

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 2468
UNION PACIFIC RAILROAD COMPANY
REPORT IN RE ACCIDENT
AT SALT LAKE CITY, UTAH, ON
DECEMBER 18, 1940

-2-

SUMMARY

Railroad: Union Pacific

Date: December 18, 1940

Location: Salt Lake City, Utah

Kind of accident: Rear-end collision

Trains involved: Freight :Passenger

Train numbers: Extra 5502 :First 14

Engine numbers: 5502-3179 :7955

Consist: 54 cars, caboose :10 cars

Speed: 3-5 m.p.h. :5-30 m.p.h.

Operation: Yard rules

Track: Passenger yard; tangent; 0.707
percent ascending grade eastward

Weather: Foggy

Time: 6:22 a.m.

Casualties: 2 killed; 8 injured

Cause: Accident caused by failure to furnish
proper flag protection for preceding
train and by failure to control speed
of following train properly while
moving within yard limits.

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2468

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

THE UNION PACIFIC RAILROAD COMPANY

February 5, 1941

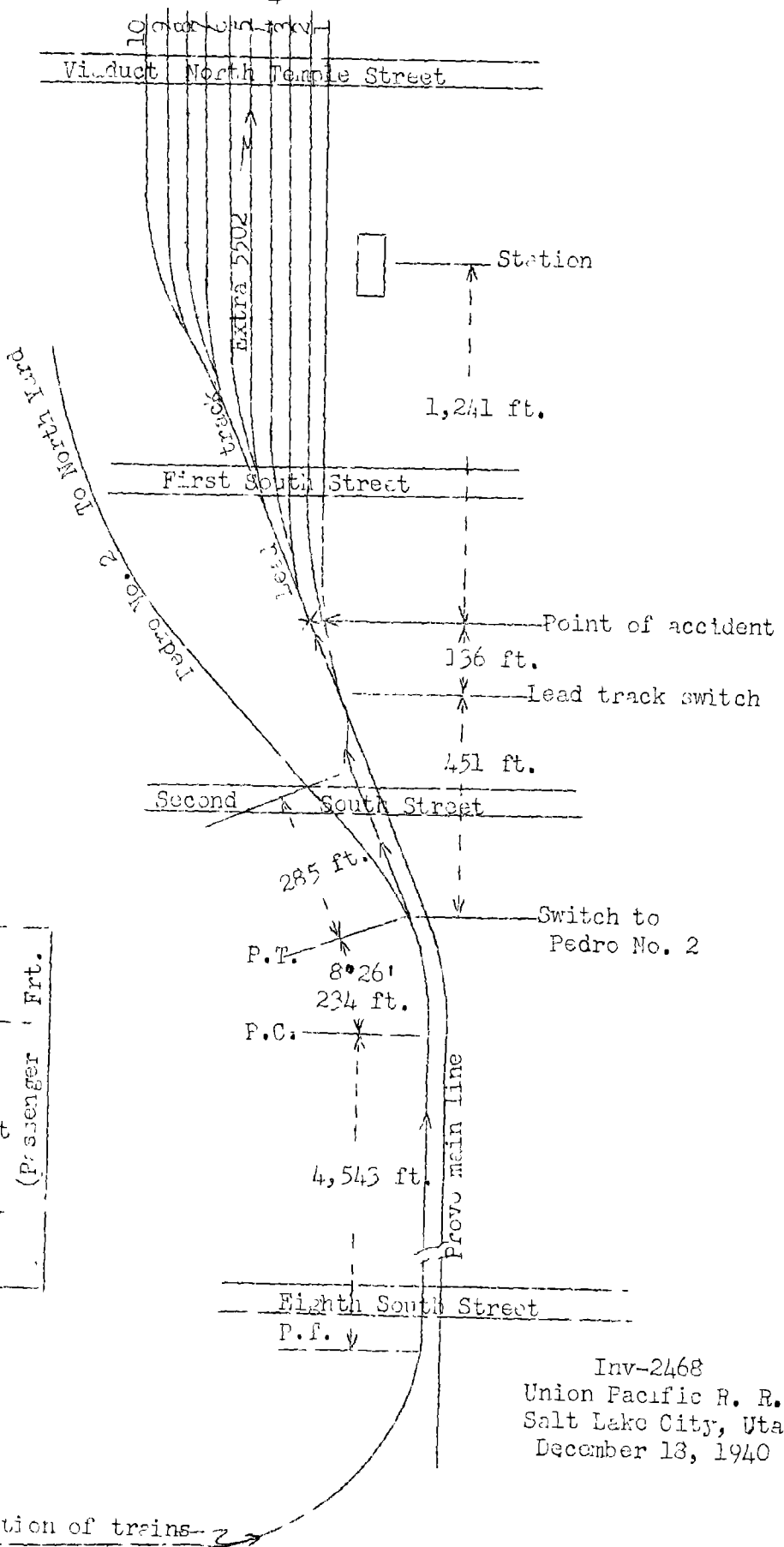
Accident at Salt Lake City, Utah, on December 18, 1940,
caused by failure to furnish proper flag protection
for preceding train and by failure to control speed
of following train properly while moving within yard
limits.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On December 18, 1940, there was a rear-end collision
between a freight train and a passenger train on the Union
Pacific Railroad at Salt Lake City, Utah, which resulted in
the death of one employee on duty and one employee off duty
and the injury of five passengers, two Pullman porters and
one train-service employee. This investigation was made in
conjunction with a representative of the Utah State Public
Service Commission.

