

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN
ACCIDENT ON THE NORFOLK AND WESTERN RAILWAY AT ROANOKE,
VA., ON JUNE 1, 1933.

August 29, 1933.

To the Commission:

On June 1, 1933, there was a side collision between two light engines on the Norfolk and Western Railway at Roanoke, Va., which resulted in the injury of four employees.

Location and method of operation

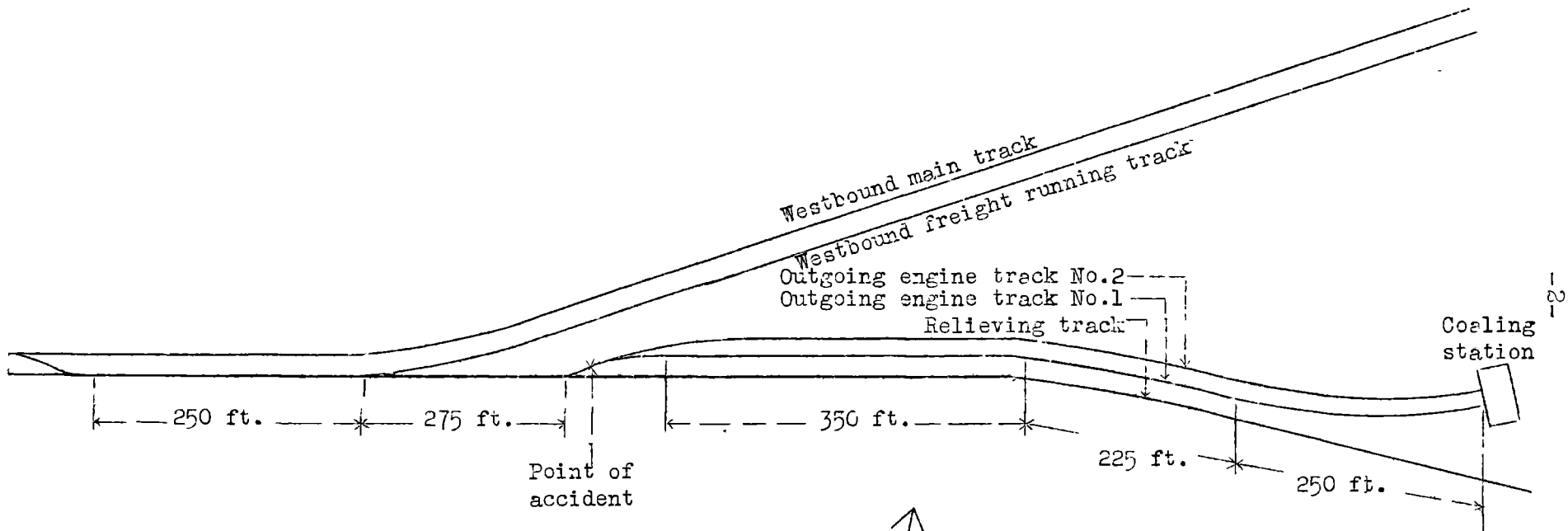
This accident occurred on yard tracks over which movements are governed by yard-limit rules. The west-bound main track is located north of the yard tracks; paralleling this track on the south are the west-bound freight running track, two out-going engine tracks, a relieving track which is used for engines moving in both directions, the ladder track and 5 yard tracks.

The accident occurred at the fouling point of a switch where the outgoing engine tracks and the relieving track converge, about 550 feet west of their connection with the west-bound main track. The relieving track is tangent for several hundred feet in both directions from the point of accident. Proceeding eastward on outgoing engine track no. 1 the track is tangent for a distance of 350 feet and then curves to the left toward the relieving-track switch. The grade at the point of accident is 0.94 percent ascending for west-bound trains. The view of the point of accident which could be had by an engineman of an engine backing west on engine track no. 1 is limited to a distance of 600 feet; the view from the engineman's side of an engine backing east on the running and relieving tracks is unobstructed the entire distance from the crossover connecting with the main track.

The weather was clear at the time of the accident, which occurred about 2:40 a.m.

Description

Shenandoah Division south-bound freight train extra 1448 arrived in Park Street yard, Roanoke, at 2:32 a.m. Engine no. 1448, of the 2-6-6-2 Mallet Type, in charge of Engineman Bateman and Fireman Welch, was cut off and moved westward on the west-bound main track to the crossover connecting the main track and the running track. It then backed through the crossover to the running track and moved eastward, entered the relieving track and was passing the switch leading from outgoing engine track 1 when it was struck by engine 2108 while traveling at a speed estimated to have been about 10 miles per hour.



Inv. No. 1830
 Norfolk & Western Ry.,
 Roanoke, Va.
 June 1, 1933.

Engine 2108, of the 2-8-8-2 heavy Mallet type, in charge of Engineman Fitzgerald and Fireman Talbert, left the coaling station at Shaffers Crossing, located approximately 900 feet east of the point of accident, and was backing west on outgoing engine track no. 1 at an estimated speed of 4 miles per hour when it collided with engine 1448.

The engine truck and forward pair of driving wheels of engine 1448 were derailed, the low-pressure engine was broken loose from the high-pressure engine in the articulating casting, the right side of the engine was considerably damaged, and the cab was demolished. Engine 2108 was not derailed; the right side of the tender was badly damaged. The enginemen and firemen of both engines were injured.

