Inv-2250

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

MOBILE AND OHIO RAILROAD

MURPHYSBORO, ILL.

FEBRUARY 12, 1958.

INVESTIGATION NO. 2250

SUMMARY

Inv-2250

Railroad:	Mobile and Ohio
Date:	February 12, 1938.
Location:	Murphysboro, Ill.
Kind of accident:	Derailment
Train involved:	Passenger
Train number	15
Engine number	268
Consist:	5 cars
Speed:	45-50 m.p.h.
Track:	No. 10 turnout at entrance of 2°30' curve; 0.555 percent ascending grande.
Weather:	Clear
Time:	1:15 a.m.
Casualties:	1 killed and two injured.
Cause:	Open switch.

March 22, 1938.

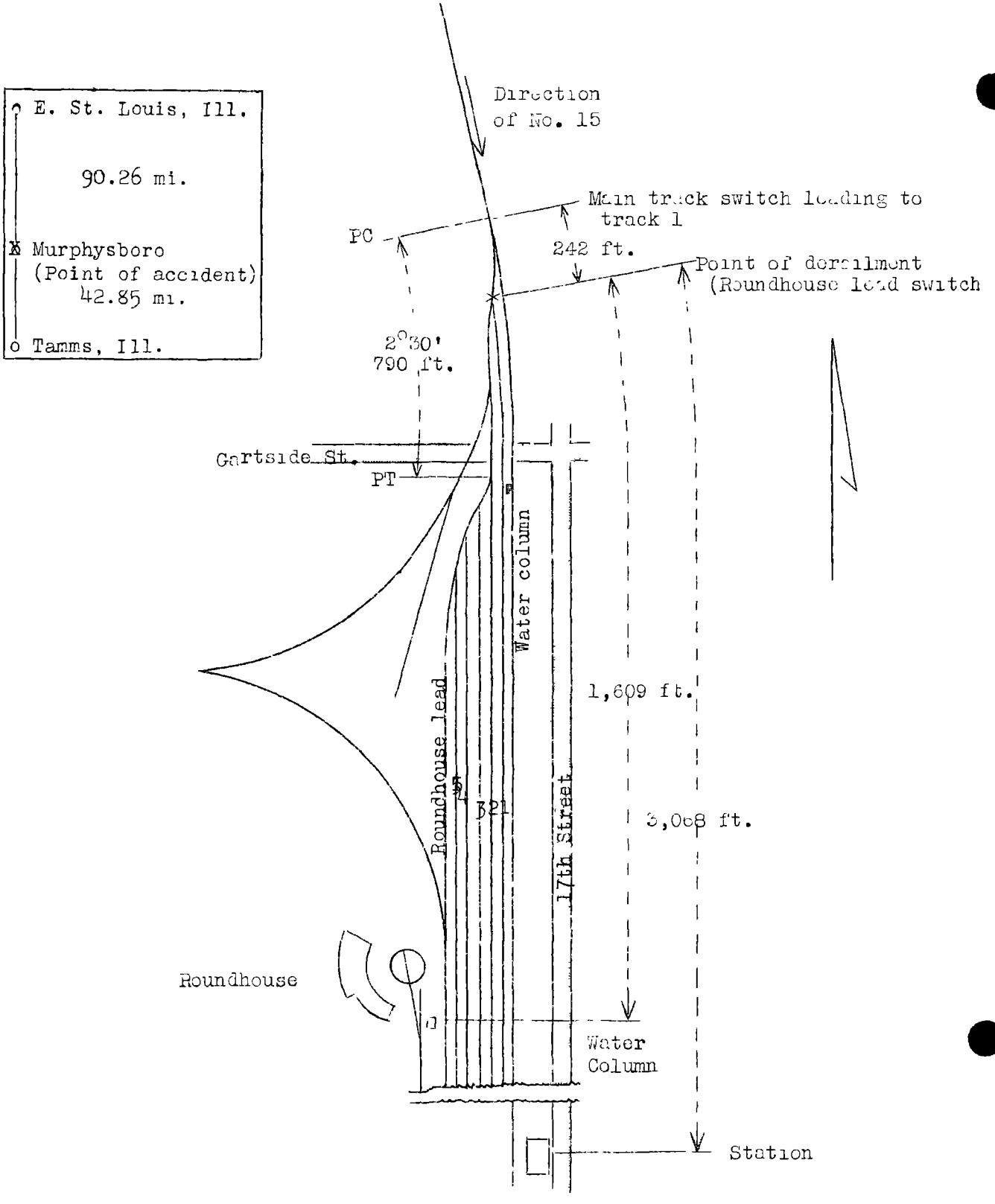
To the Commission:

