

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3457
GULF, MOBILE AND OHIO RAILROAD COMPANY
AND
SOUTHERN RAILWAY COMPANY

IN RE ACCIDENT
AT TUSCALOOSA, ALA., ON
APRIL 2, 1952

SUMMARY

Date: April 2, 1952

Railroads: Gulf, Mobile and Ohio : Southern

Location: Tuscaloosa, Ala.

Kind of accident: Side collision

Equipment involved: Locomotive with cars : Locomotive with cars

Engine numbers: Diesel-electric unit 1908 . Diesel-electric units 6105, 4321 and 4112

Consists: 9 cars : 13 cars

Estimated speeds: 8 m. p. h. : 6 m. p. h.

Operation: Automatic interlocking

Tracks: Single; tangent; 0.32 percent descending grade northward : Single; tangent; 0.05 percent ascending grade southward

Weather: Clear

Time: 11:12 p. m.

Casualties: 1 killed; 2 injured

Cause: Failure to operate the Southern movement in accordance with signal indication

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3457

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

GULF, MOBILE AND OHIO RAILROAD COMPANY
AND
SOUTHERN RAILWAY COMPANY

May 14, 1952

Accident at Tuscaloosa, Ala., on April 2, 1952, caused by
failure to operate the Southern movement in accordance
with a signal indication.

REPORT OF THE COMMISSION¹

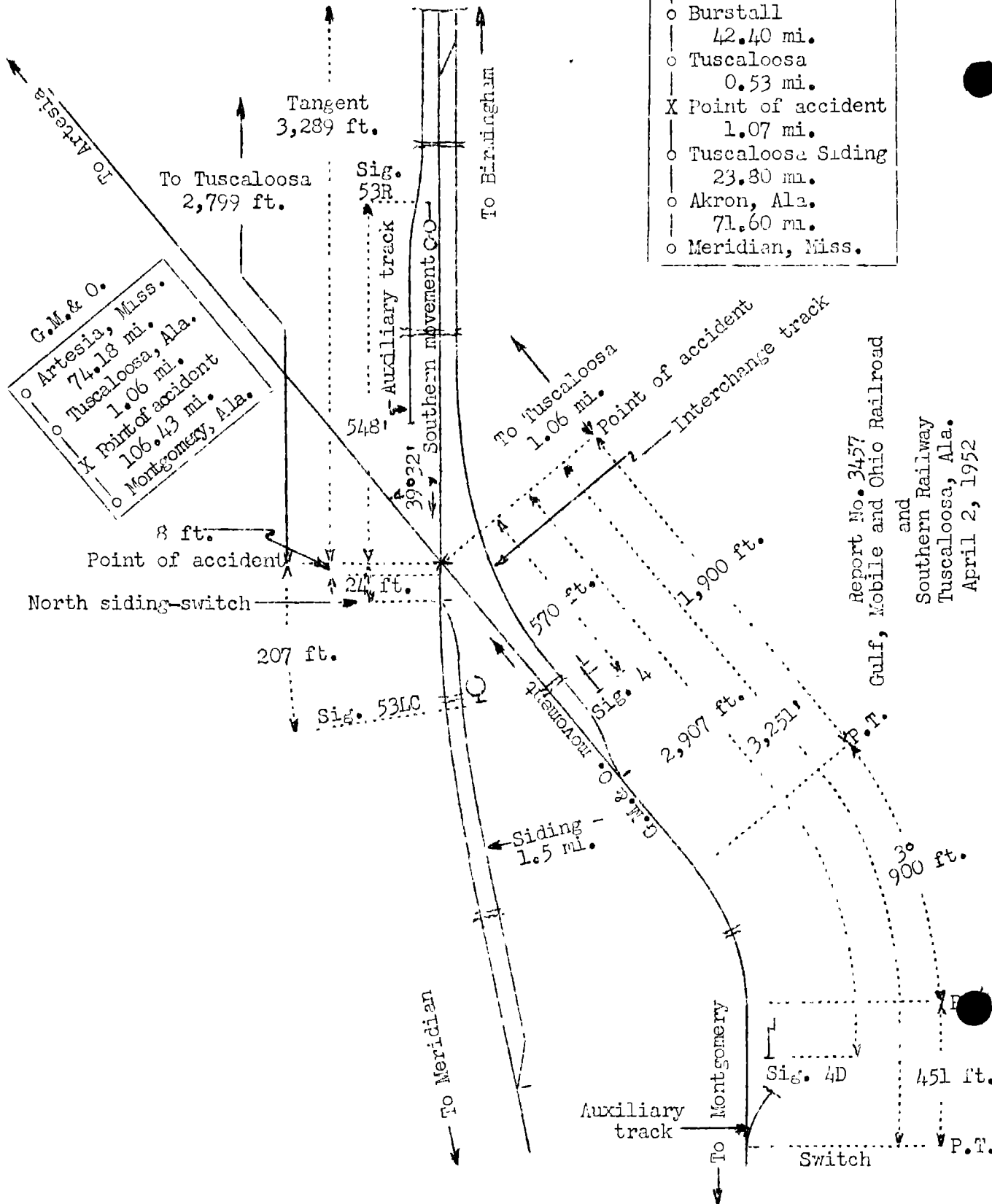
PATTERSON, Commissioner:

