

In Re. Investigation of Accident on the Baltimore & Ohio Railroad, at Vance Siding, near Washington, Pa., on August 15, 1916.

Sept. 18, 1916.

On August 15, 1916, there was a head-end collision between two freight trains on the Baltimore & Ohio Railroad, at Vance Siding, near Washington, Pa., resulting in the death of 3 employees and the injury of 2 employees. After investigation of this accident, the Chief of the Division of Safety submits the following report:

The Wheeling & Pittsburgh Subdivision of the Pittsburgh Division, on which this accident occurred, extends from Wheeling, West Virginia, eastward a distance of 63 miles to Wheeling Junction, Pa., where connection is made with the main line, five miles from Pittsburgh. With the exception of a few short sections of double track, this line is a single track road; trains are operated over it by time-table, train orders, and a manual block system, the telephone being the means of communication employed between block stations.

The collision occurred 300 or 400 feet east of the east switch of Vance Passing Siding, approximately three miles east of Washington and 33 miles west of Pittsburgh. The grade at this point is 1.25% ascending for westbound trains. Approaching from the east the track is tangent for approxi-

mately 1,000 feet; this tangent is in a cut 10 or 15 feet in depth, and is followed by a curve of  $1^{\circ}10'$  toward the south. Approaching from the west the grade is ascending from Washington for a distance of nearly two miles; at the summit of the grade the track passes through a tunnel, and from the eastern portal of the tunnel the grade is descending to the point where the collision occurred. A curve toward the south of  $5^{\circ}45'$ , beginning inside the tunnel, is followed by a short tangent and a curve in the opposite direction of  $5^{\circ}10'$ ; the track is then tangent nearly to the west switch of Vance passing siding, where begins a curve toward the north of  $1^{\circ}52'30''$ , which is nearly half a mile in length and is followed by a tangent about a thousand feet in length and the curve of  $1^{\circ}10'$ , about 1,200 feet long, on which the collision occurred. The east passing track switch is located at about the middle of this last curve. Just east of this switch, bridge 153, sixty feet in length, passes over a highway. The collision occurred five or six car lengths east of this bridge, on a fill approximately 40 feet high. At the time of the accident the weather was clear and it was a moonlight night.

The trains involved in this collision were westbound first No. 89, consisting of 2 locomotives, 28 cars and a caboose, with Conductor Allen and Enginemen Brownlee and Sample in charge, and eastbound 2nd No. 190, consisting of 2 locomotives, 26 cars and a caboose, with Conductor Boyle and Enginemen Bullen and Eustice in charge.

Train 1st No. 89 arrived at Gilkeson, a block station about eight miles east of the point where the accident occurred, at 2:47 a. m., met train first No. 190, received among others an order to meet train second No. 190 at Vance Siding, and departed at 3:14 a. m. Approaching Vance Siding there were six men on the head end of this train; two engineers, two firemen, the conductor and the head brakeman; they saw train 2nd No. 190 as they approached the east switch, and, thinking that it was standing on the main line west of the switch, they proceeded toward the siding for the purpose of heading in. The engineers had shut off and the brakeman had gone out on the pilot of the leading locomotive with the intention of running ahead and opening the switch, when it was noted that train 2nd No. 190 was approaching at a rate of speed estimated by them at about 30 miles an hour. Realizing that train 2nd No. 190 could not be stopped in time to avert a collision all of the men on the head end of train 1st No. 89, with the exception of the fireman of the second locomotive, who was killed in the collision, jumped and ran down the embankment. The collision occurred immediately afterwards, and some of these men were struck by cars which were thrown down the embankment on both sides of the track. It was estimated that the speed of train first No. 89 was approximately 6 miles per hour at the time of the collision.

Train 2nd No. 190 arrived at Washington, the last block station west of the point where the collision occurred, at 2:56 a. m. There orders were received to meet an extra at

Washington and to meet train 1st No. 89 at Vance Siding. After meeting the extra and setting out a car, train 2nd No. 190 left Washington at 3:25 a. m., and at about 3:36 a. m. collided with train 1st No. 89.

All four locomotives were badly damaged. Several cars were thrown down the embankment on both sides of the track and the wreckage caught fire, 8 cars being destroyed while 2 others were badly damaged.

