

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 2476
THE BALTIMORE & OHIO RAILROAD COMPANY
REPORT IN RE ACCIDENT
AT CUMBERLAND, MD., ON
JANUARY 1, 1941

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SUMMARY

Railroad: Baltimore & Ohio

Date: January 1, 1941

Location: Cumberland, Md.

Kind of accident: Head-end collision

Trains involved: Light engine : Two engines, coupled

Train numbers: Extra 6160 East : Extra 5009-5550 West

Engine numbers: 6160 : 5009, 5550

Speed: 25 m. p. h. : 30-35 m. p. h.

Operation: Movements with current of traffic by
automatic block-signal indications;
movements against current of traffic
by special yard order

Track: Double; 6° compound curve; 0.43 percent
descending grade westward

Weather: Clear

Time: 4:35 p. m.

Casualties: 3 killed; 2 injured

Cause: Accident caused by failure properly to
issue yard order to protect movement
against current of traffic

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2476

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

THE BALTIMORE & OHIO RAILROAD COMPANY

March 14, 1941

Accident at Cumberland, Md., on January 1, 1941, caused
by failure properly to issue yard order to protect
movement against current of traffic.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On January 1, 1941, there was a head-end collision between two engines, coupled, and a light engine on the Baltimore & Ohio Railroad at Cumberland, Md., which resulted in the death of three employees and the injury of two employees.

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

Location and Method of Operation

This accident occurred on that part of the Cumberland Division which extends between Weverton and Cumberland, Md., a distance of 93 miles. This is a double-track line over which trains are operated with the current of traffic by an automatic block-signal system, the indications of which supersede time-table superiority; movements against the current of traffic are by yard order issued by authority of the yardmaster. All tracks involved are within the yard limits at Cumberland; however, time-table instructions specify that Rule 93 is not applicable between Viaduct Jct. and Evitts Creek, 0.6 mile and 2.4 miles, respectively, west and east of the station at Cumberland. In the immediate vicinity of the point of accident there are six parallel tracks; these tracks from north to south are: No. 1, westward high speed main; No. 2, eastward high speed main; westward freight running track; westward hump track; eastward freight track; and Canal track. The accident occurred on track No. 2 at a point 3/4 mile east of Cumberland passenger station and 1.65 miles west of Evitts Creek.

As the point of accident is approached from the east there are, in succession, a tangent 4,732 feet in length, a $4^{\circ}15'$ curve to the right 1,038 feet, a tangent 977 feet, and a compound curve to the right 2,319 feet in length having a maximum curvature of 6° . The accident occurred on the latter curve at a point 39 feet from its western end, where the curvature is $4^{\circ}30'$. As the point of accident is approached from the west there are, in succession, a compound curve to the right 2,695 feet in length having a maximum curvature of $7^{\circ}15'$, a tangent 63 feet, a 3° curve to the left 434 feet, a tangent 369 feet, and the curve on which the accident occurred. At the point of accident the grade for west-bound trains is 0.43 percent descending.

Baltimore Street is about 815 feet west of Cumberland station; Williams Street and Virginia Avenue are, respectively, about 740 and 7,450 feet east of the station.

An automatic signal governing eastward movements on track No. 2 is located 787 feet east of Cumberland station and 49 feet east of Williams Street. A switchtender's cabin is located at Williams Street. A 14-track classification yard, which lies to the south of the main tracks, extends eastward from the station a distance of 5,623 feet. A trailing-point crossover for eastward movements on track No. 2 connects the westward freight running track and track No. 2; the east switch is 549 feet east of the switchtender's cabin and 500 feet east of the eastward automatic signal. The next automatic signal eastward on track No. 2 is 5,648 feet east of the east switch of the crossover; the accident occurred at a point 2,680 feet west of this signal.

Time-table special instructions read in part as follows:

5. SPEED RESTRICTIONS.

The following definitions must be observed:
* * *

Slow Speed.....One-quarter the normal speed,
not to exceed fifteen (15)
miles per hour.

* * *

6. BRAKEMEN, FLAGMEN AND FLAGGING.

* * *

Rule 93 is not in effect.

