INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2596

THE LOUISVILLE AND NASHVILLE RAILROAD COMPANY

REPORT IN RE ACCIDENT

AT SOUTH HOWELL, IND., ON

JUNE 16, 1942

SUMMARY

Railroad:	Louisville and Nashville	
Date:	June 16, 1942	
Location:	South Howell, Ind.	
Kind of accident:	Side collision	
Trains involved:	Two light engines, coupled	: Passenger
Train number:		: 152
Engine numbers:	1535-1589	: 222
Consist:		: 4 cars
Speed:	Standing	: 30 m. p. h.
Operation:	Interlocking	
Track:	Double; tangent; 0.18 percent ascending grade northward	
Weather:	Cloudy	
Time:	About 11:37 a. m.	
Casualties:	2 killed	
Cause:	Accident caused by failure to obey interlocking signal indication	

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2596

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

THE LOUISVILLE AND NASHVILLE RAILROAD COMPANY

August 19, 1942.

Accident at South Howell, Ind., on June 16, 1942, caused by failure to obey an interlocking signal indication.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On June 16, 1942, there was a side collision between two light engines, coupled, and a passenger train on the Louisville and Nashville Railroad at South Howell, Ind., which resulted in the death of two employees. This accident was investigated in conjunction with a representative of the Indiana Public Service Commission.

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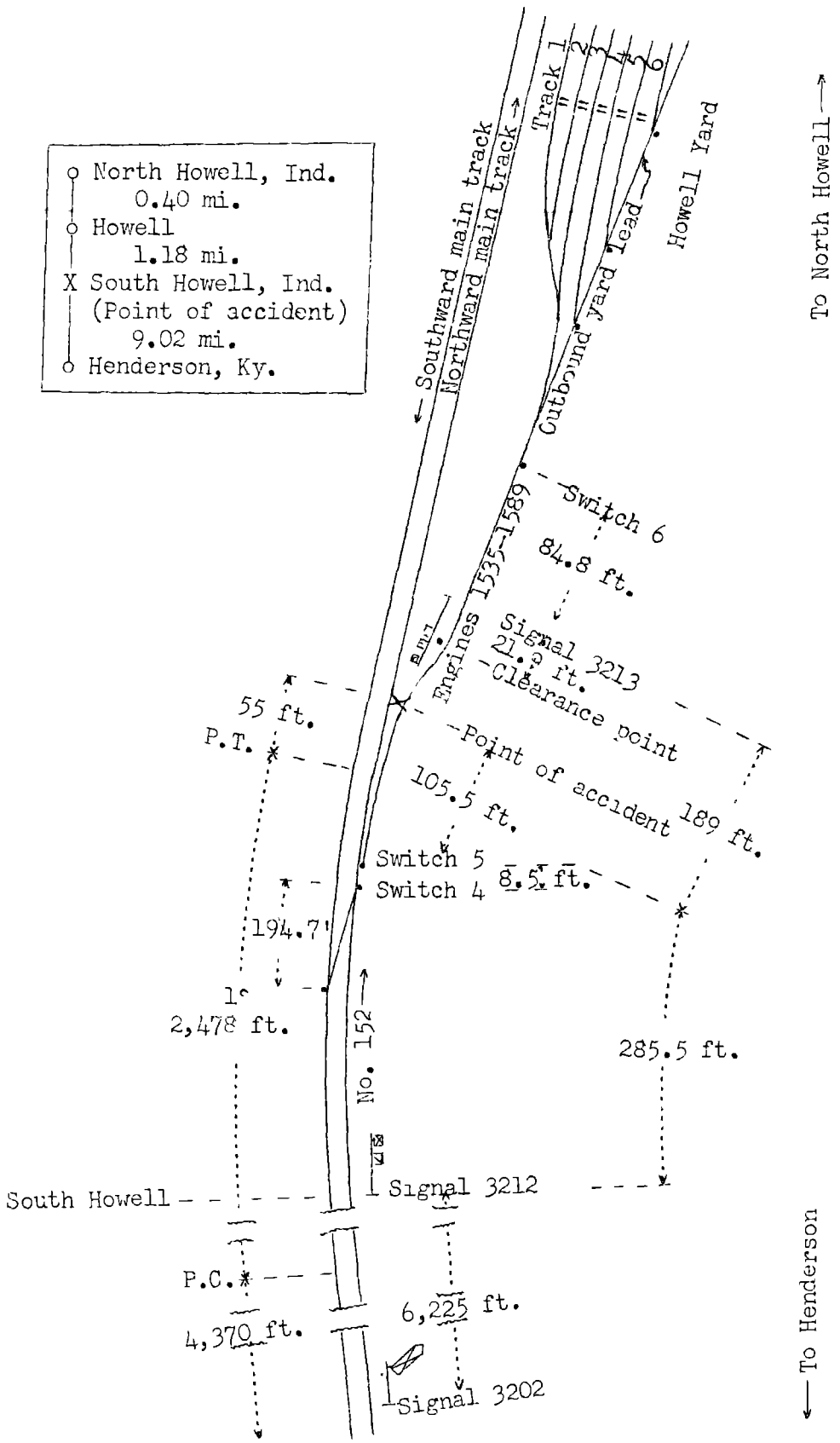
[1]Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Inv.-2596
Louisville and Nashville Railroad
South Howell, Ind.
June 16, 1942

