INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2464

THE SOUTHERN PACIFIC COMPANY

REPORT IN RE ACCIDENT

AT KLAMATH FALLS, OREG., ON

DECEMBER 5, 1940

SUMMARY

Railroad:	Southern Pacific	
Date:	December 5, 1940	
Location:	Klamath Falls, Oreg.	
Kind of accident:	Rear-end collision	
Trains involved:	Freight	: Light engine
Train numbers:	First 628	:
Engine numbers:	4010	: 4176
Consist:	22 cars, caboose	:
Speed:	Standing	: 6-15 m. p. h.
Operation:	Time-table special instructions; yard limits	
Track:	Yard track; tangent; practically level	
Weather:	Clear	
Time:	6:30 p. m.	
Casualties:	1 killed; 3 injured	
Cause:	Accident caused by failure to control speed of engine in compliance with rules applicable to operation on yard tracks	

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2464

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

THE SOUTHERN PACIFIC COMPANY

January 27, 1941

Accident at Klamath Falls, Oreg., on December 5, 1940, caused by failure to control speed of engine in compliance with rules applicable to operation on yard tracks.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On December 5, 1940, there was a rear-end collision between a freight train and a light engine on the line of the Southern Pacific Company at Klamath Falls, Oreg., which resulted in the death of one employee, and the injury of three 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. 2464
Southern Pacific Company
Klamath Falls, Oreg.
December 5, 1940

Location and Method of Operation

This accident occurred on that part of the Black Butte Subdivision which extends between Dunsmuir Yard, Calif., and Klamath Falls, Oreg., a distance of 108 miles. At Klamath Falls, yard tracks 17, 18, and 19 parallel the main track on the south. Track 17, which is used for switching purposes and as a running track for inbound and outbound trains and engines, is adjacent to the main track and is 4,534 feet in length; its eastern end connects with a classification yard and its western end with the Merrill Subdivision, which extends between Alturas, Calif., and Klamath Falls, a distance of 98.8 miles. The accident occurred on track 17 at a point 3,265 feet east of the west switch. Within yard limits movements are made on all tracks except the main track as prescribed by time-table instructions. At Klamath Falls a wye, which is located 4,000 feet west of the west switch of track 17, is used for turning engines.

As the point of accident is approached from the west track 17 is tangent a distance of 3,265 feet to the point of accident and 1,269 feet beyond. The grade is practically level.

The following rules of the transportation department read in whole or in part:

> 93. Within yard limits the main track may be used, protecting against first-class trains.
>
> Second and inferior class trains, extra trains and engines must move with caution within yard limits.
>
> When not protected by block signals or when moving against the current of traffic, first-class trains must move with caution within yard limits.
>
> Definitions.
>
> With Caution--To run at reduced speed, according to conditions, prepared to stop short of a train, engine, car, * * * or other obstruction, * * * .

Time-table Special Instructions read in part as follows:

> Rule 93. Yard limits are established at the following stations and limits as follows:
>
> East — West
> * * * — * * *
> M. P. 432.43 Klamath Falls M. P. 425.67
> * * * — * * *
> Second and third paragraphs of Rule 93 apply to all tracks within yard limits.

Yard limits are 2.93 and 3.83 miles, respectively, east and west of Klamath Falls.

The maximum authorized speed for engines backing on all tracks except main tracks is 10 miles per hour.

It was dark and the weather was clear at the time of the accident, which occurred about 6:30 p. m.

Description

First 628, an east-bound second-class freight train, with Conductor Kluth and Engineman Gearhart in charge, consisted of engine 4010, 22 empty cars and a caboose. This train departed from Perez, on the Merrill Subdivision, 49.7 miles west of Klamath Falls, at 3:47 p. m., according to the train sheet, 3 hours 27 minutes late, stopped on track 17 at Klamath Falls at 6:20 p. m., 2 hours 50 minutes late, with the caboose standing 3,265 feet east of the west switch, and about 10 minutes later the caboose was struck by engine 4176.

Engine 4176, with Engineman Hale in charge, proceeded in a back-up movement westward from Klamath Falls to the wye at Texum, 3.3 miles distant, turned on the wye, then proceeded in a back-up movement eastward via the Merrill Subdivision, entered track 17 and, while moving at a speed variously estimated at 6 to 15 miles per hour, collided with the rear end of First 628.

The tender of engine 4176 telescoped the rear end of the caboose of First 628. The caboose was practically demolished and the wreckage stopped across track 17 and the main track; the front and the rear trucks were detached. The first car ahead of the caboose stopped, badly damaged, on its left side with its rear end on the main track and its front end just north of track 17; the front and the rear trucks were detached. The second car ahead of the caboose and the tender of engine 4176 sustained only slight damage; the rear headlight of the engine was demolished.

The employee killed was the conductor of First 628, and the employees injured were the brakeman and the flagman of First 628 and a yardman who was on engine 4176.

