

*Oct. 3 1/19*

**IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE  
DELAWARE & HUDSON RAILROAD NEAR CARBONDALE, PA.,  
ON SEPTEMBER 1, 1919.**

October 14, 1919.

On September 1, 1919, there was a rear-end collision between a freight train and two light locomotives on the Delaware & Hudson Railroad near Carbondale, Pa., which resulted in the death of 1 employee. After investigation of this accident the Chief of the Bureau of Safety reports as follows:

The section of the Pennsylvania Division of the Delaware & Hudson Railroad on which this accident occurred is a double-track line, extending from Jefferson Junction, Pa., to Carbondale, Pa., a distance of 65.77 miles. Train movements over this section are governed by time-table, train orders and a manual block signal system. The scene of this accident was about 340 feet north of the yard limit board of the West Carbondale yards, which point is on a 5-degree 30-minute curve to the right for southbound trains. The curve is about 1,000 feet in length and runs through a rock cut 8 to 14 feet in depth which prevents a view of the track for more than 270 feet at any point; on top of the embankment there is a shrub growth from 3 to 5 feet in height which also obscures vision. From Ararat, Pa., to Carbondale, Pa., a distance of about 20 miles, the grade is descending for southbound trains and at the point of accident is 1.38 per cent descending.

Southbound freight train extra 1207, en route from Oneonta, N. Y., to Carbondale, Pa., consisted of locomotive 1207, 16 loaded cars, 57 empty cars and a caboose, and was in charge

of Conductor Neylan and Engineman Becker. This train passed Ararat at 6.20 a.m., passed Hollenbacks, the last open block station north of the point of accident, at 7.19 a.m., and at 7.27 a.m., while running at a speed estimated at from 5 to 6 miles an hour, was struck from the rear by southbound extra 1201.

Southbound extra 1201 consisted of locomotive 1201 and 1057 coupled, and was in charge of Engineman Smith on the leading locomotive and Engineman Belden on the second locomotive. These locomotives were working as helpers for northbound trains and were returning light from Ararat to Carbondale. Extra 1201 left Ararat at 6.30 a.m., passed Hollenbacks at 7.22 a.m., running in the occupied block on authority of a Caution Card Form B, and collided with the rear end of extra 1207, the speed of extra 1201 at the time being estimated at about 8 miles an hour.

Caution Card Form B reads as follows:

"This card must be used only under block signal rules and when block has been duly reported clear of an opposing train by the signal man at the block station in advance, but is occupied by a train which may be followed by another train in the same block.

"The conductor and engineman receiving it properly filled out and signed by the signalman, may proceed with the train under control prepared to stop short of any obstruction in the block."

As a result of the collision the brake pipe at the north end of the caboose of extra 1207 broke off where the connection was made to the conductor's valve. This resulted in a sudden application of the brakes on the train and it was brought to a stop, with the weight of the two engines behind it. This caused the rear of the caboose to raise up and the rear wheels were thrown from the rails. The coupler head broke

off from the shank of the coupler on the forward end of the caboose which allowed the caboose to crush into the rear coal car of the train. Both platforms of the caboose were badly damaged. The pilot of locomotive 1201 was broken, this being the only damage sustained by either of the locomotives of extra 1201. Flagman Lynch of extra 1207 was standing between the caboose and the rear coal car at the time of the accident, having one foot on each car preparatory to closing the angle cock on the caboose and was crushed between the cars. The weather at the time of the accident was cloudy.

Conductor Neylan, of extra 1207, stated that after leaving Ararat his train kept gaining speed on the descending grade and the engineman applied the brakes occasionally, bringing the speed down to about 6 miles an hour. Rounding the curve north of the yard limits of West Carbondale, the brakes had just been released and the train was running about 7 miles an hour when the conductor looked out of the caboose window and saw extra 1201 approaching, at a distance afterwards found to measure 350 feet away and running at a speed of 10 or 12 miles an hour. He stepped out on the rear platform of the caboose and gave stop signals to the engineman of extra 1201. The engineman had his head out of the cab window at that time and Conductor Neylan noticed a very startled expression on his face. He stated that he then called to his flagman to jump, doing so himself, and after he landed on the ground saw that the wheels of the leading locomotive of the extra were sliding. He is of the opinion that the engineman of extra 1201 became confused on rounding the curve and sighting his train, and he thought the engineman could have prevented the collision

had he remained calm. Conductor Heylan farther stated that he did not see extra 1201 at any time previous to reaching the curve and did not know that it was following so closely behind his train. He had not considered it necessary to drop off fuses or torpedoes or to protect his train by flag, and stated that, except in foggy weather, it is not customary to do so when a train keeps moving.

Engineman Becker of extra 1207 stated that nothing unusual occurred on the trip from Ararat down to the point of accident, except that the brakes gripped rather too strongly and at different times the speed was reduced to 5 or 4 miles an hour. He felt no jar as a result of the collision and did not know of its occurrence until some time later. When the brakes were applied from the rear end of the train, the train parted on account of a broken knuckle on the seventh car; he estimated the speed at that time at 5 or 6 miles an hour.

Fireman Jackson of extra 1207 also estimated the speed at the time of the accident at 5 or 6 miles an hour.

Middle Brakeman Nixon of extra 1207 stated that at the time of the accident he was riding on the sixteenth car in the train giving the engineman signals to go ahead easy, and suddenly the train stopped. He afterwards found the broken knuckle on the seventh car but did not know of the collision at that time. He estimated the speed of the train at the time of the accident to be 5 or 6 miles an hour.