Engineman Bullen, of the leading locomotive of 2nd No. 190, stated that at Washington he received a copy of the order fixing the meeting point at Vance Siding; he read the order aloud in the station and when he returned to his locomotive he handed it to his fireman. About the time the train left Washington he asked the fireman whether the train they were to meet at Vance was No. 89 or 1st No. 89. He stated that at that time he had the meeting point well in mind, but that he must have forgotten it then, and he did not think of it again until he saw the headlight of train 1st No. 89 east of Vance Siding. He said he had had considerable trouble with his injectors flying off on this trip and that he was working with them between Washington and Vance Siding. When approaching Vance Siding he did not give the whistle signal for the meeting point and no one called attention to this omission. He shut off steam at the top of the grade near the eastern portal of the tunnel, and as his train approached the east passing track switch he was leaning out the cab window watch-

ing the overflow pipe. He stated he saw train 1st 89 about ten car lengths away, when his train had nearly reached the east switch, and he then applied the brakes in emergency and jumped. He thought his train was running between 20 and 25 miles an hour, and did not believe there was sufficient time for the brakes to reduce the speed very much before the collision occurred.

Engineman Justice, of the second locomotive of train 2nd No. 190, received a copy of the order fixing the meeting point at Vance, but as he was killed in the collision it is not known whether or not he also forgot the meeting point. The fireman of the leading engine was killed.

Head Brakeman Hacker, of train 2nd No. 190, stated that he did not see the orders and that he did not know what they contained. He did not recall hearing the engineman of either locomotive sound the whistle signal required to be sounded when approaching a meeting point, and the first intimation he had of the opposing train was when he saw the headlight. He thought his train was running at a speed of 20 or 25 miles an hour when the accident occurred.

Conductor Doyle, of train 2nd No. 190, stated that the orders received at Washington were in proper form, copies were furnished to both enginemen, and there was no misunderstanding about the meeting point at that time. He stated that he did not forget the meeting point; approaching Vance Siding he was sitting in the caboose on the right hand side, looking out the window expecting to see train 1st No. 89 in

the siding. When the caboose reached a point on the curve where he could see the eastern end of the siding, and he saw that train 1st No. 89 was not there, he realized that his train was running too fast to be stopped before passing the east switch, and started for the air-brake valve in the caboose, but he had not reached it when he felt the brakes being applied, and almost immediately afterward felt the shock of the collision. The flagman stated that he also started toward the air-brake valve in the caboose when he realized that his train was running by the meeting point, but he did not reach it before the brakes were applied by the engineman.

Fireman Dougherty, of the second locomotive of train 2nd No. 190, stated that he did not see any of the orders received on the trip; in fact, he stated that he did not know any orders had been received. If the engineman did not give the orders to him he usually asked for them, but he said that on this occasion the crews came out of the offices at both Wheeling and Washington, boarded the locomotives and started immediately, and on account of the necessity of keeping up steam and keeping the smoke down, he did not take time to ask for or read the orders. He also stated that the engineman of his locomotive did not sound the whistle signal approaching the meeting point, and he did not hear the engineman of the leading locomotive sound any such signal. He thought the speed at the time of the accident was about 35 or 40 miles an hour.

Conductor Allen, of train 1st No. 89, stated that as his train approached the spur at Vance station, he remarked to the engineman that train 2nd No. 190 was showing up down at the curve just west of the east passing track switch. The night was clear, and in the bright moonlight they could watch the train as it approached the switch, running rather fast. He stated that both he and the engineman saw train 2nd No. 190 pass the clearance post, and they at once knew that the crew had forgotten their orders or were over-running the meeting point. Conductor Allen stated that he then jumped from the locomotive.

This accident was caused by train 2nd No. 190 over-running a meeting point, for which the engineman and conductor are primarily responsible.

Engineman Bullen, of the leading locomotive, admitted that he forgot the meeting point. There were three men on the two locomotives of train second No. 190 who were familiar with the orders, and it seems incredible that all of them could have forgotten the meeting point which was established by an order received less than half an hour before, and only two or three miles distant. The only plausible explanation is that all the others depended upon Engineman Bullen, and that he forgot the meeting point. Engineman Bullen had had about ten years' experience as an engineman on this road and his record was good. The only reason he could offer for his failure to remember the meeting point in this case was that his mind must have been taken off of it on ac-

count of the trouble he was having with his injectors. Conductor Doyle should have been able, had he been on the alert, to apply the brakes from the rear end in time to avert the collision. He also is an experienced man, having been employed on the Wheeling and Pittsburgh subdivision for 31 years, 3 years as a brakeman and 28 years as a conductor.

At the time of the accident the crew in charge of train 1st No. 89 had been on duty nearly 4 hours, after periods off duty varying from 10½ hours to 53 hours. The train crew in charge of train 2nd No. 190 had been called for duty at 12:30 p. m., August 14, and the engine crews for 12:10 p. m. They were relieved en route, at Benwood, for periods ranging from 3 to 4 hours. Previous to being called for duty they had been off duty for periods ranging from 10 to 47 hours.