INTERSTATE COMMERCE COMMISSION

WASHINGTON

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INVESTIGATION NO. 2968

UNION PACIFIC RAILROAD COMPANY

REPORT IN RE ACCIDENT

NEAR CONWAY, OREG., ON

JANUARY 19, 1946

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SUMMARY

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| Railroad: | Union Pacific |
| Date: | January 19, 1946 |
| Location: | Conway, Oreg. |
| Kind of accident: | Derailment |
| Train involved: | Passenger |
| Train number: | 25 |
| Engine number: | 3829 |
| Consist: | 15 cars |
| Speed: | In excess of 60 m. p. h. |
| Operation: | Signal indications |
| Track: | Single; 9° curve; 1.13 percent descending grade westward |
| Weather: | Cloudy |
| Time: | 9:53 p. m. |
| Casualties: | 2 killed; 16 injured |
| Cause: | Excessive speed on sharp curve |

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 2968

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

UNION PACIFIC RAILROAD COMPANY

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February 25, 1946.

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Accident near Conway, Oreg., on January 19, 1946, caused by excessive speed on a sharp curve.

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REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On January 19, 1946, there was a derailment of a passenger train on the Union Pacific Railroad near Conway, Oreg., which resulted in the death of two train-service employees, and the injury of nine passengers, two railway mail clerks, one railway express employee, two baggagemen, one mail handler and one train-service employee.

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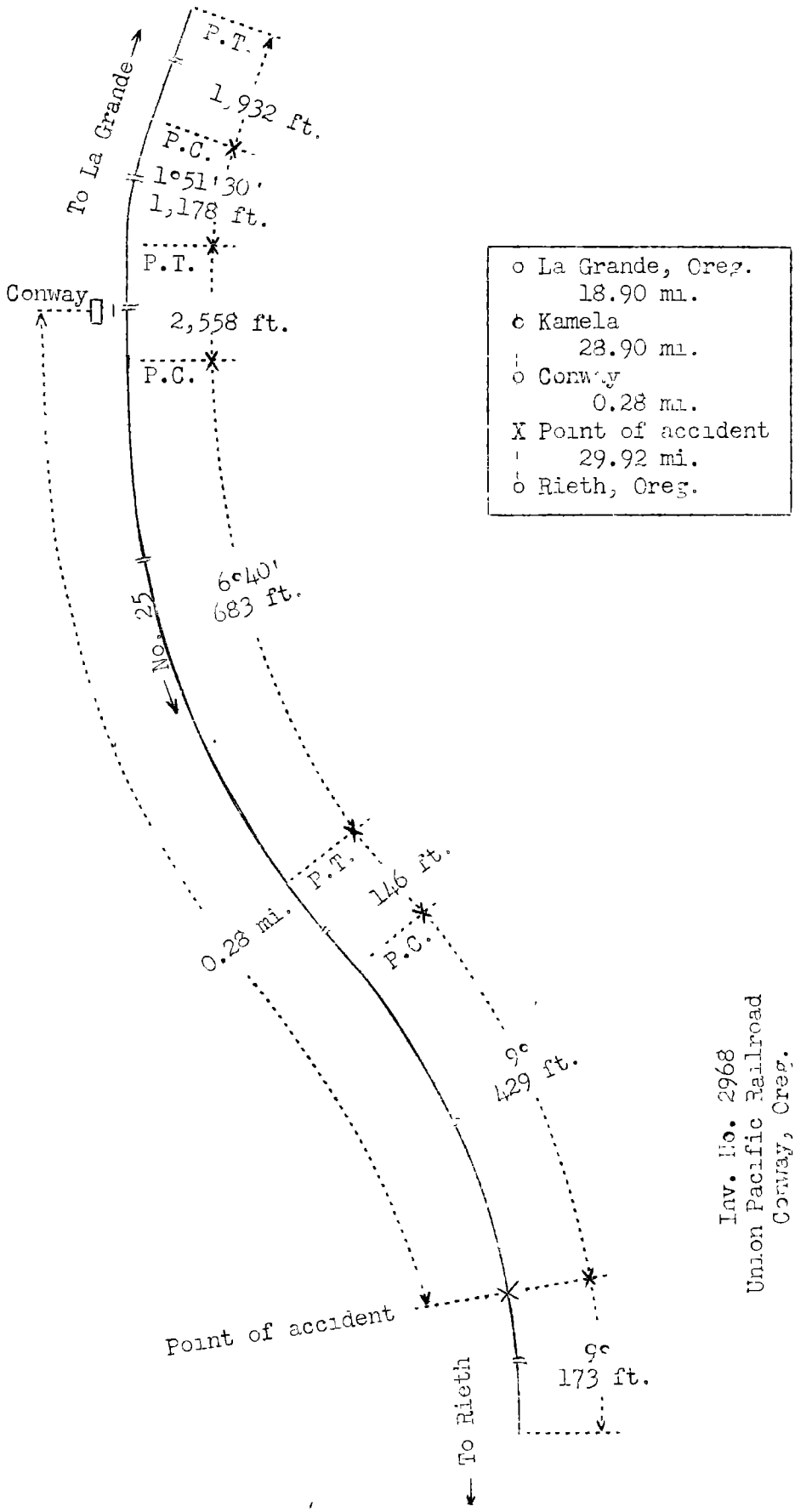
[1]Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.