On April 2, 1952, there was a side collision between a locomotive with cars on the Gulf, Mobile and Ohio Railroad and a locomotive with cars on the Southern Railway at Tuscaloosa, Ala., which resulted in the death of one train-service employee, and the injury of two train-service 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.

Southern

o	Birmingham, Ala.	13.00 mi.
o	Burstall	42.40 mi.
o	Tuscaloosa	0.53 mi.
X	Point of accident	1.07 mi.
o	Tuscaloosa Siding	23.80 mi.
o	Akron, Ala.	71.60 mi.
o	Meridian, Miss.	



o	Artesia, Miss.	74.18 mi.
o	Tuscaloosa, Ala.	1.06 mi.
X	Point of accident	106.43 mi.
o	Montgomery, Ala.	

Report No. 3457
and
Southern Railway
Gulf, Mobile and Ohio Railroad
Tuscaloosa, Ala.
April 2, 1952

Location of Accident and Method of Operation

This accident occurred at the intersection of the Gulf, Mobile and Ohio Railroad and the Southern Railway at Tuscaloosa, Ala. The crossing is located on that part of the Southern Division of the G.M.& O. extending between Montgomery, Ala., and Artesia, Miss., 181.67 miles, and on that part of the Alabama Great Southern Division of the Southern Railway extending between Meridian, Miss., and Birmingham, Ala., 152.4 miles. The crossing is 106.43 miles north of Montgomery and 1.06 miles south of the G.M.& O. station at Tuscaloosa, and 96.47 miles north of Meridian and 2,799 feet south of the Southern station at Tuscaloosa. The G.M.& O. track extends northwest and southeast. The Southern track extends north and south and intersects the G.M.& O. track at an angle of $39^{\circ}32'$. Timetable directions on both lines are northward and southward, and are used in this report. The crossing is within yard limits on each line. In the vicinity of the point of accident the G.M.& O. is a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. An auxiliary track which lies east of the G.M.& O. main track connects with the main track at a switch located 3,251 feet south of the crossing. The switch is facing-point for north-bound movements. Northward from the switch there are, in succession, a tangent 451 feet in length, a 3° curve to the left 900 feet, and a tangent 1,900 feet to the crossing and a considerable distance northward. The grade immediately south of the crossing is 0.32 percent descending northward. In the vicinity of the point of accident the Southern is a single-track line, over which trains are operated by signal indications supplemented by an intermittent-inductive automatic train-stop system. An interchange track parallels the main track on the east between points 1,450 feet and 150 feet north of the crossing, then it turns eastward at the latter point and parallels the main track of the G.M.& O. between points 150 feet and 700 feet south of the crossing. North of the crossing other auxiliary tracks parallel the interchange track on the east and the main track of the Southern on the west. South of the crossing a siding 1.5 miles in length, designated as Tuscaloosa Siding, parallels the Southern main track on the east. The north siding-switch is 24 feet south of the crossing. The main track is tangent throughout a distance of 3,289 feet immediately north of the crossing and 8 feet southward. The grade immediately north of the crossing is 0.05 percent descending southward.

Movements over the crossing are governed by an automatic interlocking. Automatic signals 4D and 4, governing north-bound movements on the G.M.&O., are located, respectively, 2,907 feet and 570 feet south of the crossing. Signal 4D is of the one-arm upper-quadrant semaphore type. It displays two aspects. Signal 4 is of the two-arm semaphore type. The top arm operates in two positions in the upper quadrant, and the bottom arm is fixed in the horizontal position. Both signals are approach lighted. Semi-automatic signal 53R, governing south-bound movements on the Southern, is located 548 feet north of the crossing. This is a two-unit signal of the searchlight type. It displays four aspects. Semi-automatic signal 53LC, governing movements from the north end of the Southern siding to the main track, is located 207 feet south of the crossing. This is a dwarf signal of the searchlight type. It displays three aspects. Both signals are continuously lighted. Aspects applicable to this investigation and the corresponding indications and names are as follows:

<u>Signal</u>	<u>Night Aspect</u>	<u>Indication</u>	<u>Name</u>
4D	Yellow	Proceed, prepared to stop at next signal * * *	APPROACH.
4D	Green	PROCEED.	CLEAR.
4	Green over red	PROCEED.	CLEAR.
4	Red over red	STOP.	STOP.
53R	Red over red	STOP	STOP SIGNAL
53R	Red over yellow	PROCEED AT RESTRICTED SPEED	RESTRICTING SIGNAL

