

INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2491

THE SOUTHERN RAILWAY COMPANY

REPORT IN RE ACCIDENT

NEAR SPARTANBURG, S. C., ON

MARCH 19, 1941

SUMMARY

Railroad: Southern
Date: March 19, 1941
Location: Spartanburg, S. C.
Kind of accident: Head-end collision
Trains involved: Freight : Freight
Train numbers: Extra 4761 East : Second 51
Engine numbers: 4761 : 4578
Consist: 61 cars, caboose : 38 cars, caboose
Speed: 10-15 m. p. h. : 15 m. p. h.
Operation: Manual block
Track: Single; 5° curve; 0.40 percent
descending grade westward
Weather: Clear
Time: 7:40 p. m.
Casualties: 6 killed
Cause: Accident caused by occupancy of
block without authority
Recommendation: That the Southern Railway submit
to the Commission rules and instruc-
tions for the establishment and main-
tenance of an adequate block signal
system on the line here under con-
sideration

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2491

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

THE SOUTHERN RAILWAY COMPANY

May 20, 1941

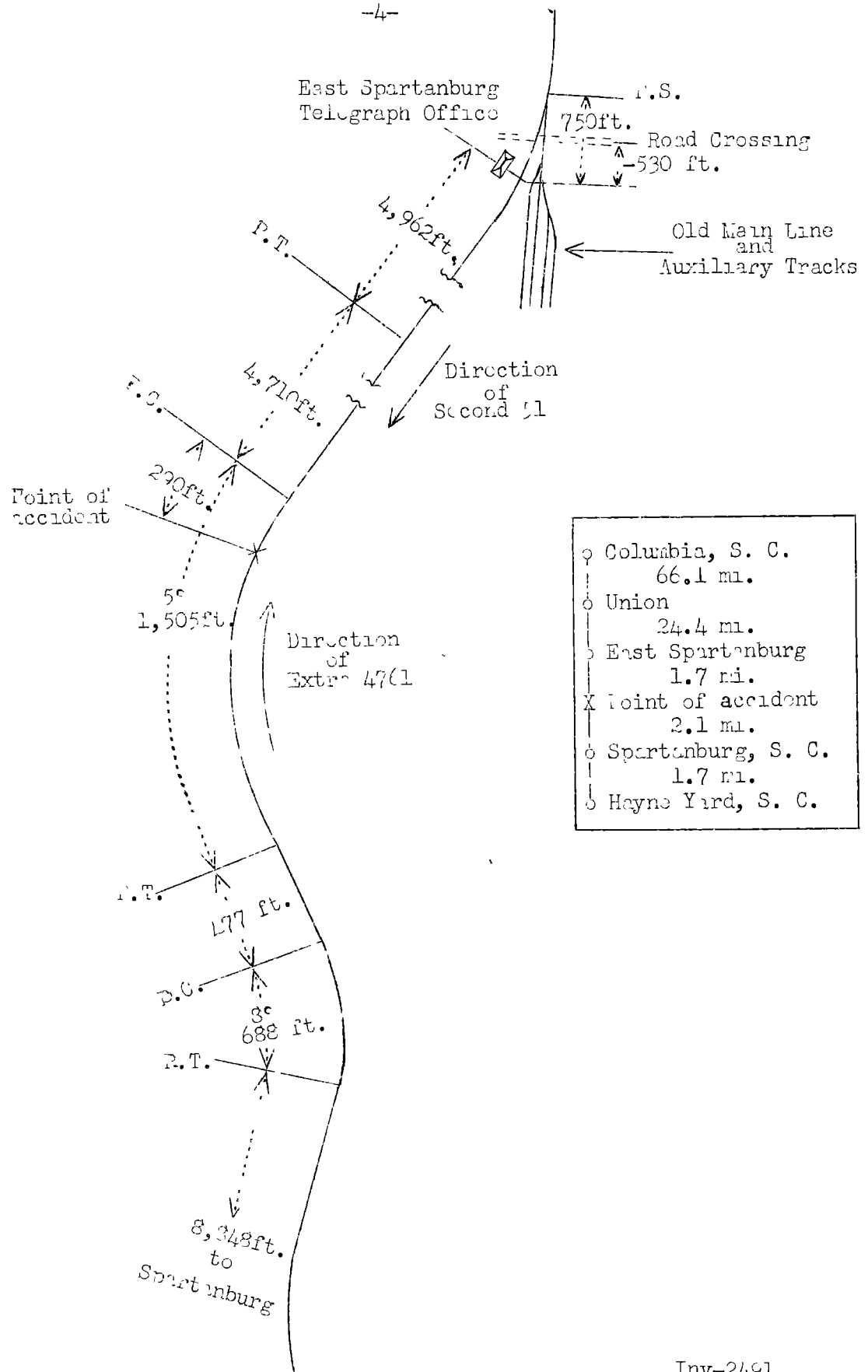
Accident near Spartanburg, S. C., on March 19, 1941, caused
by occupancy of block without authority.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On March 19, 1941, there was a head-end collision between two freight trains on the Southern Railway near Spartanburg, S. C., which resulted in the death of six employees.