Summary of Evidence

Flagman Grey, of First 628, stated that the weather was clear and when his train stopped on track 17 the caboose markers were lighted and displayed in their proper positions. From inside his caboose he observed engine 4176 near the west end of track 17; later as engine 4176 approached closely he stepped out on the rear platform. He did not fear that engine 4176 would

not stop before it reached his caboose and he was on the platform when the accident occurred. He estimated that the speed of engine 4176 was about 15 miles per hour when the collision occurred. The rear headlight of engine 4176 was burning. On previous occasions when his train stood on track 17, engines stopped close to the rear of the caboose.

Brakeman Eck, of First 628, stated that as his train approached Klamath Falls the caboose markers were burning and they displayed red to the rear. He first observed engine 4176 when it was at the west end of track 17. When he next observed this engine it was moving on track 17 at a speed of about 10 or 15 miles per hour and was only 35 or 40 feet distant. The rear headlight of engine 4176 was burning. He said that when a train is standing on track 17 it is customary for engines to stop close behind the caboose.

Engineman Gearhart, of First 628, stated that when his train was approaching the yard at Klamath Falls he observed the right marker light on the rear of his train. He stopped the train with the engine standing near the east end of track 17 and, while standing at this location, the train brakes were released except the engine and the tender brakes which remained applied. When the accident occurred he was watching for a signal that would permit his train to move into the yard. It was dark and the weather was clear at the time of the accident, which occurred at 6:30 p. m. As a result of the impact the train was moved forward several feet, then the air brakes became applied in emergency. He understood that trains and engines are required to move on yard tracks prepared to stop short of trains, engines, cars or other obstruction.

Fireman Patterson, of First 628, corroborated the statement of Engineman Gearhart.

Front Brakeman Wright, of First 628, stated that under the provisions of Rule 93 flag protection was not required on track 17. When his train was approaching the yard at Klamath Falls he was on top of the second car and observed that both markers on the rear of his train were lighted.

Engineman Hale, of engine 4176, stated that when his engine backed westward from Klamath Falls yard en route to the wye he observed that the marker lights of First 628 were lighted. When the engine backed eastward on the return movement from the wye he worked a drifting throttle, and the speed was about 6 miles per hour until the accident occurred. Before the engine left the enginehouse he tested the brakes of the engine and tender and they functioned properly en route. There was no condition of the engine that distracted his attention. As his engine approached the point where the accident occurred he was in his usual po-

sition, maintaining a lookout to the rear; the fireman was on the left seatbox and a yardman was on the brakeman's seatbox, located midway between the seatboxes of the engineman and the fireman. As the engine moved eastward on track 17 the cab was at the west end and the tender was coupled to the east end of the engine. The tender is somewhat higher than the cab and the rear headlight is mounted on top of the tender. When an engine of the type involved is moving backward the engineman is unable to see an obstruction within a distance of about 5 car lengths immediately ahead of the tender. It was dark and the weather was clear. The headlight was burning brightly and he could plainly see objects about 10 car lengths distant; however, he did not see First 628 standing on track 17 and thought the reason was that his engine moved to within 5 car lengths of the caboose and obscured his view before he realized it. He said that he was familiar with the physical characteristics of the tracks in the vicinity of the point of accident. This was the first time he had ever made a back-up movement with this class of engine equipped with a rectangular tender. He understood that Rule 93 required him to proceed prepared to stop short of a train, engine, cars or obstruction and he said that if he had operated his engine accordingly, the accident might have been averted. He thought that as a matter of precaution he should have instructed the yardman to ride the rear of the tender instead of permitting him to ride in the engine cab during the back-up movement.

Fireman Anderson, of engine 4176, stated that the engine backed eastward on track 17 at a speed of about 6 miles per hour. He leaned out the left cab-window and maintained a lookout. He understood that trains and engines are required to move on yard tracks prepared to stop short of trains, engines, cars or obstruction. In this instance he thought his engine was being operated in compliance with the rules. The engineman told him that he was about to close the throttle, so the fireman turned his head momentarily while closing the firing-valve and the accident occurred as he again took position to maintain a lookout. The fireman said that at no time during the movement on track 17 did he see First 628 or its markers. It is customary for yardmen who are assigned to assist in moving light engines through the yard to ride in engine cabs. When engines of the type involved are equipped with rectangular tenders the view to the rear is restricted.

Yardman Zimmerman stated that one of his duties is to ride light engines between the enginehouse and the train yard in order to line switches for the movement to be made. He was engaged in this duty on engine 4176 when the accident occurred. As the engine was backing eastward on track 17 he was in the cab. Because of his position in the cab he was unable to see to the rear. In one statement he estimated the speed at 10 or

15 miles per hour at the time of the accident; however, in a later statement he said the speed was somewhat less.

Roundhouse Foreman Sparks stated that engine 4176 was inspected at the roundhouse prior to the accident and at that time the rear headlight of the tender was burning and no defect was reported by the inspector. As a result of the accident the rear headlight of the tender was demolished, therefore he did not know what type of bulb the headlight contained at the time the accident occurred.

