

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3176
LEHIGH VALLEY RAILROAD COMPANY
REPORT IN RE ACCIDENT
NEAR EAST CLAREMONT, N. J., ON
MARCH 29, 1948

SUMMARY

Railroad: Lehigh Valley

Date: March 29, 1948

Location: East Claremont, N. J.

Kind of accident: Head-end collision

Trains involved: N.Y.C. freight : C.N.J. freight

Train numbers: Extra 4504 East : Extra 677 West

Engine numbers: 4504 : 677

Consists: 14 cars, caboose : 22 cars, caboose

Estimated speed: 12 m. p. h. : Standing

Operation: Movements with current of traffic
by manual block-signal indications;
movements against current of traffic
by train orders and manual block-
signal indications

Tracks: Double; 5° curve; level

Weather: Clear

Time: 7:32 p. m.

Casualties: 3 killed; 3 injured

Cause: N.Y.C. train moving against the
current of traffic without authority

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 5176

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

LEHIGH VALLEY RAILROAD COMPANY

May 20, 1948

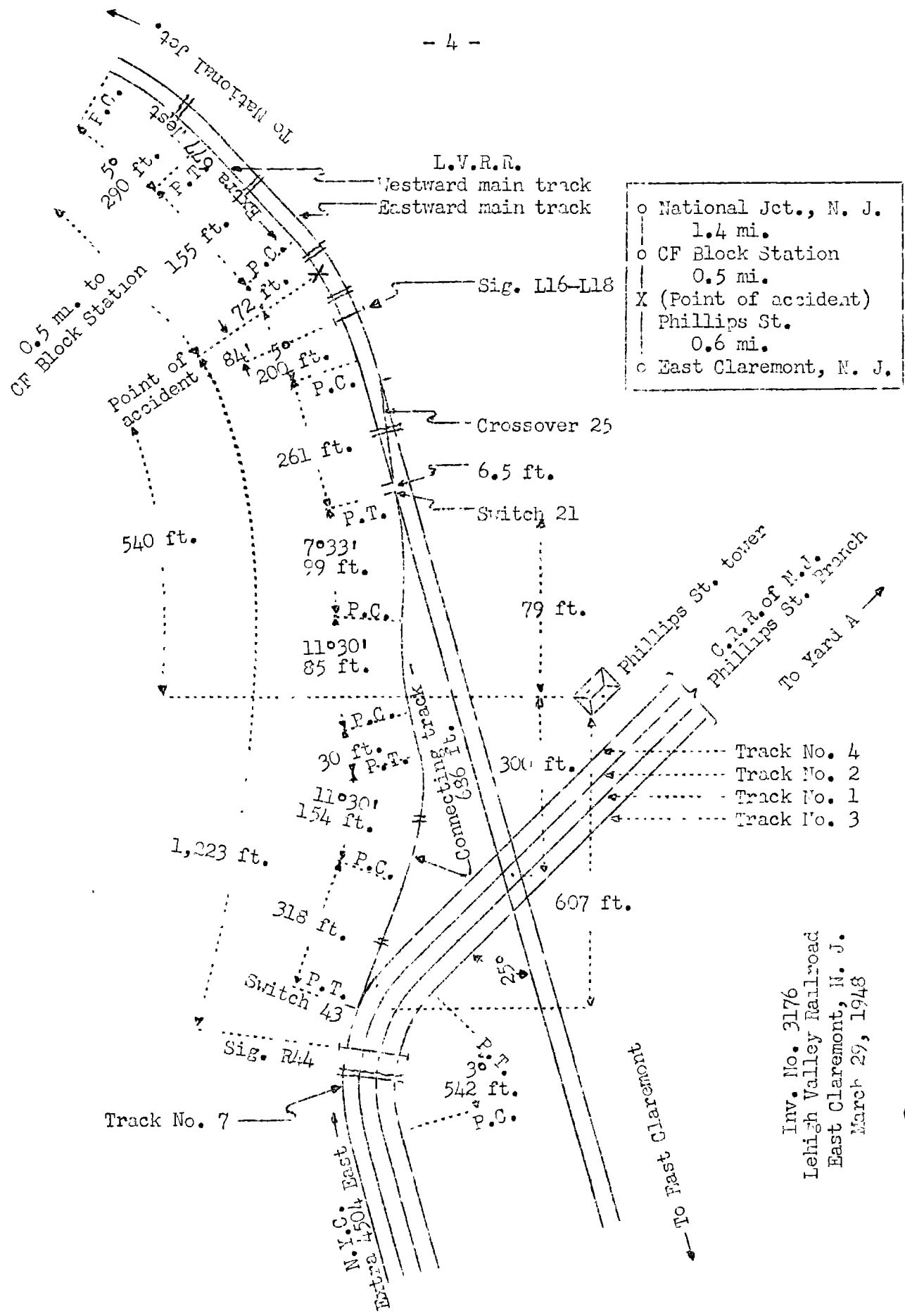
Accident near East Claremont, N. J., on March 29, 1948,
caused by the New York Central train moving against
the current of traffic without authority.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On March 29, 1948, there was a head-end collision between a New York Central Railroad freight train and a Central Railroad of New Jersey freight train on the line of the Lehigh Valley Railroad near East Claremont, N. J., which resulted in the death of three employees, and the injury of three employees. This accident was investigated in conjunction with a representative of the New Jersey Board of Public Utility Commissioners.