¹Under 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.



- | | | |
|---|--------------------|----------|
| o | Columbia, S. C. | 66.1 mi. |
| o | Union | 24.4 mi. |
| o | East Spartanburg | 1.7 mi. |
| X | Point of accident | 2.1 mi. |
| o | Spartanburg, S. C. | 1.7 mi. |
| o | Hayne Yard, S. C. | |

Inv-2491
 Southern Railway
 Spartanburg, S. C.
 March 19, 1941

Location and Method of Operation

This accident occurred on that part of the Columbia Division which extends between Columbia and Spartanburg, S. C., a distance of 94.3 miles. This is a single-track line over which trains between Columbia and East Spartanburg, a distance of 90.5 miles, are operated by timetable and train orders only. Between East Spartanburg and Spartanburg, a distance of 3.8 miles, trains are operated by manual block, which supersedes time-table superiority and takes the place of train orders. The accident occurred at a point 2.1 miles east of the station at Spartanburg.

At East Spartanburg a track, designated as the old main line, diverges from the main track at a switch located 750 feet east of the station. Three auxiliary tracks are parallel to the old main line. Opposite the station the old main line is 115 feet south of the main track. A train clearing at East Spartanburg heads into either the old main line or one of the auxiliary tracks, all of which are spur tracks.

As the point of accident is approached from the west there are, in succession, an 8° curve to the left 639 feet in length, a tangent 477 feet, and a 5° curve to the right 1,215 feet to the point of accident and 290 feet beyond. As the point of accident is approached from the east there is a tangent 4,710 feet in length, which is followed by the 5° curve on which the accident occurred. The grade for east-bound trains varies between 0.35 percent and 0.40 percent descending 2,500 feet, then there is a vertical curve 1,300 feet to the point of accident. The grade for west-bound trains varies between 0.61 percent and 1.09 percent descending 3,300 feet, then is 0.40 percent descending 1,300 feet to the point of accident.

In the vicinity of the point of accident the track is laid in a cut, the walls of which extend about 29 feet above the rail. Because of the cut and the track curvature, the view of the point where the accident occurred from either an east-bound or a west-bound engine is limited to 450 feet.

Between the hours of 8 a. m. and 5 p. m., daily except Sunday, an operator is in charge of the block office in the station at East Spartanburg. When the office is closed crews of trains either entering or clearing the block at that point obtain block authority by telephone from the operator at Spartanburg, and release the block to him.

Special Instructions of the current timetable read in whole or in part as follows:

BLOCK SYSTEM RULES

The movement of trains under Manual Block System is in effect as shown below:

Trains or engines will run on single track against opposing trains after receiving (a) proceed train order signal where provided (b) block card, Form 605, properly filled out, (c) authority by telephone from operator in charge of block which will supersede time table superiority and will take the place of train orders.

Authority by telephone must be repeated and a clear understanding reached between operator and person asking for block, each giving his name to the other, before proceeding.

Trains and engines occupying a block will immediately report the block cleared by telephone when the movement is completed. * * *

* * *

Trains or engines must move with caution within block limits. In case of accident the responsibility will rest with the approaching train or engine.

* * *

Spartanburg and E. Spartanburg
Block Limits: Spartanburg and East Spartanburg in charge of the Operator at Spartanburg Passenger Station.

* * *

Trains or engines must not occupy this block without authority, which will be conferred as follows:

At East Spartanburg by proceed train order signal when operator is on duty; by telephone when operator is not on duty.

