INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2899

PORTLAND ELECTRIC POWER COMPANY

REPORT IN RE ACCIDENT

NEAR EAST PORTLAND, OREG., ON

JUNE 14, 1945

SUMMARY

Railroad:	Portland Electric Power Company	
Date:	June 14, 1945	
Location:	East Portland, Oreg.	
Kind of accident:	Head-end collision	
Trains involved:	Passenger	: Freight
Train numbers:	36	: Extra 1405 North
Engine numbers:	Electric motor-car 1098	: Electric engines 1405-1408
Consist:	Motor-car	: 8 cars, caboose
Estimated speed:	20 m. p. h.	: 5 m. p. h.
Operation:	Signal indications	
Track:	Single; 2° curve; practically level	
Weather:	Clear	
Time:	5:30 p. m.	
Casualties:	58 injured	
Cause:	Failure to obey block signal indication	

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2899

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

PORTLAND ELECTRIC POWER COMPANY

September 6, 1945.

Accident near East Portland, Oreg., on June 14, 1945, caused by failure to obey a block signal indication.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On June 14, 1945, there was a head-end collision between a passenger train and a freight train on the line of the Portland Electric Power Company near East Portland, Oreg., which resulted in the injury of 57 passengers and 1 employee. This accident was investigated in conjunction with a representative of the Public Utilities Commissioner of Oregon.

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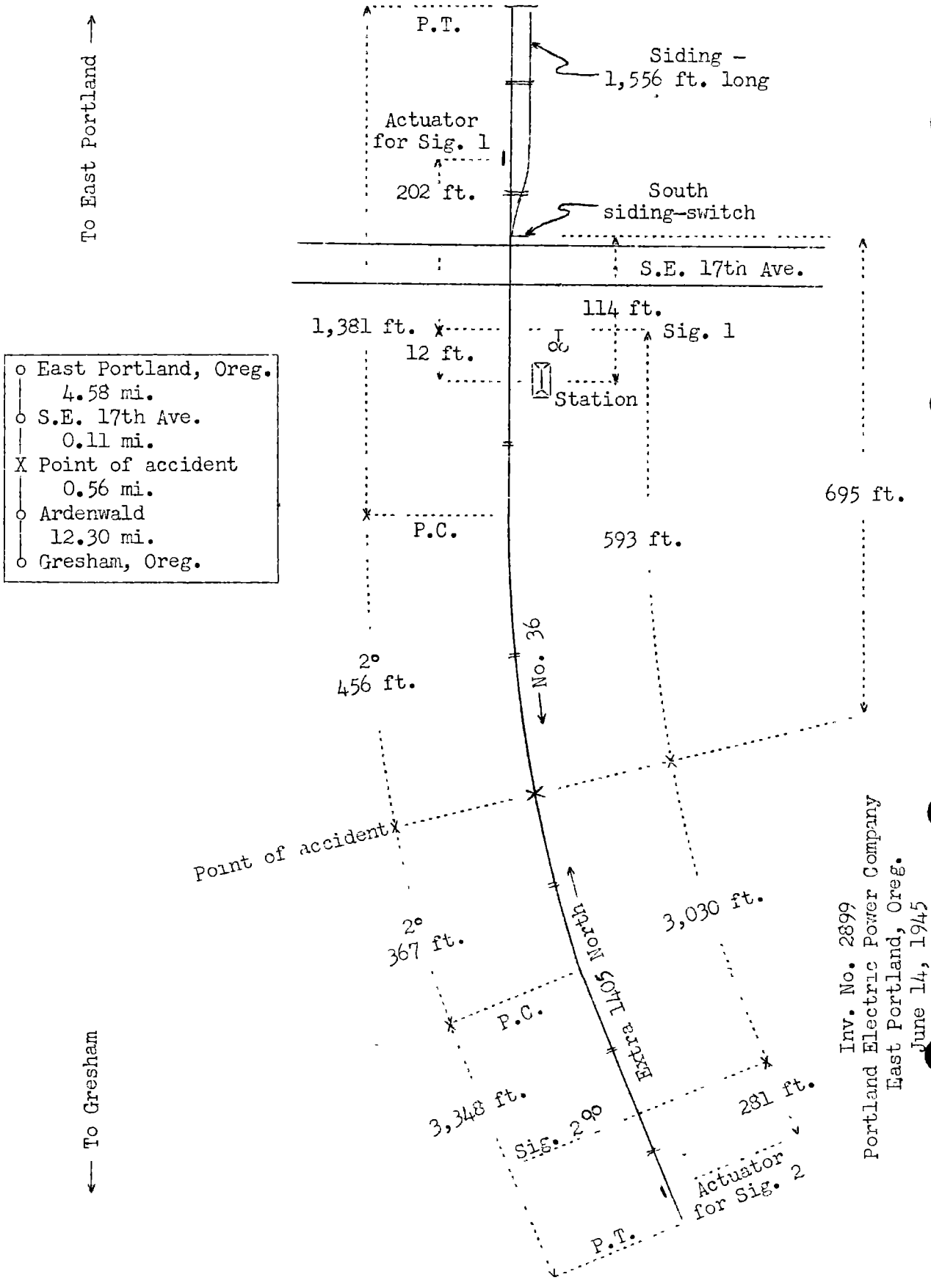
[1]Under autnority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Inv. No. 2899
Portland Electric Power Company
East Portland, Oreg.
June 14, 1945