¹Under authority of section 17(2) of the Interstate Commerce
Act the above-entitled proceeding was referred by the Com-
mission to Commissioner Patterson for consideration and dis-
position.



o North Yard, Utah	4.4 mi.	Frt. (Passenger)
o Buena Vista		
o Salt Lake City		
x Point of accident	1.3 mi.	
o Eighth South Street	3.5 mi.	
o Buena Vista		
113.3 mi.		
o Lynndy, Utah		

Inv-2468
 Union Pacific R. R.
 Salt Lake City, Utah
 December 13, 1940

Direction of trains →

Location and Method of Operation

This accident occurred within yard limits on that part of the Los Angeles and Idaho Divisions designated as Salt Lake Yard. In the vicinity of the point of accident, movements of trains on all tracks are made as prescribed by rules applicable to yard limits. At Salt Lake City, east-bound passenger trains enter the passenger station via a track designated as the passenger line. At a point 1,377 feet west of the center-line of the station, trains enter the passenger-yard lead track. From south to north the tracks in this yard are numbered consecutively 1 to 10, and entry to the west end of each is made through a turnout to the right. The accident occurred on the passenger-yard lead track, at a point 4 feet east of the west switch of track No. 3 and 1,241 feet west of the station. At a point 1,829 feet west of the station a turnout to the left leads from the passenger line to a freight yard which lies north of the passenger yard; this route is designated as Pedro No. 2. Freight trains are sometimes routed via the passenger line to Pedro No. 2, then to the freight yard. Eighth South Street and Second South Street are located, respectively, 1.3 miles and 384 feet west of the point of accident. As the point of accident is approached from the west there are, in succession, a tangent 4,543 feet in length, an $8^{\circ}26'$ curve to the left 234 feet in length, a tangent 285 feet, a No. 10 turnout to the right having a curvature of $6^{\circ}22'$ a distance of 37 feet then $6^{\circ}22'$ curvature to the left 95 feet, and a tangent 136 feet to the point of accident and a short distance beyond. The grade for east-bound trains varies between 0.127 and 0.94 percent ascending 1,948 feet to the point of accident; it is 0.707 percent at the point of accident.

Rules and Instructions of the Transportation Department read in whole or in part as follows:

91 (A). Trains must approach all stations where the view is obscured at a rate of speed that will enable them to stop should an emergency arise.

Responsibility for collision rests with the following train, but this does not relieve the leading train from protecting itself.

93. Within yard limits the main track may be used, protecting against first-class trains.

During foggy or stormy weather, trains and engines must afford proper flag protection, regardless of whether a first-class train is due or not.