Machinist Barker stated that he tested both headlights of engine 4176 several hours before the accident occurred and observed no defect. He understood that a headlight should be focused so that an object the size of a man can be plainly seen at a distance of 800 feet; however, he said that there were no facilities at Klamath Falls to determine if a headlight was in focus.

General Yardmaster Huls, at Klamath Falls, stated that when First 628 stopped on track 17 he observed the marker on the south side of the caboose lighted. At that time engine 4176, moving slowly, was about 3 or 4 car lengths west of the caboose of First 628 and the rear headlight was lighted. He thought the engine would stop behind the caboose. In his opinion it is hazardous for an employee to ride the rear sill-step of a tender during a back-up movement; the rules do not require an employee to locate himself in this position when an engine is equipped with a back-up headlight.

Trainmaster Sprague stated that First 628 was not required to furnish flag protection.

According to data furnished by the railroad, engine 4176 is of the 4-8-8-2 type, equipped to operate with the cab at the front end. The over-all length of the engine and tender is 125 feet and the length from the center-line of the cab to the rear of the tender is 114 feet 7 inches. The cab is 10 feet wide at the eaves and the arm-rests are 9 feet 6 inches above the top of the rail. The tender is 10 feet 6-7/8 inches wide at the top and is 13 feet 8-3/4 inches and 12 feet 8-1/16 inches high, respectively, at the front and rear ends. The rear headlight is mounted on top of the tender at the rear.

The caboose involved was of wood superstructure and steel underframe construction. The width at the eaves was 9 feet 10-1/4 inches, the height from top of rail to the running board was 11 feet 4-1/4 inches, and the height from the top of the rail to the top of the cupola was 14 feet 4-1/4 inches. It was equipped on the corners with marker-lamp brackets 9 feet 7/8 inch above the top of the rail.

Observations of the Commission's Inspectors

On December 9 the Commission's inspectors participated in a visual test which was begun at 6:15 p. m., to determine the distance a caboose standing on track 17 could be seen from the cab of an engine of the same type as the one involved. The weather was clear. A caboose with all lights extinguished was placed on track 17 at the point where the accident occurred and the engine with its rear headlight lighted was moved westward. The caboose was lost to view at a point 1,333 feet west of the point of accident. The engine was then moved toward the caboose, which disappeared from view because of the intervening tender when the rear of the tender was 147 feet west of the caboose. The rear headlight failed to illuminate the ground a distance of 10 feet immediately to the rear of the tender.

Discussion

According to the evidence, First 628 stopped on track 17 about 6:20 p. m. and about 10 minutes later the rear end of this train was struck by engine 4176, which was moving backward at a speed estimated from 6 to 15 miles per hour.

The track involved is a yard track. Under the rules applicable to operation on yard tracks, trains and engines are not required to protect against following movements on track 17, but are required to be operated at such speed that they can be stopped short of train or obstruction; in addition, the maximum authorized speed for an engine in backward motion on this track is 10 miles per hour.

It was dark, the weather was clear and the track was tangent. The markers on the rear end of First 628 and the rear headlight on engine 4176 were lighted. Of the three employees on engine 4176, the engineman and the fireman were on their seatboxes, maintaining a lookout in the direction of the movement of their engine, and the yardman was on the brakeman's seatbox, located midway between the seatboxes of the engineman and the fireman; from the yardman's location the track in the direction of the movement of the engine could not be seen. Because of the tender being about 7 inches wider than the cab of the engine, the top of the tender being more than 4 feet higher than the arm-rests of the cab windows, and the distance from the cab windows to the farther end of the tender being about 115 feet, it was necessary that the engineman and the fireman lean a considerable distance out the side cab-windows to observe conditions in the direction of movement when the engine was moving backward Tests conducted subsequent to the accident disclosed that the engineman and the fireman could not see the caboose at a distance of less than 262 feet from the cab of the engine. These tests also disclosed that the caboose could have been seen a

distance of 1/4 mile; however, the members of the engine crew did not see the caboose at any time after their engine entered track 17. According to the engineman's statement, he could have seen a car about 450 feet beyond the tender but the tender obstructed his view throughout the 225 feet immediately preceding it; in some unexplained manner the caboose escaped his notice. According to the statement of the fireman, his attention was distracted momentarily because of operating the firing-valve, immediately following which the accident occurred. If the crew of engine 1176 had maintained a proper lookout, undoubtedly the rear end of First 628 would have been seen in time to avert the accident.

The engineman of engine 1176 thought that on yard tracks operation in backward motion of an engine of the type involved would be safer if a yardman stationed himself on the rear sill-step of the tender; however, the general yardmaster thought this would be dangerous.

Cause

It is found that this accident was caused by failure to control the speed of an engine in compliance with rules applicable to operation on yard tracks.

Dated at Washington, D. C., this twenty-seventh day of January, 1941.

By the Commission, Commissioner Patterson.

(SEAL) W. P. BARTEL,

Secretary.