On February 12, 1938, there was a derailment of a passenger train on the Mobile and Ohio Railroad at Murphysboro, Ill., whichresulted in the death of one employee and the injury of two employees. The investigation of this accident was made in conjunction with a representative of the Illinois Commerce Commission.

Location and method of operation

This accident occurred on the Murphysboro District of the Northern Division, which extends between East St. Louis and Tamms, Ill., a distance of 133.11 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders, no form of block-signal system being in use. At Murphysboro a train yard consisting of five tracks parallels the main track on the west; these tracks are numbered consecutively 1 to 5 from east to west and connect with a lead track at each end. The lead track is continuous and forms a belt line, known as the roundhouse lead, around the west side of the yard. The north end of track 1 leads off the main track to the west through a No. 10 turnout, and from a point on track one 242 feet south of the main track switch the roundhouse lead diverges from track 1 through a facing-point switch provided with a No. 8 turnout. The derailment occurred at this latter switch which is located 3,068 feet north of the passenger station. Approaching this point from the north the track is tangent for more than 1 mile, followed by a 2°30' curve to the right about 790 feet in length; the main track switch is located at the northern end of the curve. The grade for southbound trains is descending for a distance of more than 4,000 feet, varying from 0.001 to 0.54 percent, followed by approximately 2,775 feet of ascending grade with a maximum gradient of 0.555 percent at the point of accident.

The main-line switch involved is equipped with a Ramapo ground-throw type switch stand; the target shaft, which is located on the east side of the main track, is provided with a single target 5 feet 8 inches above the head block, and above the target an oil lamp which displays a green light when the switch is closed and a red light when open. The switch leading from track 1 to the roundhouse lead is in normal position when set for movements to the roundhouse lead.



Inv. No. 2250
Mobile & Ohio R.R.
Murphysboro, Ill.
Feb. 12, 1938

The main track is laid with 90-pound rail, 39 feet in length, with an average of 22 white oak ties to the rail length, tie-plated, single-spiked, and ballasted with chatt to a depth of 12 inches. The track is well maintained. Track 1 is laid with 85-pound rail, 33 feet in length, with an average of 18 ties to the rail length, tie-plated, single spiked and ballasted with chatt and cinders to a depth of 10 inches. The rail was about 25 percent worn. Special instructions contained in the timetable authorizes a maximum speed of 55 miles per hour on the main track for passenger trains hauled by passenger locomotives.

Due to heavy grades south of Murphysboro many freight trains are provided with helper engines. When such trains arrive at Murphysboro the helper engines are detached, immediately turned on a wye, and placed on a storage track until needed for south-bound trains. A laborer assists in servicing the through engine and handles the switches during the movement of the detached engines around the wye. A roundhouse is located at the west edge of the yard and somewhat south of the south wye switch which is approximately 1,900 feet south of the main-track switch at the north end of track 1. Gartside Street crosses track 1 and the roundhouse lead at a point about 650 feet south of the main track switch while 17th Street parallels the main track south of Gartside Street.

Rule 104 provides in part that switches and derails must be left in proper position after having been used. Conductors are responsible for the position of the switches used by them and their trainmen, except where switch tenders are stationed.*** A switch must not be left open for a following train unless in charge of a trainman of such train.

