INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 3088

SEABOARD AIR LINE RAILROAD COMPANY

REPORT IN RE ACCIDENT

AT JASSATT, S. C., ON

MARCH 22, 1947

SUMMARY

Railroad:	Seaboard Air Line
Date:	March 22, 1947
Location:	Cassatt, S. C.
Kind of accident:	Derailment
Train involved:	Passenger
Train number:	8
Engine numbers:	Diesel-electric units 3011-3104-3021
Consist:	10 cars
Estimated speed:	45 m. p. h.
Operation:	Timetable, train orders and manual-block system
Track:	Single; tangent; level
Weather:	Clear
Time:	3:31 a. m.
Casualties:	26 injured
Cause:	Train entering open switch at high rate of speed

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3088

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

SEABOARD AIR LINE RAILROAD COMPANY

April 17, 1947

Accident at Cassatt, S. C., on March 22, 1947, caused by a train entering an open switch at a high rate of speed.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On March 22, 1947, there was a derailment of a passenger train on the Seaboard Air Line Railroad at Cassatt, S. C., which resulted in the injury of 19 passengers, 5 railway-mail clerks and 2 train-service employees.

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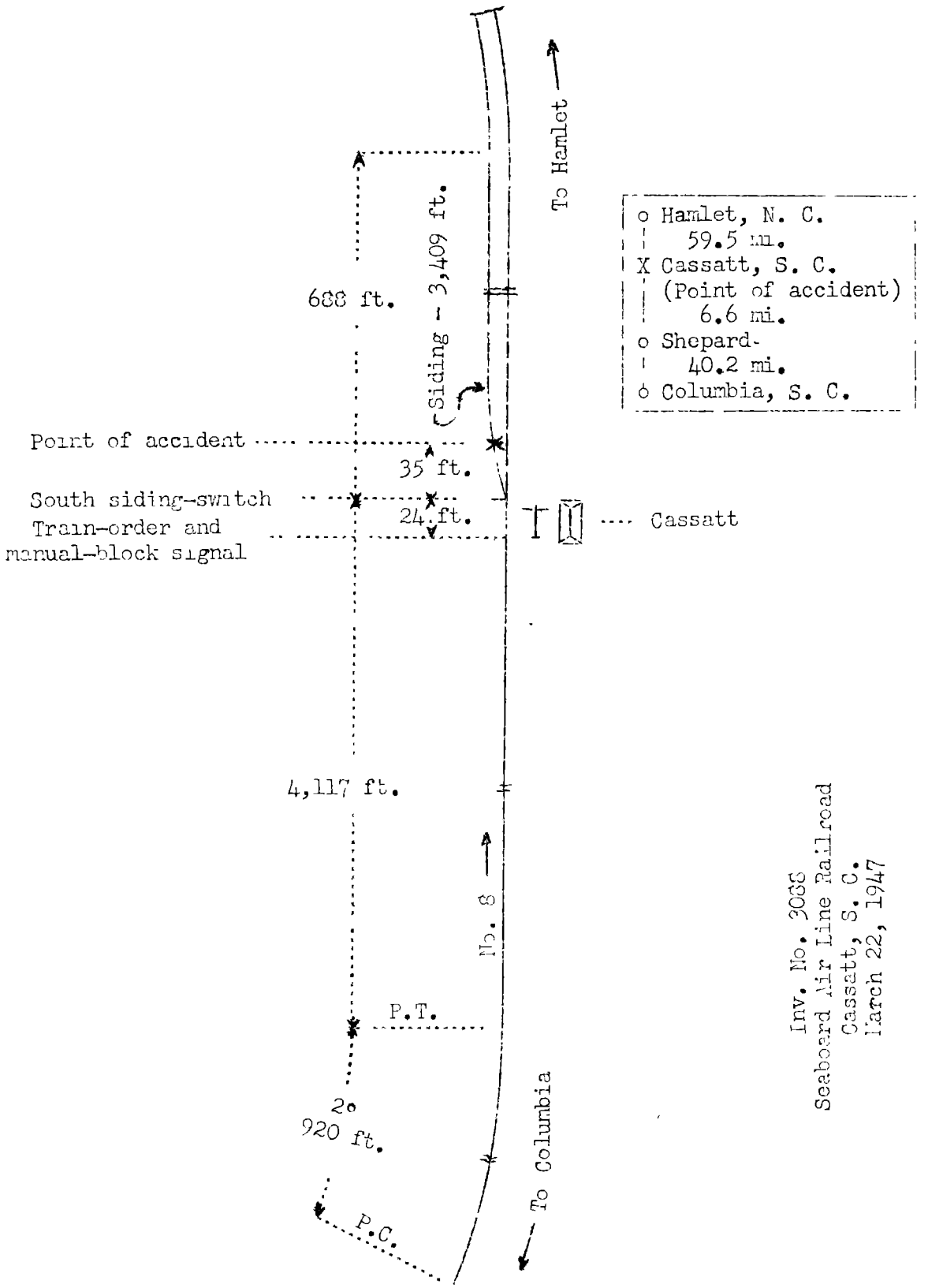
[1] Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Inv. No. 3036
Seaboard Air Line Railroad
Cassatt, S. C.
March 22, 1947

