38, and at that time the train was running about 25 miles per hour. This application, however, did not have the desired effect, and about 500 feet farther south he made a second application, which failed to

check the speed of the train. About 100 feet farther he made an emergency application which checked the speed to some extent, but he was unable to bring his train to a stop before colliding with train No. 38.

The smoke boxes on both locomotives were crushed in, engine frames and castings were broken, and engine trucks were partially destroyed. Baggage car 459 was slightly damaged on its south end, and express car 439 was telescoped on its south end for about 10 feet.

Beginning at a point about .9 of a mile north of the accident, and proceeding southward, the track is tangent for about 3,700 feet; this is followed by a 3-degree curve to the left 2,000 feet in length, which in turn is followed by a tangent about one mile in length. At a point about 300 feet south of the north end of the above curve is a cut about 20 feet in depth and 600 feet in length. The switch to the north end of the passing siding is located near the center of this cut on the east side of the main track. In the vicinity of the accident there is a grade of .8 per cent descending southward.

Approaching the point of accident from the north, the fireman of train No. 19, being on the inside of the curve, could see train No. 38 across the curve a distance of fully half a mile before it reached the cut. After entering the cut train No. 38 could be seen by the fireman a distance of about 500 feet. At the time of the accident the weather was clear.

Engineman Fonton of train No. 19 stated that on the morning of the accident, shortly after leaving Charlottesville,

he made a running test of the brakes on his train, and he also made 10 station stops between Charlottesville and Arrington, and in making these stops the brakes appeared to be working in a satisfactory manner, except he noticed that it was necessary to make a little heavier application than usual, which he attributed to the frosty condition of the rail. He stated that when stopping at Arrington he made a 40-pound reduction in the train line and that his train stood at that station from five to eight minutes and during that time his brake valve was on lap to keep the train from drifting. About a mile south of Arrington he made a slight application of the brakes to steady his train in passing a point where trackmen were working; when about 1,500 feet from the point of the switch the fireman called his attention to train 38 standing at the north end of the siding; after his train had proceeded about 700 feet farther he made a service application of the brakes making a 10-pound reduction in train line pressure. This application apparently had no effect. After waiting 3 or 4 seconds he made a further reduction of 15 or 20 pounds, which did not properly check the speed, and when about 500 feet from the switch he made an emergency application, reversed his engine and applied the sand. The sand, however, failed to work. He stated that at the time he made the first application of the brakes he was not using steam and the speed of his train was about 25 miles per hour, and at the time of the collision it was 12 or 15 miles per hour. Engineman Ponton stated that subsequent to the accident he was informed that two trespassers were riding between the first and second cars of his train, and it is his belief that one of these trespassers turned one of the angle cocks

between the cars. Although Engineman Ponton remained at the scene of the accident for several hours after it occurred, he made no investigation or attempt to learn the position of the angle cocks on the cars. Engineman Ponton further stated that he had not been examined on the general rules since July, 1898, and did not know that there was a rule which required an engine-man to make a test of the brakes prior to reaching a meeting point, and knew that the brakes were in such condition that they would bring the train to a stop before reaching the danger point

Conductor Iseman of train No. 19 stated that before his train left Mile Post 143.3 he told Engineman Ponton that train No. 38 would be waiting at the meeting point, and that they would deliver the dining car which they had on the rear of their train to No. 38 at that point. He stated that he had never taken the siding at this switch before, but knew about where it was located; he kept the meeting point in mind and knew that the train was approaching it, but was waiting for the engineman to sound the station whistle before giving the air whistle signal which is required to be given approaching meeting points. Conductor Iseman said that he felt the service application of the brakes, but did not feel the emergency application, but as far as he observed the brakes were operating in the usual manner. Conductor Iseman further stated that in talking with Engineman Ponton shortly after the accident Engineman Ponton said: "I was slowing down for these slow orders and used my air, and did not have air to stop, and nobody is to blame but me."

Conductor Loving and Engineman Keith of train No. 38

estimated the speed of train No. 19 to have been about 30 miles per hour at the time of the accident. Engineman Keith stated that in conversing with Engineman Ponton after the accident Engineman Ponton said that he applied the brakes after leaving Arrington, and when he made the second application for the switch he did not have air enough to stop.

