

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3263
THE BALTIMORE AND OHIO RAILROAD COMPANY
REPORT IN RE ACCIDENT
NEAR DEER PARK, MD., ON
JULY 3, 1949

SUMMARY

Date: July 3, 1949

Railroad: Baltimore and Ohio

Location: Deer Park, Md.

Kind of accident: Rear-end collision

Trains involved: Freight : Passenger

Train numbers: Extra 7620 East : 4

Engine numbers: 7620 : Diesel-electric
units 78 and
72A

Consists: 65 cars, cabooses : 11 cars

Speeds: Standing : 50 m. p. h.

Operation: Signal indications

Track: Double; 2°30' curve; 1.09 percent
ascending grade eastward

Weather: Clear

Time: 7 a. m.

Casualties: 2 killed; 31 injured

Cause: Failure to operate following train
in accordance with signal indications

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3263

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

THE BALTIMORE AND OHIO RAILROAD COMPANY

September 2, 1949

Accident near Deer Park, Md., on July 3, 1949, caused
by failure to operate the following train in
accordance with signal indications.

REPORT OF THE COMMISSION¹

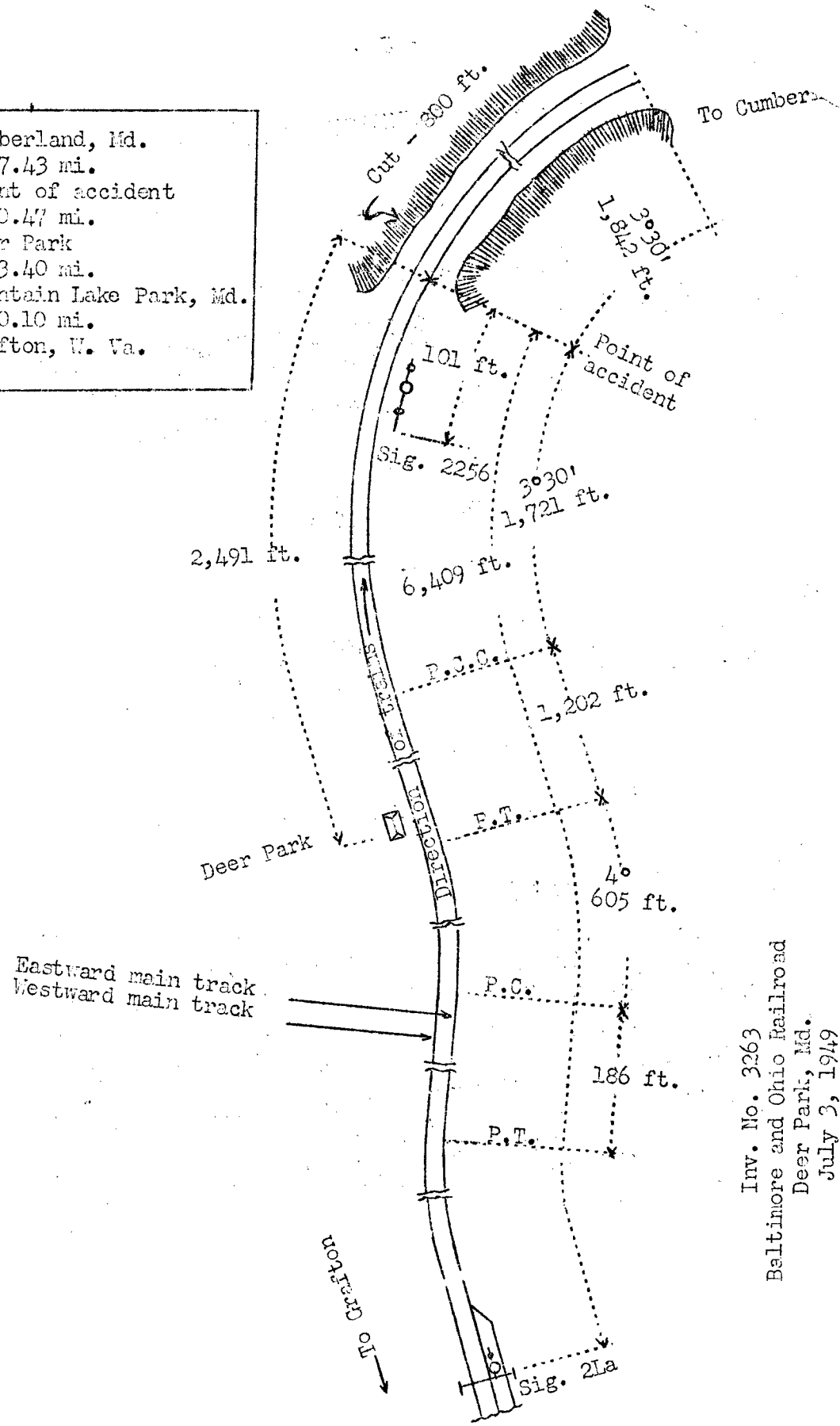
PATTERSON, Commissioner:

