

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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REPORT NO. 3409  
CENTRAL VERMONT RAILWAY  
IN RE ACCIDENT  
AT SWANTON, VT., ON  
JULY 15, 1951

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SUMMARY

Date: July 15, 1951

Railroad: Central Vermont

Location: Swanton, Vt.

Kind of accident: Rear-end collision

Trains involved: Freight : Passenger

Train numbers: Extra C.N. 6217 : 332  
East

Engine numbers: C.N. 6217 : 603

Consists: 52 cars, cabooses : 6 cars

Estimated speeds: Standing : 25 m. p. h.

Operation: Timetable and train orders

Track: Single; 2° curve; 0.18 percent  
ascending grade eastward

Weather: Clear

Time: 10:05 a. m.

Casualties: 83 injured

Cause: Failure to provide adequate protection  
for train occupying main track on  
time of following superior train

INTERSTATE COMMERCE COMMISSION

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REPORT NO. 3409

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

CENTRAL VERMONT RAILWAY

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August 22, 1951

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Accident at Swanton, Vt., on July 15, 1951, caused by  
failure to provide adequate protection for a  
train occupying the main track on the time of  
a following superior train.

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REPORT OF THE COMMISSION

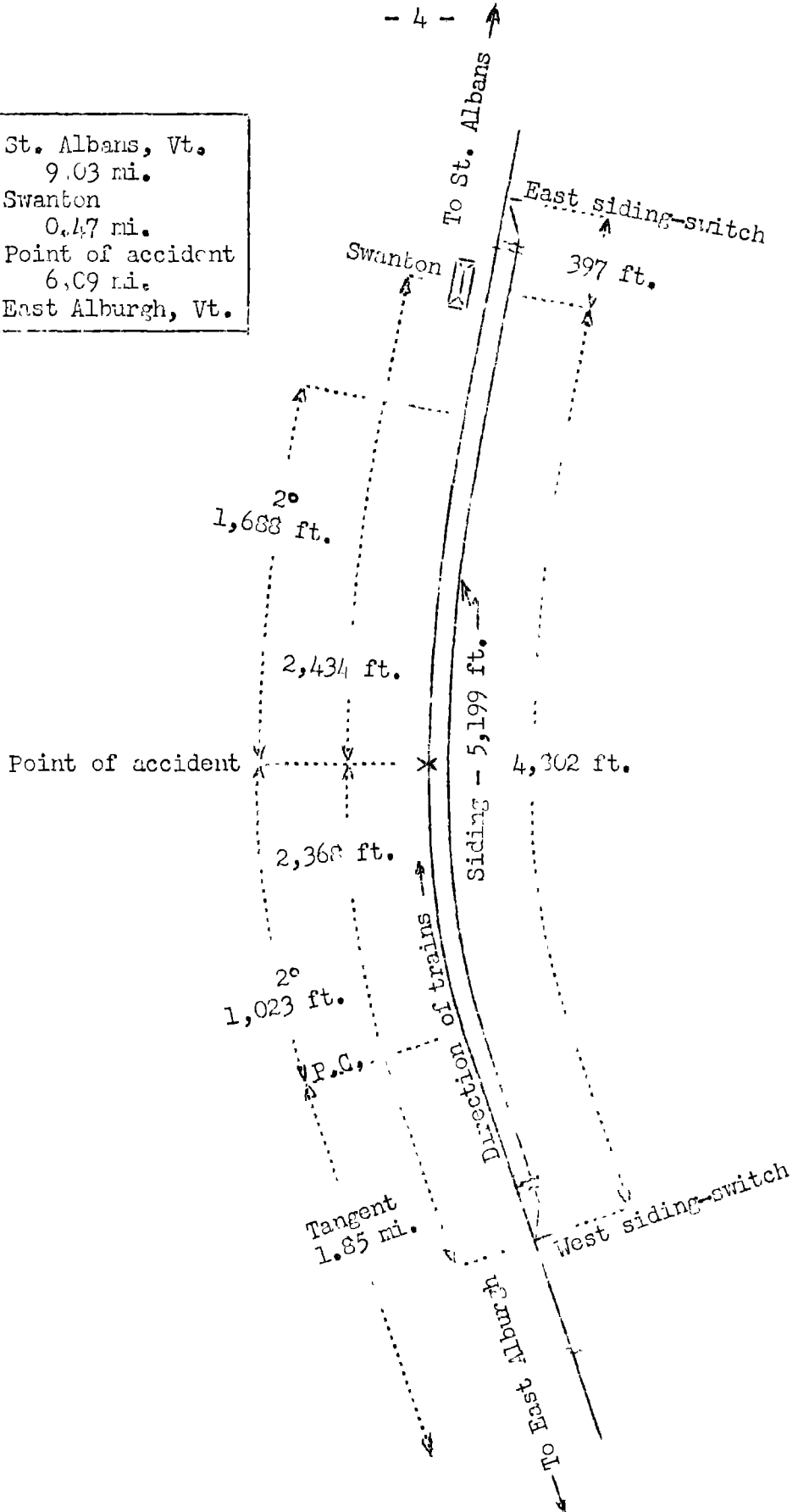
PATTERSON, Commissioner:

On July 15, 1951, there was a rear-end collision  
between a freight train and a passenger train on the  
Central Vermont Railway at Swanton, Vt., which resulted  
in the injury of 77 passengers, 5 dining-car employees  
and 1 parlor-car attendant.

