INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 3095

THE ATCHISON, TOPEKA AND SANTA FE
RAILWAY COMPANY

REPORT IN RE ACCIDENT

NEAR HIGGINS, TEX., ON

APRIL 12, 1947

SUMMARY

Railroad:	Atchison, Topeka and Santa Fe	
Date:	April 12, 1947	
Location:	Higgins, Tex.	
Kind of accident:	Rear-end collision	
Trains involved:	Freight	: Freight
Train numbers:	First 24	: Second 24
Engine numbers:	5001	: 2927
Consists:	94 cars, caboose	: 70 cars, caboose
Speeds:	Standing	: 28 m. p. h.
Operation:	Signal indications	
Track:	Single; tangent; level	
Weather:	Rain and high wind	
Time:	11:20 p. m.	
Casualties:	3 killed; 1 injured	
Cause:	Failure to provide adequate safeguards for movement of trains in territory where centralized-traffic-control system was inoperative	

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3095

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

THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY

May 26, 1947

Accident near Higgins, Tex., on April 12, 1947, caused by failure to provide adequate safeguards for movement of trains in territory where centralized-traffic-control system was inoperative.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On April 12, 1947, there was a rear-end collision between two freight trains on the Atchison, Topeka and Santa Fe Railway near Higgins, Tex., which resulted in the death of three employees, and the injury of one employee.

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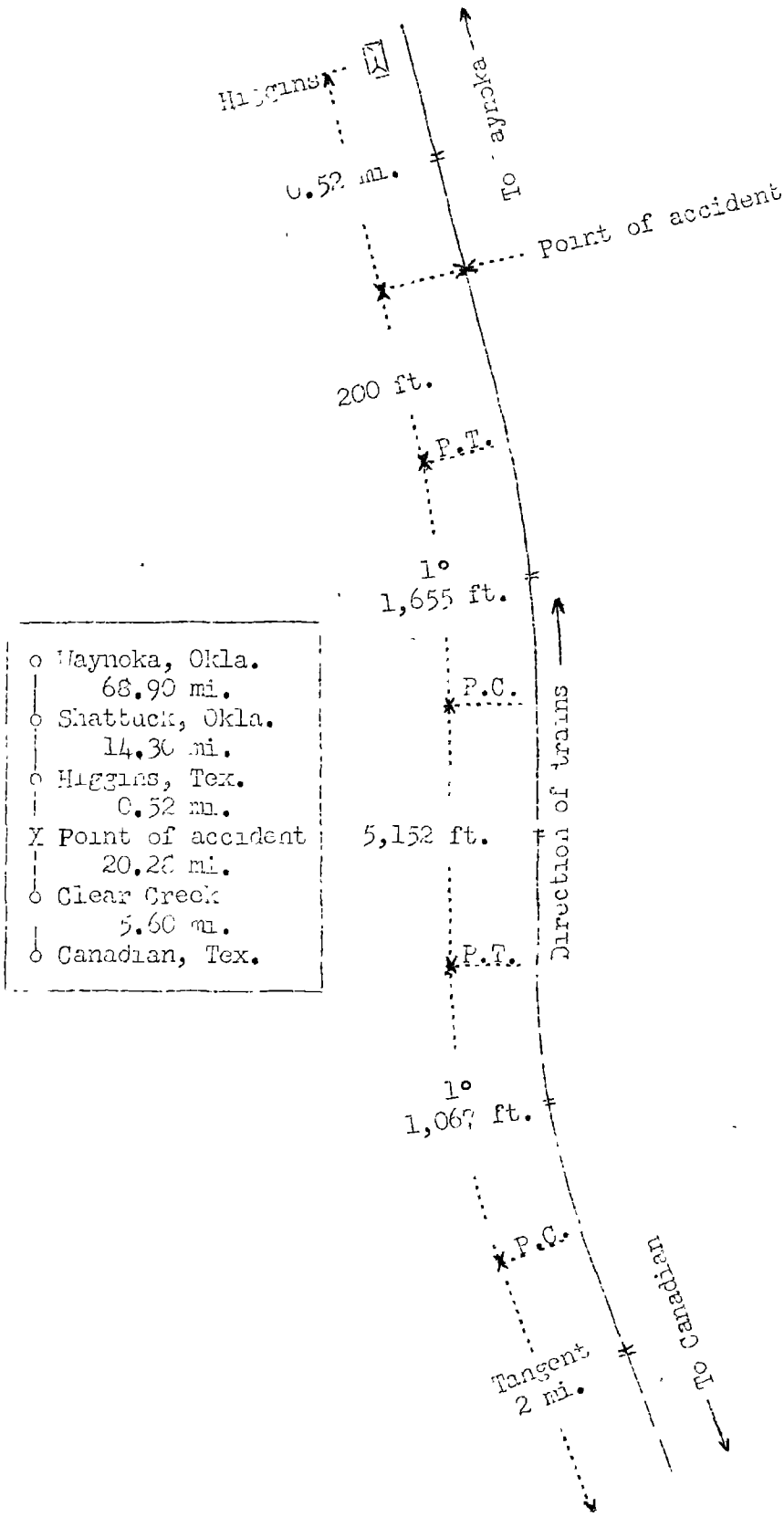
[1] Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Inv. No. 3095
Atchison, Topeka and Santa Fe Railway
Higgins, Tex.
April 12, 1947