All trains and engines must move within yard limits prepared to stop unless the track is seen or known to be clear.

99. When a train stops, except when clear of the main track, the flagman must go back immediately with flagman's signals, a sufficient distance to insure full protection. One-half mile from the rear of his train he will place two torpedoes on the rail, continuing back one mile from the rear of his train he will place two torpedoes on the rail. He may then return to the two torpedoes one-half mile from rear of his train where he must remain until relieved by another flagman or is recalled by the whistle of his engine.

During foggy or stormy weather and in the vicinity of obscure curves or descending grades, or when other conditions require it, the flagman will increase the distance, placing two torpedoes at every one-fourth mile.

* * *

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 fuseses must be thrown off at proper intervals.

* * *

Conductors and enginemen are responsible for the protection of their trains.

The following signals will be used by flagmen:

Day signals -- A red flag, not less than ten torpedoes, three red and three yellow fuseses.

Night signals- A red light, a white light, not less than ten torpedoes, three red and three yellow fuseses.

Special time-table rules read in whole or in part as follows:

93 (T). At Salt Lake City, all Los Angeles Division Sixth Subdivision trains operating via passenger line will use west track on Third West Street between Second and Eighth South streets.

* * *

All freight movements through passenger yard must be made through track No. 10.

104 (T). Between the hours of 6.30 A. M. and 3.00 P. M. and between 4.30 P. M. and 1.45 A. M., eastward Los Angeles Division passenger trains entering Salt Lake City Passenger Station must stop to clear Second South Street unless they receive proceed signal from switchtender. * * * Proceed signal must be acknowledged.

In the vicinity of the point of accident the maximum authorized speed for all trains is 12 miles per hour.

It was dark and there was a dense fog at the time of the accident, which occurred at 6:22 a.m.

Description

Extra 5502, an east-bound freight train, with Conductor Rodgers and Enginemen Gritton and Gleason in charge, consisted of engines 5502 and 3179 coupled, 54 cars, and a caboose. This train departed via the passenger line from Buena Vista, 4.8 miles west of Salt Lake City, at 5:54 a.m., according to the train sheet, and at Salt Lake City, after the train received a signal from the switchtender, it proceeded across Second South Street at 6:10 a.m., according to the statements of the crew, and entered track No. 5. When the engines were about opposite the station the train stopped about 5 seconds, then proceeded, and, while moving at a low rate of speed, its rear end was struck by First 14.

First 14, an east-bound passenger train, with Conductor Frazier and Engineman Olson in charge, consisted of engine 7855, four coaches, two tourist sleeping cars, one dining car, and three standard sleeping cars, in the order named; all cars were of steel construction. This train passed Buena Vista at 6:11 a.m., according to the train sheet, on time, passed Eighth South Street at 6:17 a.m., according to

statements of the crew, on time, passed Second South Street, where it was required to stop unless it received a proceed signal from the switchtender, and, while moving at a speed variously estimated to have been between 5 and 30 miles per hour, struck the rear of Extra 5502.

The caboose and the rear two cars of Extra 5502 were demolished; the third car from the rear was badly damaged. The fourth car from the rear was slightly damaged. Two driving wheels of engine 7855 were derailed; the engine stopped upright 131 feet beyond the point of collision; its front end was badly damaged.

The employees killed were the flagman of Extra 5502, who was in the caboose, and a brakeman deadheading in the caboose, and the employee injured was the conductor of Extra 5502.

