INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 3217

THE BALTIMORE AND OHIO RAILROAD COMPANY

REPORT IN RE ACCIDENT

NEAR NILES JUNCTION, OHIO, ON

NOVEMBER 30, 1948

SUMMARY

Railroad:	Baltimore and Ohio	
Date:	November 30, 1948	
Location:	Niles Junction, Ohio	
Kind of accident:	Side collision	
Trains involved:	Freight	: Passenger
Train numbers:	N.Y.C. Extra 2977 West	: 9
Engine numbers:	2977	: Diesel-electric units 36 and 36A
Consists:	63 cars, 2 cabooses	: 9 cars
Speed:	Standing	: 30 m. p. h.
Operation:	Signal indications	
Tracks:	Two; tangent; 0.31 percent ascending grade westward	
Weather:	Clear	
Time:	11:22 p. m.	
Casualties:	24 injured	
Cause:	Failure to operate freight train in accordance with signal indication	

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3217

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

THE BALTIMORE AND OHIO RAILROAD COMPANY

February 14, 1949

Accident near Niles Junction, Ohio, on November 30, 1948, caused by failure to operate a freight train in accordance with a signal indication.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On November 30, 1948, there was a side collision between a New York Central Railroad freight train and a passenger train on the Baltimore and Ohio Railroad near Niles Junction, Ohio, which resulted in the injury of 15 passengers, 2 railway-mail clerks and 7 train-service employees. This accident was investigated in conjunction with representatives of the Public Utilities Commission of Ohio.

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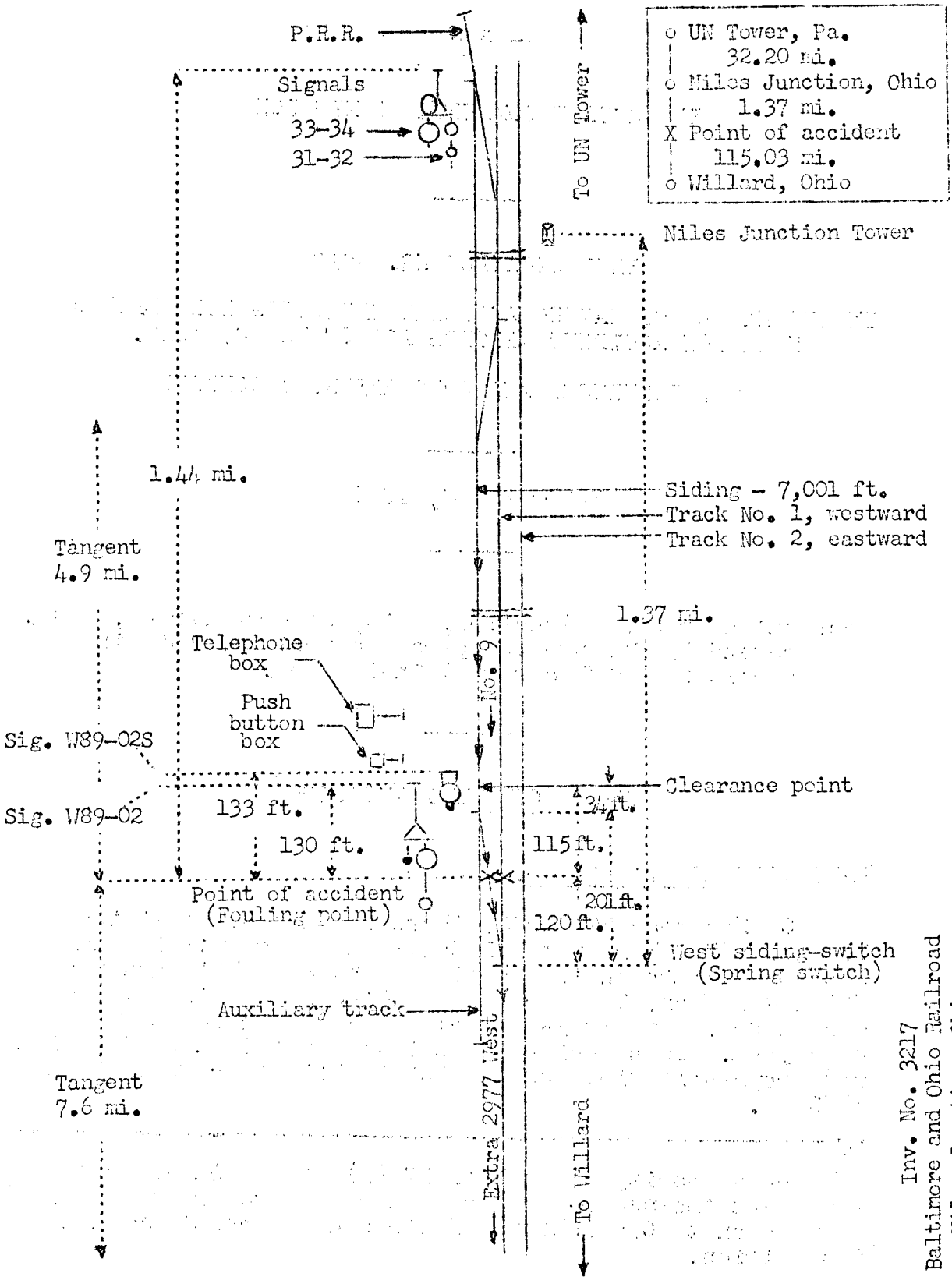
[1] Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Inv. No. 3217
Baltimore and Ohio Railroad
Niles Junction, Ohio
November 30, 1948

