INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3525

SOUTHERN RAILWAY COMPANY

IN RE ACCIDENT

AT FORRESTVILLE, GA., ON

JUNE 1, 1953

SUMMARY

Date:	June 1, 1953	
Railroad:	Southern	
Location:	Forrestville, Ga.	
Kind of accident:	Collision	
Equipment involved:	Switching movement	: Freight train
Train number:		: 85
Engine numbers:	Diesel-electric unit 2002	: Diesel-electric units 2108 and 2139
Consists:	Locomotive crane 3 cars	: 29 cars, caboose
Estimated speeds:	Standing	: 18 m. p. h.
Operation:	Timetable, train orders, and automatic block-signal system; yard limits	
Track:	Single; tangent; 1.08 percent descending grade southward	
Weather:	Clear, dark	
Time:	9:22 p. m.	
Casualties:	1 killed; 4 injured	
Cause:	Failure to operate switching movement as required by rules governing movements within automatic block-signal territory and by failure properly to control the speed of train moving within yard limits	

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3525

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

SOUTHERN RAILWAY COMPANY

July 27, 1953

Accident at Forrestville, Ga., on June 1, 1953, caused by failure to operate a switching movement as required by rules governing movements within automatic block-signal territory and by failure properly to control the speed of a train moving within yard limits.

REPORT OF THE COMMISSION[1]

JOHNSON, Chairman:

On June 1, 1953, there was a collision between a switching movement and a freight train on the Southern Railway at Forrestville, Ga., which resulted in the death of a locomotive crane engineer, and the injury of four train-service employees.

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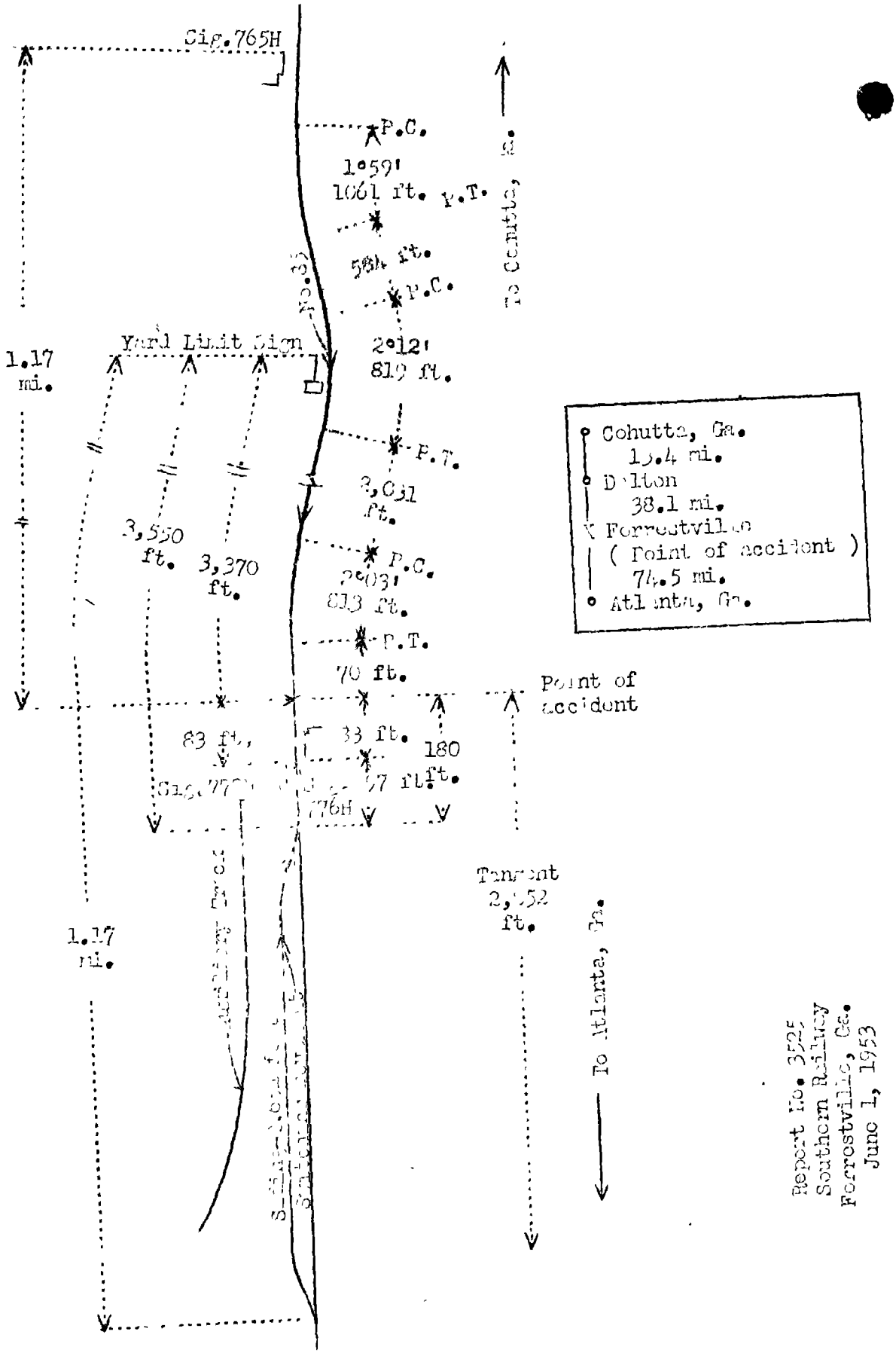
[1] Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Chairman Johnson for consideration and disposition.



