INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN ACCIDENT ON THE NEW YORK CENTRAL RAILROAD NEAR CEDAR RUN, PA., ON AUGUST 26, 1933

December 21, 1933.

To the Commission:

On August 26, 1933, there was a rear-end collision between two freight trains on the New York Central Railroad near Cedar Run, Pa., which resulted in the injury of one employee.

Location and method of operation

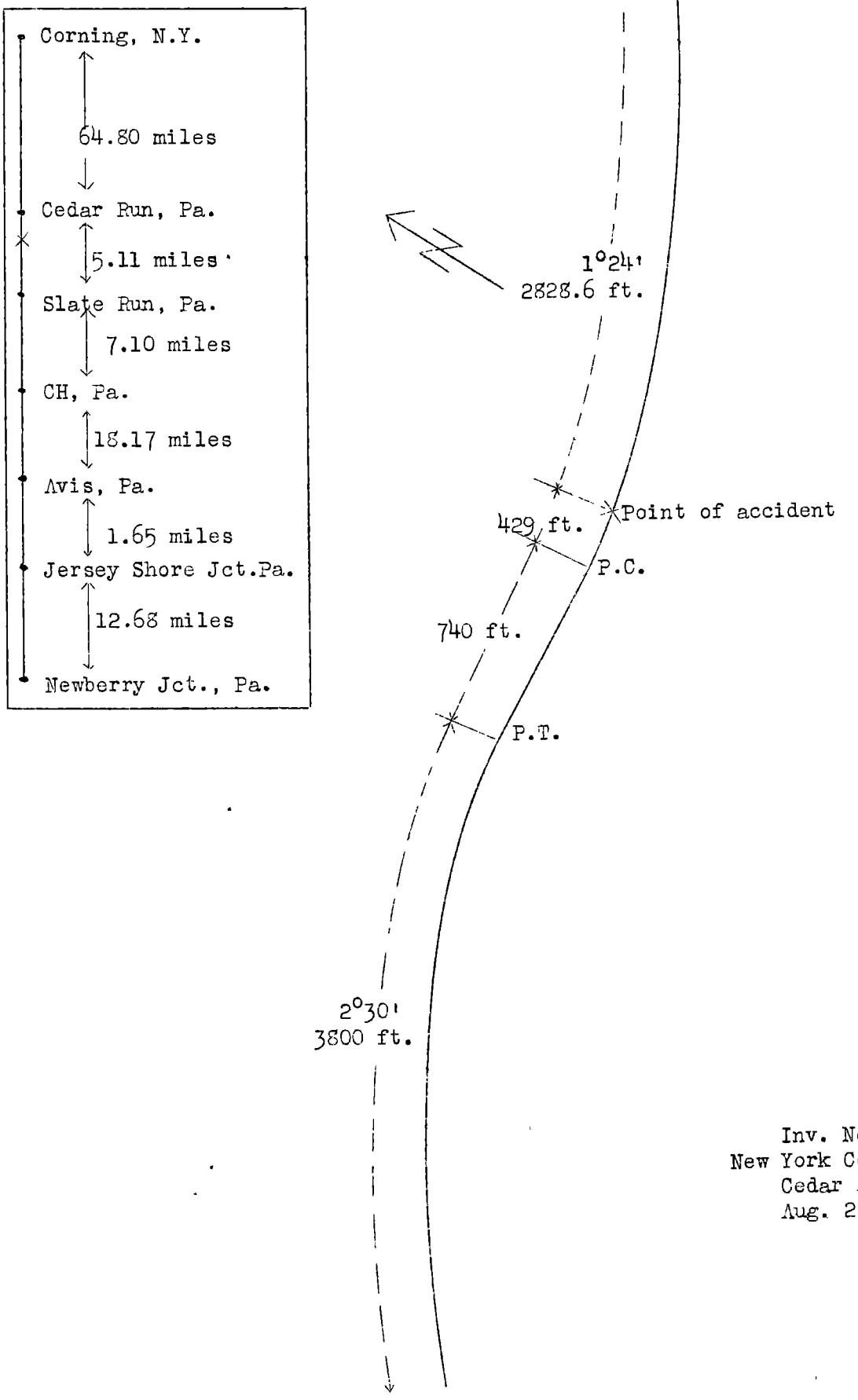
This accident occurred on that part of the Pennsylvania Division extending between Newberry Junction, Pa., and Corning, N.Y., a distance of 109.51 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by time table, train orders, and a manual block-signal system. The accident occurred 8,816 feet south of the station at Cedar Run; approaching this point from the south, there is a compound curve to the right, 3,800 feet in length, the maximum curvature of which is 2° 30', then tangent track for a distance of 740 feet, followed by a 1° 24' curve to the left 2,828.6 feet in length, the accident occurring on this latter curve at a point 489 feet from its southern end. The grade at the point of accident is 0.09 percent ascending for north-bound trains. Owing to the curvature and the mountain along the east side of the track the view of the point of accident from the engineman's side of a north-bound train is restricted to approximately 1,200 feet.