Location of Accident and Method of Operation

This accident occurred on that part of the Evansville Division which extends between Henderson, Ky., and North Howell, Ind., a distance of 10.6 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 an automatic block-signal system, the indications of which supersede time-table superiority. Howell Yard, which extends between North Howell and South Howell, a distance of 1.58 miles, parallels the main tracks on the east. The south end of this yard is at South Howell. The southward classification yard is adjacent to the northward main track, and movements to and from this yard are made over a lead track which connects with the northward main track at a point 285.5 feet north of South Howell. The lead-track switch is facing-point for north-bound movements. The switch of this turnout is of the spring-switch type and is designated as switch 5. The clearance point is 167.1 feet north of switch 5. A trailing-point crossover for movements with the current of traffic is 194.7 feet in length and connects the main tracks. Both of these switches are of the spring-switch type. The north switch of the crossover is 8.5 feet south of the lead-track switch and its normal position is for movement through the crossover. Yard track 6 connects with the lead track at a point 274 feet north of switch 5 and 107 feet north of the clearance point between the lead-track turnout and the northward main track. The accident occurred on the northward main track within interlocking limits at a point 105.5 feet north of switch 5. As the point of accident is approached from the south on the northward main track there are, in succession, a tangent 4,370 feet in length, a 1° curve to the right 2,748 feet, and a tangent 55 feet to the point of accident. At the point of accident the grade for north-bound trains is 0.18 percent ascending.

The interlocking involved is controlled from a machine located in the yard office 4,392.5 feet north of the point of accident. A track diagram is so arranged that lights indicate track occupancy and the aspects displayed by signals.

Approach signal 3202 and home signal 3212, which govern north-bound movements on the northward main track, are located, respectively, 6,616.5 feet and 391.5 feet south of the point of accident. Signal 3202 is of the automatic one-arm, three-indication, upper-quadrant, semaphore type. The day aspects of this signal and corresponding indications and names are as follows:

Aspect	Indication	Name
Vertical	Proceed	Clear
Forty-five degrees	Prepare to stop at next signal. Train exceeding medium speed must at once reduce to that speed.	Approach
Horizontal	Stop; then proceed * * *	Stop and proceed

Home signal 3212 is of the semi-automatic, two-arm, five-indication, semaphore type. The involved day aspects of this signal and corresponding indications and names are as follows:

Aspect	Indication	Name
Vertical-over-horizontal	Proceed	Clear
Horizontal-over-horizontal	Stop	Stop

Home signal 3213, which governs entry to the main tracks from the lead track, is located 189 feet north of switch 5. This signal is of the semi-automatic, two-arm, five-indication, semaphore type. The day aspects of this signal and corresponding indications and names are the same as those of signal 3212.