Summary of Evidence

Engineman Gritton, of Extra 5502, stated that a terminal air-brake test was made at Lynndyl, 118.1 miles west of Salt Lake City, and the brakes functioned properly en route. At Buena Vista his train was routed via the passenger line to Salt Lake City. The train passed Eighth South Street at 6:03 a.m. As it approached Second South Street the speed was about 3 miles per hour and he sounded the engine whistle signal for a proceed signal from the switchtender. He received a proceed signal and his train moved over Second South Street at 6:10 a.m., then proceeded into the passenger yard. Because of a dense fog and because the switch-stands were on the left side, he was unable to see on which track his train was moving. After proceeding a short distance he became aware that his train was on one of the passenger tracks in the station. He knew that a freight train was not permitted to use any passenger-yard track except track No. 10; however, he thought the switchtender had some reason for routing his train through the station, therefore the train proceeded on the route that was lined. When his engine was about opposite the station the front brakeman informed him of a stop lantern-signal, and the engineman stopped the train. The front brakeman alighted from the engine and was informed by the switchtender that the track ahead might be occupied; the brakeman told the engineman to proceed and that he would flag ahead. After the train stopped momentarily it proceeded, passed under the viaduct at North Temple Street, about 1,950 feet east of the point where the accident occurred, at 6:15 a.m., and as the engine neared First North Street the air brakes became applied in emergency. The engineman sounded the whistle signal for the flagman to protect the rear of the train, then sounded the signal that the train had parted. Because of

dense fog the range of vision was limited to about 30 feet ahead of the engine. He understood that under the rules trains are required to be operated prepared to stop unless the track is seen or known to be clear and said that he was operating his train accordingly. He understood that flag protection was required within yard limits during foggy or stormy weather. Because of the fog it would have been impossible to see signals for backing his train out of track No. 5, after he discovered that his train was on that track.

Fireman Jeffs, of Extra 5502, practically corroborated the statement of his enginemen. The fireman said he informed his enginemen that the switch was lined to enter track No. 5.

Engineman Gleason, of the second engine of Extra 5502, stated that in the vicinity of the point where the accident occurred the maximum authorized speed is 12 miles per hour; however, because of fog restricting visibility, the speed of his train as it proceeded into the passenger-station yard was about 7 miles per hour. He understood that all trains and engines must move on tracks within yard limits prepared to stop.

The statement of Fireman Jones, of the second engine of Extra 5502, added nothing of importance.

Front Brakeman Post, of Extra 5502, stated that as his train approached the passenger yard he was stationed on the left side in the gangway and saw a proceed signal given by the switchtender. After his train entered the switch he remarked that it was unusual for a freight train to use track No. 5. In previous years freight trains had used the passenger tracks but he understood that freight trains were now restricted to the use of track No. 10 only; however, he thought that a signal given by the switchtender was authority to use other tracks. When his engine passed First South Street he looked back and saw the switchtender giving a stop signal with a lantern. The brakeman alighted from the engine and proceeded back to the switchtender who informed him that he had lined the wrong switch for Extra 5502 and that track No. 5 might be occupied by a train. The front brakeman then walked ahead of the train and was giving his enginemen proceed signals when the air brakes became applied in emergency.

Conductor Rodgers, of Extra 5502, stated that after his train entered Salt Lake City the fog became more dense. When the caboose passed over Third South Street he and the flagman were on the rear platform, then the conductor stationed himself in the left side of the cupola. When his train was approaching Second South Street it was 6:13 a.m. and the

speed became very slow. Becoming apprehensive that No. 14 would overtake his train he made frequent trips to the rear platform of the caboose; however, no lighted fusee was dropped as No. 14 was not due at Eighth South Street until 6:17 a.m. Because fog restricted visibility he could see a distance of only 2 car lengths. At Second South Street he did not see the switchtender. He thought his train was moving on the freight track. The conductor was not certain where the flagman was stationed but thought he was on the rear platform when the caboose passed Second South Street and then he entered the caboose. The conductor understood that during foggy weather Rule 93 requires flag protection against all trains and he had available a red fusee to be lighted in case of emergency. As he thought his train was on Pedro No. 2, he did not think it necessary to provide flag protection against No. 14 after the caboose passed Second South Street. He saw First 14 just before it struck the caboose. He said that a dead-head employe was in the caboose at the time of the accident. The conductor was last examined on the transportation rules on August 1, 1940.