Between Viaduct Junction and Evitts Creek
reverse movements on the following tracks
may be made on written instructions on au-
thority of Yard Master at West Yard:

Eastward freight track between Virginia
Lane and Viaduct Junction.

Westward freight track between Williams
Street and Evitts Creek.

Main Tracks Nos. 1 and 2 between Evitts
Creek and Viaduct Junction * * *

* * *

9. FIXED SIGNALS.

* * *

After securing permission from the operator,
trains entering the main track in automatic
signal territory, at locations where an auto-
matic signal in advance is not in view, will
proceed at slow speed to the next automatic
signal.

* * *

10. SPACING TRAINS.

* * *

Rules 501 to 515 (Automatic Block System) in-
clusive are in effect as follows:

BETWEEN	TRACK	NO.
Weverton and Williams Street, Cumberland.....	Westward high speed...	1
Williams Street, Cumber- land and Weverton.	Eastward high speed...	2

* * *

A bulletin dated June 28, 1929, addressed to yardmasters,
operators, switchmen and all others concerned, provides in part
as follows:

All movements against the current of traffic in Cumberland yard must be made only by authorized employees, who will issue the necessary instructions in writing, on the proper form, giving a copy to each employe concerned, requiring them to repeat the order correctly and sign their name to same, taking every precaution to make the move safe before making the order complete.

Movements against the current of traffic are authorized by the yardmaster, who issues a special form of train order, designated as a yard order. When a movement against the current of traffic on track No. 2 between Evitts Creek and Williams Street is authorized, a yard order is transmitted to the operator at Evitts Creek and to the switchtender at Williams Street. Movements against the current of traffic are protected at Evitts Creek by interlocking signal indications. Movements against the current of traffic are protected at Williams Street by the switchtender who displays a red flag by day and a red light by night on the east of the eastward automatic signal. A station record is kept by the operator at Evitts Creek and the switchtender at Williams Street.

At the time of the accident 60 cars which were on track No. 1 restricted the view of the crews of the opposing engines to a distance of about 200 feet; there were cars also on the westward hump track.

The east yard-limit sign is located 3.36 miles east of Evitts Creek, and the west yard-limit sign is 6.21 miles west of Viaduct Junction Tower.

In this vicinity the maximum authorized speed for freight trains is 45 miles per hour; for light engines moving forward it is 40 miles per hour and moving backward, 25 miles per hour.

The weather was clear at the time of the accident, which occurred about 4:35 p. m.

Description

Extra 5009-5550 West, with Enginemen Holleran and Evans in charge, consisted of engines 5009 and 5550, coupled, and headed west. At Evitts Creek the crew received clearance Form A which bore the information, "Proceed block is clear to Williams Street," together with a copy of a yard order, filled out on a mimeographed form, which read as follows:

The employees killed were the engineman and the fireman of engine 6160 and the fireman of engine 5009; the employees injured were the engineman of engine 5009 and the fireman of engine 5550.

Summary of Evidence

Engineman Holleran, of engine 5009, stated that engines 5009 and 5550 were coupled at Evitts Creek. The air brakes were tested and they functioned properly. At Evitts Creek he received a yard order and a clearance Form A which authorized Extra 5009-5550 to proceed against the current of traffic on track No. 2 from Evitts Creek to Williams Street. Extra 5009-5550 departed from Evitts Creek and as it was approaching the point where the accident occurred the speed was about 30 to 35 miles per hour. He saw someone near the hump giving hand signals, which the engineman thought were intended for a hump track movement; however, he applied the independent engine brake and had started to apply the automatic brake when he observed engine 6160 about 50 or 75 feet distant, and then the accident occurred. He thought that engine 6160 was moving at the same speed as that of Extra 5009-5550.

Engineman Evans, of engine 5550, stated that at Evitts Creek the air hose between engines 5009 and 5550 were coupled, and the brakes were controlled by the engineman of engine 5009; the air brakes were tested and they functioned properly. As the engines passed the tower at Evitts Creek the operator handed up clearance Form A and a copy of the yard order. As Extra 5009-5550 approached the point where the accident occurred the speed was about 30 to 35 miles per hour, the throttle of engine 5550 was closed and the drifting valve was open. Because of cars on track No. 1 his view around the curve involved was restricted to a distance of about one car length. He observed someone waving stop signals and applied the independent brake but too late to avert the accident, which occurred at 4:35 p. m. He estimated the speed of Extra 5009-5550 at 30 to 35 miles per hour at the time of the collision.