Location of Accident and Method of Operation

This accident occurred on that part of the railroad extending southward from East Portland to Gresham, Oreg., 17.55 miles. Between S.E. 17th Ave., 4.58 miles south of East Portland, and Gresham this is a single-track line, equipped with an overhead trolley system for the electric propulsion of trains, over which trains are operated by signal indications. At S.E. 17th Ave., a siding 1,556 feet in length parallels the main track on the east. The south switch of this siding is 114 feet north of the station. The accident occurred on the main track 695 feet south of the south siding-switch. From the north there is a tangent 1,381 feet in length, which is followed by a 2° curve to the left 456 feet to the point of accident and 367 feet southward. From the south there is a tangent 3,348 feet in length, which is followed by the curve on which the accident occurred. The grade is practically level.

Signals 1 and 2, governing movements between S.E. 17th Ave. and Ardenwald, 0.67 mile south of S.E. 17th Ave., are, respectively, 593 feet north and 3,030 feet south of the point of accident. Signal 1 is at the north end and signal 2 at the south end of the block involved. These signals are of the combination color-light and disk-semaphore type, and are mounted on poles about 12 feet above the rails and to the left of the track in the direction of movement. The automatic block-signal system is so arranged that when a north-bound train passes a point 281 feet south of signal 2 the trolley of the electric engine or motor car engages an actuator and, if the block is unoccupied, signal 1 will display a red light and a red semaphore and signal 2 will display a yellow light and a yellow semaphore. When a south-bound train passes a point 202 feet north of signal 1 the trolley engages an actuator and, if the block is unoccupied, signal 2 will display a red light and a red semaphore and signal 1 will display a yellow light and a yellow semaphore. When the block between the actuating points is unoccupied no light or semaphore is displayed by either signal.

Operating rules read in part as follows:

INDICATION OF SIGNALS.

Normal.--When no light or signal blade appear.

Stop.--When red light, or red signal blade, or yellow light, or yellow signal blade is displayed, before train takes the block.

Proceed.--When signal indicates normal position, trains may proceed to block switch, and if their train, turns the yellow signals, it indicates proceed.

181. When track between block signals is clear there will be no signal blades or lights showing. One yellow light, or one yellow signal blade, or both, indicate that a train has entered the block going in the same direction. One red light, or one red signal blade, or both, indicate a train in the block, approaching from the opposite direction.

182. Trains taking the block will enter block limits only, when signals indicate that track is clear.

Yellow, the "proceed" signal, must be obtained and cut in, by train entering the block. * * *

183. Red or yellow signals set by another train indicate that all other trains must stay out of block limits until signal is released to normal position.