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.



Inv. No. 3176
 Lehigh Valley Railroad
 East Claremont, N. J.
 March 29, 1948

Location of Accident and Method of Operation

This accident occurred on that part of the New York Division extending between National Jet. and East Clarendon, N. J., 2.5 miles. In the immediate vicinity of the point of accident this is a double-track line, over which trains moving with the current of traffic are operated by manual block-signal indications, and trains moving against the current of traffic are operated by train orders and manual block-signal indications. There are no timetable schedules in effect. Within interlocking limits at Phillips St., 0.6 mile east of East Clarendon, this line intersects a four-track line of the Central Railroad of New Jersey at an angle of 25°. The tower is located 300 feet east of the center of the crossing. South of the crossing the C.N.J. tracks from west to east are designated as tracks No. 3, No. 1, No. 2, and No. 4. North of the crossing the most easterly C.N.J. main track is designated as track No. 7. A connecting track 686 feet in length connects the L.V. westward main track and C.N.J. track No. 7. The west connecting-track switch is designated as switch 43 and the east connecting-track switch is designated as switch 21. Switch 43 and switch 21 are located, respectively, 607 feet west and 79 feet east of the tower. A trailing-point crossover designated as crossover 25 connects the L.V. eastward and westward main tracks. The west switch of crossover 25 is 6.5 feet east of switch 21. The connecting track and crossover 25 are used by New York Central Railroad trains en route eastward from the C.N.J. tracks to the L.V. eastward main track. The accident occurred on the L.V. westward main track at a point 0.7 mile east of East Clarendon and 540 feet east of the tower at Phillips St. Eastward from switch 43 on the connecting track there are, in succession, a tangent 318 feet in length, an 11°30' curve to the left 154 feet, a tangent 30 feet, an 11°30' curve to the right 35 feet and a 7°33' curve to the left 99 feet to switch 21. From switch 21 eastward on the L.V. westward main track there are, in succession, a tangent 231 feet in length and a 5° curve to the left 200 feet to the point of accident and 72 feet eastward. From the east on the L.V. westward main track there are, in succession, a 5° curve to the left 290 feet in length, a tangent 155 feet and the curve on which the accident occurred. The grade is level.

