

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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INVESTIGATION NO. 3233  
SOUTHERN PACIFIC COMPANY  
REPORT IN RE ACCIDENT  
NEAR CCSGRAVE, NEV., ON  
FEBRUARY 13, 1949

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SUMMARY

Railroad: Southern Pacific  
Date: February 13, 1949  
Location: Cosgrave, Nev.  
Kind of accident: Rear-end collision  
Trains involved: Freight : Freight  
Train numbers: First 571 : Second 571  
Engine numbers: 3662 : 3745  
Consists: 36 cars, caboose : 40 cars,  
caboose  
Estimated speeds: 3 m. p. h. : 30 m. p. h.  
Operation: Timetable, train orders and automatic  
block-signal system  
Tracks: Double; tangent; level  
Weather: Light fog  
Time: About 6:02 a. m.  
Casualties: 2 killed; 1 injured  
Cause: Failure to operate following train in  
accordance with signal indications

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 3233

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

SOUTHERN PACIFIC COMPANY

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April 7, 1949

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Accident near Cosgrave, Nev., on February 13, 1949, caused  
by failure to operate the following train in accordance  
with signal indications.

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REPORT OF THE COMMISSION<sup>1</sup>

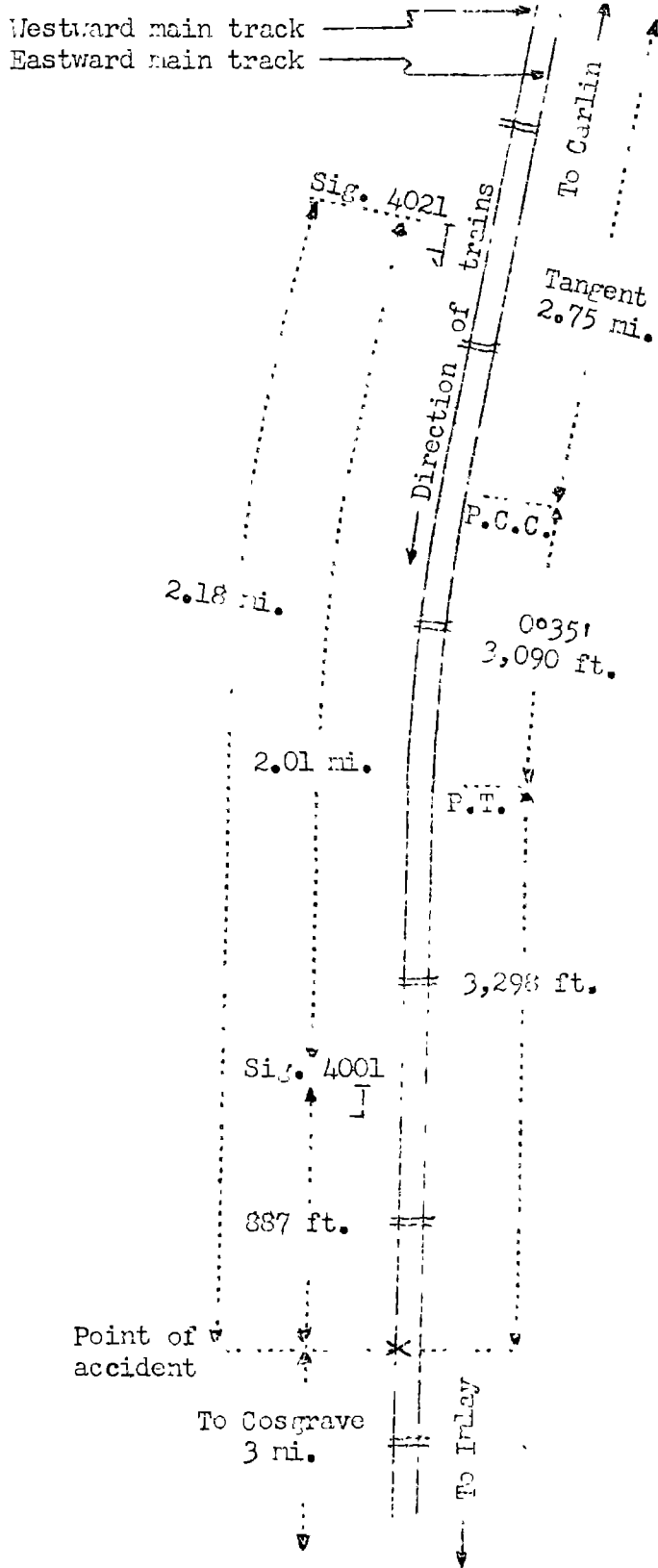
PATTERSON, Commissioner:

On February 13, 1949, there was a rear-end collision between two freight trains on the line of the Southern Pacific Company near Cosgrave, Nev., which resulted in the death of two train-service employees and the injury of one train-service employee. This accident was investigated in conjunction with a representative of the Public Service Commission of Nevada.