The weather was clear at the time of the accident, which occurred at 1:15 a.m.

Description

Extra 462, a north-bound freight train, consisting of 52 cars hauled by engines 409, 455 and 462, arrived at Murphysboro at 11 p.m., and pulled in on track 1. Engines 409 and 455 were detached from the train and moved into the roundhouse lead, and at about 11:15 p.m., engine 462, with the same train, in charge of Conductor Johnson and Engineman Fraley, entered the main track at the north switch of track 1 and proceeded northward. This was the last train to use this main-track switch prior to the arrival of No. 15.

No. 15, a south-bound passenger train, consisted of one express car, one mail and baggage car, two coaches and one Pullman sleeping car, all of steel construction, in the order named, hauled by engine 268 of the 4-6-2 type, and was in charge of Conductor Harper and Engineman Minton. This train departed from Sparta, 35.58 miles from Murphysboro, at 12:33 a.m., according to the train sheet, 40 minutes late, and was derailed after entering the open switch leading to track 1 while traveling at a speed estimated to have been between 45 and 50 miles per hour.

The train had traveled a short distance on track 1 when it became derailed. The engine and tender stopped on their left sides, fouling the main track and track 1, the front end of the engine being approximately 515 feet south of the main-track switch. The first three cars were derailed but remained in upright positions at various angles across the tracks. The employee killed was the engineman, and the employees injured were the fireman and the baggageman.

Summary of evidence

Engineman Teeter, of engine 455, the second engine of Extra 462, stated that after the two helper engines were detached the first engine proceeded through the lead and was turned on the wye. He moved his engine to the water column near the roundhouse and while it was taking water Extra 462 started to leave. He sounded a proceed whistle signal and blinked his headlight to indicate that he would close the main-line switch and the flagman on the caboose answered his signal. About 5 minutes after his train departed, he headed into the south leg of the wye, backed out upon the north leg and then proceeded southward on the lead into track 5 and in the meantime forgot to close the main-line switch. He stated that at this point it is customary for the enginemen of helper engines to close the main-track switch and signal the departing train in that manner, and he has frequently done so.

Fireman Wanstreet, of engine 455, stated that he was on the tender taking water when he heard his engineman sound a proceed signal for Extra 462, but he did not know whether the engineman blinked his headlight and he did not have any conversation with the engineman relative to the departure of Extra 462. He also stated that it is a common practice for engine crews to close switches for departing trains.

Conductor Johnson, of Extra 462, stated that as his train started to leave Murphysboro he and Flagman McCormick were on the rear platform of the caboose. He saw engine 455 on the yard lead north of Gartside Street, and he heard the

whistle signal sounded by the engineman and saw the blinking of the headlight, indicating that the engineman of that engine would close the main-track switch. Flagman McCormick answered this signal by waving his lantern. His train passed through the switch at a speed of about 25 miles per hour. After passing the switch he was able to see the red indication of the switch lamp for a distance of about 200 yards, and thought that the reflection of the headlight may have prevented him from seeing it for a greater distance. Conductor Johnson further stated that it is a common practice for enginemen of the helper engines to close the main-line switch after the train leaves. The statements of Flagman McCormick corroborated those of the conductor.

The engineman, fireman and head brakeman of Extra 462 understood that Engineman Teeter of engine 455 would close the main-line switch after the departure of their train. They all heard the whistle signal and the fireman and the head brakeman saw the headlight being blinked as engine 455 was coming down the lead track and they advised the engineman to that effect. Engineman Fraley stated that it is the usual practice for a member of the engine crew of one of the helper engines to close the switch for the departing train. He looked back after passing the switch but was unable to see the switch light due to being blinded by headlights of automobiles that were proceeding northward on 17th Street.

Engineman Wright, of engine 409, the first helper engine, stated that he was backing his engine in upon the north leg of the wye when Extra 462 started to leave and engine 455 was standing at the roundhouse when he heard the whistle signal sounded by Engineman Teeter.

