

INTERSTATE COMMERCE COMMISSION

WASHINGTON

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INVESTIGATION NO. 2897

SPOKANE, PORTLAND AND SEATTLE RAILWAY COMPANY

REPORT IN RE ACCIDENT

AT WILLBRIDGE OREG., ON

JUNE 10. 1945

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SUMMARY

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Railroad: Spokane, Portland and Seattle  
Date: June 10, 1945  
Location: Willbridge, Oreg.  
Kind of accident: Side collision  
Trains involved: S. P. & S. : G. N. freight  
passenger  
Train numbers: 21 : Extra 3251 West  
Engine numbers: 150 : 3251  
Consist: 5 cars : 10 cars, caboose  
Estimated speed: 8 m. p. h. : 5 m. p. h.  
Operation: Interlocking  
Track: Single; tangent; : Double; 3<sup>o</sup> curve;  
0.5 percent as- 0.5 percent de-  
cending grade scending grade  
westward westward  
Weather: Clear  
Time: 8:14 a. m.  
Casualties: 34 injured  
Cause: Failure to operate Extra 3251 West  
in accordance with interlocking  
signal indications

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 2897

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

SPOKANE, PORTLAND AND SEATTLE RAILWAY COMPANY

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July 25, 1945.

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Accident at Willbridge, Oreg., on June 10, 1945, caused  
by failure to operate Extra 3251 West in accordance  
with interlocking signal indications.

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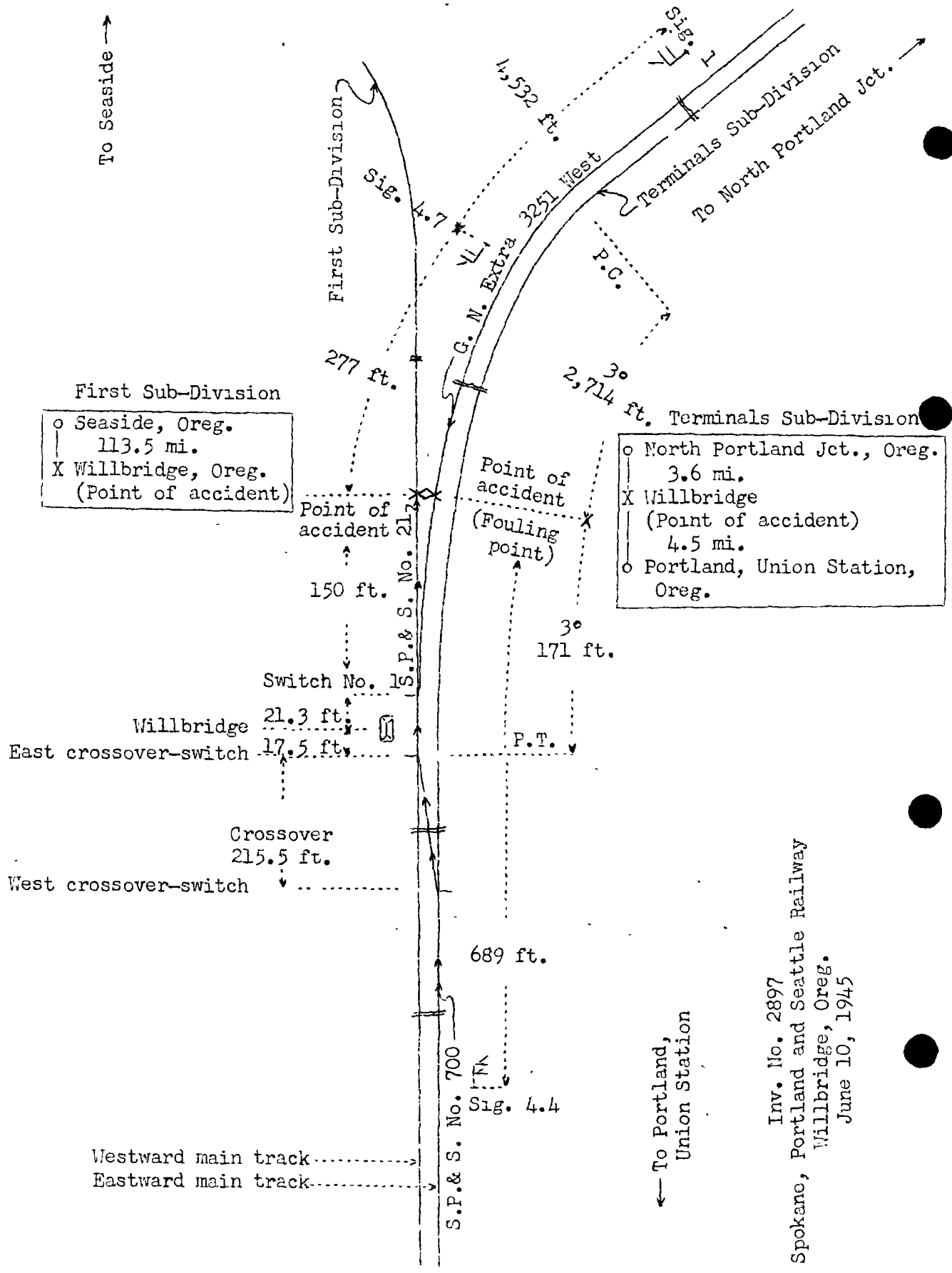
REPORT OF THE COMMISSION<sup>1</sup>