The statement of Fireman Mack, of engine 5550, added nothing of importance.

Operator Lewis, at Evitts Creek, stated that track No. 1 was blocked because of cars left standing on it at 2:41 p. m. When engines 5009 and 5550 en route from the enginehouse to Cumberland station arrived at Evitts Creek, he telephoned the switchtender at Williams Street and instructed him to inform the yardmaster that authority was necessary for movement of these engines against the current of traffic on track No. 2 between Evitts Creek and Williams Street. Soon afterward the yardmaster issued authority on a yard-order form for engines 5009

and 5550 to move against the current of traffic on track No. 2; the yardmaster named Switchtender Smith as the switchman. The operator repeated the yard order to the yardmaster, marked it as completed at 4:22 p. m., filled out clearance Form A, which bore information that the block was clear to Williams Street, and delivered them to Extra 5009-5550 West at 4:30 p. m. as it passed the tower. Soon afterward the yardmaster inquired of the operator if Extra 5009-5550 had departed westward and the operator informed him that it had. Later the operator learned that Extras 5009-5550 and 6160 had collided on track No. 2. He did not know whether the switchtender at Williams Street had a copy of the yard order and did not hear the switchtender repeat the order. The operator thought the switchtender should have been aware of the movement against the current of traffic on track No. 2, since he had been instructed to inform the yardmaster that such movement was necessary. The operator said that the switchtender did not report to him that engine 6160 was occupying track No. 2 and moving eastward from the crossover to Evitts Creek; however, it is not customary to report movements made with the current of traffic on track No. 2 from Williams Street to Evitts Creek. No difficulty had been experienced previously when similar movements were made against the current of traffic. Operator Lewis could not account for the fact that the switchtender did not recall having had any conversation with him.

Switchtender Smith, at Williams Street, stated that he was first employed on January 30, 1940, and was furloughed between April 1 and September 26, 1940; he had an aggregate service of about 5 months. He had performed service as switchtender at Williams Street on 10 occasions. His knowledge of the movement of trains and engines in that vicinity was based on experience acquired when he was a student assisting regularly assigned switchtenders. He had been qualified by the terminal trainmaster after he was given an oral examination on time-table instructions and a written examination on Rule 99 and the use of hand and lantern signals. At Williams Street the assignment includes the handling of eight switches. Because of considerable traffic, he is absent from his cabin most of the time. The distance from the switchman's cabin to the farthest switch is 549 feet. When he is performing service at Williams Street he is under the supervision of the yardmaster in charge of the West Yard. When the yardmaster desires to issue a yard order to authorize a movement against the current of traffic, it is necessary to wait until the switchtender returns to his cabin before the switchtender can sign the order. The switchtender denied that he had been instructed by the operator at Evitts Creek to request the yardmaster to issue an order authorizing engines 5009 and 5550 to move on track No. 2 against the current of traffic between Evitts Creek and Williams Street. He said he did not know that the yardmaster issued yard-order authority to make such movement, as he was not in the switchman's cabin with the yardmaster at