A dense fog prevailed at the time of the accident, which occurred about 6:14 a.m.

Description

North-bound second-class freight train first no. 70 consisted of 113 cars and a caboose, hauled by engine 2733, with helper engine 2732 behind the caboose, and was in charge of Conductor Burke and Engineman DeCoursey. This train passed CH tower 12.21 miles from Cedar Run, at 5:08 a.m., 3 hours and 49 minutes late, stopped at Slate Run, 5.11 miles from Cedar Run to release sticking brakes, and then stopped near the south end of the siding at Cedar Run, where it was standing when it was struck by train second no. 70.

North-bound second-class freight train second no. 70 consisted of 127 cars and a caboose, hauled by engines 2524 and 2517, with helper engine 5169 behind the caboose, and was in charge of Conductor Blank and Enginemen Rayhorn and Bronson. This train entered the block at CH at 5:49 a.m., 41 minutes



Inv. No. 1849
New York Central R.R.,
Cedar Run, Pa.
Aug. 23, 1933.

behind the first section, with the manual block signal displaying a permissive indication, and collided with the rear end of train first no. 70 near Cedar Run while traveling at a speed variously estimated to have been between 12 and 25 miles per hour.

The helper engine of the first section was thrown down the embankment on the left side of the track and stopped on its left side with its tender coupled and derailed but in line with the track; and the caboose, rear car, and the fifth car from the rear of train first no. 70 were demolished. Engines 2524 and 2517, of train second no. 70, also were derailed but stopped in line with the track, while all of the first 17 cars in this train were destroyed except the eighth and fourteenth cars, which were derailed, and the fifteenth and sixteenth cars, which remained on the track. The employee injured was the head brakeman of train second no. 70.

Engineman DeCoursey, of train first no. 70, stated that after passing CH his train was delayed at Slate Run, where the pusher engine stopped the train due to brakes sticking; as soon as the brakes were released the train continued without further trouble. His next stop was near the south end of the siding at Cedar Run, between 6:13 and 6:15 a.m., and after whistling for flag protection he took water and was making arrangements to utilize one of the helper engines he was to meet at this point when he was notified of the collision.

Engineman Emerson, of pusher engine 2722 on train first no. 70, said no difficulty was experienced in starting the train at Slate Run and the speed increased to about 20 miles per hour until the train began reducing speed as it rounded the curve south of Cedar Run. Thinking that the leading engineman intended to take water he began easing off his throttle and just before he closed it the engine passed the flagman, who was on the left side of the track; the flagman did not have a burning fusee at that time, neither had the engineman seen any fusees thrown off while the train was stopping. His fireman then started to get off, saying that the following train was approaching, and on crossing over to the fireman's side he saw the headlight of train second no. 70 about 12 car lengths away, with the flagman running towards it in the center of the track, and when the leading engine of that train was about two car lengths from the flagman the latter stepped off the track on the hillside and ignited a fusee, which the lead engine immediately acknowledged. Engineman Emerson said his train stopped about 6:12 a.m., and that he noted the time immediately after jumping off, when the collision occurred, and it was then 6:14 a.m. The fog was very dense in the vicinity of the point of accident, restricting vision to a few car lengths.

Fireman Lund, of the pusher engine, stated that he noticed the flagman drop a fusee coming into Slate Run and also leave a lighted fusee before returning to his train at that point, but he did not see any thrown off from his side of the train when it was approaching Cedar Run. He was sitting on his seatbox when the train stopped and saw the flagman going back when he

was about 10 car lengths to the rear of the train; he did not see the flagman start back but thought he went immediately after the train stopped. He was unable to say whether the flagman carried lanterns but saw him light a fusee and heard the flagman's signal acknowledged, and it was his opinion that the flagman did all that was humanly possible to afford protection. Fireman Lund saw the headlight of the approaching train as soon as it came into view around the curve and after watching it a second or two he realized a collision was inevitable so he shouted a warning and got off.

Conductor Burke, of train first no. 70, stated that at Slate Run the flagman had to be called three times before he returned, which the conductor thought was due to his going back a long distance on account of the fog. He estimated the maximum speed of the train attained between Slate Run and the point where it started reducing speed approaching Cedar Run to have been 23 miles per hour. When the train began stopping at the latter point he told the flagman that probably the leading engine intended to take water and the flagman took his equipment and went out on the rear platform of the caboose, getting off about four or five car lengths before the train stopped. As soon as the train stopped the conductor started towards the head end and upon reaching a point about five or six car lengths from the caboose the fireman of the pusher engine came running from behind him and stated that train second no. 70 was going to collide with their train. Conductor Burke did not see the headlight of the approaching train but heard a flagman's signals acknowledged and then saw the reflection of a fusee. Conductor Burke further stated that he had never been criticized for excessive use of fusees or torpedoes, and that he had seen the flagman throw off a fusee some distance south of the point of accident, which he considered sufficient protection.