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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.



- |   |                   |           |
|---|-------------------|-----------|
| o | Carlin, Nev.      | 127.7 mi. |
| o | Rose Creek        | 6.6 mi.   |
| X | Point of accident | 3.0 mi.   |
| o | Cosgrave          | 12.9 mi.  |
| o | Irlay, Nev.       |           |

Inv. No. 3033  
 Southern Pacific Company  
 Cosgrave, Nev.  
 February 13, 1949

Location of Accident and Method of Operation

This accident occurred on that part of the Salt Lake Division extending between Carlin and Imlay, Nev., 150.2 miles. In the vicinity of the point of accident this is a paired-track line, over which trains moving with the current of traffic are operated by timetable, train orders, and an automatic block-signal system. This line is jointly operated by the Western Pacific Railroad Company and the Southern Pacific Company. East-bound trains of both lines use the Western Pacific track, and are governed by the Western Pacific Railroad operating rules. West-bound trains of both lines use the Southern Pacific track, and are governed by the Southern Pacific Company operating rules. The accident occurred on the westward main track at a point 134.3 miles west of Carlin and about 3 miles east of Cosgrave. From the east there are, in succession, a tangent about 2.75 miles in length, a compound curve to the left 3,090 feet, the maximum curvature of which is 0°35', and a tangent 3,298 feet to the point of accident and a considerable distance westward. The grade is 0.40 percent descending westward 3,300 feet, then it is level 8 feet to the point of accident and a considerable distance westward.

Automatic signals 4021 and 4001, governing west-bound movements on the westward main track, are, respectively, 2.18 miles and 887 feet east of the point of accident. These signals are of the two-arm, lower-quadrant, semaphore type. They display three aspects, and are continuously lighted. The involved night aspects, corresponding indications and names are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
4021	Green-over-yellow	Proceed prepared to stop at next home signal	Approach
4001	Red-over-yellow	Stop, then proceed	Stop and Proceed

The controlling circuits of these signals are so arranged that when the block of signal 4001 is occupied this signal indicates Stop and Proceed and signal 4021 indicates Approach.

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

DEFINITIONS

\* \* \*

With Caution--To run at reduced speed, according to conditions, prepared to stop short of a train, \* \* \* or other obstruction, or before reaching a stop signal. \* \* \*

SIGNALS

11. When an unattended fusee is burning on, or near, a track within block system \* \* \*, train may proceed without stopping, but must run with caution, not exceeding fifteen miles per hour for three-fourths mile.

14. ENGINE WHISTLE SIGNALS

Note--The signals prescribed are illustrated by "o" for short sounds; "--" for longer sounds. \* \* \*

SOUND

INDICATION

\* \* \*

(e) \_ \_ \_ \_ \_

Flagman may return from east as prescribed by Rule 99.

\* \* \*

15. The explosion of one torpedo is a signal to stop. \* \* \*

The explosion of two torpedoes is a signal to proceed with caution for not less than one mile.

\* \* \*

USE OF SIGNALS

35. The following signals must be used by flagman:

\* \* \*

Night signals--A red light,  
a white light,  
torpedoes and  
fusees.

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 protection.

If recalled from a point less than one-half mile from rear of his train, he must, if safety to train requires, leave lighted-fusee at proper intervals and, if conditions warrant, also place two torpedoes on the rail three rail-lengths apart. \* \* \*

When a train is seen or heard approaching when flagman is recalled, or before he has reached required flagging distance, he must immediately place one torpedo on the rail, and go toward the approaching train, displaying stop signals. Lighted fusee must be displayed when conditions warrant.

\* \* \*

#### AUTOMATIC BLOCK SYSTEM

505. Automatic block signals govern the use of the blocks, but unless otherwise provided, do not supersede the authority of trains; nor dispense with the use or the observance of other signals whenever and wherever they may be required.

509 (F). When an automatic block signal indicates "stop", train, after stopping, may proceed with caution, not exceeding twelve miles per hour, under the following conditions:

\* \* \*

(1) On double track.

The maximum authorized speed for the trains involved was 50 miles per hour.

#### Description of Accident

First 571, a west-bound second-class freight train, consisting of engine 3662, 36 cars and a caboose, passed Rose Creek, the last open office, at 5:29 a. m., 2 hours 27 minutes late. Because of an overheated journal, this

train stopped about 5:40 a. m., with the caboose standing about 6.6 miles west of Rose Creek. About 6 a. m., this train departed westward and after moving about 300 feet the rear end was struck by Second 571 at a point 887 feet west of signal 4001.

Second 571, a west-bound second-class freight train, consisting of engine 3745, 40 cars and a caboose, passed Rose Creek at 5:54 a. m., 2 hours 52 minutes late, passed signal 4021, which indicated Approach, passed signal 4001, which indicated Stop and Proceed, and while moving at an estimated speed of 30 miles per hour it collided with the rear end of First 571.