Location of Accident and Method of Operation

This accident occurred on that part of the Plains Division extending between Canadian, Tex., and Waynoka, Okla., 109.6 miles, a single-track line, over which trains are operated by signal indications of a centralized-traffic-control system. At the time of the accident, because a storm had damaged the centralized-traffic-control system trains were being operated by timetable and train orders between Clear Creek, 5.6 miles east of Canadian, and Waynoka. At the time of the accident there was no block system in use. The accident occurred on the main track 25.88 miles east of Canadian and 0.52 mile west of the station at Higgins. From the west there are, in succession, a tangent about 2 miles in length, a 1° curve to the right 1,067 feet, a tangent 5,152 feet, a 1° curve to the left 1,655 feet and a tangent 200 feet to the point of accident and a considerable distance eastward. The grade for east-bound trains varies between 0.27 percent and 0.60 percent descending throughout a distance of about 2 miles, then it is level 957 feet to the point of accident and 43 feet eastward. In the immediate vicinity of the point of accident the track is laid on a 13-foot fill.

Operating rules read in part as follows:

DEFINITIONS.

* * *

Section.--One of two or more trains running on the same schedule, * * *

* * *

Restricted Speed.--Proceed prepared to stop short of train, obstruction, or anything that may require the speed of a train to be reduced.

11. A train finding a fusee burning on or near its track must stop and wait until it has burned out, before proceeding.

19. The following signals will be displayed to the rear of every train, as markers, to indicate the rear of the train.

* * *

Lights * * * as markers, showing yellow to the front and side and red to the rear.

* * *

35. Fusees, which will burn for five minutes with a red flame, are to be used in addition to other signals for protecting trains. They may be dropped from a moving train as a signal against a train following, or in case of a severe snow or rain storm or in thick weather, or when trains are stopped under conditions that will not admit of flagman getting back far enough to insure protection against following trains, or in any manner which any particular emergency may demand.

37. The following signals will be used by flagmen:

* * *

Night signals--A red light,
A white light,
Torpedoes and
Fusees.

91. Unless some form of block signal is used, trains in the same direction must keep at least five minutes apart, except in closing up at stations. * * *

95. Two or more sections may be run on the same schedule. Each section has equal time-table authority.

* * *

99. When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes and, when necessary, in addition, displaying lighted fusees.

* * *

When a train is moving under circumstances in which it may be overtaken by another train, the flagman must take such action as may be necessary to insure full protection. By night, or by day when the view is obscured, lighted fusees must be thrown off at proper intervals.

* * *

751. If from any cause an operator is unable to communicate with the next block station in advance, he must stop all trains moving in that direction. Should no cause for detaining a train be known, it may then be permitted to proceed with restrictive card.

760. Trains must be run under the absolute block system when conditions will permit, but, when necessary, restricted speed signal may be displayed or restrictive card issued by operators to allow two or more freight trains proceeding in the same direction to occupy the block at one time.

* * *

Train-order instructions restricted the speed of all trains moving in this territory to 50 miles per hour.

Description of Accident

Train orders No. 2 and No. 7 addressed to eastward trains at Canadian and made complete at 2:30 a. m., April 12, 1947, read in part as follows:

Order No. 2

CTC SYSTEM OUT OF SERVICE BETWEEN * * *
WAYNOKA AND CANADIAN SIGNAL SYSTEM SUSPENDED
TRAINS OPERATE UNDER TIME TABLE SUPERIORITY
AND SINGLE TRACK RULES WITH SPEED LIMIT 50
MILES PER HOUR * * *

Order No. 7

AFTER EIGHT NAUGHT ONE 801 AM APRIL 12 CTC
RESTORED BETWEEN CANADIAN AND CROSSOVER
SWITCHES CLEAR CREEK

First 24, an east-bound first-class freight train, consisted of engine 5001, 94 cars and a caboose. The crew of this train received copies of train orders Nos. 2 and 7 at Canadian. First 24 departed from Canadian, the last open office, at 9:55 p m., 2 hours 15 minutes late, and because of an overheated journal on the fourth car, stopped on the main track about 11:17 p. m., with the rear end standing 0.52 mile west of the station at Higgins and 200 feet east of the east end of a 1° curve to the left. About 3 minutes later the rear end of this train was struck by Second 24.