Rear Brakeman Dutton, of train first no. 70, stated that at Slate Run he went back a distance of about 27 pole lengths, where he left torpedoes and a burning fusee, and while returning around the curve where the caboose was standing he left another fusee. When the train was about 1 mile south of the point of accident, traveling at a speed of about 35 miles per hour, he threw off a burning fusee between the rails but was not certain whether this fusee remained lighted as he could not see after the pusher engine passed over it. While the train was stopping near Cedar Run, but still moving at a speed of about 8 miles per hour, he got off from the left side of the caboose, being 18 or 20 car lengths from the caboose when it stopped. He saw a headlight approaching through the fog and began running back, lighted a fusee as quickly as possible, and gave a stop signal which was acknowledged; he estimated that he was about 20 car lengths from the rear end of his train when train second no. 70 passed him with fire flying from the wheels, and he thought the speed of that train was about 30 miles per hour when it first came into view, and about 25 miles per hour at the time of the accident.

Engineman Rayhorn, of the leading engine of train second no. 70, stated that the brakes had been tested and that no trouble was experienced with them en route. A permissive block-signal indication was received at CH and when the engine passed the station the operator held up his hands to indicate they were close behind the preceding train and Engineman Rayhorn therefore eased off on the throttle of his engine. Shortly afterwards he increased speed until the train reached a point about 1 mile south of Slate Run, where two torpedoes were exploded, but again worked steam for a short distance after passing the station. His first intimation that his train was close to the train ahead was when he was flagged with a red fusee only about two car lengths ahead of his engine, and at the same time the men on the other side of the cab told him to jump; he did not then know how close he was to the preceding train as he could not see it, but he immediately acknowledged the signal, applied the brakes, and jumped. Engineman Rayhorn estimated that his train traveled at a speed of 25 or 30 miles per hour between JS and CH block station, was reduced to about 10 miles after entering the block, then increased to about 20 miles per hour, and traveled at a speed between 15 and 20 miles per hour until the train reached the curve south of the point of accident, where it was 15 miles per hour, and this speed was further reduced as the train drifted around the curve. The fog was not uniform in density, but in the vicinity of the point of accident it was quite foggy and rather dark, requiring him to keep his headlight burning. He had previously operated trains under similar weather conditions; he knew that the block was occupied and that this required him to have his train under such control that it could be stopped short of a train or obstruction, but said that in the absence of full flag protection it would be impossible to operate a train of this character at any appreciable rate of speed and at the same time comply strictly with the requirements of the rules. In this particular case Engineman Rayhorn saw no burning fusees prior to the one with which he was flagged, and estimated that his train traveled a distance of only about four car lengths from the time he applied the brakes in emergency until the collision occurred.

The statements of Fireman Louden, of the leading engine of train second no. 70, and Head Brakeman Landis, who was riding on the same engine, substantiated those of Engineman Rayhorn as to the signal indications, the explosion of torpedoes, no burning fusees encountered, and the speed at different points en route. When approaching Cedar Run, Brakeman Landis saw some one running towards them, about 6 car lengths distant, apparently attempting to light a fusee and at almost the same time he saw the marker light on the pusher engine of the preceding train. Fireman Louden's first knowledge of danger was when he observed the reflection of a fusee suddenly appear through the fog about 10 car lengths ahead and then saw what appeared to be the outline of an engine tender.

Engineman Bronson, of the second engine, of train 2nd no. 70, stated that as the visibility was fair during the first part of the trip a maximum speed of 30 miles per hour was attained, this

being reduced to 20 miles per hour at CH. He heard the torpedoes exploded at Slate Run but did not see any burning fusee and his first knowledge of danger was when the fireman informed him there was a fusee and the rear end of a train a short distance ahead; he immediately opened the sanders and straight air valve and then jumped from the engine. Before the accident occurred he thought his train was being operated in accordance with the rules, but afterwards he realized that the train was traveling faster than it should have been in view of the heavy fog prevailing in that territory. He estimated the speed at the time he got off at 15 to 20 miles per hour.

Fireman Phillips, of the second engine, stated that the train approached the point of accident at not more than 12 or 15 miles per hour, and when it reached a point about 15 car lengths from the fusee a short distance south of the point of accident he saw its reflection as well as the outline of an engine tender, and after notifying the engineman of what he had seen he jumped off.

