

INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2605

THE BALTIMORE & OHIO RAILROAD COMPANY

REPORT IN RE ACCIDENT

NEAR MT. AIRY JCT., MD., ON

JULY 19, 1942

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SUMMARY

Railroad: Baltimore & Ohio

Date: July 19, 1942

Location: Mt. Airy Jct., Md.

Kind of accident: Rear-end collision and wreckage struck
by train moving on adjacent track

Trains involved: Freight : Freight : Freight

Train numbers: Extra 4603 : Extra 4629 : Extra 4622
East East West

Engine numbers: 4603-4614- : 4629-4611 : 4622
4445

Consist: 97 cars, : 43 cars, : 75 cars,
caboose caboose caboose

Speed: 5-8 m. p. h. : 18 m. p. h. : 25 m. p. h.

Operation: Manual block-signal system

Track: Double; 4°40' left curve; 0.83 percent
ascending grade eastward

Weather: Clear

Time: 10:51 p. m.

Casualties: 2 killed; 3 injured

Cause: Accident caused by failure to provide ade-
quate flag protection for preceding train
and by failure properly to control speed
of following train in compliance with
permissive-signal indication

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2605

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

THE BALTIMORE & OHIO RAILROAD COMPANY

August 28, 1942.

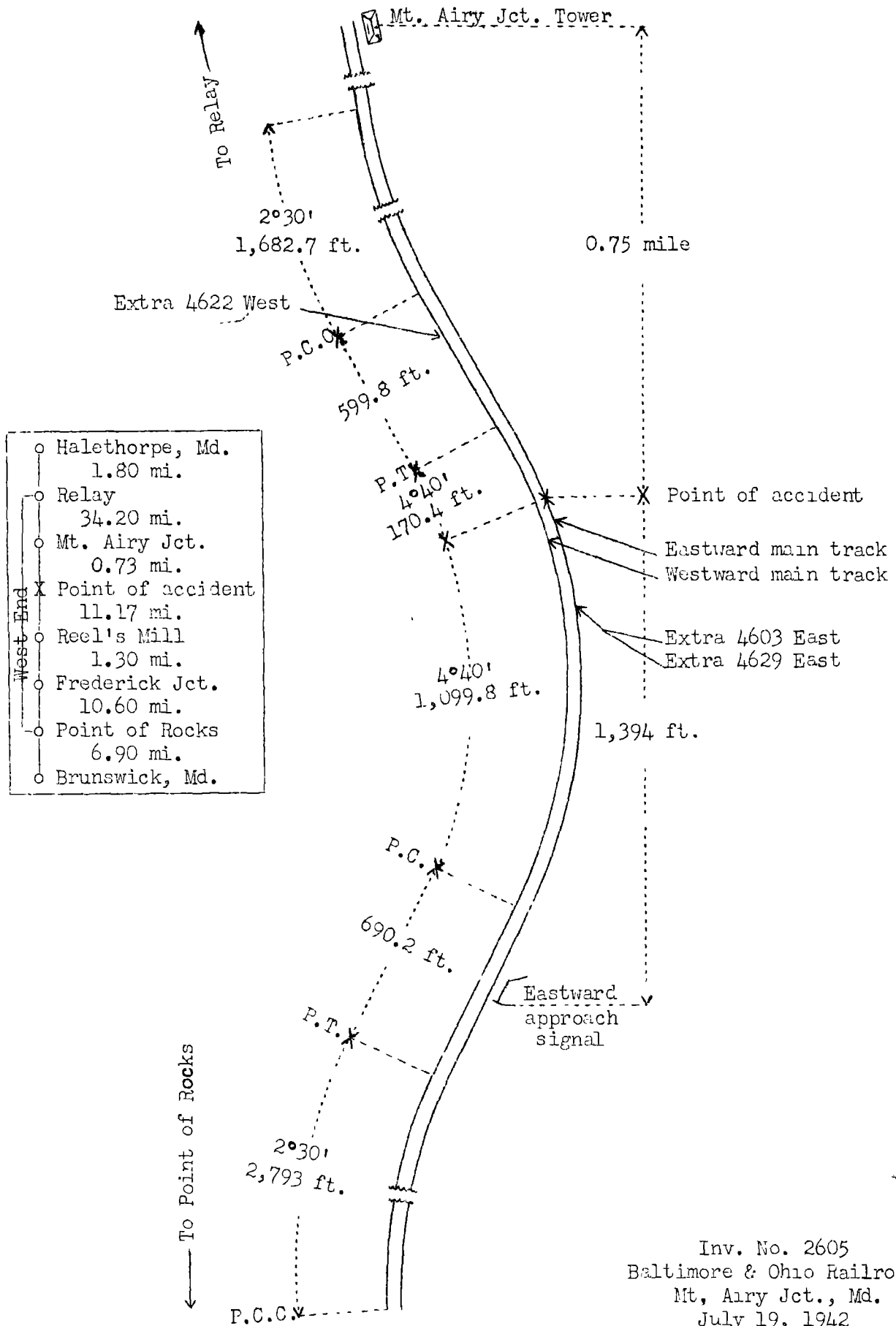
Accident near Mt. Airy Jct., Md., on July 19, 1942, caused by failure to provide adequate flag protection for preceding train and by failure properly to control speed of following train in compliance with permissive-signal indication.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On July 19, 1942, there was a rear-end collision between two freight trains and the wreckage was struck by another freight train on the Baltimore & Ohio Railroad near Mt. Airy Jct., Md., which resulted in the death of two employees and the injury of three 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.