Second 24, an east-bound first-class freight train, consisted of engine 2927, 70 cars and a caboose. The crew of this train received copies of train orders Nos. 2 and 7 at Canadian. Second 24 departed from Canadian at 10:20 p. m., 2 hours 40 minutes late, and while moving at a speed of 28 miles per hour it collided with First 24.

The eighty-fifth, eighty-sixth, ninety-third and ninety-fourth cars and the caboose of First 24, and the engine and the first fourteen cars of Second 24 were derailed. The engine of Second 24 stopped upright and in line with the track, with the front end 136 feet east of the point of collision. The tender stopped on its right side, down the embankment, south of the main track and practically at right angles to it. The front end of the engine was badly damaged and the cab was demolished. The caboose and five cars of First 24 were destroyed and three cars were damaged. Eleven of the derailed cars of Second 24 were destroyed and two cars were damaged.

The engineer, the fireman and the front brakeman of Second 24 were killed. The conductor of Second 24 was injured.

It was raining and a high wind was blowing from the north at the time of the accident, which occurred about 11:20 p. m.

Discussion

Normally, trains are operated over this line, which extends between Canadian and Waynoka, 109.6 miles, by signal indications. At the time of the accident, because of storm conditions which disrupted the signal system and the communication system, trains were being operated between Clear Creek, 5.6 miles east of Canadian, and Waynoka by timetable and train orders only. The speed of all trains moving in this territory was restricted by train-order instructions to 50 miles per hour.

Because of an overheated journal on the fourth car, First 24 stopped on the main track about 11:17 p. m., with the caboose standing 0.52 mile west of the station at Higgins and 200 feet east of the east end of a 1° curve to the left. About 3 minutes later, the rear end of this train was struck by Second 24

The flagman of First 24 said that he dropped a lighted 5-minute fusee from the caboose when the speed of the train was being reduced about 3/4 mile west of the point where the collision occurred. When the train stopped, the conductor was in the vicinity of the caboose, and the flagman proceeded westward to provide flag protection. At that time the reflection of the headlight of Second 24 was visible. The flagman said he had reached a point about 1,000 feet to the rear of his train and was giving stop signals with a lighted fusee when the engine of Second 24 passed him. His signals were not acknowledged, and he did not see any indication that the brakes of Second 24 were applied. The marker lamps on the caboose of First 24 were lighted, and displayed red to the rear. After the accident, several partly burned fusees were found in the vicinity of the point where the flagman of First 24 said he dropped a lighted fusee Examination of these fusees indicated that none had burned fully, and one had burned through the primer only. These fusees

appeared to have been extinguished when they struck the ballast of the roadbed.

The front brakeman of Second 24, who was on the engine, and the enginemen of this train were killed in the accident. Therefore, it could not be determined when they first saw the preceding train. The conductor and the flagman were in the caboose, and they were not aware of anything being wrong until the brakes were applied in emergency a few seconds before the collision occurred. The brakes of Second 24 had been tested and had functioned properly. Analysis of the speed-recorder tape of the engine of Second 24 indicated that the speed of this train was about 42 miles per hour when the brakes were applied in emergency about 1,200 feet west of the point of collision and about 28 miles per hour when the collision occurred.

Under the conditions present, First and Second 24 had equal authority. The only provisions in effect at the time of the accident for safeguarding their movements with respect to each other were the 5-minute spacing rule and the flagging rule. The 5-minute spacing rule did not prevent Second 24 from overtaking First 24.

The book of operating rules of this carrier contains manual-block rules which provide, among other things, that a train may be permitted to enter a block under permissive authority when the block is occupied by a preceding train. A train being operated under permissive authority must proceed prepared to stop short of a preceding train or an obstruction. However, the manual-block system was not in use on this line before the accident occurred. If the manual-block system had been placed in effect to protect traffic during the period when the signal system was inoperative, the crew of the following train would have received definite information that the preceding train was occupying the main track in the same block. After the accident occurred the manual-block system was placed in effect in this territory until the centralized-traffic-control system was restored to service. Officers of the railroad said that, at the time the accident occurred, the manual-block system was not being used because of inadequate communication lines.

Cause

It is found that this accident was caused by failure to provide adequate safeguards for movement of trains in territory where the centralized-traffic-control system was inoperative.

Dated at Washington, D. C., this twenty-sixth day of May, 1947.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.