Interlocking home signal R44, governing movement from C.N.J. track No. 7 through the connecting track to the L.V. westward main track thence through crossover 25 to the L.V. eastward main track, and interlocking home signal L16-L18, governing movement through the interlocking on the L.V. westward main track, are, respectively, 1,223 feet and 84 feet west of the point of accident. The manual-block involved extends

between Phillips St. and CF Block Station, 0.5 mile east of Phillips St. Signal R44 governs entry of east-bound movements to the block at Phillips St. and the westward home signal at CF Block Station governs entry of west-bound movements to the block at that station. These signals are of the semaphore type and are mounted on signal bridges. The involved night aspects and corresponding indications and names of signals R44 and L16-L18 are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
R44	Yellow	Proceed at restricted speed.	Restricting.
R44 and L16-L18	Red-over-red	Stop.	Stop.

The interlocking at Phillips St. consists of an electro-pneumatic machine having 29 working levers. Indication locking is provided for all switches and signals. All signals are non-automatic, and are electrically lighted. Audible and visible annunciators are provided to indicate occupancy of the L.V. eastward and westward main tracks. An emergency alarm whistle is provided.

Operating rules of the Lehigh Valley Railroad read in part as follows:

DEFINITIONS

Block

Block--A length of track of defined limits, the use of which by trains is governed by block signals.

Block Systems

* * *

Manual Block System--A series of consecutive blocks governed by block signals controlled manually, upon information by telegraph, telephone or other means of communication.

Signals

Fixed Signal--A signal of fixed location indicating a condition affecting the movement of a train or engine.

Block Signal--A fixed signal at the entrance of a block to govern trains and engines in entering and using that block.

* * *

Speeds

* * *

Restricted Speed--Not exceeding 15 miles per hour, prepared to stop short of train, obstruction or switch not properly lined and to look out for broken rail.

* * *

D-151. Where two main tracks are in service, trains must keep to the right unless otherwise provided.

* * *

Unless otherwise provided, trains operated against the current of traffic must be run with train orders * * *. When trains are so operated manual block system rules will govern.

221. * * *

When no separate train order signal or block signal is provided at an interlocking station, the interlocking signal will be used as a train order signal or as a block signal as required. All rules pertaining to such signals must be observed.

When used as a train order signal, the signalman must display a red flag by day or red light by night outside the interlocking station to indicate to the engineman and conductor that the fixed signal is displayed for train orders, in addition to its function as an interlocking signal.

* * *

INTERLOCKING RULES

305. * * * Movements against the current of traffic beyond home signal limits must not be made except under flag protection or authority of the superintendent.

Signalmen must not permit trains to pass beyond interlocking signal limits against the current of traffic, unless the movement is fully protected by a flagman, or authority of the superintendent.

606. Emergency Signals--Whistle or Horn.

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

Sound	Indication
(a) _____	All movements within interlocking limits stop immediately.

* * *

Timetable special instructions read in part as follows:

MANUAL BLOCK SYSTEM

2701. * * *

National Docks Branch, between National Jct., and Phillips St., Jersey City.

* * *

The maximum authorized speed for all trains in this territory is 10 miles per hour.

Description of Accident

Extra 4504 East, an east-bound N.Y.C. freight train, consisting of engine 4504, 14 cars and a caboose, was assembled at Yard A, located on the C.N.J. some distance south of Phillips St. tower, and was en route to National Jct. via the L.V. at Phillips St. This train departed from Yard A about 5:20 p. m. and stopped about 5:50 p. m. on track No. 7 immediately west of signal R44, which displayed stop. Because of failure of switch 21 at Phillips St. interlocking this train was held at signal R44 at Phillips St. until 7:20 p. m. At that time the indication of signal R44 changed from stop to proceed-at-restricted-speed, and Extra 4504 East entered the connecting track at switch 45, proceeded to the L.V. westward main track at switch 21 and, because the crossover had not been lined properly for the intended movement, proceeded eastward on the L.V. westward main track and while moving at an estimated speed of 12 miles per hour it struck Extra 377 West at a point 1,223 feet east of signal R44.

Extra 677 West, a west-bound C.N.J. freight train en route from National Jct. to Yard A at Phillips St. and consisting of engine 677, 22 cars and a caboose, entered the block on the L.V. westward main track at CF Block Station under a permissive-block indication at 5:46 p. m., and stopped about 5:50 p. m. on the westward main track, with the engine standing 84 feet east of signal L16-L18, which displayed stop. About 1 hour 42 minutes later Extra 677 West was struck by Extra 4504 East.