the time. Switchtender Smith said that the yardmaster came out of the switchtender's cabin at Williams Street at 4:23 p. m. and proceeded to the yard office. Although the switchtender was but 100 feet distant, the yardmaster did not give him oral instructions concerning the intended movement on track No. 2. Soon afterward engine 6160 arrived on the westward freight running track and about 4:30 p. m. the switchtender lined the crossover for engine 6160 to move to track No. 2; the engine proceeded eastward on that track. Soon after the engine departed the yardmaster returned to the switchtender's cabin and inquired whether engine 6160 had proceeded eastward on track No. 2, to which the switchtender replied in the affirmative. The yardmaster then informed the switchtender that a yard order authorizing a movement against the current of traffic on track No. 2 had been issued, and endeavored to call the eastward hump and Virginia Avenue, but it was too late to avert the accident. Switchtender Smith said that he neither saw nor signed the yard order involved. After the accident occurred the yardmaster told him that he, the yardmaster, had remarked about engines 5009 and 5550 moving on track No. 2 from Evitts Creek to Williams Street and he thought the switchtender understood, but the switchtender said he did not have such understanding. Switchtender Smith said he was not familiar with the rules applicable to train movements; however, he understood that the yardmaster should not have completed the yard order until the switchtender signed it. Ordinarily he is furnished with copies of yard orders similar to the order involved. Shortly before 4 p. m. on the same date, the day yardmaster authorized a similar movement and did not furnish the switchtender with a copy of the yard order but orally instructed him concerning the intended movement. He said that it is customary to permit engines to occupy track No. 2 at the crossover east of Williams Street and to proceed eastward without notifying either the yardmaster or the operator at Evitts Creek. In this instance he did not consult Operator Lewis before engine 6160 proceeded eastward on track No. 2; prior to that movement other engines had moved eastward on track No. 2 to Evitts Creek. When trains from Evitts Creek arrive at Williams Street on track No. 2 he reports them clear to that operator.

Yardmaster McKnight, on duty at Williams Street, stated that he has been yardmaster at Williams Street for the past 4 years and his present tour of duty is from 4 p. m. to midnight. He had performed service as yardmaster throughout the Cumberland terminal over a considerable period. He understood the rules applicable to movement of trains in this vicinity and was responsible for the correct understanding of rules by employees under his supervision. Among other duties he is required to issue orders authorizing movements against the current of traffic on both main tracks and on the eastward and the westward running tracks. These orders are written on a prescribed form designated as a yard-order form. Formerly this order was written in a

train-order book in the switchtender's cabin at Williams Street; however, during the past several years the train-order book had not been used and only one copy of the mimeographed yard-order form had been filled out. Before a yard order is issued it is necessary to display, in a place provided near the switchtender's cabin, a red flag by day and a red light by night as a train-order signal. He was positive that he told Switchtender Smith not to permit any movement eastward on track No. 2, as he desired to authorize a movement against the current of traffic on that track. Later, he was informed by either the switchtender or the crossing watchman that the operator at Evitts Creek was calling him by telephone. About 4:30 p. m. he proceeded to the switchman's cabin at Williams Street and issued to Operator Lewis the yard order involved, authorizing engines 5009 and 5550 to move on track No. 2 against the current of traffic from Evitts Creek to Williams Street. The operator repeated the order, the yardmaster signed Switchtender Smith's name in the place designated for "switchman," and made the yard order complete at 4:22 p. m. The yardmaster left the switchman's cabin and proceeded to the yard office, about 60 feet distant. Soon afterward he observed engine 6160 moving eastward on track No. 2 and immediately he endeavored to call different points by telephone in an attempt to avert the accident. After the accident occurred the switchtender told him that he did not hear the yardmaster's instructions concerning movements on track No. 2. Yardmaster McKnight said that had he made certain the train-order signal was displayed, or had he obtained the signature of Switchtender Smith as required before the order was made complete, or had he definitely determined that the movement was protected against opposing movements, the accident probably would have been averted. He said that the switchtender should not have permitted engine 6160 to proceed eastward on track No. 2 without either obtaining the permission of the yardmaster or consulting the operator at Evitts Creek; however, the yardmaster could not recall any bulletin or special instruction to that effect. Since the yardmaster stationed at Williams Street is stationmaster as well as yardmaster in charge of the westward freight yard, in order to save time it had become the practice orally to inform the switchtender when a movement was to be authorized against the current of traffic. In many instances the switchtender neither signs the order nor sees it as only one copy is filled out. When an order is issued from the switchman's cabin at Williams Street a copy is placed in a drawer at that point, but when an order is issued from the yard office the switchtender does not see the order. He did not think superior officials were aware that yard orders were being handled in this manner.