Road Foreman of Engines Dickert stated that he arrived at the scene of the accident about three hours after it occurred and made inspection of the equipment and found all stop and angle cocks in proper position.

Engine 1207 is of the Pacific 4-6-2 type, braked on all driving wheels, and is equipped with two Westinghouse 9 $\frac{1}{2}$ -inch pumps, which have a displacement of 40 cubic feet of air per minute. The brake valve is of the Westinghouse G-3 type, having slide valve feed valve attachment. The tender is equipped with a Westinghouse quick action "H" triple.

Baggage car 450 has a total weight of 67,000 pounds, is of wooden construction, with 6-wheel trucks, all wheels braked, brake adjustment being made by an American brake slack adjuster. It is equipped with a Westinghouse type "H" quick action triple valve, high speed reducing valve and 14-inch brake cylinder.

Baggage and express car 428 has a total weight of 91,800 pounds, is of wooden construction, has four-wheel trucks, all wheels braked. It is equipped with a Westinghouse P-2 triple valve with safety valve and a 10-inch brake cylinder.

Coach 1779 has a total weight of 91,000 pounds, is of wooden construction, has four-wheel trucks, all wheels braked and slack adjusted by means of an American brake slack adjuster.

It is equipped with a Westinghouse type "H" quick action triple valve, high speed reducing valve and 14-inch brake cylinder.

Coach 1462 has a total weight of 120,000 pounds, is of steel underframe construction, and body of steel as far as the window sills. It has six-wheel trucks, all wheels being braked, brake adjustment secured by means of an American brake slack adjuster. It is equipped with Westinghouse type "L" quick action triple valve, high speed reducing valve and 16-inch brake cylinder.

Dining car 3146 has a total weight of 153,000 pounds, is of all-steel construction, has 6-wheel trucks, all wheels braked, adjustment being secured by means of an American brake slack adjuster. It is equipped with Westinghouse type "L" quick action triple, high speed reducing valve and 18-inch brake cylinder.

In an effort to determine, if possible, the efficiency of the air brakes on train No. 19, the Commission's inspectors, accompanied by several of the railway officials, went to Montev, Va., and there inspected and tested all of the equipment of train No. 19, with the exception of dining car 3146, which remained undamaged, with the exception of a broken top brake rod and a broken foot plate, and was continued on its run. The engine and cars were assembled in the same order as they stood in train No. 19 at the time of the accident. It was necessary to make the following repairs before the air brakes could be operated:

**Engine 1207:**

New nipple put on brake pipe on rear of tender.  
Angle cock and air hose on rear of tender replaced.

Left main pull driver brake adjusting rod  
straightened without any change of adjustment.

**Express Car 459:**

Brake rod straightened and replaced; no change in leverage adjustment.

New air hose applied to "B" end of car to replace broken hose.

A 3-inch nipple on the induction pipe connection retreaded and replaced.

An 3-inch nipple placed on brake pipe, "A" end of car.

When engine 1207 was placed under steam the air pump was found to be in good working order. After a pressure of 135 pounds in the main reservoir and 105 pounds in the brake pipe was attained, which is the standard set for this engine, the following tests were made to determine the condition of the brakes:

**Test No. 1:**

A reduction of 30 pounds was made in the brake pipe pressure and all pistons were measured to ascertain the length of piston travel. The following results were obtained:

Locomotive piston travel,	R. Side,	7"	L. Side,	8-3/4".
Tender piston travel,		10-1/4".		
Car 459	"	"	8-1/4".	
Car 425	"	"	7-1/2".	
Coach 1279"	"	"	9-1/8".	
Coach 1452"	"	"	7-7/8".	

In this test the brake valve was left in lap position 5 minutes and 30 seconds, and during that period there was a leakage of 40 pounds in the brake pipe pressure. In releasing the brakes in this test the brake valve was placed in release position for three seconds, then returned to running position, and in 50 seconds the pressure was restored to normal.