At Spartanburg by telephone from block operator or by block card, Form 605.

* * *

Trains or engines may follow other trains or engines through this block but must receive permission from block operator to do so.

HOURS OF SERVICE TELEGRAPH OFFICES

STATION

WEEK DAY

SUNDAY

* * *

East Spartanburg---8:00 A.M. to 5:00 P.M.-Closed

Spartanburg-----Continuous-----Continuous

* * *

In the vicinity of the point of accident the maximum authorized speed for freight trains is 20 miles per hour.

The weather was clear at the time of the accident, which occurred about 7:40 p. m.

Description

Second 51, a west-bound second-class freight train, with Conductor Grant and Engineman Holcomb in charge, consisted of engine 4578, 52 loaded and 6 empty cars and a caboose. This train departed from Union, 29.2 miles east of Spartanburg and the last open office, at 5:16 p. m., according to the train sheet, 4 hours 56 minutes late, and at East Spartanburg it entered the old main line at 6:30 p. m. to clear for No. 10, an east-bound first-class passenger train. Extra 4583, a west-bound freight train, arrived at East Spartanburg at 6:37 p. m. and entered one of the auxiliary tracks. No. 10 departed from Spartanburg at 7:23 p. m., according to the train sheet, and departed from East Spartanburg about 7:31 p. m., according to statements of the crew, 25 minutes late. After No. 10 departed, Second 51 backed out and departed from East Spartanburg about 7:37 p. m., 5 hours 15 minutes late, and, while moving at a speed estimated at 15 miles per hour, collided with Extra 4761 at a point 1.7 miles west of East Spartanburg.

Extra 4761, an east-bound freight train, with Conductor Jones and Engineman McCord in charge, consisted of engine 4761, 49 loaded and 12 empty cars and a caboose. At Spartanburg the crew received a clearance card, which bore information as follows:

Block is permissive to
follow No. 10 to E Spartanburg.

This train departed from Spartanburg at 7:30 p. m., according to the train sheet, and, while moving at a speed estimated to have been from 10 to 15 miles per hour, it collided with Second 51 at a point 2.1 miles east of Spartanburg.

Engine 4761 was derailed and stopped, practically upright, with the front end on the roadbed and the rear end against the south wall of the cut. The pilot, smoke-box, engine truck,

both cylinders, and cab were demolished. The front-end engine-frame and the trailer-truck frame were broken. The tender was derailed and stopped, badly damaged, against the south wall of the cut; both trucks were detached. The first car of Extra 4761 was demolished. The second car was derailed and stopped upright, badly damaged, across the track at the rear of the tender. The tenth, eleventh and twelfth cars were derailed, telescoped each other and were contained within a distance of 50 feet immediately to the rear of the ninth car. All wheels except the trailer-truck wheels of engine 4578 were derailed and the engine stopped with the front end about 16 inches north of the north rail. The pilot, smoke box, right cylinder, engine truck, and cab were demolished; the left cylinder and the boiler were badly damaged. The tender was demolished. The first seven cars were derailed and stopped, badly damaged, in various positions immediately behind the engine and were contained within a distance of 173 feet.

The employees killed were the engineman and the fireman of Extra 4761, and the engineman, the fireman, the front brakeman and the conductor of Second 51.

Summary of Evidence

Flagman Chastain, of Second 51, stated that his train arrived at East Spartanburg about 6:25 p. m. and entered the old main line to clear for No. 10. Just before No. 10 stopped at the station his conductor, accompanied by the conductor of Extra 4585 West which had also cleared at East Spartanburg, went to the telephone at the station and the conductor of Second 51 called the operator at Spartanburg. The flagman said that he was standing about 10 or 15 feet from the telephone and overheard part of the conversation of his conductor. No. 10 stopped at the station with about two cars standing in the block. The conductor of No. 10 told the conductor of Second 51 to report No. 10 clear of the block. The flagman said he heard his conductor say in effect that he was Conductor Grant and was clearing for Conductor West of No. 10, and heard his conductor request block authority for Second 51. At this time the flagman proceeded eastward toward the main-track switch. The conductor in attempting to get block authority was at the telephone about three times as long as usual and the flagman waited near a road crossing located 530 feet east of the telephone until his conductor walked to that location and told the flagman that he had received block authority. In a later statement the flagman said that he did not proceed more than 25 feet toward the switch until his conductor informed him that Second 51 had authority to occupy the block. Second 51 then backed eastward and entered

the main track. When it proceeded westward all members of the crew except the flagman were on the engine. As the train was approaching the point where the accident occurred the speed was about 15 miles per hour. The first he knew of anything being wrong was when the accident occurred, about 7:40 p. m. This was the first instance of which he had knowledge wherein authority was requested to occupy a block before an opposing train was clear of it.