Location of Accident and Method of Operation

This accident occurred on that part of the Akron Division extending between UN Tower, near New Castle Jct., Pa., and Willard, Ohio, 148.6 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 main tracks from north to south are designated as No. 1, westward, and No. 2, eastward. At Niles Junction, 32.2 miles west of UN Tower, the Pennsylvania Railroad forms a junction with the westward main track of the B.& O. This junction is protected by an interlocking. N.Y.C. trains regularly use the B.& O. tracks between Niles Junction and Ravenna, Ohio, 22.8 miles. West-bound N.Y.C. trains enter Niles Junction on the P.R.R. A siding 7,001 feet in length, parallels the main tracks on the north. The east switch of this siding connects with the turnout to the P.R.R. within interlocking limits at Niles Junction. The west siding-switch connects the siding with the westward main track at a point 1.37 miles west of Niles Junction Tower. The west siding-switch is a spring switch normally lined for main track movements. An auxiliary track connects with the west end of the siding in the vicinity of the clearance point and parallels the main tracks westward. The switch leading to this track is a hand-operated switch normally lined for movements from the siding to the westward main track. The distance between the points of the two switches is 201 feet. The clearance point is located on the siding at a point 34 feet east of the switch leading to the auxiliary track. The accident occurred at the fouling point of the westward main track and the siding at a point 120 feet east of the west siding-switch and 115 feet west of the clearance point. The main tracks are tangent throughout a distance of 4.9 miles east of the point of accident and 7.6 miles westward. The grade is 0.31 percent ascending westward.

Interlocking signal 31-32 at Niles Junction and automatic signal W89-02, governing west-bound movements on the westward main track, are, respectively, 1.44 miles and 130 feet east of the point of accident. These signals are of the color-position-light type, and they display 4 aspects. Signal W89-02 is mounted on a bracket mast 8 feet 8 inches north of the north rail of the siding. The center of the light unit is 29 feet above the level of the tops of the rails. Interlocking signal 33-34 at Niles Junction and semi-automatic signal W89-02S, governing west-bound movements on the siding, are, respectively, 1.44 miles and 133 feet east of the point of accident. Signal W89-02S is a color-position-light dwarf signal and is located 6 feet 2-1/2 inches north of the north rail of the siding. The

center of the light unit is 1 foot 11-1/2 inches above the level of the tops of the rails. This signal displays 4 aspects. Interlocking signal 33-34 is a two-unit position-light signal mounted with signal 31-32 on a bracket mast, and it is located north of the siding. This signal displays 4 aspects. All signals are approach lighted except signal W89-02S, which is continuously lighted. The involved aspects and corresponding indications and names of these signals are as follows:

Signal	Aspect	Indication	Name
31-32, W89-02	Two green lights in vertical position under white marker light	Proceed.	Clear.
33-34	Three amber lights in horizontal position over three amber lights in diagonal position to the left	Proceed at Restricted speed.	Restricting.
W89-02, W89-02S	Two red lights in horizontal position	Stop.	Stop.