Report No. 3525
Southern Railway
Forrestville, Ga.
June 1, 1953

Location of Accident and Method of Operation

This accident occurred on that part of the Atlanta Division extending between Cohutta and Atlanta, Ga., 126 miles. In the vicinity of the point of accident this is a single-track line, over which trains are operated by timetable, train orders, and an automatic block-signal system supplemented by an intermittent inductive automatic train-stop system. Within yard limits at Forrestville, 51.5 miles south of Cohutta, a siding 2,654 feet in length parallels the main track on the west. The north and south switches of this siding are located, respectively, 3,550 feet and 1.17 miles south of the north yard-limit sign. The siding switches are of the spring type, with provision for manual operation when necessary. The accident occurred on the main track at a point 180 feet north of the north siding-switch and 3,370 feet south of the north yard-limit sign. From the north there are, in succession, a 1°59' curve to the left 1,061 feet in length, a tangent 584 feet, a 2°12' curve to the right 819 feet, a tangent 2,031 feet, a 2°03' curve to the left 813 feet, and a tangent 70 feet to the point of accident and 2,852 feet southward. The grade for south-bound trains averages 0.92 percent descending throughout a distance of 4,589 feet immediately north of the point of accident, and at that point it is 1.08 percent descending.

Automatic signals 765H and 777H, governing south-bound movements, are located, respectively, 1.17 miles north and 83 feet south of the point of accident. Automatic signal 776H, governing north-bound movements, is located 97 feet north of the north siding-switch and 83 feet south of the point of accident. Signals 765H and 777H are permissive signals, and signal 776H is an absolute signal. These signals are of the one-arm, upper-quadrant, semaphore type and are continuously lighted. Each signal displays three aspects. The aspects applicable to this investigation and the corresponding indications and names are as follows:

Signal	Light Aspect	Indication	Name
765H	Green	PROCEED	CLEAR SIGNAL
777H	Red	STOP; THEN PROCEED AT RESTRICTED SPEED	STOP AND PROCEED SIGNAL
776H	Red	STOP	STOP SIGNAL

The control circuits are arranged on the absolute-permissive block principle and are designed to provide siding-to-siding protection for opposing movements. Blocks for opposing movements extend between opposing absolute signals. When a train enters a block at an absolute signal, the opposing absolute signal and all opposing intermediate permissive signals are caused to display their most restrictive aspects. When a switch within a block is opened, the signal at each entrance to the block is caused to display its most restrictive aspect. The shunt fouling circuit at the north end of the siding at Forrestville extends to a point 203 feet south of the north siding-switch.

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

DEFINITIONS

Yard Speed--A speed that will permit stopping within one-half the range of vision.

93. Within yard limits the main track may be used without protecting against second and inferior class, extra trains and engines.

Second and inferior class, extra trains and engines must move within yard limits at yard speed.

* * *

In case of accident, the responsibility will rest with the approaching train.

Note--A Proceed or Approach indication displayed by a fixed signal or by a hand, flag or lamp signal within yard limits, does not relieve train or enginemen of responsibility for observance of Rule 93. * * *

517. Within automatic block signal territory, unless otherwise provided, before a train or engine enters on or fouls a main track, * * * trainmen will operate all switches involved, and in addition to other precautions, trains and engines will wait three minutes before the movement is made * * *

At spring switches, except when an opposing train on single track has immediately passed, the switch must be thrown for the siding and after waiting three minutes the train or engine will proceed * * *

* * *

518. A train or engine or cars on sidings * * * must stand clear of insulated joints placed in the track at the clearance point.

The maximum authorized speed for freight trains is 60 miles per hour.