Conductor Blank, of train second no. 70, stated that the train was operated at about normal time table speed of 25 miles per hour until after the head end passed the permissive signal indication displayed at CH and speed was then gradually reduced to 15 or 18 miles per hour and was later reduced to not more than 15 miles per hour, this rate of speed not being exceeded again before the accident occurred; he checked the time that the train entered the block at CH as being 5:47 a.m. He knew the block was occupied and that the range of vision for a distance of about ¾ mile south of the point of accident is restricted, yet according to his understanding of the rules conductors are not responsible for the speed of their trains in an occupied block, it being left entirely to the judgment of enginemen.

Engineman Kinsella, of the pusher engine on train second no. 70, stated that when he saw that the signal at CH block station was displaying a yellow indication he eased off on the throttle, which was the only means he had of reducing speed. After passing Slate Run he closed the throttle further and was working a light throttle at the time of the accident. He estimated the speed at the time his engine passed the tower at CH at 25 miles per hour, which was reduced to 18 or 20 miles per hour by the time they reached Slate Run, and he thought it was 15 miles per hour at the time of the accident. He also said that in view of the permissive signal displayed at CH, indicating that the block was occupied, he did not think the speed was reduced commensurate with weather conditions.

Operator Miller, on duty at CH, stated that train first no. 70 passed his station at a speed of about 30 miles per hour, with no indication of a reduction in speed being made. The caution signal was displayed for train second no. 70 and when the head end passed the tower he gave a hand signal to indicate they were close to the other train and the head brakeman waived his hand in

acknowledgement. He estimated that the train passed the tower at a speed of between 30 and 35 miles per hour.

Conclusions

This accident was caused by the failure of Engineman Rayhorn, of train second no. 70, properly to control the speed of his train when running under a permissive signal in an occupied block when weather conditions materially restricted the range of vision.

The evidence indicated that train first no. 70 consumed 1 hour and 5 minutes between CH and the point of accident, indicating an average speed of approximately 10 miles per hour; within this period, however, the train stopped at Slate Run and was further delayed on account of waiting for the flagman who was called three times at that point. It also appeared that train second no. 70 consumed about 27 minutes between CH and the point of accident, with no stops, indicating an average speed of about 23 miles per hour, whereas the maximum permissible speed for freight trains with helper engines is only 25 miles per hour. The statements of all witnesses indicated that the fog in the vicinity of the point of accident was very dense and in view of that fact, and also the numerous curves in the vicinity which would tend to make it even more difficult to see ahead, Engineman Rayhorn was not justified in running his train at nearly the maximum permissible rate of speed, and this is especially true when approaching a station where trains stop for water; under the rules the permissive signal required him to operate so he could stop short of a train or obstruction, yet at the point of accident he was going so fast when flagged that he had little time to do anything before the accident occurred.

Rule 105, of the Rules for the Government of the Operating Department, reads as follows:

> "Both the conductor and engineman are responsible for the safety of the train and the observance of the rules, and, under conditions not provided for by the rules, must take every precaution for protection."

Conductor Blank, of train second no. 70, did not understand that under the rules he was responsible for the speed of his train in an occupied block. Rule 105, however, makes him equally responsible with the engineman for the safety of the train and the observance of rules, and in view of the prevailing weather conditions he was not justified in leaving to the engineman full responsibility for the operation of the train in an occupied block at such a high rate of speed as was maintained in this case.

It was stated by the conductor and flagman of train first no. 70 that the flagman threw off a fusee about 1 mile south of

the point of accident but the flagman did not know whether it remained lighted after the helper engine had passed over it; no one on the helper engine, however, noticed the reflection of a fusee and none of the employees on the two engines at the head end of the second section saw a fusee at any point en route until flagged near the point of accident. Had a fusee been thrown off at the point in question, and had it remained lighted, it would have been burning when the second section passed that point and Engineman Rayhorn would have known that he was rapidly closing up on the train ahead.

The operation of trains in the same direction in manual block territory under permissive signal indications is often attended with an element of danger, for quite frequently the block stations are so far apart that the signal protection afforded is of little practical benefit. The usual rule applicable under such circumstances requires in substance that the following train be operated so that it can be stopped within range of vision, but literal compliance with such a rule is difficult and particularly in foggy or stormy weather may result in excessive delay. As stated by Engineman Rayhorn, it would be very difficult to operate long, heavy trains such as were involved in this accident, at any speed and be prepared to stop within the limited range of vision in foggy weather. Under such conditions safety of train movement can be assured only by placing in effect an absolute block for following as well as for opposing movements, and the carrier in this case should give consideration to the necessity for adopting that procedure.

Respectfully submitted,

W. P. BORLAND,

Director.