The force of the impact broke the drawbar between the engine and tender and the dock casting of the engine of Extra 4504 East, and the tender frame and cistern telescoped the engine cab. The cab was demolished, and steam pipes within the cab were broken. The front ends of the engines of both trains were badly damaged. The first and seventh cars of Extra 677 West were considerably damaged, and the sixth car of this train was slightly damaged.

The engineer, the fireman and the front brakeman of Extra 4504 East were killed. The conductor and the flagman of Extra 4504 East, and the fireman of Extra 677 West were injured.

The weather was clear and it was dark at the time of the accident, which occurred at 7:32 p. m.

Discussion

The investigation disclosed that during a period of about 1 hour 30 minutes prior to the time the accident occurred, switch 21, which connects the L.V. westward main track and the connecting track at Phillips St. interlocking, was inoperative. Because of the condition of the switch, Extra 4504 East, en route from Yard A to National Jct., was held on C.N.J. track No. 7 at signal R44 and Extra 677 West, en route from National Jct. to Yard A, was held on the L.V. westward main track at signal L16-L18. After repairs had been made to switch 21, the operator at Phillips St. obtained manual-block authority for Extra 4504 East to proceed from Phillips St. to CF Block Station on the L.V. eastward main track. Then he lined the route for Extra 4504 East to proceed from track No. 7 through switch 43 to the connecting track and then through switch 21 to the L.V. westward main track, and placed the lever in control of signal R44 for this signal to display proceed-at-restricted-speed for this train. However, he overlooked placing the lever in control of the switches of

crossover 25 in position for Extra 4504 East to proceed through the crossover to the L.V. eastward main track. Soon afterward, Extra 4504 East proceeded and was moving against the current of traffic on the L.V. westward main track at a speed of about 12 miles per hour when it struck Extra 677 West at a point 1,223 feet east of signal R44.

Soon after Extra 4504 East passed the tower the operator realized that he had not lined the route for this train to proceed from the westward main track through crossover 25 to the eastward main track, and he sounded the alarm whistle signal to stop the movement, but the collision occurred almost immediately afterward.

When the collision occurred the headlight of Extra 677 West was lighted. The engineer was seated on the right side of the engine, the fireman was in the coal compartment of the tender, the conductor was in the caboose, the flagman was some distance east of the caboose providing flag protection and the front brakeman was in the tower at Phillips St. interlocking. These employees were not aware of anything being wrong until just before the collision occurred.

The enginemen of Extra 4504 East, and the front brakeman, who was on the engine, were killed in the accident, and it could not be determined when they first became aware that their train was proceeding without authority against the current of traffic on the westward main track. The conductor and the flagman were in the caboose. The first they knew of anything being wrong was when they heard the alarm whistle signal sounded just before the collision occurred. The brakes of this train had been tested and had functioned properly.

In this territory movements with the current of traffic are authorized by signal indications only, and movements against the current of traffic are authorized by train order and manual block-signal indication. No train order had been issued authorizing Extra 4504 East to proceed east of crossover 25 against the current of traffic. The signal indication which was displayed for Extra 4504 East at Phillips St. authorized that train to move from the connecting track to the westward main track and through crossover 25 to the eastward main track and thence to CF Block Station, 0.5 mile eastward, and required the speed of this train to be controlled so that it could be stopped short of another train or a switch not properly lined. However, the operator failed to line the route for Extra 4504 East to proceed through the crossover to the eastward main track, and this train proceeded without authority against the current of traffic on the westward main track from switch 21 to the point where it struck Extra 677 West.

Cause

It is found that this accident was caused by the New York Central train moving against the current of traffic without authority.

Dated at Washington, D. C., this twentieth day of May, 1948.

By the Commission, Commissioner Patterson.

(SEAL)

V. P. BARTEL,
Secretary.