**Test No. 2:**

This test was conducted in the same manner and under the same conditions as test No. 1, and the following piston travels were noted:



Locomotive piston travel,	R.Side,	7-1/8"	L.Side,	8-7/8".
Tender	"	"	10-1/4".	
Car 459	"	"	8-1/2".	
Car 428	"	"	7-1/16".	
Coach 1279	"	"	9-3/8".	
Coach 1468	"	"	6-3/4".	

In this test the brake valve was held on lap 5 minutes and 10 seconds, and during that period there was a leakage of 35 pounds in the brake pipe pressure. In releasing the brakes, the brake valve was placed in release position for three seconds and then returned to running position after which 45 seconds elapsed before the pressure was restored to normal.

Test No. 3:

A five-pound reduction was made in the brake pipe pressure and inspection developed that the brake on the engine and on each individual car responded perfectly.

Test No. 4:

Beginning with brake pipe pressure at normal - 105 pounds - an application was made, reducing it to 75 pounds, and brake valve was then placed in lap position. After 5 minutes had elapsed, a pressure of 45 pounds, and after 8 minutes had elapsed, a pressure of 37 pounds remained in the brake pipe, which indicated a total leakage of 38 pounds in 8 minutes, or a leakage of approximately 5 pounds per minute. In releasing, the brake valve was placed in release position for three seconds, then returned to running position, and 45 seconds was consumed in restoring the pressure to normal.

Test No. 5:

In an attempt to waste the air in such a manner as to deplete both the auxiliary reservoir and brake pipe pressure the

brakes were applied by reductions of 10, 15 or 20 pounds, making the brake pipe reduction when equalization had taken place, moving the brake valve handle to release position releasing all brakes, then returning to service application, and continuing in this manner until the brake pipe and auxiliary reservoir pressures had been reduced to about 30 pounds. The repeated applications and releases of the brakes above mentioned consumed 3 minutes and 12 seconds, after which the brakes were released in the regular manner, and 1 minute and 20 seconds were consumed in restoring the pressure to normal.

These tests developed the fact that the brakes on train No. 19 were in good serviceable condition, the piston travel being of such length as to develop standard braking power in the brake cylinders, and the capacity and condition of the pumps were such as would supply air in excess of that required, and if properly operated would have brought this train to a stop before passing the switch at which it was to take the siding.

Special Rule "N", contained in the time-table, reads in part as follows:

"Conductors and enginemen are required to consult with each other and have a thorough understanding as to their meeting points, and when approaching time-table meeting points with trains of the same or superior class, or those made by train order, the conductor must, when hearing the engineman's station signal (14-N), satisfy himself that the train is intact and is not broken in two, and if intact, signal the engineman in accordance with rule 12-A or 12-J, which the engineman must acknowledge by two short sounds of the whistle. These signals must invariably be exchanged between the engine and rear of train one mile from each station."

Engineman Penton did not know whether or not he heard the air whistle signal given from the train in compliance with

this rule. The statement of Conductor Iseman indicates that he had the meeting point in mind, but was waiting for the engineman to sound the station whistle before giving him the air whistle signal which conductors are required to give when approaching meeting points after the engineman has sounded the station signal.

This accident was caused by the failure of Engineman Ponton of train No. 19 properly to control the speed of his train when approaching the switch of the siding at Mile Post 149.9, where his train should have taken the siding to meet train No. 38.

General Rule No. 544, which took effect November 15, 1899, is as follows:

"In approaching fixed signals, railroad crossings at grade, draw bridges, meeting points, yard limits which they are required by rule to regard, caution signs, heavy descending grades, and other dangerous or doubtful places, when far enough therefrom to admit of stopping or slowing the train, as the circumstances may require, by manual application of the brakes, they must test the air-brakes, and if they do not work effectively, they must call for their application by hand in time to insure the stopping of the train before passing the danger point, or its proper control before passing the caution point."

Under this rule Engineman Ponton should have tested his brakes a sufficient distance in advance of the switch, so that, in the event of their failure to operate properly, the train could have been stopped by means of the hand brakes.

Engineman Ponton states that he had no knowledge of this rule, and it appears that he had not been examined on the present book of rules, but he admitted that he had a copy of it in his possession.

Engineman Ponton entered the service of the Southern Railway as Fireman, July 21, 1890, and was promoted to engineman July 23, 1893. At the time of the accident he had been on duty about 2 hours.