Conductor Sauls, of Extra 4583 East, stated that at East Spartanburg his train entered one of the auxiliary tracks to clear for No. 10 and his train stood beside Second 51. He planned that Extra 4583 would precede Second 51 to Spartanburg but the conductor of Second 51 insisted that his own train would precede Extra 4583. Thinking that Second 51 needed a helper engine to assist it to Spartanburg, he called the operator at that point to arrange for Extra 4583 to leave East Spartanburg ahead of Second 51. Conductor Sauls said that he asked the operator which train should go first and the operator replied that he would inform him of that fact after No. 10 reported clear of the block. Soon afterward both conductors went to the telephone. When No. 10 stopped at the station, the conductor of Second 51 spoke into the transmitter that No. 10 was clearing the block, and upon the request of the conductor of No. 10, he added, "West, No. 10," gave the engine number and asked, "Can I have the block after No. 10 gets by," and stated, "I get the block when No. 10 clears." After No. 10 departed the conductor of Second 51 again spoke into the transmitter that No. 10 had departed and asked which track in Hayne Yard his train would enter, repeated some track number, and said, "I still get the block?" Conductor Sauls said there was no other person present at the telephone. After Second 51 departed, Extra 4583 backed out. Conductor Sauls said that because he desired his engineman to have first-hand information, and as his engineman by using the telephone located at the switch east of the station could obtain authority to follow Second 51 to Spartanburg, he did not request authority to occupy the block when Second 51 was granted authority. The rules require an opposing train to be clear of a block before permission is requested to occupy the block. He said that he himself would not request block authority before an opposing train was clear of the block. In some instances when he is required to report clear of the block he rides on the engine to the other limit, then when his train is about two-thirds past the block he reports clear and boards the caboose. Conductor Sauls said that when a block office is open, block authority is granted either by signal indication or by a clearance card, and in either case the conductor and the engineman have the same information. However, when the engineman

obtains block authority by telephone, the conductor has no knowledge of conditions affecting his train. He expressed the opinion that time-table and train-order operation was safer than block operation only, since it provides tangible evidence of movements of opposing trains.

Engineman Ladd, of Extra 4583, stated that after his train backed out on the main track at East Spartanburg he called the operator at Spartanburg for authority to enter the block. The operator asked about Second 51; when the engineman said that Second 51 had departed, the operator told the engineman that Extra 4761 was proceeding eastward in the block. The engineman's understanding of the movement of trains by manual block only was the same as that had by other employees involved. In his opinion operation by manual block only was as safe as by time-table and train-order operation.

Conductor West, of No. 10, stated that at Spartanburg his train received clear block authority to move from Spartanburg to East Spartanburg. His train stopped at East Spartanburg about 7:30 p. m. with the rear end standing about 140 feet west of the station. The conductor of Second 51 and the conductor of Extra 4583 were near the telephone. Conductor West asked the conductor of Second 51 to report No. 10 clear of the block. The conductor of No. 10 understood that the station was the eastern limit of the block and that his train was not clear at that time; however, to save delay which would have been caused by No. 10 moving beyond the station before it was reported clear of the block, he thought it safe for the conductor of an opposing train to report No. 10 clear of the block. He knew of other instances wherein this practice had been followed. At the time No. 10 was standing at East Spartanburg, the conductor of Second 51 was not conversing on the telephone although the receiver was off the hook. At that time the flagman of Second 51 was at the crossing east of the station. His understanding of the operation of trains in the block involved was the same as previously described. He had never requested nor been granted authority to occupy a block before an opposing train reported clear of the block.

Flagman Bryson, of No. 10, stated that at the time his conductor requested the conductor of Second 51 to report No. 10 clear of the block the rear two cars were standing in the block.