Summary of evidence

Engineman Fitzgerald, of engine 2108, said that when his engine was ready to leave the coaling station preparatory to picking up train no. 88, the fireman informed him that the track was clear except that there was an engine in the vicinity of the lead switch. He started backing his own engine through outgoing engine track no. 1 and as soon as he could see the switchtender, who was in the vicinity of the switch leading to the relieving track, he sounded four short blasts of the whistle and the switchman gave a back-up signal; his engine was then about 200 feet from the switch drifting slowly down grade; he did not see the switch light. There was an engine about 300 or 400 feet west of the switch, but he was unable to determine which track it was on or whether it was moving. Smoke from that engine then obscured his view and when it cleared the engines were very close together; he applied the brakes in emergency bringing his engine to a stop in a short distance but not in time to prevent the collision.

Fireman Talbert, of engine 2108, stated that while preparing for departure from the coaling station he saw an engine, which he thought was engine 1448, moving westward either on the main track or on the running track and he called it to the attention of the engineman. When ready to leave he told the engineman that the track was clear as far as he could see. While moving westward both he and the engineman were on their seatboxes looking back and they passed two or three engines standing on tracks to the north; he did not see any signal given by the switchman or notice the position of the switch points, and he did not see engine 1448 again until he saw steam close behind the tender of his engine; he was about to call a warning to the engineman when the brakes were applied in emergency and the collision occurred. His engine was moving at a speed of not more than 4 or 5 miles per hour.

On account of their injuries Engineman Bateman and Fireman Welch, in charge of engine 1448 at the time of the accident, could not be questioned at the time of this investigation.

Switchtender Fields stated that when engine 1448 arrived on the west-bound main track he lined the crossover switch leading to the running track and then gave the engineman of that engine a back-up signal. As soon as the engine passed through the crossover he closed the main track switch; he then saw engine 2108 approaching on engine track no. 1, the collision occurring very shortly afterwards. He said that he gave only one back-up signal; it was what he termed a short signal which he gave while he was facing towards the west, he did not believe the engineman of engine 2108 could have seen it, and there was no other member of the yard forces in the vicinity who could have given a signal. He did not hear engine 2108 sound the whistle for signals. The switches were set against a movement from the engine tracks, the switch light at the switch leading to engine track 2 from track 1 displaying a red indication and the switch leading to the running track showing a green indication. It is the practice for all engines to receive signals before they foul the switches or running track, although occasionally a road engine moves from the engine tracks without a signal.

Road Foreman of Engines Blakenship arrived at the point of accident about 3:15 a.m., and upon examining the equipment found the brake valve of engine 1448 in running position and not damaged. The throttle was closed; the fulcrum was broken but the teeth in the quadrant did not show any signs of being scratched or mutilated as if the throttle had been forced shut during the collision. From his experience in that locality he did not think that it was possible for the engineman of engine 2108 to have become confused by the signal given for the movement of engine 1448, and expressed the opinion that neither engineman was keeping a proper lookout.

Between 8:30 and 9:30 p.m., June 2, a test was made in the vicinity of the point of accident by using engines of types similar to those involved in the accident. With the engine representing engine 1448, headed west, on the running track just east of the crossover leading from the main track, all switch lights were visible to the engineman. The engine representing engine 2108 was placed at the coaling station on engine track no. 1 and from this point the switch lights and the light on the rear of the engine on the running track could not be seen by the engineman. The engine was then removed westward and the fireman had a clear view of the switch lights as well as the light on the engine on the running track until this engine reached a point about 100 feet from the starting point where the curvature of the track caused the tender to cut off the view of the fireman, but when the engine reached a point about 450 feet from the coaling station the switch lights and the engine light on the running track again came within view of the fireman and remained for a short distance. About 200 feet west of the coaling station the switch lights and the red light on the engine on the running track came into view of the engineman and remained within his vision until the engine reached a point about 450 feet from the point of accident where the light on the switch leading from the engine track no. 1 to engine track no. 2 was cut off, and when the engine reached a point about 225 feet from this switch the light on the

relieving track switch and that on the tender of the engine on the running track were lost sight of by the engineman. A switchman was stationed on the north side of the main track at the crossover leading to the running track, at the approximate location of Switchtender Fields at the time he gave the backup signal to engine 1448, and while facing westward he also gave a back-up signal with a standard lantern. The engineman of the engine approaching on engine track no. 1 could see part of this signal when about 200 feet from the coaling station but could not see the complete circle of the light as the switchman's body interfered with the view.

Conclusions

This accident was caused by the error of Engineman Fitzgerald, of engine 2108, in accepting a signal not intended for the movement of his engine and by the failure of both Engineman Fitzgerald and Fireman Talbert to keep a proper lookout.

According to the evidence, when engine 1448 arrived at the crossover between the westbound main track and the running track the switchtender lined the switches and gave a back-up signal for that engine to move eastward through the crossover and into the yard over the running and relieving tracks, the route having been lined for this purpose. At the same time engine 2108 was moving backwards from the west on engine track no. 1; Engineman Fitzgerald said he sounded the whistle for a signal to enter the relieving track and when he saw the back-up signal given by the switchtender he thought it was intended for his own engine, and as a consequence allowed his engine to continue towards the switch. He did not see the switch lights at engine track switches although they were visible from his side of the engine for some distance while it was moving westward, but he did see a red light on the rear of a tender about 300 or 400 feet west of the switches and from his location he could not tell on which track the engine was located. This light later became obscured by smoke and when it again appeared the engines were so close together that he could not stop before the accident occurred although he immediately applied the brakes in emergency.

Before engine 2108 started from the coaling station Fireman Talbert observed the light on an engine some distance west of that point. He did not see this light again, nor did he see the switch lights of the engine track switches while his engine was moving through the engine track, although tests conducted subsequent to the accident revealed that the switch lights as well as the light on an engine moving on the running track could be seen at intervals by the fireman of an engine backing on the engine track towards the other engine. Had either of these employees been maintaining a proper lookout as their engine was backing through the yard this accident could have been averted.

Respectfully submitted,

W. P. BORLAND,
Director.