Head Brakeman Mangan of extra 1207 stated that he was riding on the sixth car in the train at the time of the accident. He stated that every time the brakes were applied

coming down the grade from Ararat the train slowed down so much that the engineman had to use steam to pick up speed and that he was using steam at the time of the accident, the speed at that time being about 8 miles an hour. He did not feel the jar when the collision occurred and was not aware of the collision until they started fixing the broken knuckle on the seventh car in the train where the train had parted.

Engineman Smith of the leading locomotive of extra 1201 stated that at the time of the accident his train was moving in the occupied block on authority of Caution Card Form B which required him to operate his train at a speed which would enable him to stop within his range of vision. He stated that at no time prior to the accident had he sighted extra 1207; neither had he run over any torpedoes, seen any fuses, nor received warning of any kind which would indicate that a train was close ahead. When he reached the curve on which the accident occurred he reduced the speed of his train to about 4 miles an hour and then released the brakes and was rounding the curve at a speed of not more than 6 miles an hour when he saw extra 1207 only 3 or 4 car lengths ahead. He immediately applied the brakes in emergency but the wheels locked and slid so he released the brakes and made an attempt to reverse the engine but the lever caught on his seat. He then jumped up and knocked the seat down but the collision occurred before he could reverse the engine. He said if the lever had not caught on the seat he could have prevented the accident. He estimated the speed of his train at the time of the accident at 6 miles an hour. It had been necessary for him to use more sand on this trip than

usual and he did not think he had any left at the time of the collision and therefore did not open the sand lever. Engineman Smith further stated that when running on Caution Card Form B he depends on flagmen of preceding trains to protect against him and he believes the train crew of extra 1207 should have employed some form of warning to following trains while their train was moving at such a low rate of speed.

Engineman Belden of locomotive 1057, the second locomotive of extra 1201, stated that he did not see anything of extra 1207 from the time it left Ararat 10 minutes ahead of his train until after the accident occurred; in fact, on account of the rocks on the inside of the curve he could not even see extra 1207 from his position in the locomotive after the collision occurred. He thought that the range of vision around the curve was 20 feet. His first intimation of the accident was an emergency application of the brakes from the leading locomotive, followed instantly by the wheels on both locomotives locking and skidding into the caboose. He estimated the speed of his train at the time of the accident at 5 or 6 miles an hour and it is his opinion that extra 1207 was standing still.

Fireman Williams of locomotive 1201 stated that prior to reaching the curve on which the accident occurred the train had been running at a speed of 10 or 12 miles an hour, but had been reduced to 6 or 7 miles when the caboose was struck. He stated that he was busy with his fire prior to the accident and did not see the train ahead at all until the collision occurred.

Fireman Weidner of locomotive 1057 stated that prior to the accident the train was running about 12 miles an hour and

had slowed down to 4 or 5 miles an hour when the curve was encountered, but had again picked up speed slightly and was running about 7 miles an hour when the collision occurred.

Fireman Skelly of extra 1201, who was riding on the second locomotive, stated that he thought the train was traveling about 6 or 7 miles an hour when the collision occurred.

This accident was caused primarily by the failure of Engineman Smith of extra 1201 to operate his train under absolute control while rounding a sharp curve in an occupied block; also by his failure to exercise good judgment in handling his engine when the train ahead was seen.

Contributing causes of the accident were, first, the failure of Flagman Lynch of extra 1207 properly to protect the rear of his train at a point where the physical characteristics of the road obstructed the view of following trains and while the speed of the train was such that it might very easily be overtaken by the following train; second, the failure of Conductor Neylan, of extra 1207 to instruct Flagman Lynch to protect the rear of the train.

If the statements of the employees of both trains were correct in regard to the speed of their respective trains, this accident could not have happened, and it is assumed that extra 1207 was running at a little slower rate of speed than estimated, while extra 1201 was running in excess of the speed estimated by its crew. The accident itself is proof that Engineman Smith did not comply with the Caution Card Form B which he held, requiring him to operate his train at such a speed as would enable him to stop short of any obstruction on the track,

but it is believed that he could have avoided the collision had he left the brakes applied and tried to use sand rather than releasing the brakes and attempting to reverse the engine.

The statements of the employees involved are conflicting as to the range of vision on the curve where the accident occurred, Conductor Neylan stating that he saw extra 1201 when 330 feet away, Engineman Smith stating that he saw extra 1207 a distance of 3 or 4 car lengths, while Engineman Belden stated that the vision was limited to 20 feet. Practical tests showed that a caboose located at the exact point of collision may be seen from an engine 226 feet north thereof; also that a caboose placed 124 feet north of the point of accident may be seen from an engine 270 feet away.

Engineman Smith entered the service of the Delaware & Hudson Railroad in January, 1910, and was promoted to engineman in October, 1917. His record is good. Flagman Lynch entered the service in March 1917, was granted an extended leave of absence in July, 1917, account military duties and returned to the service in July 1919. His record is clear. Conductor Neylan entered the service as trainman in September, 1905, was promoted to conductor in September, 1911, left the service in July 1917 to enter upon military duties and returned to the Delaware & Hudson Railroad in March, 1919. His record was good.

At the time of the accident, the train crew of extra 1207 had been on duty about 9 hours after a period off duty of 10 hours and 30 minutes. The crew of extra 1201 had been on duty 11 hours and 30 minutes after periods of rest ranging from 11 to 44 hours.