Signal W89-02S governs westward movements from the siding to the westward main track, and normally indicates Stop. The block of this signal extends from the clearance point in the siding to the next automatic signal westward. The controlling circuit is so arranged that a manually-operated push button, located near the signal, must be operated before this signal will display an aspect authorizing a train to proceed. The operation of this push button causes signal W89-02 immediately to display its most restrictive aspect. When the block of signals W89-02 and W89-02S is occupied, signals W89-02 and W89-02S indicate Stop and signal 31-32 indicates Approach.

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

DEFINITIONS.

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

*Note of Definition of Fixed Signals--The definition of a "Fixed Signal" covers such signals as * * *, block, interlocking, * * * or other means of displaying indications that govern the movement of a train or engine.

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

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

MOVEMENT OF TRAINS.

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 fusees.

* * *

The front of a train must be protected in the same way when necessary by the front trainman, and when he is not available, by the fireman.

* * *

Spring Switches.

127. * * *

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Time-table Special Instructions will designate those spring switch locations where crews will operate push buttons in the following manner:

> Conductor or engineer will operate push button and be governed by the indication displayed by the leaving signal, then wait three minutes, or more when provided by Time-table Special Instructions, before fouling the track to be entered. * * *

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RULES GOVERNING THE MOVEMENT OF TRAINS IN THE SAME DIRECTION BY BLOCK SIGNALS.

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 time-table superiority.

251 (A). When a train or engine takes a siding at a point where switches are hand operated, the conductor or engineer will, when communication is available, report the train or engine into clear and will receive permission from the train dispatcher before again fouling the main track.

Timetable special instructions read in part as follows:

5. * * *

At spring switches located at Westward outlet passing sidings Niles Jct., * * *, crew will operate push button for movement from passing siding to Main Track.

8. OPERATING TRAINS BY SIGNAL INDICATION

Rules 251 to 254 inclusive are in effect between N.C.Jct., and Akron Jct., * * *

* * *

The maximum authorized speed for the passenger train was 70 miles per hour.

Description of Accident

Extra 2977 West, a west-bound N.Y.C. freight train, consisted of engine 2977, 63 cars and 2 cabooses. This train passed signal 33-34, which indicated Restricting, entered the siding at Niles Junction, passed Niles Junction Tower at 11:14 p. m., passed signal W89-02S, which indicated Stop, and proceeded to the westward main track where it was stopped, with the engine and the first 10 cars occupying the westward main track and the turnout west of the fouling point. Immediately thereafter the tenth car was struck by No. 9.

No. 9, a west-bound first-class B.& O. passenger train, consisted of Diesel-electric units 66 and 66A, coupled in multiple-unit control, one mail-express car, one mail car, one dining car, one express car, one mail car, one baggage car, two coaches and one sleeping car, in the order named. All cars were of all-steel construction. This train passed signal 31-32, which indicated Clear, passed Niles Junction Tower at 11:20 p. m., 2 minutes late, passed signal W89-02, which indicated Stop, and while moving at a speed of 50 miles per hour, as indicated by the tape of the speed-recorder with which the first Diesel-electric unit was equipped, it struck the tenth car of Extra 2977 West at the fouling point of the west end of the siding.

The first Diesel-electric unit of No. 9 was derailed, and it stopped upside down, south of the eastward main track and about 175 feet west of the point of collision. A separation occurred between the two Diesel-electric units, and the second unit stopped upright and across the eastward main track, with the front end about 150 feet west of the point of collision. The remainder of the equipment remained coupled and upright. The first car stopped across and at an angle of about 30° to the eastward main track. The second car stopped between the main tracks. The third car stopped with the front end between the main tracks but the rear truck was not derailed. Both Diesel-electric units were badly damaged, and the first three cars were considerably damaged. No other cars of No. 9 were derailed or damaged. The seventh to the tenth cars, inclusive, of Extra 2977 West were derailed and stopped in various positions on or north of the westward main track. All of these cars were badly damaged. The rear truck of the sixth car was derailed, and this car and the eleventh car were slightly damaged.

The engineer, the fireman, the Diesel mechanic, the conductor, the brakeman, the baggageman and the flagman of No. 9 were injured.