The engine of Second 571 stopped on its left side, parallel to the eastward main track and about 15 feet south of it, with the front end about 272 feet west of the point of collision. The tender stopped upright and across the main tracks. Both were considerably damaged. The rear 5 cars and the caboose of First 571 and the first 14 cars of Second 571 were derailed, and obstructed both main tracks. The fourth and the seventh cars of Second 571 were demolished. The remainder of the derailed cars were considerably damaged.

The fireman and the front brakeman of Second 571 were killed, and the engineer of this train was injured.

It was foggy and day was breaking at the time of the accident, which occurred about 6:02 a. m.

Engine 3745 is provided with No. 8-ET brake equipment. The regulating devices were adjusted for a broke-pipe pressure of 80 pounds and main-reservoir pressure of 110-125 pounds. This engine was not equipped with a speed-recorder.

All cars of Second 571 were equipped with AB-type brake valves, except the third, thirtieth, thirty-first and thirty-fourth cars, which were equipped with K-2 brake valves.

#### Discussion

Because of an overheated journal on the first car behind the engine, First 571 stopped on the westward main track about 5:40 a. m., with the caboose 587 feet west of signal 4001. The engineer sounded a whistle signal for the flagman to protect the rear of the train. When the train stopped, the conductor and the swing brakeman proceeded westward from the caboose to



examine the journal and to make necessary repairs. The flagman proceeded eastward to provide flag protection. The flagman said that he placed one torpedo on the rail about 2,500 feet east of the caboose. He then proceeded eastward and had reached a point about 4,000 feet east of the caboose when he was recalled. He then placed two torpedoes on the rail and proceeded toward the caboose. He left a lighted 10-minute red fusee at the point where he had placed the first torpedo. Signal 4001 indicated Stop and Proceed when he passed it in returning to his caboose. When he reached the caboose he gave a signal for his train to proceed. The train was started immediately and when the flagman boarded the rear platform of the caboose he observed the headlight of an approaching train about one mile eastward. He immediately alighted from the caboose and placed one torpedo on the rail at that point. Then he continued toward the approaching train and gave stop signals with a lighted red fusee. These signals were not acknowledged. The following train passed him when he had reached a point about 500 feet from the rear of his train. The conductor of First 571 was near the front end of his train when he saw the headlight of the approaching train about one mile distant. At that time First 571 was moving, but it had proceeded only about 300 feet when the rear end was struck.

As Second 571 was approaching the point where the accident occurred the speed was about 50 miles per hour. The brakes of this train had been tested and they had functioned properly when used en route. Brake-pipe pressure of 80 pounds was being maintained. The headlight was lighted brightly. The front brakeman, who was riding in the cab of the engine, and the enginemen were maintaining a lookout ahead. The engineer said that signal 4021 indicated Approach, and that he made a 6-pound brake-pipe reduction at the signal to comply with the indication. He said that when his train had proceeded about 3,000 feet westward, he observed that the speed had not been materially reduced. He then placed the brake valve in the emergency position. He said that he saw, simultaneously, the aspect of signal 4001, which indicated Stop and Proceed, a lighted red fusee and the red marker lamps of the preceding train when his engine was about 2,500 feet east of the rear end of that train. He said that his engine exploded torpedoes some distance east of signal 4001. He estimated that his train was moving at a speed of about 25 miles per hour when the accident occurred. He could give no explanation why the train was not stopped short of the preceding train. The fireman and the front brakeman were killed. The

flagman was in the caboose and he said that he observed a 10-pound brake-pipe reduction when the caboose was about 3,700 feet east of signal 4001, and that the gauge registered zero when the caboose entered the tangent track about 2,400 feet east of signal 4001. The swing brakeman and the flagman said that the caboose passed a lighted red fusee at a point about 2,500 feet east of the point of accident.

Examination of the undamaged cars of Second 571, consisting of the 26 rear cars, disclosed that the piston travel varied between 6-1/2 and 10-1/2 inches. Only one piston had a travel of more than 10 inches. All but three of the cars were equipped with AB-type brake valves, and all brakes were operative. In tests made after the accident the brakes functioned properly. The engineer who was in charge of the train into Carlin from the east said that the train air-brake system had functioned properly and that he was able to control the speed of the train at all points en route. Second 571 consisted of 35 loaded and 5 empty cars. The total weight of the train was 2,423 tons.

The Approach indication of signal 4021 required that Second 571 be so operated that it could be stopped short of signal 4001. The block of signal 4021 is 10,629 feet in length. The Stop and Proceed indication of signal 4001 required that this train be stopped short of that signal, then it was permissible for the train to enter the next block, which was occupied by First 571, but the rules required that Second 571 be so operated that it could be stopped short of a preceding train, and that a speed of 12 miles per hour must not be exceeded within the block.

Cause

It is found that this accident was caused by failure to operate the following train in accordance with signal indications.

Dated at Washington, D. C., this seventh day of April, 1949.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.