Inv. No. 2968
Union Pacific Railroad
Conway, Oreg.
January 19, 1946

## Location of Accident and Method of Operation

This accident occurred on that part of the Oregon Division extending between La Grande and Rieth, Oreg., 78 miles, a single-track line in the vicinity of the point of accident over which trains are operated by signal indications. The accident occurred on the main track 48.08 miles west of La Grande, at a point 0.28 mile west of the station at Conway. From the east there are, in succession, a tangent 1,932 feet in length, a 1°51'30" curve to the left 1,178 feet, a tangent 2,558 feet, a 6°40' curve to the left 683 feet, a tangent 146 feet and a 9°00' curve to the right 429 feet to the point of accident and 173 feet westward. The grade for west-bound trains varies between 0.74 percent and 1.34 percent descending about 4 miles, then it is 1.13 percent descending 101 feet to the point of accident and 729 feet westward.

On the curve on which the accident occurred, the track structure consists of 131-pound rail, 39 feet in length, laid new in November, 1945, on 22 treated ties to the rail length. It is fully tieplated, double spiked, provided with 6-hole angle bars, 12 rail anchors and 6 gage rods per rail length, and is ballasted with gravel to a depth of about 8 inches. The maximum superelevation on the curve was 5-3/8 inches, and the gage varied between 4 feet 8-5/16 inches and 4 feet 8-9/16 inches. At the point of derailment the superelevation was 4-3/8 inches, and the gage was 4 feet 8-5/16 inches.

Special instructions prescribe the maximum authorized speed for the train involved as 35 miles per hour on curves of 5° to 6°, 30 miles per hour on curves of 7° to 8°, and 25 miles per hour on curves of 9° to 10°. Signs indicating the degree of curvature are located adjacent to the ends of each curve in this territory. On tangent track and on curves of less than 3° the maximum authorized speed for the train involved was 55 miles per hour.

## Description of Accident

No. 25, a west-bound first-class passenger train, consisted of engine 3829, two mail cars, three baggage cars, six coaches, one dining car and three Pullman sleeping cars, in the order named. All cars were of steel construction. This train departed from Kamela, the last open office, 28.9 miles east of Conway, at 8:54 p. m., 33 minutes late, passed Conway and while it was moving at a speed in excess of 60 miles per hour the engine and the first six cars were derailed.

The engine and tender stopped on their left sides, south of the track and practically parallel to it, with the front end of the engine 293 feet west of the point of derailment. The first car, which became separated from the tender and the second car, stopped practically upright, south of the track and

opposite the engine. The second to the sixth cars, inclusive, stopped practically upright, north of the track and practically in line with it, with the front end of the second car 428 feet west of the point of derailment. The engine, the tender and the first car were badly damaged. The remainder of the derailed equipment was more or less damaged

The weather was cloudy at the time of the accident, which occurred about 9:53 p. m.

The engineer and the fireman were killed, and a student engineer who was on the engine was injured.

Engine 3829 is a single expansion articulated engine of the 4-6-6-4 type. The total weight of the engine in working order is 584,950 pounds, distributed as follows: Engine truck, 82,390 pounds; driving wheels, 407,340 pounds; and trailer truck, 95,220 pounds. The specified diameters of the engine-truck wheels, the driving wheels, the No. 1 and the No. 2 trailer-truck wheels are, respectively, 33, 69, 36 and 45 inches. The wheelbase of each driving unit is 12 feet 2 inches long. The distance between the center of the engine truck and the centers of the No. 1 driving wheels is 7 feet 10 inches. The distance between the two driving-wheel units is 10 feet 9 inches. The total length of the engine wheelbase is 59 feet 11 inches, and the total length of the engine and tender is 110 feet 7-1/8 inches. The tender is semi-cylindrical in shape, and is equipped with two 6-wheel trucks. Its capacity is 6,000 gallons of fuel oil and 18,106 gallons of water. The weight of the tender loaded is 322,600 pounds. The center of gravity of the engine is 80.2 inches above the tops of the rails and the center of gravity of the tender when fully loaded is 80 inches above the tops of the rails. The engine is provided with No. 8-ET brake equipment.

## Discussion

No. 25 had just traversed a 6°40' curve to the left and was moving on a 9° curve to the right when the engine and the first six cars were derailed. The engine overturned to the left and stopped 293 feet beyond the point of derailment. The maximum authorized speed on the curve was 25 miles per hour.

There was no defective condition of the engine prior to the accident. There was no indication of dragging equipment, defective track, or of any obstruction having been on the track. Examination of the engine after the accident disclosed that the automatic brake valve was in emergency position, the throttle lever was in drifting position and the reverse lever was latched on the quadrant in about 25 percent cut-off position. There was no condition found that would prevent the proper application of the train brakes.

The engineer and the fireman were killed in the accident. A student engineer, who was on the engine, said that the brakes of this train had functioned properly at all points where used en route. The engine had been riding smoothly prior to the derailment. The student engineer did not observe whether the engineer moved the brake valve to emergency position prior to the derailment. He thought the speed of the train was being properly controlled in accordance with the speed restrictions for the curves in this territory. He was not aware of anything being wrong until the engine suddenly lurched to the left, then the derailment occurred. The conductor and the assistant conductor were in the seventh car, the front brakeman was in the eighth car and the flagman was in the rear car. These employees said that the cars had been riding smoothly, and the first they were aware of anything being wrong was when the brakes were applied in emergency immediately prior to the derailment. The conductor estimated the speed of the train as about 55 miles per hour when a service brake application was made a few seconds prior to the time the brakes were applied in emergency.

The surface, alinement and gage of the track were well maintained for the maximum authorized speed of 25 miles per hour. The division superintendent said that the overturning speed at the point of derailment for engine 3829 was 63 miles per hour. It appears that the train was moving at overturning speed, as the engine overturned to the outside of the curve without marking the rails, and slid on its left side to the point where it stopped.

## Cause

It is found that this accident was caused by excessive speed on a sharp curve.

Dated at Washington, D. C., this twenty-fifth day of February, 1946.

By the Commission, Commissioner Patterson.

W. P. BARTEL,
Secretary.

(SEAL)