PATTERSON, Commissioner:

On June 10, 1945, there was a side collision between a Spokane, Portland and Seattle Railway passenger train and a Great Northern Railway freight train on the line of the Spokane, Portland and Seattle Railway at Willbridge, Oreg., which resulted in the injury of 28 passengers, 1 railway-mail clerk, 1 porter, 1 dining-car employee and 3 train-service employees. This accident was investigated in conjunction with a representative of the Public Utilities Commissioner of Oregon.

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<sup>1</sup>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.



First Sub-Division

o Seaside, Oreg.
113.5 mi.
X Willbridge, Oreg.
(Point of accident)

Terminals Sub-Division

o North Portland Jct., Oreg.
3.6 mi.
X Willbridge
(Point of accident)
4.5 mi.
o Portland, Union Station, Oreg.

Inv. No. 2897  
 Spokane, Portland and Seattle Railway  
 Willbridge, Oreg.  
 June 10, 1945

← To Portland,  
 Union Station

Location of Accident and Method of Operation

This accident occurred on the First Sub-Division, which extends northwestward from Willbridge to Seaside, Oreg., 113.5 miles, a single-track line, and on that part of the Terminals Sub-Division extending southwestward from North Portland Jct. to Portland Union Station, Oreg., 8.1 miles, a double-track line. Trains of the Great Northern Railway are regularly operated over the Terminals Sub-Division. According to time-table directions, trains moving from Willbridge to Seaside are west-bound, and trains moving from North Portland Jct. to Portland Union Station are west-bound. Hereinafter, time-table directions will be used in this report. Within interlocking limits at Willbridge the line of the First Sub-Division converges with the westward main track of the Terminals Sub-Division. The switch which connects these tracks is 21.3 feet east of the tower, and is hereinafter referred to as switch No. 1. A facing-point crossover 215.5 feet long connects the eastward and westward main tracks of the Terminals Sub-Division. The east switch of the crossover is 17.5 feet west of the tower. Switch No. 1 and both switches of the crossover are hand-operated, and are in the charge of the operator at Willbridge. The accident occurred within interlocking limits 188.8 feet east of the tower, at the fouling point of the westward main track and the turnout of switch No. 1. On the First Sub-Division the main track is tangent 150 feet from switch No. 1 to the point of accident and some distance westward. The grade is 0.5 percent ascending westward. From the east on the Terminals Sub-Division there is a 3° curve to the left 2,714 feet to the point of accident and 171 feet westward. The grade on this line is 0.5 percent descending westward.

Interlocking home signal 4.4, governing movements from the eastward to the westward main tracks through the crossover and thence through switch No. 1 to the First Sub-Division, is 689 feet west of the point of accident. Semiautomatic signal 1 and interlocking home signal 4.7, governing west-bound movements on the westward main track of the Terminals Sub-Division, are respectively, 4,809 feet and 277 feet east of the point of accident. These signals are of the two-arm, upper-quadrant, semaphore type. The involved day aspects and corresponding indications and names of these signals are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
4.4	Upper arm, horizontal. Lower arm, 45 degrees.	Proceed at slow speed on diverging route.	Approach diverg- ing route signal.
1	Upper arm, 45 degrees. Lower arm, horizontal.	Proceed preparing to stop at next signal. Train exceeding med- ium speed must at once reduce to that speed.	Approach signal.
4.7	Both arms, horizontal.	Stop.	Stop signal.

The controlling circuits are so arranged that when the route is lined for movement through the crossover from the eastward to the westward main tracks and thence through switch No. 1 to the First Sub-Division, signal 4.4 will display proceed-at-slow-speed-on-diverging-route, signal 1 will display proceed-preparing-to-stop-at-next-signal and signal 4.7 will display stop.

Operating rules read in part as follows:

DEFINITIONS.

\* \* \*

Medium Speed.--A speed not exceeding thirty (30) miles per hour.

Slow Speed.--A speed not exceeding fifteen (15) miles per hour.