On July 3, 1949, there was a rear-end collision between a freight train and a passenger train on the Baltimore and Ohio Railroad near Deer Park, Md., which resulted in the death of 2 train-service employees, and the injury of 29 passengers and 2 dining-car employees.

1

Under 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.

- Cumberland, Md.
- | 47.43 mi.
- X Point of accident
- | 0.47 mi.
- Deer Park
- | 3.40 mi.
- Mountain Lake Park, Md.
- | 50.10 mi.
- Grafton, W. Va.



Inv. No. 3263
 Baltimore and Ohio Railroad
 Deer Park, Md.
 July 3, 1949

Location of Accident and Method of Operation

This accident occurred on that part of the Cumberland Division extending between Grafton, W. Va., and Cumberland, Md., 101.4 miles. In the vicinity of the point of accident this is a double-track line, over which trains moving with the current of traffic are operated by signal indications. The accident occurred on the eastward main track at a point 53.97 miles east of Grafton, and 2,491 feet east of the station at Deer Park. From the west there are, in succession, a tangent 186 feet in length, a 4° curve to the left 605 feet, a tangent 1,202 feet, and a compound curve to the right, the maximum curvature of which is 3°30', 1,721 feet to the point of accident and 1,842 feet eastward. At the point of accident the curvature is 2°30'. The grade for east-bound trains varies between 0.21 percent and 1.09 percent ascending 2 miles immediately west of the point of accident, and is 1.09 percent ascending at that point. The accident occurred at the west end of a cut about 800 feet in length. The south wall of the cut rises to a height of approximately 15 feet above the level of the track.

Semi-automatic signal 2La and automatic signal 2256, governing east-bound movements on the eastward main track, are located, respectively, 6,409 feet and 101 feet west of the point of accident. Signal 2La is a one-unit color-position-light signal, which displays four aspects. Signal 2256 is a one-unit color-position-light signal, which displays three aspects. These signals are approach lighted. The involved aspects and corresponding indications and names are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
2La	Two diagonal yellow lights to the right under lunar white marker light.	Proceed, prepared to stop at next signal, and be governed by indication displayed by that signal. Train exceeding medium speed must at once reduce to that speed.	Approach.
2256	Two horizontal red lights under lunar white marker light.	Stop, then proceed at restricted speed until entire train passes next signal.	Stop and Proceed.

Signal 2La is controlled from the interlocking station at Mountain Lake Park, 3.4 miles west of Deer Park. The controlling circuits of signals 2La and 2256 are so arranged that when the block of signal 2256 is occupied and the lever controlling signal 2La is reversed, signal 2La indicates Approach, and signal 2256 indicates Stop and Proceed.

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

DEFINITIONS.

Normal Speed--The maximum speed permitted by time-tables for main track movements.

Medium Speed--One-half the normal speed, not to exceed thirty (30) miles per hour.

Restricted Speed--Proceed, prepared to stop short of train, obstruction, or anything that may require the speed of a train to be reduced.