Time-locking is provided and the circuits are so arranged that when the track between signals 3202 and 3212 is occupied, signal 3213 cannot display a proceed indication until an interval of 3 minutes 50 seconds has elapsed. An insulated rail joint is located on the lead-track turnout at a point 167.1 feet north of switch 5, and 20.8 feet south of signal 3212, and this is the point where a south-bound train on the lead track first shunts the fouling circuit.

Operating rules read in part as follows:

34. All members of train and engine crews must keep a close lookout for signals and, when practicable, communicate to each other by its name the indication of all signals affecting the movements of their train.

663. Trains or engines must not pass an interlocking Stop-signal without receiving hand signals. Enginemen and trainmen must not proceed on hand signals until they are fully informed of the situation; * * * .

Bulletin-Board Order No. 3304, dated February 10, 1942, reads in part as follows:

* * *

> Before entering plant limits, or fouling the main tracks, Yard Crews will receive PROCEED indication of Signal 3213 through the Operator at the Yard Office by placing switch on the right side and pushing button three times, both switch and button located on Signal. The Operator will give permission by clearing only the top arm of Signal 3213, * * * .

The maximum authorized speed for north-bound trains moving on the northward main track is 30 miles per hour through the north switch of the crossover.

Description of Accident

After an air-brake test was made, engines 1535 and 1589, coupled, departed from the engine house about 11:20 a. m., according to statements of the crew, and entered the lead-track turnout about 11:37 a. m. These engines passed signal 3213, which displayed stop, and stopped with the rear end of the tender of the second engine standing 2 feet south of switch 6 and the front end of the first engine standing 105.5 feet north of switch 5 and 61 feet south of the clearance point. Between 4 and 20 seconds later the first engine was struck by No. 152.

No. 152, a north-bound first-class passenger train, consisted of engine 222, one baggage-mail car and three coaches, in the order named. All cars were of steel construction. After a terminal air-brake test was made at Louisville, 152.02 miles south of South Howell, this train departed at 7:45 a. m., according to the dispatcher's record of movement of trains, on time. The brakes functioned properly at all points where used en route. This train departed from Henderson, 9.02 miles south of South Howell and the last open office, at 11:26 a. m., 4 minutes late, passed signals 3202 and 3212, and while moving at an estimated speed of 30 miles per hour collided with engine 1535.

Engine 222 was derailed to the left and stopped, badly damaged, on its left side 240 feet north of the point of accident, down a 19-foot embankment, with its front end on the southward main track and at an angle of 45 degrees to it, and its rear end 30 feet west of that track. The right end of the pilot beam and the right cylinder assembly were broken and the engine was otherwise badly damaged. The tender stopped on its left side down the embankment and at right angles to the engine. The first car was derailed to the left and stopped with the front end 7 feet west of the northward main track and leaned to the left at an angle of 25 degrees. The second car was derailed

but remained upright on the roadbed. The front truck of the third car was derailed. The east rail of the turnout was overturned under engine 1535 and all wheels on the left side were in the web of the rail. The right end of the pilot beam and the right cylinder assembly were broken.

It was cloudy at the time of the accident, which occurred about 11:37 a. m.

The employees killed were the engineer and the fireman of No. 152.

Discussion

The rules governing operation on the line involved provide that enginemen must observe interlocking signals and communicate their indications to each other. When an interlocking home signal displays stop, trains or engines must stop short of the signal and not proceed until authorized to do so. All surviving employees involved understood these requirements.