Extra Yardmaster Smith stated that the switchtender at Williams Street is required to obtain permission from the operator at Evitts Creek before he permits an eastward movement to be made on track No. 2. He said that the switchtender at Williams

Street is required to be out of the switchman's cabin about three-fourths of the tour of duty in order to handle switches and to attend to other duties; therefore, in some instances the signature of the switchman is not obtained on yard orders. The extra yardmaster said that an average of five movements against the current of traffic is made in an 8-hour period.

Yardmaster Hoffman stated that in order to authorize a movement against the current of traffic on track No. 2 from Evitts Creek to Williams Street, the yardmaster is required to issue a yard order to the operator at Evitts Creek and to obtain the signature of the switchtender at Williams Street, and either he or the switchtender must display a red signal at this latter point before a yard order is made complete. The yardmaster considered this duty similar to that of a train dispatcher. He did not think it entirely safe for a yardmaster, among other duties, to issue orders covering train movements.

Yardmaster Pitcher corroborated in substance the statements of Yardmasters McKnight, Smith and Hoffman.

Switchtender Chapman, who is assigned regularly to duty at Williams Street, stated that before the yardmaster issues an order authorizing movement against the current of traffic on track No. 2 from Evitts Creek to Williams Street he inquires of the switchtender the time the last eastward movement was made on that track, then instructs him to display a red flag by day or a red light by night as protection against eastward movements. The switchtender enters on a station record the arrival and departure of all trains and engines. He said that it was not necessary to obtain permission from either the yardmaster or the operator at Evitts Creek before an engine is authorized by signal to move eastward with the current of traffic on track No. 2. He was employed in November, 1939, and had not been examined on operating rules.

Terminal Trainmaster Read, at Cumberland, stated that frequently the yard tracks become blocked and movements between Evitts Creek and Viaduct Junction are made against the current of traffic by authority of the yardmaster. Yardmasters are responsible for the proper issuance of prescribed yard orders. If the yardmaster had complied with the instructions by obtaining the switchman's signature to the order which authorized Extra 5002-5550 West to move against the current of traffic on track No. 2 and if the yardmaster had made certain that track No. 2 was protected against eastward movements before he made the order complete, the accident probably would have been averted. As the original copy of the yard order involved could not be found, it appeared that the yard order might have been issued orally by the yardmaster to the operator at Evitts Creek. In his opinion yardmasters were not performing duties of a dispatcher. The

terminal trainmaster thought that operation would be safer by either assigning an operator at Williams Street or operating the switches by remote control. He said that unless otherwise instructed by the yardmaster the switchtender had authority to permit engines to move eastward with the current of traffic on track No. 2. Since engine 6160 occupied the main track between automatic signals it was required by time-table instructions to move at slow speed not exceeding 15 miles per hour until the next automatic signal in advance could be seen. In automatic signal territory, at points other than Cumberland Yard, the switchtender is required to obtain permission from the block operator before he permits an engine to enter the main track.

Yard Conductor White, who was on duty near the hump, estimated the speed of engine 6160 to have been at least 25 miles per hour; he did not see Extra 5009-5550 West until the impact occurred.

According to data furnished by the railroad, during the 30-day period prior to the occurrence of the accident a total of 934 movements were made with the current of traffic on track No. 1 and 711 movements on track No. 2; no movements were made against the current of traffic on track No. 1; however, 121 movements against the current of traffic were made on track No. 2. The average daily movement on track No. 1 with the current of traffic is 23.6 trains and against the current of traffic it is 7.03 trains.

Observations of the Commission's Inspectors

The Commission's inspectors observed that the switchman's cabin at Williams Street is a building 6 feet square; it provides shelter for the crossing watchman and the switchtender. A telephone, which is on a yard circuit of ten telephones, is provided. When movements are authorized against the current of traffic on track No. 2 between Evitts Creek and Williams Street the switchtender displays a red flag by day and a red light by night in a place provided at the eastward automatic signal at Williams Street. Numerous engines entered track No. 2 at the crossover and proceeded eastward at speeds considerably in excess of the slow-speed restriction required when the next signal in advance cannot be seen. Because of curvature, when track No. 1 is occupied by cars, as the point where the accident occurred is approached on track No. 2, the view is restricted to 211 feet.