14. Engine Whistle Signals.

Note.--The signals prescribed are illustrated by "o" for short sounds; "—" for longer sounds. * * *

SOUND.	INDICATION.
* * *	
(g) o o	Answer to * * * any signal not otherwise provided for.
* * *	
(l) — — o —	Approaching public crossings at grade. * * *
* * *	
(q) o o —	Answer to flagman's stop signal.
* * *	

15. The explosion of torpedoes is a signal to be on the alert for flagman, obstruction, or train ahead. * * *

* * *

29. When a signal, except a fixed signal, is given to stop a train, it must, unless otherwise provided, be acknowledged as prescribed by Rule 14 (g), * * * or (q).

35. The following signals must be used by flagmen:

Day Signals--

A red flag,
Torpedoes and fuseses.

* * *

99. When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes, and when necessary in addition, displaying lighted fuseses.

* * *

Stop signals must be answered promptly by engineers, and flagmen must repeat signals until they are acknowledged.

99. (A). Should a train be seen or heard approaching before the flagman has reached the required distance, he must, at once, place two torpedoes on the rail, and, at night or during foggy or stormy weather, carry a lighted fusee, continuing in the direction of the approaching train.

In the vicinity of the point of accident the maximum authorized speed is 50 miles per hour for passenger trains and 35 miles per hour for freight trains.

Description of Accident

Extra 7620 East, an east-bound freight train, consisted of engine 7620, 65 cars, and a caboose. This train passed Mountain Lake Park, the last open office, at 6:46 a. m. About 6:54 a. m. a ruptured air hose caused an emergency application of the brakes, and the train stopped on the main track, with the caboose 101 feet east of signal 2256. About 6 minutes later the rear end was struck by No. 4.

No. 4, an east-bound first-class passenger train, consisted of Diesel-electric units 78 and 72A, coupled in multiple-unit control, one express-refrigerator car, one

baggage-express car, one passenger-baggage car, three coaches, one dining car, and four sleeping cars, in the order named. All cars were of all-steel construction except the first car, which was of steel-underframe construction. At Grafton a terminal air-brake test was made. The brakes were used to control the speed of the train at various points en route, and they functioned properly. This train departed from Grafton at 5:23 a. m., 7 minutes late, passed Mountain Lake Park at 6:56 a. m., 11 minutes late, passed signal 2La, which indicated Approach, passed signal 2256, which indicated Stop and Proceed, and while moving at a speed of 50 miles per hour it collided with the rear end of Extra 7620 East.

Both Diesel-electric units and the front truck of the first car of No. 4 were derailed to the right. There were no separations between the units of the train. The first Diesel-electric unit stopped against the south wall of the cut and parallel to the track, with the front end 309 feet east of the point of accident. It leaned to the right at an angle of about 45 degrees. The second Diesel-electric unit stopped parallel to the track and leaned to the right at an angle of about 30 degrees. Both Diesel-electric units were badly damaged. The first car remained upright and was slightly damaged. The caboose of Extra 7620 East was demolished. The sixty-first to the sixty-fifth cars, inclusive, were derailed and stopped in various positions on and along the track. These cars were destroyed.

The engineer and the fireman of No. 4 were killed.

The weather was clear at the time of the accident, which occurred at 7 a. m.

Discussion

As Extra 7620 East was approaching the point where the accident occurred the speed was about 30 miles per hour. The enginemen were in the cab of the engine, the front brakeman was engaged in setting retainer valves on the front portion of the train, the flagman was setting retainer valves on the rear portion of the train, and the conductor was in the caboose. No instruction had been issued to the crew of this train with respect to the movement of No. 4. As the rear of the train was passing signal 2256, a ruptured air hose on the fifty-second car caused an emergency application of the air brakes. The train stopped with the caboose standing 101 feet east of the signal. The conductor immediately proceeded westward to provide flag protection. When he reached a point about 600 feet west of the rear of the train,

