INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3552

NORFOLK AND WESTERN RAILWAY COMPANY

IN RE ACCIDENT

AT EAST BLUEFIELD YARD, W. VA., ON

DECEMBER 28, 1953

SUMMARY

Date:	December 28, 1953
Railroad:	Norfolk and Western
Location:	East Bluefield Yard, W. Va.
Kind of accident:	Derailment
Train involved:	Freight
Train number:	100
Engine number:	2049
Consist:	29 cars, caboose
Estimated speed:	5 m. p. h.
Operation:	Operating rules
Track:	Yard track, spiral, 1.65 percent descending grade eastward
Weather.	Clear
Time:	6 55 a m.
Casualties:	1 killed 2 injured
Cause:	Train [illegible] derail when the route [illegible] was not properly [illegible] the derail was in derailing position

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3552

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

NORFOLK AND WESTERN RAILWAY COMPANY

February 15, 1954

Accident at East Bluefield Yard, W. Va., on December 28, 1953, caused by a train passing over a derail when the route for its movement was not properly lined and the derail was in derailing position.

REPORT OF THE COMMISSION[1]

JOHNSON, Chairman:

On December 28, 1953, there was a derailment of a freight train on the Norfolk and Western Railway at East Bluefield Yard, W. Va., which resulted in the death of one employee, and the injury of two employees.

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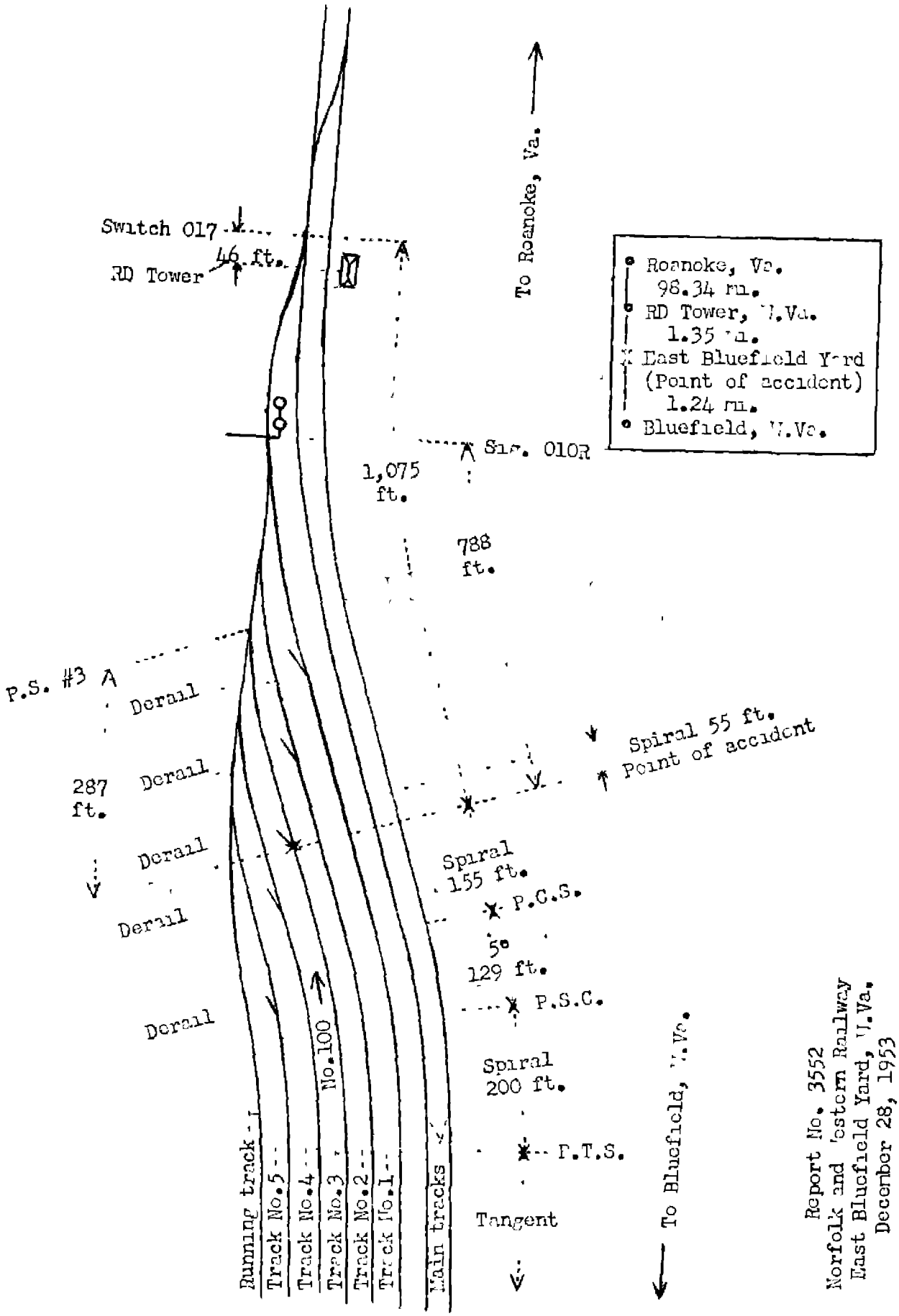
[1] Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Chairman Johnson for consideration and disposition.