Engineer Olson, of First 14, stated that an air-brake test was made at Milford, 207.2 miles west of Salt Lake City, and the brakes functioned properly en route. His train passed Eighth South Street at 6:17 a.m. As his train was approaching the point where the accident occurred the speed was about 12 miles per hour and he was seated in his usual position maintaining a lookout ahead; the fireman was on the left seatbox. His train passed Third South Street, 5,235 feet east of Eighth South Street, at 6:21 a.m. Near Third South Street he closed the throttle partly and the speed was reduced on the ascending grade. He did not know that in the absence of a signal from the switchtender stationed at Second South Street he was required to stop; however, he sounded four short blasts of the whistle and proceeded across Second South Street. At this time he observed a lantern signal given from a point about 300 feet east of Second South Street, which he thought was a proceed signal from the switchtender. He answered this signal by sounding two short blasts of the whistle, then opened the throttle more so that his train would not stall on the grade. The engineer said that he also saw the crossing watchman at Second South Street swinging his warning lantern, which was turned so that the white light was shining toward him; however he thought these signals were to stop automobile traffic on the street. In one statement he said his train was moving between 10 and 12 miles per hour, but in another he said the speed was about 5 or 6 miles per hour. Fog restricted visibility to about 2 car lengths. When his engine turned to the left to enter the passenger-yard lead track he was unable to see anything ahead of the engine and the fireman did not call any warning. After his engine was on the tangent immediately east of the turnout he saw a red marker-light about an engine

length ahead and at the same time a lighted red fusee near the caboose. He immediately applied the air brakes in emergency and closed the throttle but the distance was insufficient in which to stop short of the caboose; the accident occurred about 6:22 a.m. He thought his train could have been stopped in about three or four car lengths. He understood that Rule 93 required his train to be operated prepared to stop unless the track is seen or known to be clear; however, he expected preceding trains to provide flag protection. He is familiar with the physical characteristics of Salt Lake Yard. He was last examined on the operating rules in August, 1940.

Fireman Cory, of First 14, stated that he was on the left seatbox and maintaining a lookout as his train was approaching the point where the accident occurred; the speed was between 12 and 15 miles per hour. The engine bell was ringing and the engineman sounded crossing whistle-signals. The fireman did not see a proceed signal given by the switch-tender at Second South Street but when the engineman sounded two short blasts on the whistle near that point the fireman thought the engineman had seen a proceed signal. The fireman was watching intently for switch lights and, when he saw a red light ahead, he thought it was a switch light. He then saw the caboose and before he could call a warning the engineman applied the brakes in emergency.

Conductor Frazier, of First 14, stated that his train passed Eighth South Street at 6:17 a.m. As his train was approaching the point where the accident occurred he was in the sixth car and the speed was 12 miles per hour. A dense fog restricted visibility to about 100 feet. He heard his engineman sound the road-crossing whistle-signals; also near Second South Street he heard him sound four short blasts on the whistle as a call for a proceed signal to enter the yard. The conductor said that customary speed was maintained between Eighth South Street and Second South Street and that no time was lost; however, he was not alarmed as he had confidence in the ability of his engineman. He understood that the rules require trains and engines in the territory involved to move prepared to stop unless the track is clear. He said that if Extra 5502 had provided flag protection the accident would have been averted. The accident occurred at 6:22 a.m.

Front Brakeman Manca, of First 14, stated that as his train approached the point where the accident occurred, the usual speed of 12 miles per hour was being maintained. He felt the air brakes being applied just prior to the accident. He said that visibility was restricted to about 150 feet.

Flagman Bowles, of First 14, stated that after the accident occurred he proceeded back to provide flag protection. He thought a lighted fusee could have been seen a distance of about one city block. He observed no indication of a lighted fusee as he proceeded to the rear of his train.