Signals 53R and 53LC form part of a traffic-control system which extends between Burstall, 42.93 miles north of the crossing, and Akron, 24.87 miles south of the crossing. The north siding-switch is power operated. The control circuits of the interlocking are so arranged that each signal governing movements over the crossing normally indicates Stop and signal 4D normally indicates Approach. A signal governing Southern movements can display an aspect to proceed only when its approach circuit is occupied, the proper code has been transmitted from the traffic-control machine, routes through the

interlocking limits are unoccupied, and signals governing movements through conflicting routes indicate Stop. Signals governing G.M. & O. movements over the crossing display an aspect to proceed under the same conditions except that it is not necessary for a code to have been transmitted from the traffic-control machine. If the train dispatcher has not transmitted a code to permit a Southern movement through the interlocking, even if an approach circuit on the Southern is occupied, a north-bound G.M. & O. train entering the northward approach circuit automatically actuates signals 4 and 4D to indicate Proceed. If the train dispatcher transmits the code to permit a Southern movement after a G.M. & O. train has entered the approach circuit, the signal governing the Southern movement will not display an aspect to proceed until after the G.M. & O. train has completed a movement through the interlocking or until a predetermined time interval has elapsed after the G.M. & O. signal has been caused to indicate Stop by the manual operation of a time release located at the crossing. The approach circuit for north-bound G.M. & O. movements extends 4,982 feet south of the crossing, and the approach circuit for south-bound Southern movements extends 2,547 feet north of the crossing.

An automatic recording device is in use at the interlocking. This device records the time that each of the approach circuits is occupied, the time when a signal on the G.M. & O. or on the Southern displays an aspect to proceed, and the time when the track circuit on each line within interlocking limits is occupied.

The control machine of the traffic-control system of the Southern is located at Birmingham. The machine is provided with miniature lamps to indicate track occupancy of the Southern within interlocking limits at Tuscaloosa, track occupancy of the approach circuits of the Southern, whether any controlled signal of the Southern displays an aspect to proceed, and track occupancy of the G.M. & O. throughout the interlocking limits and the approach circuits.

The maximum authorized speeds over the crossing were 25 miles per hour for G.M. & O. freight trains and 20 miles per hour for Southern freight trains.

Description of Accident

A G.M. & O. switching movement, consisting of Diesel-electric unit 1008 and nine cars, entered the main track of the G.M. & O. at the auxiliary-track switch south of the crossing at Tuscaloosa at 11:05 p. m. This movement, with

the locomotive headed southward and pushing the nine cars, then proceeded northward, passed signal 4D, which indicated Proceed, passed signal 4, which indicated Stop, and while moving at an estimated speed of 8 miles per hour it collided with the forward portion of Southern No. 54 at the crossing.

No. 54, a north-bound second-class Southern Railway freight train, consisted of Diesel-electric units 6105, 4321, and 4112, coupled in multiple-unit control, 73 cars, and a caboose. This train entered Tuscaloosa Siding at 10:10 p. m. At 10:57 p. m. the forward portion of the train, consisting of the locomotive and 39 cars, passed signal 53LC, which indicated Proceed, entered the main track, and stopped with the rear cars standing within interlocking limits. The first 16 cars then were detached and moved northward. This movement stopped with the most southerly car about 1,575 feet north of the crossing. A yard engine then moved the other 23 cars from the main track to an adjacent auxiliary track and the forward portion of the train moved southward, passed signal 53R, which indicated Stop, and while moving at an estimated speed of 6 miles per hour it collided with the G.M. & O. switching movement.

The most northerly car and the north truck of the second car of the G.M. & O. switching movement were derailed. The first car stopped in the southwest angle of the intersection. It was somewhat damaged. The second car was slightly damaged. The most southerly car and the south truck of the second car of the forward portion of the train of No. 54 were derailed. The first car was overturned and stopped in the southwest angle of the intersection. Both cars were somewhat damaged.

The yard conductor of the G.M. & O. switching movement was killed. Two yard brakemen of the G.M. & O. were injured.

The weather was clear at the time of the accident, which occurred about 11:12 p. m.