Report No. 3552
Norfolk and Western Railway
East Bluefield Yard, W.Va.
December 28, 1953

Location of Accident and Method of Operation

This accident occurred on the Pocahontas Division at East Bluefield Yard, W. Va. East-bound trains departing from East Bluefield Yard enter a double-track line of the Radford Division extending between Bluefield, W. Va., and Roanoke, Va., 100.93 miles, at RD Tower, 2.59 miles east of Bluefield. West of RD Tower, five yard tracks parallel the main tracks on the north. From south to north these tracks are designated as tracks Nos. 1 to 5, inclusive. A running track which parallels track No. 5 on the north converges with the east ends of tracks Nos. 5 to 1, inclusive. East of the east end of track No. 5, the running track converges with the westward main track at switch 017, located 46 feet east of RD Tower. The accident occurred on track No. 3 at a point 287 feet west of the east switch of that track and 1,075 feet west of switch 017. From the west on track No. 3 there are, in succession, a tangent several hundred feet in length, a spiral to the left 200 feet, a 5°00' curve to the left 129 feet, and a spiral to the left 145 feet to the point of accident and 55 feet eastward. Throughout this distance the grade varies between 1.45 percent and 1.65 percent descending eastward, and it is 1.65 percent descending eastward at the point of accident.

Semi-automatic signal 010 R, governing east-bound movements from the running track to either main track, is located 788 feet east of the point of accident. This signal is of the position-light type. It forms part of a traffic-control system which governs movements on the main tracks and is controlled from RD Tower. The aspect applicable to this investigation and the corresponding indication and name are as follows:

Aspect	Indication	Name
Three amber lights in horizontal position over three amber lights in vertical position	Proceed through turnout at prescribed speed	Medium Clear

The switches at the east ends of tracks Nos. 1 to 5, inclusive, are power-operated. A power-operated switch-point derail is located in each of these tracks at a point approximately 280 feet west of the east switch of that track. The

derails are facing-point for east-bound movements. These switches and derails are controlled from the traffic-control machine at RD Tower. They are operated by levers of a different type from the other levers of the machine, and their operation is independent of the operation of the traffic-control system. The lever which controls the switch at the end of each track also controls the derail in that track. When the lever controlling the switch at the end of a track is in reverse position, the switch is lined for movement to or from that track and the derail is in non-derailing position. When the lever is in normal position, the switch is lined for movement on the running track and the derail is in derailing position. A switch and derail may be operated at any time when the track section in which they are located is unoccupied. Electric switch locking prevents the movement of a switch or derail when the track section in which they are located is occupied. The track section at the east end of track No. 3 extends between a point 20 feet west of the derail and a point a short distance east of the switch.