Switchtender Olsen, located at Second South Street, stated that at 6 a.m. he obtained from the office of the stationmaster a line-up of passenger trains due, then proceeded to Second South Street; he arrived at that point about 6:06 a.m. He lined the passenger-yard lead track for First 14, which was due at 6:25 a.m. Soon afterward he heard an engine whistle in the vicinity of Second South Street calling for signals, and, thinking it was First 14 running in advance of time, he gave a proceed signal with his lantern. At that time the engine was about 100 feet west of Second South Street. When the train passed him and entered track No. 5 he saw it was a freight train and he immediately gave a stop signal but apparently no one saw him. He then began to run along the right side of the train in an attempt to overtake the engine for the purpose of instructing the crew to clear the lead track as quickly as possible; however, when he saw someone near the east end of track No. 5 give the freight train a proceed signal he proceeded back toward the rear of the freight train so that he could line the switch for First 14 to enter track No. 7. Dense fog restricted visibility to about 100 feet. When he was about 5 car lengths east of the caboose of Extra 5502 he could hear First 14 approaching Second South Street. He did not hear a whistle signal calling for a proceed signal. First 14 continued to work steam, and he observed a switchman assigned to a yard engine light a red fusee, start toward First 14, and wave stop signals. The switchtender was waving stop signals with his lantern and was about opposite the caboose of Extra 5502 when First 14 struck it. This was his first tour of duty as a switchtender; however, he had worked as a student switchtender under the instruction of a regularly assigned switchtender, then had been qualified to perform such service. He was not aware that freight trains were restricted from all passenger-yard tracks except train No. 10. He understood that information concerning movement of freight trains via the passenger line could be obtained only by calling the dispatcher or the yard office. He said that he did not know how the switches on the lead track were lined and he gave a proceed signal to Extra 5502 before he was certain what route was lined. He knew that trains are required to stop west of Second South Street and not to proceed until the switchtender gives a proceed signal. Had he refrained from giving a proceed signal until he knew how the switches were lined at Second South

Street he would have learned that Extra 5502 was ahead of First 14 and he could have diverted Extra 5502 to Pedro No. 2. He said that trains are restricted to a maximum authorized speed of 12 miles per hour but he thought First 14 was moving about 30 miles per hour just before the accident occurred.

Switchman Pulley, who was performing service with a yard engine, stated that just prior to the time the accident occurred he was stationed in the vicinity of First South Street, about 330 feet east of the point of accident. He heard First 14 approaching and, realizing that Extra 5502 was not clear of the lead track, he lighted a red fusee and, waving stop signals, he proceeded toward First 14 but his signals were not acknowledged and First 14 collided with the rear of Extra 5502.

Crossing Watchman Osborne, located at Second South Street, stated that about 6:09 a.m. an engine whistle was sounded west of Second South Street and Switchtender Olsen asked him if it was No. 14; the watchman replied that it was too early for No. 14 to arrive. As the freight train approached, the switchtender gave a proceed signal, then proceeded eastward along the passenger-yard lead track. As the rear of the freight train passed, the crossing watchman did not see anyone on the rear platform. The marker lamps were lighted and displayed red to the rear. When he saw First 14 approaching Second South Street he feared that it would not stop short of Extra 5502, therefore he turned the red light of his lantern toward the engine, but the train continued; then he turned the lamp to display a white light toward the train and gave stop signals. The engine was working steam and it passed him at a speed of between 10 and 12 miles per hour. He called to the engineman but apparently was not heard, as the engineman was maintaining a lookout ahead. The watchman did not hear the whistle of First 14 sounded as a call for signals nor did he see a proceed signal given to that train. Just before the accident occurred he observed a lighted red fusee in the vicinity of the caboose. He said the fog was more dense than usual in that vicinity.

Switchtender Carpenter stated that it had been the practice during the last 10 or 11 years for switchtenders to report for duty at Second South Street at 6 a.m., instead of 6:30 a.m., as specified in the special time-table rules.

General Yardmaster Kelley, at Salt Lake City, stated that Switchtender Olsen was an extra man and was assigned temporarily at Second South Street on the day of the accident. Switchtender Olsen performed service as a student switchtender

at First North Street and Second South Street before becoming qualified to perform service as a switchtender. Yardmaster Kelley had personally instructed him in his duties. The duties of a switchtender are to obtain from the stationmaster a line-up of regular trains and to route them to the desired tracks. Yardmaster Kelley said all trains must stop at Second South Street unless they receive proceed signals from the switchtender on duty. It has been the practice for the switchtender at Second South Street to go on duty at 6 a.m., instead of 6:30 a.m., as specified in the time-table special Rule 104(T), although this rule has not been supplemented by a bulletin or special instructions. Freight trains consisting of 40 cars or less may be handled on track No. 10 through the passenger yard; unless otherwise provided all other east-bound freight trains moving on the passenger line use Pedro No. 2 to the freight yard. There is no designated main track through the passenger yard east of Second South Street and all trains and engines must move prepared to stop unless the way is seen or known to be clear.