Front Brakeman Driggers, of Extra 4761, stated that after No. 10 departed from Spartanburg Extra 4761 entered the main track with permissive block authority and his engine stopped about 5,800 feet east of the station so that a pusher engine

could be coupled to the rear of his train. Soon afterward the engineman said that the pusher was coupled. The engineman opened the throttle lightly, then, after the train started, he closed it and permitted the train to drift. The train moved about 30 car lengths and the speed was about 10 miles per hour when simultaneously the fireman and the brakeman observed Second 51 approaching about 3 car lengths distant. Both called a warning to the engineman, who immediately applied the brakes but too late to avert the accident. The front brakeman jumped off just before the collision occurred. He understood that between Spartanburg and East Spartanburg trains may follow preceding trains but that opposing movements are not permitted. Before his train entered the block at Spartanburg the engineman, fireman, and front brakeman understood that Second 51 and Extra 4583 were clear at East Spartanburg for No. 10. The engineman had instructed the front brakeman to identify these trains at East Spartanburg.

Conductor Jones, of Extra 4761, stated that at Hayne Yard, 1.7 miles west of Spartanburg, a terminal air-brake test was made and the brakes functioned properly between Hayne Yard and Spartanburg. Before his train departed from Hayne Yard his crew received a train order, Form 19, which authorized engine 4761 to run extra from East Spartanburg to Columbia after Extra 4583 West arrived at East Spartanburg. After No. 10 departed, the operator at Spartanburg delivered copies of a clearance card conferring authority on Extra 4761 to follow No. 10 between Spartanburg and East Spartanburg under a permissive block. At this time the conductor inquired of the operator where Second 51 and Extra 4583 were. The operator replied that both trains were in the clear at East Spartanburg and he appeared to have complete knowledge of all trains at both Spartanburg and East Spartanburg. The conductor delivered a copy of the clearance card to the engineman and informed him that Second 51 and Extra 4583 were at East Spartanburg. After Extra 4761 started, the conductor, intending to ride the helper engine until it was coupled to the rear of his train, remained on the ground to close the crossover switches, but his train failed to wait for the helper engine and he was left behind. He understood that following movements are permitted in the block between Spartanburg and East Spartanburg but opposing movements cannot be authorized between these points. When the office at East Spartanburg is closed, east-bound trains must stop and report clear of the block; however, the entire train must be east of the office before it is clear of the block. A west-bound train at East Spartanburg must obtain authority from the operator at Spartanburg by telephone before it enters the block. The rules require that either the conductor or the engineman of a train obtain block authority and identify himself to the operator

by name, train number, and engine number. Block authority must not be requested until an opposing train is clear of the block. The conductor expressed the opinion that an absolute manual block for opposing movements provided operation as safe as time-table and train orders, provided all employees involved in the operation comply with the rules.

Flagman Robertson, of Extra 4761, stated that as his train was approaching the point where the accident occurred he was in the caboose and the speed was about 15 miles per hour. He knew his conductor had been left at Spartanburg but took no action to stop the train as he expected the conductor to ride the helper engine until it overtook his train. The first he knew of anything being wrong was when the air brakes were applied in emergency and the train stopped in a distance of about 60 feet. The accident occurred at 7:40 p. m., at which time it was dark and the weather was clear. Since he was at the rear of the train as it was leaving Spartanburg, he had not received information about Second 51; however, he had read the order received at Hayne Yard and knew that Extra 4583 was at East Spartanburg. He was last examined on the operating rules on March 10, 1941.

Operator Malphrus stated that he has been assigned as second-trick operator at Spartanburg since April, 1932. He controls the blocking of trains moving in either direction between Spartanburg and East Spartanburg. An east-bound train entering the block is given block authority by information contained on a clearance card. A train may follow another train on permission of the block operator, who delivers a clearance card bearing information of an occupied block. Opposing movements are not permitted within the block. When a train arrives at East Spartanburg, if the operator at East Spartanburg is on duty, he obtains block authority from the operator at Spartanburg, then either displays the proper indication on the train-order signal or delivers a clearance card authorizing the train to occupy the block. When the office at East Spartanburg is closed; the engineman or the conductor calls the operator at Spartanburg by telephone, and identifies himself by name, train, and engine number. The operator then examines the station block record and if there is no opposing movement grants authority to the train to occupy the block westward. When an east-bound train or engine reaches East Spartanburg, it is required to report clear of the block. He said that on the day of the accident, before No. 10 was due to leave Spartanburg, Second 51 and Extra 4583 West called from East Spartanburg and were instructed to clear the main track at that point. About 7:10 p. m. he received definite information that Extra 4761 East would follow No. 10 closely. About 7:15 p. m. someone called on