Description of Accident

Diesel-electric unit 2002, assigned to yard service, was performing switching service in the vicinity of the point of accident. The locomotive was headed north and pushing a cut of maintenance equipment which, from south to north, consisted of an idler car on which the boom of a crane was lowered and secured for transit, a locomotive crane, an engine tender used as a fuel and water supply car, and a maintenance-force camp car. This switching movement proceeded northward on the siding at Forrestville, and while moving at an estimated speed of 5 miles per hour it passed the fouling point at the north end of the siding, trailed through the north siding-switch, passed signal 776H, which indicated Stop, and stopped on the main track with the north end of the cut of maintenance equipment 85 feet north of the signal and the rear truck of the locomotive immediately north of the switch points of the north siding-switch. About 1 minute later the north end of the cut of maintenance equipment was struck by No. 85.

No. 85, a south-bound third-class freight train, consisted of Diesel-electric units 2108 and 2139, coupled in multiple-unit control, 29 cars, and a caboose. This train departed from Dalton, 38.1 miles north of the point of accident and the last open office, at 3:21 p. m., 1 hour 26 minutes late, passed signal 765H, which indicated Proceed, passed the north yard-limit sign at Forrestville, and while moving at an estimated speed of 18 miles per hour it struck the north end of the cut of maintenance equipment.

Diesel-electric unit 2002 was moved southward a distance of about 700 feet by the impact of the collision. It was not derailed. Separations occurred between the locomotive and the idler car and between all units of the maintenance equipment. All units of the maintenance equipment were derailed and stopped in various positions west of the main track. The south end of the idler car was about 551 feet south of the point of accident and 8 feet west of the track. This car was somewhat damaged. The maintenance-force camp car was demolished, and the crane and the coal and water supply car were badly damaged. The Diesel-electric units, the first 11 cars, and the front truck of the twelfth car of No. 85 were derailed. A separation occurred between the Diesel-electric units. The first unit stopped on its right side, with the front end 456 feet south of the point of collision and 29 feet west of the center-line of the main track. The rear end of this unit was 18 feet west of the track. The second Diesel-electric unit stopped upright, about 8 feet west of the main track and parallel to it. The first 10 cars stopped in various positions on or near the track. The other derailed cars stopped in line with the track. The first Diesel-electric unit was badly damaged, and the second unit was considerably damaged. The fourth car was badly damaged, and the first to the third cars, inclusive, and the fifth to the eleventh cars, inclusive, were somewhat damaged. A car on an adjacent auxiliary track was struck by derailed equipment and was derailed and damaged. An electric transmission line adjacent to the track was torn down by derailed equipment, and inflammable material from a derailed car became ignited. Equipment which had been damaged by the collision and derailment was further damaged by fire.

The fireman, the conductor, the front brakeman, the swing brakeman, and the flagman of No. 85 were injured.

The weather was clear and it was dark at the time of the accident, which occurred about 9:22 p. m.

Diesel-electric unit 2002 is of the 0-4-4-0 switcher type. It is provided with an amber light approximately 6 inches high, mounted on the top of the cab roof. The lens encases a 50-watt electric light. At night this light is visible from any angle. It is designed to identify and mark the location of the locomotive. At the time of the accident there were no marker lights on the camp car which was the leading car of this switching movement. Diesel-electric units 2108 and 2139 are of the 0-4-4-0 road-switcher type and are provided with automatic train-stop equipment.

Discussion

About 30 minutes before the accident occurred Diesel-electric unit 2002, headed north and pulling a cut of eight cars, entered the siding at Forrestville and stopped with the rear end of the cut of cars on the turnout at the south end of the siding. Members of the crew had received instructions that a cut of maintenance equipment was to be assembled for movement in No. 85. The locomotive was detached and switching service was performed. Later the locomotive, coupled to the south end of a cut of maintenance equipment which consisted of a locomotive crane and three auxiliary cars, returned and was coupled to the cut of cars which had been left at the south end of the siding. The assembled movement then proceeded northward on the siding and stopped with the north end of the cut of maintenance equipment about 1,750 feet south of the north siding-switch and the cut of eight cars clear of the main track. The cars at the rear of the locomotive were again detached. The locomotive then proceeded northward on the siding, pushing the cut of maintenance equipment.