Location of Accident and Method of Operation

This accident occurred on that part of the Carolina Division extending between Columbia, S. C., and Hamlet, N. C., 106.3 miles, a single-track line in the vicinity of the point of accident, over which trains are operated by timetable, train orders and a manual-block system. At Cassatt, 46.8 miles north of Columbia, a siding 3,409 feet in length parallels the main track on the west. The south switch of this siding is 24 feet north of the manual-block signal, located in front of the station at Cassatt. Entry to the siding at the south switch is made through a No. 10 turnout having a curvature of 7°25', without superelevation. The accident occurred on this turnout 35 feet north of the switch. From the south on the main track there is a 2° curve to the left 920 feet in length, then a tangent 4,117 feet to the south siding-switch and 688 feet northward. The grade for north-bound trains varies between 0.80 percent and 1.33 percent ascending throughout a distance of 3,800 feet, then it is level 476 feet to the south siding-switch and 324 feet northward.

The turnout of the south siding-switch consists of 100-pound switch-points and rail sections and a spring-type frog laid on 67 switch ties. The track is ballasted with crushed stone to a depth of 18 inches. The switchstand is of the hand-throw intermediate-stand type, and is located 9 feet 7-1/2 inches west of the centerline of the main track. It is provided with reflector-type lenses, which are illuminated by external lighting, and a double-vane target. The centers of the lenses and the centers of the targets are, respectively, 7 feet 1-1/2 inches and 5 feet 8-3/4 inches above the level of the tops of the rails. When the switch is lined normally a green reflector and a white target are displayed at right angles to the track. When the switch is lined for entry to the siding a red reflector and a red target are displayed at right angles to the track. The operating lever is of the two position, horizontal-throw type, and is attached to a fulcrum about 3 feet above the level of the tops of the ties. Slots are provided in the lever for the insertion of keeper eye-bolts in which the shackle of a switch lock is placed to lock the switch securely in the desired position. The south siding-switch is in the charge of the operator.

Operating rules read in part as follows:

DEFINITIONS.

* * *

Fixed Signals--A signal of fixed location indicating a condition affecting the movement of a train.

Note.--The definition of a "Fixed Signal" covers such signals as * * * switch * * *

10. COLOR SIGNALS.

Color:	Indication:
(a) Red	Stop

* * *

(c) Green	Proceed, * * *

* * *

27. A signal imperfectly displayed, or the absence of a signal at a place where a signal is usually shown, must be regarded as the most restrictive indication that can be given by that signal, * * *

* * *

Note.--* * * Reflectors may be used instead of switch lamps, * * *

34. All members of train and engine crews must, when practicable, communicate to each other by its name the indication of all signals affecting the movement of their train.

104-C. When a main track switch is opened, the employe opening same will remain in charge thereof until it is closed, * * *

After using a switch it must be seen that the switch point is closed against stock rail and that the target shows the proper indication. * * *

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In the vicinity of the point of accident the maximum authorized speed for the train involved was 65 miles per hour.