Inv. No. 2605
 Baltimore & Ohio Railroad
 Mt. Airy Jct., Md.
 July 19, 1942

Location of Accident and Method of Operation

This accident occurred on that part of the Baltimore Division designated as the West End and extending between Point of Rocks and Relay, Md., a distance of 58 miles. In the vicinity of the point of accident this is a double-track line over which trains are operated with the current of traffic by a manual block-signal system, the indications of which supersede time-table superiority. The accident occurred on the eastward main track at a point 0.75 mile west of the tower at Mt. Airy Jct. As the point of accident is approached from the west on the eastward main track there are, in succession, a compound curve to the right 2,793 feet in length, the maximum curvature of which is 2°30', a tangent 690.2 feet and a 4°40' curve to the left 1,099.8 feet to the point of accident and 170.4 feet beyond. As the point of accident is approached from the east on the westward main track there are, in succession, a 2°30' curve to the left 1,682.7 feet in length, a tangent 599.8 feet, and the curve on which the accident occurred. The grade for east-bound trains is 0.77 percent ascending a distance of 2 miles and then is 0.83 percent ascending 560 feet to the point of accident. The grade for west-bound trains is 0.83 percent descending a distance of 4,224 feet to the point of accident.

The block involved extends between Reel's Mill and Mt. Airy Jct., a distance of 11.9 miles. The block signal at Reel's Mill which governs eastward movements on the eastward main track is controlled by the signalman at Frederick Jct., 1.3 miles west of Reel's Mill. The involved night aspect and corresponding indication and name of this signal are as follows:

<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
Lunar-white-over-red	Block occupied, proceed prepared to stop short of train ahead	Permissive Signal

An eastward approach signal is located 5,371 feet west of the tower at Mt. Airy Jct. and 1,394 feet west of the point of accident. This signal is of the one-arm, semaphore type. The arm is fixed in a 45-degree position and the night aspect is lunar white.

Operating rules read in part as follows:

35. The following signals must be used by flagmen:

* * *

Night Signals- A red light,
A white light,
Torpedoes and fuses.

99. * * *

When a train is moving under circumstances in which it may be overtaken by another train, the flagman must take such action as may be necessary to insure full protection. By night, * * *, lighted fuses must be thrown off at proper intervals.

* * *

Conductors and enginemen are responsible for the protection of their trains.

* * *

102. When a train is disabled or stopped suddenly by an emergency application of the air brakes or other causes, adjacent tracks * * * that are liable to be obstructed must at once be protected until it is ascertained they are safe and clear for the movement of trains.

251. On portions of the railroad, and on designated tracks so specified on the time-table, trains will run with reference to other trains in the same direction by block signals whose indications will supersede the superiority of trains.

305. Block signals govern the use of blocks, but, unless otherwise provided, do not supersede the superiority of trains, nor dispense with the use or the observance of other signals whenever and wherever they may be required.