As the switching movement proceeded northward on the siding the engineer and the fireman were maintaining a lookout ahead from their respective positions in the cab of the locomotive. A yard brakeman with a white light was on the sill step on the east side at the north end of the cut of maintenance equipment. The other yard brakeman was on the rear footboard of the locomotive. The yard conductor remained in the vicinity of the south siding-switch, which was lined for entry to the siding. The operator of the locomotive crane was on the rear platform of the locomotive. The rear headlight of the locomotive was lighted, and the amber lens on the cab roof was illuminated. The brakes had functioned properly when used. The yard brakeman at the north end of the switching movement said that as the movement approached the clearance point at the north end of the siding he gave a stop signal with a white light. He said that the movement stopped momentarily and then again moved northward. When the switching movement stopped he alighted from the car, and as it began to move again he boarded the car and alighted in the vicinity of the north siding-switch. He said that he did not know why the second movement was made and that he gave no further signals. The other members of the crew said that the switching movement was not stopped until after it passed the north siding switch. The engineer said that as the movement was started he observed that signal 776H indicated Stop and that he and the fireman called the indication. He said that the conductor

had discussed the work with him and he understood that the switching movement was to remain clear of the main track until No. 85 had passed. As the movement was started the yard brakeman on the first car gave several proceed signals with a white light. The engineer said that the brakeman remained within his range of vision as the movement proceeded northward on the siding and he thought that if a stop signal had been given he would have seen it. He did not observe a stop signal, and he was unaware that the movement had overrun the clearance point at the north end of the siding until the car in front of the locomotive entered the turnout. He estimated that the speed of the movement was between 4 and 6 miles per hour. After a portion of the maintenance equipment had trailed through the spring switch it was not feasible to reverse the direction of movement, and the locomotive was stopped immediately north of the switch. The engineer then observed the headlight of the approaching train and called a warning. The fireman said that because he was on the opposite side of the locomotive from the main track and his view ahead was materially restricted by the maintenance equipment he was not aware that the movement had passed the clearance point at the north end of the siding until the engineer called a warning. The yard brakeman on the locomotive said that he observed the proceed signals given by the yard brakeman at the north end of the movement. He then obtained a drink of water, and when he again looked northward the maintenance equipment was on the turnout at the north end of the siding. The members of the crew on the locomotive and the operator of the locomotive crane got off the locomotive a few seconds before the collision occurred. The yard conductor said that after the movement proceeded northward on the siding he restored the south siding-switch to normal position. He then communicated with the train dispatcher by telephone to ascertain what arrangements had been made to add the maintenance equipment to the train of No. 85. The collision occurred while he was in the vicinity of the telephone.

As No. 85 was approaching Forrestville the speed was about 40 miles per hour, as estimated by the engineer. The enginemen and the conductor were in the control compartment of the first Diesel-electric unit, and the front brakeman and the swing brakeman were in the control compartment of the second Diesel-electric unit. The flagman was in the caboose. The headlight was lighted. The brakes of this train had functioned properly when used en route. Signal 765H indicated Proceed. The engineer said that the speed of the train was reduced to about 15 miles per hour by a service application of the brakes in the vicinity of the yard-limit sign. The

brakes then were released, and the speed increased somewhat on the descending grade. Because of track curvature and vegetation in the vicinity of the track the view of signal 777H from the engineer's side of the locomotive of a south-bound train is restricted to a distance of about 1,000 feet. The signal is visible intermittently from the fireman's side of a locomotive between points 1,625 feet and 1,200 feet north of the signal, and it is then visible throughout a distance of about 1,200 feet immediately north of the signal. The fireman said that he observed the amber light on the yard locomotive before he observed the aspect of signal 777H. He and the conductor then observed the red aspect of the signal and called the indication before they were aware that the switching movement was occupying the main track north of the signal. The engineer said that he made an emergency application of the brakes when the fireman and the conductor simultaneously called a warning. He said that after the brakes were applied in emergency he saw the maintenance equipment occupying the main track at a distance of about 450 feet from his locomotive. He estimated that the speed at the time of the collision was about 18 miles per hour.

The rules of this carrier provide that within automatic block-signal territory a main track must not be fouled or entered until a 3-minute interval has elapsed after the switches have been lined for the movement. In the instant case the crew of the switching movement did not line the spring switch at the north end of the siding before the movement entered the main track. The movement entered the block of signal 777H at the switch, then passed signal 776H, which indicated Stop, and entered the block of signal 765H. No. 85 had passed signal 765H when this occurred. As a result, the collision occurred within a block which No. 85 had entered on a Proceed signal indication. The accident occurred within yard limits. Under the rules, No. 85 was required to be operated in such manner that it could be stopped short of an obstruction. The rules provide that a Proceed or Approach signal indication does not relieve train or enginemen of responsibility for controlling the speed of their train in accordance with this requirement.

Cause

It is found that this accident was caused by failure to operate a switching movement as required by rules governing movements within automatic block-signal territory and by failure properly to control the speed of a train moving within yard limits.

Dated at Washington, D. C., this twenty-seventh day of July, 1953.

By the Commission, Chairman Johnson.

(SEAL)

GEORGE W. LAIRD,

Acting Secretary.