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34. All members of train and engine crews must, when practicable, communicate to each other by its name, the indication of each signal affecting the movement of their train or engine.

668. A train or engine approaching a signal displaying a Stop-indication shall stop before the leading wheels pass the signal.

The maximum authorized speed for the passenger train through the crossover and switch No. 1 was 15 miles per hour, and for freight trains in the territory involved, 40 miles per hour.

### Description of Accident

No. 700, an east-bound S.P. & S. first-class passenger train, scheduled from Portland Union Station to Willbridge on the Terminals Sub-Division, and No. 21, a west-bound S.P. & S. first-class passenger train, scheduled from Willbridge to Seaside on the First Sub-Division, consisted of engine 150, two baggage-mail cars, two coaches and one parlor car, in the order named. All cars were of steel-underframe construction. This equipment, representing the schedule of No. 700, passed signal 4.4, which displayed proceed-at-slow-speed-on-diverging-route, and proceeded from the eastward to the westward main track through the crossover. The engine passed the tower at Willbridge at 8:14 a. m., 4 minutes late. Willbridge was the initial station of the schedule of No. 21. No. 21 was moving on the turnout of switch No. 1 at an estimated speed of 8 miles per hour when the second car was struck by G. N. Extra 3251 West at the fouling point of the turnout and the westward main track.

Extra 3251 West, a west-bound G. N. freight train, consisting of engine 3251, 10 loaded cars and a caboose, departed from North Portland Jct. at 8:09 a. m., passed signal 1, which displayed proceed-preparing-to-stop-at-next-signal, passed signal 4.7, which displayed stop, and while moving at an estimated speed of 5 miles per hour it struck No. 21 at a point 277 feet west of signal 4.7.

The right side of the second car of No. 21 was crushed inward throughout a distance of 24 feet at the rear. The third car was overturned to the left, stopped north of the main tracks and parallel to them at a point about 10 feet west of the point of impact, and was badly damaged. The fourth car was derailed, but remained upright and in line with the track. The front vestibule was demolished and the underframe was broken. The fifth car was slightly damaged. Engine 3251 was derailed to the left and stopped between the main tracks and leaned to the left at an angle of 45 degrees. The front end was badly damaged. The front truck of the first car of Extra 3251 was derailed.

It was clear at the time of the accident, which occurred about 8:14 a. m.

The front brakeman and the flagman of No. 21, and the fireman of Extra 3251 were injured.

### Discussion

About 8:10 a. m., the operator at Willbridge lined the route for No. 700 to proceed from the eastward main track of the Terminals Sub-Division through the crossover to the westward main track, and then to proceed as No. 21 through switch No. 1 westward on the First Sub-Division. Signal 4.4 displayed

proceed-at-slow-speed-on-diverging-route for No. 700, and signal 1 displayed proceed-preparing-to-stop-at-next-signal and signal 4.7 displayed stop for Extra 3251 West.

As No. 700 was approaching Willbridge the enginemen were maintaining a lookout ahead. When the engine was in the vicinity of signal 4.4 the speed of No. 700 was about 8 miles per hour. As the engine was entering the west crossover-switch the operator delivered to the fireman and the front brakeman copies of Clearance Form A, which authorized No. 21 to proceed on the First Sub-Division. When the engine entered switch No. 1 the engineer saw Extra 3251 West pass signal 4.7 at a speed which he estimated as about 25 miles per hour, and immediately afterward the collision occurred.

As Extra 3251 West was approaching Willbridge the enginemen and the front brakeman were maintaining a lookout ahead. Brake pipe pressure of 70 pounds was being maintained. When the engine was in the vicinity of signal 1 the employees on the engine called the indication displayed by this signal. This indication required the speed to be so controlled that the train could be stopped short of the next signal, which was signal 4.7. Because of the curve to the left and trees adjacent to the track, the view of signal 4.7 from the left side of the engine was restricted to 1,301 feet and from the right side to 428 feet. Immediately after the fireman saw the stop indication displayed by signal 4.7, he called the indication to the engineer. The engineer said he immediately made a 20-pound brake-pipe reduction. He estimated that his engine was about 850 feet east of this signal when the fireman called the indication. Soon afterward the fireman called a warning to the engineer, who then placed the brake valve in emergency position. However, Extra 3251 passed signal 4.7 and struck No. 21 at a point 277 feet west of signal 4.7. The brakes of this train had been tested and functioned properly en route. The engineer of Extra 3251 said that he had underestimated the speed of his train as it approached signal 4.7.

#### Cause

It is found that this accident was caused by failure to operate Extra 3251 West in accordance with interlocking signal indications.

Dated at Washington, D. C., this twenty-fifth day of July, 1945.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.