An electric switch lamp is provided at each power-operated switch. These lamps are provided with 3-1/2-inch roundels and 110-volt 10-watt bulbs. The lamp at the switch at the end of each track displays a red aspect when the switch is lined for movement to or from that track and a green aspect when the switch is lined for movement on the running track. A similar lamp is located at each derail. These lamps display green aspects when the derails are in non-derailing positions. Each lamp is controlled by a switch circuit controller which is adjusted to cause the lamp to display a red aspect when the points of the derail are 1/4 inch or more from non-derailing position.

This carrier's operating rules read in part as follows:

DEFINITIONS

Low (Restricted) Speed--A speed that will permit stopping short of another train or an obstruction, but not exceeding 15 miles per hour.

34. All members of engine and train crews must, when practicable, communicate to each other by its name the indication of each signal affecting the movement of their train or engine.

105. Unless otherwise provided, trains and engines using other than a main track must proceed at low (restricted) speed.

Bulletin special instructions read in part as follows:

Effective at 12:01 PM, Monday, September 21, 1953, the following changes will be made in the signals and switches at the east end of Bluefield Yard * * *

All signals, main line switches and derails, all yard switches and derails at the east end of Bluefield Yard will be power-operated and controlled by the operator at the new tower at the east end of Bluefield Yard. * * *

* * *

Each switch and derail on the Radford Division pull-out yard is equipped with a color light switch lamp which will display green indication when switch is lined for the lead or if at a derail when derail is closed and in the non-derailing position, a red indication being displayed when switch is reversed and lined for turn out movement from the lead or if at a derail when the derail is in the derailing position. Engine crews are cautioned that the absence of switch lamp indication at any switch or derail indicates that the points may not be in proper position. * * *

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Description of Accident

No. 100, an east-bound fourth-class freight train, which originated at East Bluefield Yard, consisted of engine 2049, 29 cars, and a caboose, 2,607 tons. It departed from a point on track No. 3 approximately 4,000 feet west of the derail near the east end of the track, and while moving at a speed of about 5 miles per hour the engine and tender, the first car, and the front truck of the second car were derailed at the derail, which was in derailing position.

The train stopped with the front end of the engine 185 feet east of the derail. The derailed equipment remained approximately in line with the track. The engine leaned to the north at an angle of about 45 degrees. Three washout

plugs near the mud ring on the left side of the boiler were dislodged by a rail, and when this occurred hot water and steam escaped from the boiler.

The fireman was killed. The engineer and the front brakeman were injured.

The weather was clear and day was breaking at the time of the accident, which occurred at 6:55 a. m.

Engine 2049 is of the 2-8-8-2 Mallet type. The length of the engine is 66 feet 9-1/4 inches, and the total weight of the engine in working order is 539,000 pounds. The weight of the tender when fully loaded is 312,700 pounds.

Discussion

The derails at the east ends of the yard tracks at East Bluefield Yard were installed because of the heavy descending grade for east-bound movements at the east end of the yard and on the main tracks east of the yard. After an engine enters one of the yard tracks to be coupled to an east-bound train, the operator immediately places the derail in derailing position. He leaves the derail in this position until the brakes of the train have been tested and he has been notified by telephone or whistle signal that the train is ready to proceed. He then lines the derail and switch for the movement. When east-bound trains, except train No. 100, depart from other points in the yard, the yardmaster notifies the operator when each train is ready to proceed and informs him as to the track which the train will use. No. 100 usually operates via the running track to RD Tower, but occasionally this train departs from one of the yard tracks between the running track and the main tracks. There are no specific instructions for any one to notify the operator when No. 100 is ready to depart.