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

- o St. Albans, Vt.
- | 9.03 mi.
- o Swanton
- | 0.47 mi.
- X Point of accident
- | 6.09 mi.
- o East Alburgh, Vt.



Report No. 3409  
 Central Vermont Railway  
 Swanton, Vt.  
 July 15, 1951

Location of Accident and Method of Operation

This accident occurred on that part of the Northern Division extending between East Alburgh and St. Albans, Vt., 15.59 miles, a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. At Swanton, 6.56 miles east of East Alburgh, a siding 5,199 feet in length parallels the main track on the south. The west and the east switches of this siding are, respectively, 4,802 feet west and 397 feet east of the station. The accident occurred on the main track at a point 2,368 feet east of the west siding-switch and 2,434 feet west of the station at Swanton. From the west there are, in succession, a tangent 1.85 miles in length and a 2° curve to the right 1,023 feet to the point of accident and 1,688 feet eastward. Throughout a distance of 2.18 miles immediately west of the point of accident the grade varies between level and 0.64 percent ascending eastward. At the point of accident the grade is 0.18 percent ascending eastward.

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

11. \* \* \*

On track not protected by automatic block signals a train approaching a fusee burning red on or near its track must stop before any part of the train has passed it, and not proceed until the fusee is burned out.

\* \* \*

A train approaching a fusee burning yellow on or near its track will proceed with caution.

\* \* \*

14. Engine Whistle Signals

NOTE--The signals prescribed are illustrated by "o" for short sounds, "\_\_\_" for longer sounds. \* \* \*

(Sound)

(Indication, Purpose or Use)

\* \* \*

(c) — o o o

Flagman protect rear of train.

\* \* \*

73. Extra trains are inferior to regular trains.

86. \* \* \* an inferior train must clear the time of a first class train in the same direction not less than ten minutes, unless it is clear before such train is due to leave the next station in the rear where time is shown (in which case clearing time must be not less than five minutes), \* \* \* failing to clear the main track as required, the train must be protected as prescribed by Rule 99.

91. \* \* \*

\* \* \*

\* \* \* trains must keep not less than ten minutes apart unless the preceding train has arrived at the station ahead.

91a. \* \* \* it will be the duty of operators \* \* \* to maintain the intervals prescribed by Rule 91. \* \* \*

99. When a train stops on the main track under circumstances in which it may be overtaken by another train a flagman must immediately go back with flagman's signals to protect the train. \* \* \*

\* \* \*

Flagmen must each be equipped for day time with a red flag \* \* \* torpedoes and \* \* \* fusees \* \* \*

\* \* \*

When a train is moving under circumstances in which it may be overtaken by another train, such action must be taken as may be necessary to insure full protection; lighted fusees, red or yellow as the case may require, must be thrown off at proper intervals.

\* \* \*

The maximum authorized speeds were 55 miles per hour for passenger trains and 35 miles per hour for freight trains.

### Description of Accident

Extra C.N. 6217 East, an east-bound freight train, consisted of engine 6217, 52 cars and a caboose. This train departed from East Alburgh, 6.09 miles west of the point of accident, at 9:44 a. m., and stopped on the main track at Swanton about 10:02 a. m., with the rear end 2,368 feet east of the west siding-switch. About 3 minutes later the rear end was struck by No. 332.

No. 332, an east-bound first-class passenger train, consisted of engine 603, a 4-8-2 type, one baggage-coach, three coaches, one dining car and one parlor car, in the order named. The cars of this train were of all-steel construction. At East Alburgh the crew of No. 332 received Terminal Clearance Form B, which contained the information that the train ahead, Extra C.N. 6217 East, had departed from that station at 9:44 a. m. and had not yet arrived at Swanton. No. 332 departed from East Alburgh at 9:54 a. m., 6 minutes late, and while moving at an estimated speed of 25 miles per hour it struck the rear end of Extra C.N. 6217 East.

The caboose and the rear three cars of Extra C.N. 6217 East were derailed and stopped in various positions on or near the track. The fiftieth car was badly damaged. The fifty-first and the fifty-second cars and the caboose were destroyed. The engine and the cars of No. 332 remained coupled and stopped with the front end of the engine 98 feet east of the point of collision. The engine-truck wheels and the Nos. 1 and 2 driving wheels were derailed to the south and stopped in line with the track. The engine was badly damaged. No other equipment of this train was derailed.