Trainmaster Waring stated that the tour of duty of the switchtender at Second South Street begins at 6 a.m. It is the duty of the switchtender first to obtain from the stationmaster a line-up of all passenger trains and the tracks on which they are to move, then to call the dispatcher for information relative to freight trains which are moving via the passenger line; the switchtender handles the switches accordingly. In the absence of a proceed signal from the switchtender at Second South Street all trains are required to stop. During foggy or stormy weather, all trains and engines are required to provide flag protection within yard limits. All trains and engines must move within yard limits prepared to stop unless the track is seen or known to be clear. The accident occurred within yard limits.

Discussion

According to the evidence, Extra 5502 was en route to the freight yard in Salt Lake City when it was diverted to the passenger yard lead track and thence to station track No. 5. Having stopped momentarily it proceeded and was moving at a speed of 3 to 5 miles per hour when its rear end was struck by First 14, which was moving at a speed variously estimated from 5 to 30 miles per hour, but the preponderance of evidence indicated that the speed was from 12 to 15 miles per hour. The accident occurred within yard limits and at a point 136 feet east of the west end of the passenger-yard lead track.

Under the rules, the freight train involved could be routed either on Pedro No. 2 or on the passenger-yard lead track and thence on station track No. 10, but it was not

permitted to use any other track and all the employees involved understood this. The switchtender, who had just gone on duty, had received information concerning track assignments for passenger trains but he did not know that a freight train would soon arrive; therefore, when he heard the first train approaching he assumed it was First 14, which was the first passenger train expected, according to his line-up, even though it was not due for several minutes. Not discovering it was a freight train, on account of the dense fog, until the front portion passed him, he gave this train a proceed signal and permitted it to enter the passenger-yard lead track. He then ran toward the front of the train to instruct the engine crews to clear the lead track as quickly as possible, but when he saw someone near the east end of track No. 5 give a proceed signal he returned westward to line the switch for First 14 to enter track No. 7; he had reached a point opposite the caboose when the accident occurred. The members of the crew on the front end of the freight train did not question the movement on track No. 5 as they thought the switchtender had some reason for diverting the train to that track.

Under the rules, First 14 was not permitted to enter the passenger-yard lead track until it had received a proceed signal from the switchtender. The engineman of this train did not know that in case the switchtender was absent he was required to stop his train; therefore, after he sounded four short blasts of the whistle he proceeded and thought he received a proceed signal given from a point about 300 feet ahead, but according to the evidence any signal he might have received was not given by the switchtender.

Since a dense fog prevailed and visibility was restricted to a distance of about 100 feet, the rules applicable to yard operation required that rear-end protection be furnished for the freight train and that the passenger train move prepared to stop unless the main track was seen or known to be clear. All members of the crews involved understood these provisions. Even though the freight train was moving at a speed of only 3 to 5 miles per hour at the time of the accident and had been stopped a short time previously, no lighted fusee was thrown off; the conductor had a fusee available but did not use it. The flagman did not proceed to the rear of his train and at the time of the accident he and the conductor were in the caboose. If the crew of the freight train had furnished proper rear-end protection, this accident would not have occurred. The passenger train was being operated at a speed of at least 12 miles per hour even though the engine crew could see only about 100 feet ahead; when the engineman and the

fireman first saw the train ahead the rear end of the caboose was not much more than 100 feet from the pilot of their engine. If this train had been operated at a speed low enough to enable it to stop short of an obstruction, this accident would not have occurred.

Cause

It is found that this accident was caused by failure to furnish proper flag protection for the preceding train and by failure to control speed of the following train properly while moving within yard limits.

Dated at Washington, D. C., this fifth day of February, 1941.

By the Commission, Commissioner Patterson.

(SIAL)

W. P. BARTEL,

Secretary.