Engines 1535 and 1589, coupled, were proceeding southward from the engine house to the southward classification yard. As these engines were approaching the point where the accident occurred the enginemen of the first engine were maintaining a lookout ahead from their respective sides of the cab. Engine 1535 passed signal 3213 a distance of 55 feet and stopped with the front end standing 61 feet south of the clearance point between the southward lead track and the northward main track. A few seconds later engine 1535 was struck by No. 152.

According to the statements of the enginemen of engine 1535, signal 3213 displayed stop. Neither one observed if any train was approaching on the northward main track. The fireman of the first engine said that, because of the boiler intervening, signal 3213 disappeared from his view when his engine reached a point about 180 feet north of this signal; however, the engineer did not call a proceed indication nor did the fireman ask the engineer if a proceed indication was displayed. The engineer of the second engine said that signal 3213 displayed stop as the engines were approaching it. Before the engines reached the signal he crossed to the left gangway to observe which switch was being lined by the front brakeman. When the engineer returned to the right side of the engine the first engine had passed signal 3213. Prior to the trip involved neither of the engineers ever had charge of engines that were being double-headed in a movement similar to the one involved. The engineer of the first engine was aware that the length of two engines exceeded the distance between the switch of yard track 6 and signal 3213 but did not know that the first engine would foul the clearance point of the northward main track before the rear of the second engine cleared switch 6. He was looking back for a signal from the front brakeman and the first he was aware of

the approach of No. 152 was when the collision occurred. The fireman of the first engine was looking toward the rear and did not know that his engine fouled the main track. The fireman of the second engine was tending the fire and did not observe signal 3213, or that the first engine fouled the northward main track. When coupled, the engines involved measured 163 feet 11-1/4 inches over-all. The distance between switch 6 and the signal was 84.8 feet, and between switch 6 and the clearance point, 106.7 feet; therefore, engine 1535 had to proceed at least 57.2 feet beyond the clearance point so that switch 6 could be lined for entry to the yard. Under the rules, engines 1535 and 1589 were required to stop short of signal 3213 unless a proceed indication was displayed. If engine 1535 had stopped short of signal 3213 this accident would have been prevented.

According to the statements of the surviving members of the crew of No. 152, as their train was approaching the point of accident the speed was about 30 miles per hour. All surviving members of this crew understood that their train was required to approach the crossover switch, located 114.5 feet south of the point where the accident occurred, at a speed not exceeding 30 miles per hour. The first the conductor and the flagman were aware of anything being wrong was when the brakes were applied in emergency. Immediately afterward the collision occurred and the train stopped in a distance of about 200 feet. The brakes of this train had functioned properly at all points where used en route. After the accident, an inspection of the engine of No. 152 disclosed that the throttle was half-open, the reverse lever in position for short cut-off in forward motion and the automatic-brake valve in emergency position. Since both enginemen of No. 152 were killed in the accident, it could not be determined when they first became aware that engine 1535 was fouling the northward main track.

According to the statement of the operator, located in the yard office about 4,300 feet north of signal 3213, his track diagram indicated that the route was lined for No. 152 to move through the interlocking on the northward main track. The prescribed signal for requesting the operator to permit a train to pass signal 3213 was not sounded. In tests after the accident the signals involved functioned as intended. Based on the speed of No. 152 as being 30 miles per hour, if engine 1535 proceeded south of the clearance point 20 seconds prior to the time of the accident, No. 152 would be about 420 feet south of signal 3212 when it changed to display stop. If engine 1535 fouled the clearance point a period of only 4 seconds before the accident occurred, as stated by the engineer of that engine, No. 152 would be about 275 feet north of signal 3212 when engine 1535 first fouled the northward main track.

The investigation of this accident disclosed that no member of the crews of engines 1535 and 1589 communicated the

indication of signal 3213 to each other.

Cause

It is found that this accident was caused by failure to obey an interlocking signal indication.

Dated at Washington, D. C., this nineteenth day of August, 1942.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.