he heard the pneumatic horn of No. 4 sounded as that train approached a grade crossing east of Mountain Lake Park. He placed two torpedoes on the south rail of the eastward main track and continued westward. Because of track curvature and vegetation adjacent to the track, his view of the approaching train was restricted to a distance of about 500 feet. When he reached a point about 900 feet west of the rear of his train, he observed No. 4 approaching at a distance of about 480 feet. He had stationed himself on the westward main track because he thought that No. 4 had been diverted to that track at Mountain Lake Park in order to pass Extra 7620 East, and also because stop signals given from that location were visible to the engineer of No. 4 a greater distance than if given from the eastward main track. He displayed stop signals with a red flag, and the signals were immediately acknowledged by sounding the pneumatic horn. The conductor then crossed to the south side of the eastward main track and observed the engineer of No. 4 in his usual position in the control compartment of the first Diesel-electric unit. He said the brakes of No. 4 were not applied until after the front of the train passed him. As the rear of the train passed him, he observed that the brakes on the rear cars were applied.

As No. 4 was approaching the point where the accident occurred the speed was 57 miles per hour. The enginemen were in the control compartment at the front of the first Diesel-electric unit, a Diesel-electric supervisor was in the rear of the second Diesel-electric unit, the conductor was in the fourth car, and the flagman was in the rear car. The Diesel-electric supervisor said that he did not observe the indications of signals 2La or 2256, and from his location in the second unit he was unable to hear the sound of the pneumatic horn. He heard the explosion of the torpedoes which were placed by the conductor of Extra 7620 East, and he said that the Diesel motors were slowed to idling speed and that an emergency application of the brakes was made immediately after the torpedoes were exploded. The conductor was seated at a window on the right side of the fourth car of the train. He said that after the train passed Deer Park he observed a freight train east of signal 2256, but, since the speed of his train was not reduced, he presumed that the freight train was on the westward main track. When No. 4 reached a point about 1,100 feet west of signal 2256, he observed that the signal indicated Stop and Proceed, and that the freight train was occupying the eastward main track. He immediately took action to apply the brakes by the use of the conductor's valve, but the brakes became applied in emergency before he had opened the valve.

The aspect displayed by signal 2La required that the speed of No. 4 be reduced at once to medium speed, or 25 miles per hour, and that No. 4 be prepared to stop at signal 2256. The aspect displayed by signal 2256 required that No. 4 stop before it passed the signal, and then proceed at restricted speed. According to the speed-recording device, No. 4 passed signal 2La at a speed of 61 miles per hour. The speed then was reduced gradually to 57 miles per hour at the point where the emergency brake application became effective, and was further reduced to 50 miles per hour at the point of accident, 101 feet east of signal 2256. Both enginemen were killed in the accident, and it could not be determined why the train was not operated in accordance with the signal indications. The Diesel-electric supervisor said that there was no unusual occurrence in connection with the operation of the Diesel-electric units after the train left Grafton, and the train crew of No. 4 said that they had not observed anything unusual in the handling of the train prior to the time the accident occurred. Members of the train crew of Extra 7620 East said that they heard the pneumatic horn of No. 4 sounded in compliance with Rule 14 (1) as that train approached each of three grade crossings between Mountain Lake Park and Deer Park. The conductor of Extra 7620 East said that the stop signals which he displayed were acknowledged by the engineer of No. 4 immediately after the front of the train came into his view.

Diesel-electric units 78 and 72A were equipped with HSC brake equipment and safety control features, but the brake equipment was damaged in the collision to the extent that it could not be tested. The conductor of No. 4 said that when he examined the train after the collision, the brake on each car was applied. The air brakes of the cars were tested after the accident occurred and functioned properly. Tests of signals 2La and 2256 were begun by forces of the signal department about 1 hour 30 minutes after the accident occurred. These tests indicated that signal 2La displayed an approach aspect when No. 4 passed it, and that each signal functioned properly.

Cause

It is found that this accident was caused by failure to operate the following train in accordance with signal indications.

Dated at Washington, D. C., this second day of September, 1949.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.