the block telephone and requested information as to which of the two trains should leave East Spartanburg first. He informed the person calling that Second 51 would leave ahead of the other train. He did not ask the person to identify himself as he was giving information only and was not granting block authority. He said that at no time did anyone ask him which track in Hayne Yard Second 51 would enter. No 10 departed from Spartanburg at 7:23 p. m. Extra 4761 East was given a clearance card containing information that No. 10 was occupying the block. This clearance card permitted Extra 4761 to proceed eastward and to follow No. 10 in the block. Extra 4761 departed about 7:31 p. m. Since he did not receive a report from No. 10 at East Spartanburg and since it should have been clear of the block by 7:32 p. m., at 7:35 p. m. he rang the block telephone at East Spartanburg, expecting someone to answer and to inform him concerning No. 10. The engineman of Extra 4583 answered the telephone and informed the operator that Second 51 had departed westward. He said this was the first conversation he had had with anyone at East Spartanburg since about 7:15 p. m., and that at no time did the conductor of No. 10 call to report clear, nor did any person represent the conductor of No. 10; neither did he grant authority for either Second 51 or Extra 4583 to enter the block at East Spartanburg. Sometimes members of crews of other trains report opposing trains clear of the block. He said he had in mind continuously each train involved and he did not forget any authorized movement; the entries of all movements authorized are entered on the record immediately and are in plain view at all times. He was at the desk in the office with the station block record immediately in front of him and it was highly improbable that he would overlook any entry. According to his record, No. 10 and Extra 4761 East had been granted block authority, but Second 51 had not received authority. He said that several years ago any member of a crew was permitted to receive block authority but in recent years only the conductor and the engineman are permitted to receive it, and that some crews had taken exception to his insistence that block authority be requested properly. He considered the operation by manual block only to be safe.

Ticket Agent Sanford, at Spartanburg, stated that he was in the block office between 6:30 and 7:15 p. m., and overheard Operator Malphrus inform someone on the telephone to head in at East Spartanburg for No. 10 and that an east-bound extra probably would follow No. 10. The operator also instructed the person to call after No. 10 cleared at East Spartanburg. There was no further conversation prior to 7:15 p. m.

Assistant Yard Master Vaughn, at Hayne Yard, stated that the operator at Spartanburg called him about 6:45 p. m. and asked if he should permit Second 51 to come to Spartanburg for No. 10. Because conditions were not favorable to admit Second 51 to the yard at that time, he instructed the operator to hold Second 51 at East Spartanburg. About 7 p. m. the operator informed him that Extra 4583 was at East Spartanburg. He instructed the operator that Second 51 would be permitted to leave East Spartanburg ahead of Extra 4583 West after Extra 4761 East had passed that point. His reason for this was that the helper engine could assist Extra 4761 eastward and Second 51 westward. He said that he did not give a track assignment for Second 51 to the operator or anyone else.

Car Inspector Vehaun, at Hayne Yard, stated that he conducted a terminal air-brake test on Extra 4761 before it departed and each brake applied and released properly.

Car Inspector Bowden, at Columbia, stated that he conducted a terminal air-brake test of Second 51 before it departed and each brake applied and released properly.

Superintendent Cheney stated that there were five telephones on the block circuit between Spartanburg and East Spartanburg.

According to data furnished by the railroad, during a 29-day period prior to the occurrence of the accident the average daily movement in the block involved was 21.6 trains.

Observations of the Commission's Inspectors

The station record of train movements for Spartanburg, previously referred to as the station block record, and covering the period beginning 12:01 a. m. and ending 11:59 p. m., March 19, was examined by the Commission's inspectors. The record was without erasure or alteration and it indicated that Second 51 had not been granted block authority.