186. Before entering any block limits, motormen and conductors must know that signals are right for them to take the block, and must watch closely and see that their trolley sets the signal yellow.

* * *

The maximum authorized speed for all trains is 20 miles per hour.

Description of Accident

Extra 1405 North, a north-bound freight train, consisting of electric engines 1405 and 1408, 8 cars and a caboose, in the order named, passed Ardenwald about 5:27 p. m., passed signal 2, which displayed proceed, and while moving at an estimated speed of 5 miles per hour it collided with No. 36 at a point 3,030 feet north of signal 2.

No. 36, a south-bound passenger train, consisted of electric-motor passenger-car 1098. This train departed from East Portland, the last open office, at 5:21 p. m., on time, stopped short of the street crossing at S.E. 17th Ave. to permit vehicular traffic to pass, then proceeded, passed signal 1, which displayed stop, stopped at the station at S.E. 17th Ave., located 12 feet south of signal 1, and departed about 5:30 p. m. While this train was moving at an estimated speed of 20 miles per hour it collided with Extra 1405 North at a point 593 feet south of signal 1.

The force of the impact crushed the front end of motor-car 1098 inward about 3 feet, and the car was moved northward

about 100 feet. The front end of electric engine 1405 was considerably damaged.

The weather was clear at the time of the accident, which occurred about 5:30 p. m.

The motorman of No. 36 was injured.

Discussion

The rules governing operation in the signal indication territory involved provide that before a train enters a block it first must be ascertained that the block is clear. Normally no signal light or semaphore is displayed. Each movement must be governed in accordance with the indication displayed by the signal after the trolley has been in contact with the actuator, which is located in approach of the signal. If the block is unoccupied, the signal governing entrance to the block will then display a yellow semaphore and a yellow light, and the signal at the opposite end of the block will display a red semaphore and a red light for opposing movements, and these indications will be displayed until the trolley of the train using the block has been in contact with the actuator located at the opposite end of the block. When a signal displays a yellow semaphore and a yellow light after the trolley has been in contact with the actuator, the train may proceed. A train approaching a signal displaying a red semaphore and a red light must stop short of the clearance point of the switch to be used by the opposing train to enter the siding.

As Extra 1405 South was approaching signal 2, located 3,030 feet south of the point where the accident occurred, the speed was about 20 miles per hour. The motorman and the conductor were maintaining a lookout ahead from the control compartment of the first engine. The brakes of this train had functioned properly at all points where used en route. When this train approached signal 2, no light or semaphore was displayed. When the trolley of the first engine engaged the actuator for signal 2, the signal displayed a yellow semaphore and a yellow light. This indication authorized Extra 1405 to enter the block and to proceed to S.E. 17th Ave. The first the motorman and the conductor knew of anything being wrong was when they saw No. 36 approaching a short distance away. Then the motorman moved the brake valve to emergency position and reversed the motors. The speed of Extra 1405 was about 5 miles per hour when the collision occurred.

The crew of No. 36 consisted of only a motorman, who was in the control compartment in the front end of the motor passenger-car. In addition to the duty of controlling the movement of the car, the motorman also was required to collect

tickets and cash fares from the passengers. The motorman understood that, under the rules, he was required to observe the indication displayed by signal 1, and that the movement of his train south of this point was required to be controlled in accordance with the indication displayed by the signal. However, as the train was approaching signal 1 he was engaged in stopping the motor-car north of the street crossing at S.E. 17th Ave. in compliance with city regulations, and because of these conditions he did not observe the indication displayed by signal 1. Soon after No. 36 departed from the station at S.E. 17th Ave., located 114 feet south of the crossing and 12 feet south of signal 1, a speed of about 20 miles per hour was attained. The motorman was not aware that the block was occupied by the opposing train until he saw the freight train only a few feet distant. The collision occurred before he could take effective action to stop his train. In tests after the accident the signals involved functioned properly.

Cause

It is found that this accident was caused by failure to obey a block signal indication.

Dated at Washington, D. C., this sixth day of September, 1945.

By the Commission, Commissioner Patterson.

W. P. BARTEL,
Secretary.

(SEAL)