318. On two or more tracks, * * *

* * * A train may be permitted to follow a train other than a passenger train into a block under a permissive indication * * *

930. When a train has more than one engine the requirements of the rules apply alike to the engineman of each engine, except that the use of the engine bell, whistle and air brake shall be limited to the leading engine except in emergencies. * * *

Special time-table instructions provide that manual block rules and rules for operation of trains in the direction of the current of traffic by signal indications govern movements within the territory involved in this accident.

The maximum authorized speed for eastward trains between the eastward approach signal and Mt. Airy Jct. interlocking is 20 miles per hour.

Description of Accident

Extra 4603 East, an east-bound freight train, consisted of engine 4603, 97 cars, a caboose, and engine 4614, in the order named. At Brunswick, 30.7 miles west of Mt. Airy Jct., a terminal air-brake test was made and this train departed at 8:14 p. m., according to the dispatcher's record of movement of trains. At Frederick Jct., 13.2 miles west of Mt. Airy Jct. and the last open office, engine 4445 was coupled behind engine 4614, a brake test was made and this train departed at 9:40 p. m. Extra 4603 entered the block at Reel's Mill under a proceed signal indication. While it was moving at an estimated speed of 5 to 8 miles per hour its rear end was struck by Extra 4629 East at a point 3,877 feet west of the tower at Mt. Airy Jct.

Extra 4629 East, an east-bound freight train, consisted of engine 4629, 43 cars, a caboose and engine 4611, in the order named. At Brunswick a terminal air-brake test was made and this train departed at 9:30 p. m., according to the dispatcher's record of movement of trains, and passed Frederick Jct. at 10:22 p. m. It entered the block at Reel's Mill under a permissive signal indication and while moving at an estimated speed of 18 to 20 miles per hour it collided with the rear end of Extra 4603. The brakes of Extra 4629 had functioned properly at all points where used en route.

Extra 4622 West, a west-bound freight train, consisted of engine 4622, 75 cars and a caboose. This train departed from Haleshorpe, 36 miles east of Mt. Airy Jct., at 9:12 p. m., according to the dispatcher's record of movement of trains, passed Mt. Airy Jct. at 10:50 p. m., and while moving at an estimated speed of about 25 miles per hour it struck the wreckage of Extra 4603 and Extra 4629 which fouled the westward main track.

From the right side of an east-bound engine the view of the point of accident is restricted to a few feet and from the left side to a distance of about 1,300 feet, because of track curvature and a rock cliff on the south side of the tracks. The wreckage which obstructed the westward main track could not be seen from a west-bound engine because of track curvature and the train on the eastward main track.

As a result of the rear-end collision, engine 4445, of Extra 4603, was moved forward by the impact about 100 feet and stopped, badly damaged, upright on the eastward main track. Engine 4614, of Extra 4603, was derailed and stopped, practically demolished, on its left side on the westward main track and parallel to it. The caboose of Extra 4603 was demolished, and the wreckage stopped on the roadbed about 10 feet north of the westward main track. The rear car of Extra 4603 was derailed and stopped, badly damaged, on the eastward main track and parallel to it. The front end of engine 4629 was considerably damaged. Engine 4622, of Extra 4622 West, was derailed and

stopped, badly damaged, upright and in line with the westward main track. The first fifteen cars of Extra 4622 were derailed and stopped, badly damaged, at various angles to the tracks. The wreckage of the three trains was contained within a distance of about 280 feet.

It was clear at the time of the accident, which occurred at 10:51 p. m.

The employees killed were the engineer and the fireman of Extra 4622. The employees injured were the front brakeman of Extra 4622, the front brakeman of Extra 4603 and the fireman of Extra 4629.

Data

During the 30-day period preceding the day of the accident the average daily movement on the eastward main track in the vicinity of the point of accident was 19.1 trains, and on the westward main track, 35.4 trains.

Discussion

The rules governing operation on the line involved provide that when a train is moving under circumstances in which it may be overtaken by another train the flagman must take such action as may be necessary to insure full protection. At night lighted fusees must be thrown off at proper intervals. In manual block-signal territory a following train moving under authority of a permissive-signal indication must proceed prepared to stop short of a train ahead.