Laborers Gladness and Gray, employed at the roundhouse, stated that in the performance of their work in servicing the engines and handling the wye switches for the helper engines there have been occasions when they have closed the main-line switch for departing north-bound trains. Laborer Gladness has closed it only on the instructions from the enginemen or trainmen of the departing trains, while Laborer Gray has been instructed by the enginemen of the helper engines, one of whom was Engineer Teeter.

Conductor Harper, of No. 15 stated that on approaching Murphysboro, after he heard the station whistle signal sounded, he felt a light application of the air brakes; he called the station and went out on the platform to look ahead and about that time the air brakes were applied in emergency and the accident occurred. He had observed that the headlight on his engine was burning, and the train was traveling at its usual

speed when approaching Murphysboro.

Flagman Brown, of No. 15, stated that a terminal air-brake test had been made, and the brakes functioned properly en route. The speed was about 45 or 50 miles per hour approaching Murphysboro and the first intimation he had of anything wrong was when the air brakes were applied in emergency. After the accident he went back a distance of about 7 or 8 telegraph poles to provide flag protection, and the visibility was such that he could plainly see the markers on the rear of his train and the red light at the open main-line switch.

Roadmaster Stallings stated it was his opinion that as the engine of No. 15 entered the open main-line switch it started to roll to such an extent that it became derailed. While he could not state definitely at what point the engine left the rails, as the track was completely torn up, it was his opinion that the derailment occurred between the switch and the frog of the roundhouse lead.

Observations of Commission's Inspectors

Inspection of the track disclosed flange marks on ties on the inside of the west rail of the main track near the frog of the main-line switch; these marks apparently were made by one of the cars that climbed the rail as a result of the impact caused by the derailment of the engine. At the time of this inspection the track had been repaired sufficiently to enable the wrecking train to work at both ends of the wreckage. The damage observed, to both track and equipment, was apparently the result of and not the cause of derailment. Cross levels taken on track 1 showed only a slight variation from level from the point of main-track switch to the point of frog of the lead track. From this point southward the track was destroyed for a distance of 273 feet to the point at which the engine stopped.

A vision test was conducted to determine the distance the red light on the main-line switch could be seen from the cab of an approaching south-bound engine. It was found that the switch light could not be definitely identified until the engine had reached a point 1,000 feet from it. It was also found that the rays of the headlights of an automobile headed north and standing on 17th Street interfered with the view of the switch light had by the engine crew of an approaching south-bound engine.

Discussion

The evidence indicates that when Extra 462 departed from Murphysboro north-bound, about two hours prior to the time of

the accident, the crew of that train understood from signals given by Engineman Teeter, of engine 455, that he would close the main-track switch. This was, in fact, his intention but in carrying out other duties in connection with his engine he forgot to close it. It is a common practice for a member of the engine crew of one of the detached helper engines to close the switch for the departing train. In some such cases the helper engine might be close to the switch, but in this case the weight of evidence is to the effect that engine 455 was taking water approximately 1,800 feet from the switch when the signals were given by Engineer Teeter to indicate that he would close the main-line switch.

Conductor Johnson was responsible for the position of the main-line switch and should have known definitely that the switch was closed before allowing his train to proceed. A strict compliance with rule 104 is necessary in order to avert accidents of this kind.

Vision tests conducted after the accident indicate that the main-line switch could have been seen for a distance of 1,000 feet. The evidence indicates that the switch light was burning and that the air brakes were applied in emergency just prior to the accident, apparently just before or on entering the open switch. The reason for the engineman's failure to act in accordance with the red switch light indication sooner than he did cannot be stated as he was killed in the accident.

Conclusion

This accident was caused by an open switch.

Recommendation

It is recommended that the responsible officials take steps to bring about discontinuance of the unsafe practices with respect to the handling of main-line switches developed in this investigation, and to enforce proper compliance with the terms of rule 104.

Respectfully submitted,

W. J. PATTERSON,
Director.