The weather was clear at the time of the accident, which occurred at 11:22 p. m.

Discussion

Under the rules governing operation on this line, a west-bound train using the siding at Niles Junction is required to stop east of the clearance point at the west end of the siding and there obtain authority by telephone from the train dispatcher to occupy the main track. When such authority is obtained, a member of the crew is required

to operate a push button, located near the clearance point. This operation causes the signal governing west-bound movements on the westward main track to display its most restrictive aspect. The train must not enter the block from the siding until after three minutes have elapsed after the push button is operated, and then only if the signal governing movements from the siding to the main track displays an aspect to proceed. A telephone providing a connection with Niles Junction is located near the clearance point of the siding.

Extra 2977 West entered the approach circuit of Niles Junction interlocking about 11:10 p. m. No. 9 was scheduled at Niles Junction at 11:18 p. m. In order to avoid stopping Extra 2977 West on an ascending grade east of Niles Junction, the dispatcher instructed the operator to line the route to the siding. It was intended that this train be held on the siding until after No. 9 had passed. Extra 2977 West passed signal 33-34, which indicated Restricting, and entered the siding at a speed of about 10 miles per hour. This train passed Niles Junction Tower at 11:14 p. m. The enginemen and the front brakeman were in the engine cab and the conductor and the flagman were in the caboose. The headlight was lighted brightly. The brakes of this train had been tested and had functioned properly at all points where used en route. The front brakeman said that as this train approached the west end of the siding, he was seated on the left side of the engine and observed that signal W89-02S, governing the movement of their train, indicated Stop, and that signal W89-02, governing main-track movements, indicated Clear. He observed that the engineer apparently was maintaining a lookout ahead, and said he thought that the engineer was observing the signal, therefore he did not call the indication. The fireman said that he also was seated on the left side of the engine, but that he did not observe either signal. When the engine was about 1,000 feet east of the signal, the front brakeman left the seat on the left side of the engine. When he returned to the left side of the engine he observed an east-bound freight train moving on the eastward main track and then realized that his train was occupying the westward main track. He called a warning to the engineer, who moved the brake valve to the emergency position. The collision occurred after the train had been stopped but before flag protection could be provided against No. 9. The view of the westward signals at the west end of the siding at Niles Junction from the cab of an approaching engine is not obstructed by vegetation, embankments or structures. The engineer of Extra 2977 West said that on previous trips the aspect of the dwarf signal governing movements from the siding could be clearly distinguished at a

distance of about 3,000 feet. When he was called at 7:30 p. m. to make the trip, he requested that he be relieved, because he was suffering from a severe headache. His request was not refused, but when he was informed that a relief engineer was not available, he agreed to make the trip. He said that throughout the trip the pain was not relieved, and that while his train was approaching the signal at the west end of the siding at Niles Junction he was covering his eyes with his hand in an effort to relieve the pain, and was not aware of his location until he was informed by the front brakeman that the train was occupying the main track. Both the conductor and the flagman observed that the signal governing west-bound main track movements indicated Clear when No. 9 passed the caboose. They were not aware of anything being wrong until the brakes were applied in emergency.

As No. 9 approached Niles Junction the enginemen were in their respective positions in the control compartment of the first Diesel-electric unit. The headlight was lighted brightly. The brakes of this train had been tested and had functioned properly where used en route. The members of the train crew were in various locations throughout the cars of the train. Signal 31-32 indicated Clear, and the enginemen called the indication. They observed signal W89-02 indicating Clear when the train entered the approach-lighting circuit about 6,200 feet east of the signal, and they called the indication. The speed of the train gradually was increased until it was 54 miles per hour when the engine was about 2,000 feet east of the signal. At that time the enginemen's view of the signal was obscured, apparently by smoke, and the engineer made a service brake-pipe reduction, which was not released. The enginemen said that they next observed the signal when the engine was about 1,000 feet east of it and that it then was indicating Stop. The engineer immediately moved the brake valve to the emergency position. The speed of the train had been reduced to 50 miles per hour at the time of the collision.

Cause

It is found that this accident was caused by failure to operate a freight train in accordance with a signal indication.

Dated at Washington, D. C., this fourteenth day of February, 1949.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.