Discussion

Surviving members of the G.M. & O. switching movement said that before the north-bound movement was started one of the yard brakemen placed a lighted red fusee on the coupler at the north end of the most northerly car. They said that signal 4D indicated Approach when their locomotive first entered the main track, and that the indication changed from Approach to Proceed before the first car passed the signal. After this movement departed from the auxiliary-track switch, the yard conductor and two yard brakemen were

on the most northerly car and the enginemen were in the control compartment of the locomotive. All members of the crew were maintaining a lookout in the direction of movement. Normal brake-pipe pressure was being maintained in the air-brake system of the cars. The yard brakemen said that signal 4 indicated Proceed when it first was visible to them and until the first car was closely approaching it. They did not see the indication change from Proceed to Stop. The enginemen said that the indication changed from Proceed to Stop when the first car was in the immediate vicinity of the signal. They assumed that the indication changed when the first car passed the signal. Because of cars standing on the interchange track, the forward portion of the train of No. 54 was not visible to the employees on the G.M. & O. switching movement until they were closely approaching the crossing. The yard brakemen said that the yard conductor called a warning when the car on which they were riding was about 50 feet south of the crossing. They then observed cars approaching on the Southern. The collision occurred before they could give stop signals. They thought that both movements entered the crossing at approximately the same time. The enginemen were not aware of the approach of the Southern movement until the brakes became applied in emergency as a result of the collision.

When the forward portion of the train of No. 54 entered the main track the crew had received instructions that cars were to be added to their train at Tuscaloosa and also that their train was to clear the main track not later than 11:20 p. m., in order to avoid delay to No. 56, a north-bound freight train. While the yard engine was moving the 23 cars from the main track, the conductor of No. 54 called the train dispatcher and informed him that it would not be possible to add cars to the train and clear the main track by 11:20 p. m. The train dispatcher then instructed the conductor to return to Tuscaloosa Siding with the forward portion of the train and wait until after No. 56 passed before adding cars to the train. The conductor repeated these instructions to the flagman, and the flagman gave a back-up signal with his lantern. At this time the flagman was standing between the main track and the interchange track, the conductor was in the vicinity of the telephone, which was located west of the main track and 1,362 feet north of the crossing, and the front brakeman and the enginemen were in the control compartment of the locomotive. Because of cars standing on the auxiliary track west of the main track, none of these employees could obtain a view of signal 53R. The flagman said that after giving the back-up signal he walked southward

to a point from which he could see signal 53R. The forward portion of his train overtook him at that point, and he boarded the south end of the most southerly car. He said that signal 53R indicated Restricting immediately before he boarded the car and also immediately afterward. After looking at the signal the second time, he did not again observe the aspect. Cars loaded with pulpwood were being moved southward on the interchange track, and the flagman was watching these cars because he was apprehensive that the lading possibly had shifted toward the main track. The car on which he was riding was about 50 feet north of the crossing when he first observed cars approaching on the G.M.& O. track. He immediately gave stop signals, and he said that the brakes on the forward portion of his train were applied in emergency at approximately the same time that the collision occurred. The conductor said that after communicating with the train dispatcher he proceeded to the east side of the main track. Because the forward portion of his train was approaching on the main track and a switching movement was approaching on the interchange track, he was facing northward toward these movements and did not look toward signal 53R. After the first car of his train passed him, he could not see the signal. He boarded the locomotive of his train as it passed. The fireman could not obtain a view of signal 53R until after several of the cars which were being pushed had passed the signal. He said that the signal indicated Stop at that time. The engineer was unable to see signal 53R at any time, but he said that the flagman was in his range of vision constantly from the time he gave the back-up signal until he gave the stop signal. The employees on the locomotive were not aware that a collision had occurred until they were so informed by the flagman.

The train dispatcher said that while he was talking with the conductor of No. 54 he transmitted the code to line the route for the forward portion of the train to return from the main track to the siding. At that time the indicators of the traffic-control machine indicated that a G.M.& O. movement was occupying either the approach circuit or the interlocking limits at the crossing and that signal 53R was displaying its most restrictive aspect. He assumed that signal 53R would display an aspect to proceed after the G.M.& O. movement cleared the interlocking limits. He then became engaged in other duties and did not again observe the indicators until after the accident occurred.

Inspections and tests of the interlocking were begun by signal forces of the carrier about 45 minutes after the accident occurred. No condition was found that would have caused an improper operation of the signal system. According to the tape of the recording device, the forward portion of No. 54 first entered the interlocking limits at 10:57 p. m. The cars which were left standing within interlocking limits were removed at 11:06 p. m. The G.M. & O. movement entered the G.M. & O. northward approach circuit at 11:05 p. m., and signal 4 displayed an aspect to proceed at 11:06 p. m. The forward portion of the train of No. 54 re-entered the interlocking limits and the indication of signal 4 changed from Proceed to Stop about 11:11 p. m., and the G.M. & O. movement entered the interlocking limits a few seconds later. According to this tape, all signals on the Southern indicated Stop after the forward portion of No. 54 first moved from the siding to the main track.

Cause

It is found that this accident was caused by failure to operate the Southern movement in accordance with a signal indication.

Dated at Washington, D. C., this fourteenth day of May, 1952.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.