Description of Accident

No. 8, a north-bound first-class passenger train, consisted of Diesel-electric units 3011, 3104 and 3021, coupled in multiple-unit control, one express car, one

mail car, one baggage car, three coaches, one dining car and three sleeping cars, in the order named. All cars were of steel construction. This train passed Shepard, the last open office, 0.6 miles south of Cassatt, at 3:24 a. m., 51 minutes late, passed the manual-block signal at Cassatt, which displayed proceed, and while moving at an estimated speed of 45 miles per hour it entered the siding at Cassatt at the south switch and was derailed.

The Diesel-electric units and the first seven cars were derailed. The first unit stopped upright and in line with an auxiliary track, located immediately west of the siding and parallel to it, with the front end 491 feet north of the point of derailment. The second and third units stopped at the rear of the first unit and practically in line with it, and leaned to the west at an angle of about 30 degrees. The Diesel-electric units were badly damaged. The first car stopped upright at the rear of the third unit and at an angle of 30 degrees to it, with the front and rear ends, respectively, 20 feet and 50 feet west of the main track. The second car stopped on its side, opposite the first car and east of the main track, and at an angle of 15 degrees to it. The third car stopped on its side, opposite the second Diesel-electric unit and east of the main track, and at an angle of 15 degrees to it. The fourth car stopped on the siding opposite the first car and practically parallel to it, and leaned to the west at an angle of 20 degrees. The fifth car stopped on the turnout and practically in line with it, and leaned to the west at an angle of 15 degrees. The sixth and seventh cars stopped upright and in line with the main track. The first to fourth cars, inclusive, were badly damaged, and the fifth to seventh cars, inclusive, were considerably damaged. A freight car, which was on the spur track and loaded with pulpwood, was struck by the first Diesel-electric unit and was destroyed.

The Diesel-electric units of No. 8 are provided with D-22-E control valves, and the first unit is equipped with an MS-40 automatic brake valve. The feed valve was adjusted to supply brake-pipe pressure of 110 pounds. Of the cars of No. 8, one was equipped with an L-2 triple valve, and the remainder with UC-12 control valves.

The weather was clear at the time of the accident, which occurred about 3:31 a. m.

The engineer and the baggageman were injured.

Discussion

No. 8 was moving at a speed of about 45 miles per hour, in territory where the maximum authorized speed was 65 miles per hour, when it entered the south siding-switch at Cassatt, which was lined and locked for entry to the siding. As the train was approaching Cassatt the speed was 65 miles per hour, as indicated by the speedometer of the first Diesel-electric unit. The headlight of the first unit was lighted brightly, and the enginemen were maintaining a lookout ahead from the control compartment of the first unit. The manual-block signal displayed proceed. The enginemen first observed the indication displayed by this signal from a distance of about 4,000 feet, and they called the indication. When the engine was a few hundred feet south of the south siding-switch the fireman observed, by the reflection of the headlight on the reflector lens of the switchstand, that the switch was lined for entry to the siding. He called a warning to the engineer, who immediately moved the brake valve to emergency position. The speed was about 45 miles per hour when the derailment occurred. The brakes of this train had been tested and had functioned properly en route.

The investigation disclosed that about 30 minutes before the accident occurred No. 46, a north-bound passenger train, entered the siding at Cassatt at the south switch to meet No. 45, a south-bound passenger train. The operator lined the switch for No. 46 to enter the siding. He said that immediately after No. 46 cleared the main track he lined the switch for movement on the main track and placed the shackle of the lock through the eye of the stand, but did not close the lock. No. 45 departed at 3:01 a. m., and soon afterward the operator recalled that he had not closed the switch lock. He said he returned to the switch, which is 24 feet north of the office, and closed the lock. Since there was no lighted switch lamp provided, he could not definitely ascertain the position of the switch by that means, and he did not observe the position of the switch points. He was positive that he did not operate the switch at that time. However, he could assign no reason why the switch was lined and locked in position for entry to the siding at the time of the accident.

In a properly installed automatic block-signal system, signals in approach of an open switch display restrictive indications. At the time of the accident the carrier had begun the installation of an automatic block-signal system in this territory. The installation is expected to be completed by October 1, 1947.

Cause

It is found that this accident was caused by a train entering an open switch at a high rate of speed.

Dated at Washington, D. C., this seventeenth day of April, 1947.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.