Discussion

According to the evidence, No. 10 received a clear-block indication at Spartanburg and departed at 7:23 p. m. Extra 4761 East received a permissive-block indication and departed from Spartanburg about 7:31 p. m. No. 10 departed from East Spartanburg about 7:31 p. m. and Second 51 departed from that station about 7:57 p. m., without block authority, and collided with Extra 4761 East at a point 1.7 miles west of East Spartanburg at 7:40 p. m.

There was considerable discrepancy in the testimony concerning the matter of block authority for Second 51, which, as well as Extra 4583 West, was in the clear at East Spartanburg for No. 10. According to the statement of the operator at Spartanburg who had charge of the block, from the time Second 51 arrived at East Spartanburg, about 6:30 p. m., until the time he called East Spartanburg, about 7:35 p. m., to ascertain why No. 10 had not reported clear of the block, he had only three conversations on the block telephone with persons at East Spartanburg. The first two conversations concerned instructions to each crew to place its train in the clear at that point for No. 10. The third conversation, which occurred about 7:15 p. m., was with someone who did not identify himself and who asked which train would precede the other after No. 10 was clear of the block. The operator informed this person that Second 51 would proceed first. The operator's station record of train movements indicated that the operator had not given Second 51 block authority and he was definite in his statement that he did not give that train block authority. On several occasions during the period of an hour immediately preceding the time of the accident he handled matters that indicated clearly he was constantly keeping in mind the locations of these four trains.

According to the statement of the conductor of Extra 4583 West, the conductor of Second 51, who was killed in the accident, called the operator about 7 p. m. and asked which train would precede the other. The operator replied that he would furnish that information after No. 10 passed East Spartanburg. The conductor of Second 51 again talked with the operator about 7:30 p. m., and asked for block authority to be effective after No. 10 passed. From the words spoken into the transmitter by the conductor of Second 51 it appeared to the conductor of the extra train that Second 51 had received block authority. The conductor of the extra train took no part in either conversation; however, it appears he may have been confused about the conversation because he said he heard the conductor of Second 51 request a track assignment in Hayne Yard and heard this conductor repeat the number of an assigned track but, according to testimony of the assistant yard master and the operator, a track assignment was not given to Second 51 at any time. In addition, the conductor of the extra train indicated that the conversation between the conductor of Second 51 and the operator was in progress during the time No. 10 was standing at East Spartanburg, but according to the statement of the conductor of No. 10 there was no conversation on the telephone at that time.

Apparently the conductor of Second 51 thought he had received block authority. It is possible he thought the information that Second 51 would precede the extra train when No. 10

was clear of the block constituted block authority. If block permission had not been requested for Second 51 until after No. 10 had cleared the block and the engineman or conductor of No. 10 had reported his train clear of the block, undoubtedly the operator would have informed the conductor of Second 51 that Extra 4761 East was occupying the block and that block permission could not be authorized until the east-bound extra was clear of the block.

While nominally there was in effect on the line between Spartanburg and East Spartanburg a manual block system which superseded time-table superiority and with which train orders were not used, the investigation of this accident disclosed that the rules covering this operation were not properly enforced and obeyed, as well as other conditions which detracted from the protection which should be provided by the block system. An east-bound freight train was permitted to enter the block when it was occupied by an east-bound passenger train. Although the block office at East Spartanburg was closed, the passenger train did not report clear of the block, but the conductor of the passenger train requested an employee of another train crew to make this report for him and before his train had actually cleared the block. All surviving employees interrogated understood that block authority must not be requested as long as the block is occupied by an opposing train; however, the conductor of Second 51 apparently thought he had done so in this case. The fact that Second 51 departed with the understanding that it had block authority, whereas the operator stated positively that he did not give such authority and the block record supports this statement, clearly indicates that the methods followed at this point do not provide for safe and proper operation of the block system. When an operator is on duty at East Spartanburg, block authority is given by displaying a signal indication or by delivering a clearance card; however, when no operator is on duty block authority is given by telephone conversation, no prescribed form is used and only one member of the crew hears the authorization. This method permits of such misunderstanding as occurred in this case.

Cause

It is found that this accident was caused by occupancy of a block without authority.

Recommendation

It is recommended that the Southern Railway submit to the Commission rules and instructions for the establishment and maintenance of an adequate block signal system on the line here under consideration.

Dated at Washington, D. C., this twentieth day of May, 1941.

By the Commission, Commissioner Patterson.

W. P. BARTEL,

(SEAL)

Secretary.