Discussion

According to the evidence, the crew of Extra 5009-5550 West held a yard order, which authorized it to move against the current of traffic on track No. 2 between Evitts Creek and Williams Street, and a clearance Form A, which bore information that the

block to Williams Street was clear. Extra 5009-5550 was proceeding at an estimated speed of 30 to 35 miles per hour when it collided with Extra 6160 East at a point 3,437 feet east of Williams Street. Extra 6160 was moving with the current of traffic, in back-up motion, at a speed of about 25 miles per hour. Because of track curvature and cars standing on adjacent tracks the view ahead was restricted to about 200 feet.

According to time-table instructions, the yardmaster at Williams Street was authorized to issue the yard order for the movement of Extra 5009-5550 against the current of traffic on track No. 2, between the points specified. According to instructions contained in a bulletin, the yardmaster was required to see that a red flag by day and a red light by night was displayed on the mast of the eastward automatic signal at Williams Street, in order to hold all east-bound trains until Extra 5009-5550 had fulfilled the provisions of the yard order, and to obtain the signature of the switchtender at Williams Street on the order form before the order addressed to Extra 5009-5550 West was made complete. The evidence indicates that the operator at Evitts Creek called the switchtender at Williams Street to request the yardmaster to issue an order authorizing engines 5009-5550 to move against the current of traffic on track No. 2 between Evitts Creek and Williams Street, but the switchtender denied that he was the person with whom the operator was talking on the telephone; however, the yardmaster was informed by someone and he issued the order authorizing the movement. According to the statement of the yardmaster, he instructed the switchtender to protect track No. 2 against movements with the current of traffic until the yard order was fulfilled, but according to the statement of the switchtender, the switchtender was a considerable distance from his cabin during this time and the yardmaster did not instruct him to protect the track. The yardmaster completed the order without obtaining the signature of the switchtender and failed to take measures to insure that track No. 2 was protected by a red flag or a red light. The order was made complete at 4:22 p. m. and Extra 5009-5550 entered track No. 2 at Evitts Creek at 4:30 p. m. About the same time Extra 6160 entered track No. 2 at the crossover located 500 feet east of the point where the red yard-order signal should have been displayed.

The rules require trains entering the main track in automatic-signal territory to move at not more than one-fourth of normal speed but not in excess of 15 miles per hour, until the next signal in advance can be seen; however, Extra 6160 entered track No. 2 at a point 500 feet east of the automatic signal and, while it was moving at a speed of about 25 miles per hour, collided with the opposing train before the next automatic signal was reached. As the engineman and the fireman of Extra 6160 were killed in the accident, it is not known why they did not comply with this rule; however, from observations by the Commis-

sion's inspectors subsequent to the accident it appeared to be customary for engines entering track No. 2 at the crossover involved to exceed 15 miles per hour before the next signal in advance could be seen.

There was difference of opinion as to the switchtender's authority to permit east-bound movements with the current of traffic on track No. 2 east of the crossover involved without first consulting either the yardmaster or the operator at Ewitts Creek; however, according to the statement of the terminal trainmaster, the switchtender had authority to permit such a movement to be made unless otherwise instructed by the yardmaster. If the switchtender had been required to sign a copy of the yard order involved, he would have known of the movement of Extra 5009-5550 against the current of traffic and undoubtedly would have held Extra 6160 at Williams Street until the yard order was fulfilled.

The investigation disclosed that in some instances during the past several years the switchtender's signature on a yard order was not obtained, and in other instances the order was not written but was transmitted orally and the switchtender was instructed orally to protect the track involved. The evidence disclosed that a movement against the current of traffic a short time prior to the one involved was handled orally by another yardmaster. The yardmaster involved did not think supervisory officials knew of these irregular practices; nevertheless, officials should have known of these long-standing practices; it is difficult to understand how they could fail to know of these practices. If operating officials had enforced in the past the rules pertaining to the movement involved, it is probable this accident would have been averted.

Cause

It is found that this accident was caused by failure properly to issue a yard order to protect movement against the current of traffic.

Dated at Washington, D. C., this fourteenth day of March, 1941.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.