On the day of the accident the cars which were to go forward in No. 100 were assembled on track No. 3. The front end of the train was approximately 4,290 feet west of the east end of the track and about 5,000 feet west of RD Tower. After the crew reported for duty, the engine proceeded to the east end of the yard via the running track. The front brakeman alighted from the engine near the front end of the train and remained in that vicinity until the engine returned on track No. 3. After the engine was coupled to the train and the brakes were tested, the train proceeded eastward.

As this train was approaching the east end of the yard the enginemen were in their respective positions in the cab of the engine, the front brakeman was on the deck of the engine, and the conductor, the swing brakeman, and the flagman were in the caboose. The front brakeman said that he and the fireman were maintaining a lookout ahead from the left side of the engine. Signal 010 R indicated Medium Clear, and all employees on the engine called the indication. The front brakeman said that when the engine reached a point from which the light in the switch lamp at the derail in track No. 3 could be seen he observed that the light was green. He thought that at this time the engine was about 300 feet west of the derail. Because of curvature of the track and the length of the engine the engineer could not see the switch lamp. The brakeman said that both he and the fireman called the green aspect of the lamp to the engineer. After the brakeman saw the aspect of the switch lamp, he crossed to the right side of the engine to be in position to receive a train-order hoop from the operator at RD Tower. He said that the fireman remained in his position in the cab and apparently continued to maintain a lookout ahead. The first he became aware that anything was wrong was when the engine became derailed. The engineer was so seriously injured in the accident that he could not be questioned during this investigation.

The operator at RD Tower said that when engine 2049 arrived at the east end of the yard the switches of tracks Nos. 1 to 5, inclusive, were lined for movement on the running track and the route had been lined for movement from the running track to the main track. When he saw that the movement consisted of an engine only, he called the yardmaster and found that the cars which were to go forward in No. 100 were assembled on track No. 3. After the engine passed the switch at the east end of track No. 3, he lined the switch and derail to position for entry to that track. He said that after the engine entered track No. 3 and passed the derail he immediately restored the switch to normal position and the derail to derailing position. He did not restore lever 010 to normal position, and signal 010 R continued to indicate Medium Clear. About 25 minutes later he observed No. 100 approaching. No. 100 usually operates via the running track. The operator said that when he saw the train he overlooked the fact that the engine had blocked in on track No. 3 a short time earlier. Since the switches were already lined for movement on the running track and he was under the impression that the train was approaching on that track, he

did not move any of the levers. He put on his coat and prepared to hand train-order hoops to the crew as the train passed. The derailment occurred as he was opening the door of the upper floor of the tower to go to the ground level.

After the accident occurred, the derail in track No. 3 was found to be in derailing position. The switch at the east end of the track was in position for movement on the running track. The switch lamp at the derail was displaying a red aspect, and the switch lamp at the switch was displaying a green aspect. These are the proper aspects when the switch and derail are in these positions. Inspection and tests of the signal apparatus disclosed no defective condition.

From the manner in which the accident occurred, it is apparent that the operator placed the derail in derailing position between the time the engine entered track No. 3 and the time the derailment occurred. However, the time at which the derail was moved was not determined during this investigation. The brakeman said that the derail was moved between the time he saw the switch lamp and the time the engine reached the derail. The operator said that the derail was not moved after he placed it in derailing position immediately after the engine entered track No. 3.

Although the results of this investigation are not conclusive as to whether the derail was moved as the train was approaching, the investigation disclosed that there was nothing to prevent the operator from moving the derail at any time that the track section in which the derail was located was unoccupied. Since the track section extends only 20 feet west of the derail, this condition constitutes a definite hazard. The carrier should provide means to prevent the movement of these derails while a train is closely approaching.

Cause

This accident was caused by a train passing over a derail when the route for its movement was not properly lined and the derail was in derailing position.

Dated at Washington, D. C., this fifteenth day of February, 1954.

By the Commission, Chairman Johnson.

(SEAL)

GEORGE W. LAIRD,
Secretary.