The weather was clear at the time of the accident, which occurred about 10:05 a. m.

During the 30-day period preceding the day of the accident, the average daily movement in the vicinity of the point of accident was 12.63 trains.

### Discussion

Extra C.N. 6217 East departed from East Alburgh, 6.56 miles west of Swanton, at 9:44 a. m. No. 332 was due to leave East Alburgh at 9:48 a. m., and to leave Swanton at 10:03 a. m. There was no siding between these stations at which Extra C.N. 6217 East could clear the main track, and when this train failed to clear the time of No. 332 the crew was required to provide protection as prescribed by Rule 99.

As Extra C.N. 6217 East was approaching Swanton the speed was about 10 miles per hour. The enginemen and the conductor were in the cab of the engine. The flagman and the front brakeman were in the caboos. Because of the ascending grade in the vicinity of the west siding-switch, the engineer and the conductor decided that it would minimize the delay to No. 332 if their train proceeded east of the east siding-switch and then backed into the siding. The engineer said that he observed the operator giving signals in the vicinity of the station. He immediately made a service application of the brakes and the train stopped on the main track about 10:02 a. m. The conductor then proceeded to the station and was informed by the operator that the signals given by him were intended to convey instructions from the dispatcher to expedite the movement into the siding. The conductor then gave proceed signals to the engineer but the collision occurred before the train could be started. The front brakeman said that when the train was about 1.5 miles east of East Alburgh he observed No. 332 departing from that station and warned the flagman. The flagman said that he became concerned after No. 332 departed from East Alburgh, and about 1.3 miles west of the point where the accident occurred he threw off a lighted yellow fusee. He said that about 2 minutes later he became aware that his train was proceeding beyond the west siding-switch, and when the caboos was in the vicinity of the switch he threw off a lighted red fusee. The flagman said that he alighted from the caboos before his train stopped and gave stop signals with a lighted red fusee before the rear end was struck by No. 332.

As No. 332 was approaching the point where the accident occurred the speed was about 50 miles per hour. The enginemen were maintaining a lookout ahead from their respective positions in the cab of the engine. The members of the train crew were in various locations throughout the cars of the train. The brakes of this train had been tested and had functioned properly when used en route. The engineer said that he had received a copy of the clearance at East Alburgh and he was aware that Extra C.N. 6217 East had departed 10 minutes ahead of his train. He said that when he observed a lighted yellow fusee he closed the throttle of the engine. His train was proceeding on the curve on which the accident occurred when he first observed the caboos of the preceding train, and at that time he thought it was on the siding. He said that he became aware at a distance of about 1,000 feet that the train ahead was occupying the main track, and immediately moved the brake valve to emergency position. The speed of the train was reduced to about 25 miles per hour when the collision occurred.



Both the engineer and the conductor of Extra C.N. 6217 East were aware that their train was on the time of No. 332 when it departed from East Alburgh. The conductor said he thought that his train could not be backed clear of the main track at East Alburgh because of an ascending grade, and it was necessary to proceed to Swanton to clear for No. 332. He said that he expected the flagman and the front brakeman to take such action as was necessary to provide protection as prescribed by Rule 99. The flagman said that he thought the lighted yellow fusee and the lighted red fusee would provide protection against No. 332 until he could alight from the caboose and provide flag protection. The engineer of No. 332 said that he observed the lighted yellow fusee between East Alburgh and the point of accident but he did not observe a lighted red fusee, and he did not observe stop signals being given by the flagman of the preceding train before the accident occurred. The fireman said that he saw only the lighted yellow fusee between East Alburgh and the point of accident.

Remnants of a yellow fusee and of a red fusee were found, respectively, 1.5 miles and 2,223 feet west of the point of accident. The spike of the yellow fusee was anchored in a tie and it apparently burned out in an upright position. The unburned portion of the red fusee was found on the ballast approximately in the center of the track. It lay diagonally in the space between two ties and was approximately 2 inches below the level of the tops of the ties. Tests made after the accident, under conditions of weather and visibility similar to those that existed on the day of the accident, revealed that a lighted yellow fusee placed where the spike was found was clearly visible from the west at a distance of more than 1,500 feet. A lighted red fusee, placed in the same location and position as the unburned red fusee, was not visible from the cab of a standing engine at a distance of 200 feet.

In this territory trains are operated by timetable and train orders. The only provision for spacing trains is by the time-interval method enforced by the operators at open stations, and by flagman's signals. The rules require that a following train must be spaced at least 10 minutes behind a preceding train. In the instant case the preceding train departed from East Alburgh 10 minutes before the following train departed from that station. If an adequate

block system had been in use in this territory, the crew of the following train would have received definite information that the preceding train was occupying the main track in the same block.

Cause

It is found that this accident was caused by failure to provide adequate protection for a train occupying the main track on the **time** of a following superior train.

Dated at Washington, D. C., this twenty-second day of August, 1951.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.