Extra 4603 East entered the block at Reel's Mill under authority of a proceed-signal indication, and while it was moving on an ascending grade at a speed of 5 to 8 miles per hour its rear end was struck by Extra 4629 East. Extra 4629 East entered the block at Reel's Mill under authority of a permissive-signal indication, and while moving at a speed of about 18 miles per hour it struck the rear end of Extra 4603. Under the rules, flag protection was required for Extra 4603, and Extra 4629 was required to proceed prepared to stop short of train ahead. Immediately after Extra 4629 collided with Extra 4603 and before protection could be provided, Extra 4622 West struck the wreckage which obstructed the westward main track.

As Extra 4603 was approaching the point where the accident occurred, the conductor, the flagman and the front brakeman were in the caboose. Lighted marker lamps on the tender of the second engine behind the caboose displayed red to the rear. Extra 4603 was moving slowly on the ascending grade west of Mt. Airy Jct., and the conductor thought the train would stall. The first any member of the crew on the caboose was aware that Extra 4629 was closely approaching was when the conductor locked

westward from the right side of the front platform of the caboose and saw the reflection of a headlight about 1,300 feet distant. He immediately threw off a lighted fusee and instructed the flagman to provide flag protection. The flagman immediately lighted a red fusee, dropped off and ran toward the approaching train, but had reached a point only a short distance to the rear of his train when Extra 4629 passed him. The enginemen of the engines behind the caboose of Extra 4603 were maintaining a lookout ahead and they did not see Extra 4629 until just before the collision occurred.

As Extra 4629 was approaching the point where the accident occurred, the speed was about 20 miles per hour and the enginemen and the front brakeman were maintaining a lookout ahead. There was no condition of the engine which obscured the view or distracted their attention. Because his view was restricted, the engineer of engine 4629 instructed the fireman and the front brakeman to keep a sharp lookout ahead. The fireman was the first member of the crew on the engine to see the train ahead. He observed simultaneously a lighted fusee and the tender of the rear engine of Extra 4603, and called a warning to the engineer, who immediately moved the brake valve to emergency position, but the distance was not sufficient for the following train to stop short of the rear of Extra 4603. The engineer of engine 4611, which was coupled immediately behind the caboose of Extra 4629, estimated the speed of his train as about 20 miles per hour when the brakes became applied in emergency just before the accident occurred.

The rules governing operation in manual block-signal territory on the line involved provide that block signals do not dispense with the use and the observance of other rules whenever and wherever they may be required. Notwithstanding the permissive block-signal indication, the following train was moving at the maximum authorized speed of 20 miles per hour and overtook the preceding train, which was moving at a speed of only 5 to 8 miles per hour, in territory where track curvature prevented the members of the crew on the first engine of the following train from seeing the oil-burning marker lamps on the tender of the rear engine of Extra 4603. The flagging rule requires that necessary action must be taken to provide full protection when a train is moving in the manner in which the preceding train was moving; however, a lighted fusee dropped from the right side of the front platform of the caboose of Extra 4603 just prior to the time of the accident was the only flag protection provided by the crew of the first train. This fusee was not visible to the members of the crew on the first engine of Extra 4629 until after the caboose and the rear two engines of the preceding train had passed the point where the fusee was dropped. The members of the crew of Extra 4603 were depending upon the following train to be operated in accordance with the requirements of a permissive-signal indication, and they understood that it was not necessary to provide flag

protection for their train while it was moving at its normal rate of speed; however, some of the members of this crew indicated that the speed was considerably less than the normal speed of a full-tonnage train in the territory involved. The members of the crew of Extra 4629 were expecting the preceding train to provide flag protection. If the employees had had a common understanding of the rules and if the employees on each train had complied with the rules pertaining to the operation of their respective trains, instead of depending upon the employees of the other train to obey the rules pertaining to the movement of that train, this accident would have been averted. The failure of employees to have a common understanding of the rules indicates a lack of proper supervision.

Cause

It is found that this accident was caused by failure to provide adequate flag protection for the preceding train and by failure properly to control the speed of the following train in compliance with a permissive-signal indication.

Dated at Washington, D. C., this twenty-eighth day of August, 1942.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.