INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3342

SPOKANE, PORTLAND AND SEATTLE
RAILWAY COMPANY

IN RE ACCIDENT

NEAR GATEWAY, OREG., ON

JULY 20, 1950

SUMMARY

Date:	July 20, 1950	
Railroad:	Spokane, Portland and Seattle	
Location:	Gateway, Oreg.	
Kind of accident:	Head-end collision	
Equipment involved:	Maintenance-of-way service train	Track ballaster R-15, track motor cars and push cars
Train number:	Work Extra 551	
Engine number:	551	
Consist:	9 cars, caboose	
Estimated speeds:	25 m. p. h.	Standing
Operation:	Timetable and train orders	
Track:	Single; 6° curve; 1.38 percent descending grade westward	
Weather:	Clear	
Time:	1:20 p. m.	
Casualties:	1 killed; 24 injured	
Cause:	Failure to provide adequate protection for movement of track motor-cars	
Recommendation:	That the Spokane, Portland and Seattle Railway Company provide adequate protection for movement of track motor-cars on its line	

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3342

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

SPOKANE, PORTLAND AND SEATTLE RAILWAY COMPANY

September 5, 1950

Accident near Gateway, Oreg., on July 20, 1950, caused by failure to provide adequate protection for the movement of track motor-cars.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On July 20, 1950, there was a head-end collision between a maintenance-of-way service train and a track ballaster on the Spokane, Portland and Seattle Railway near Gateway, Oreg., which resulted in the death of 1 and the injury of 24 maintenance-of-way employees.

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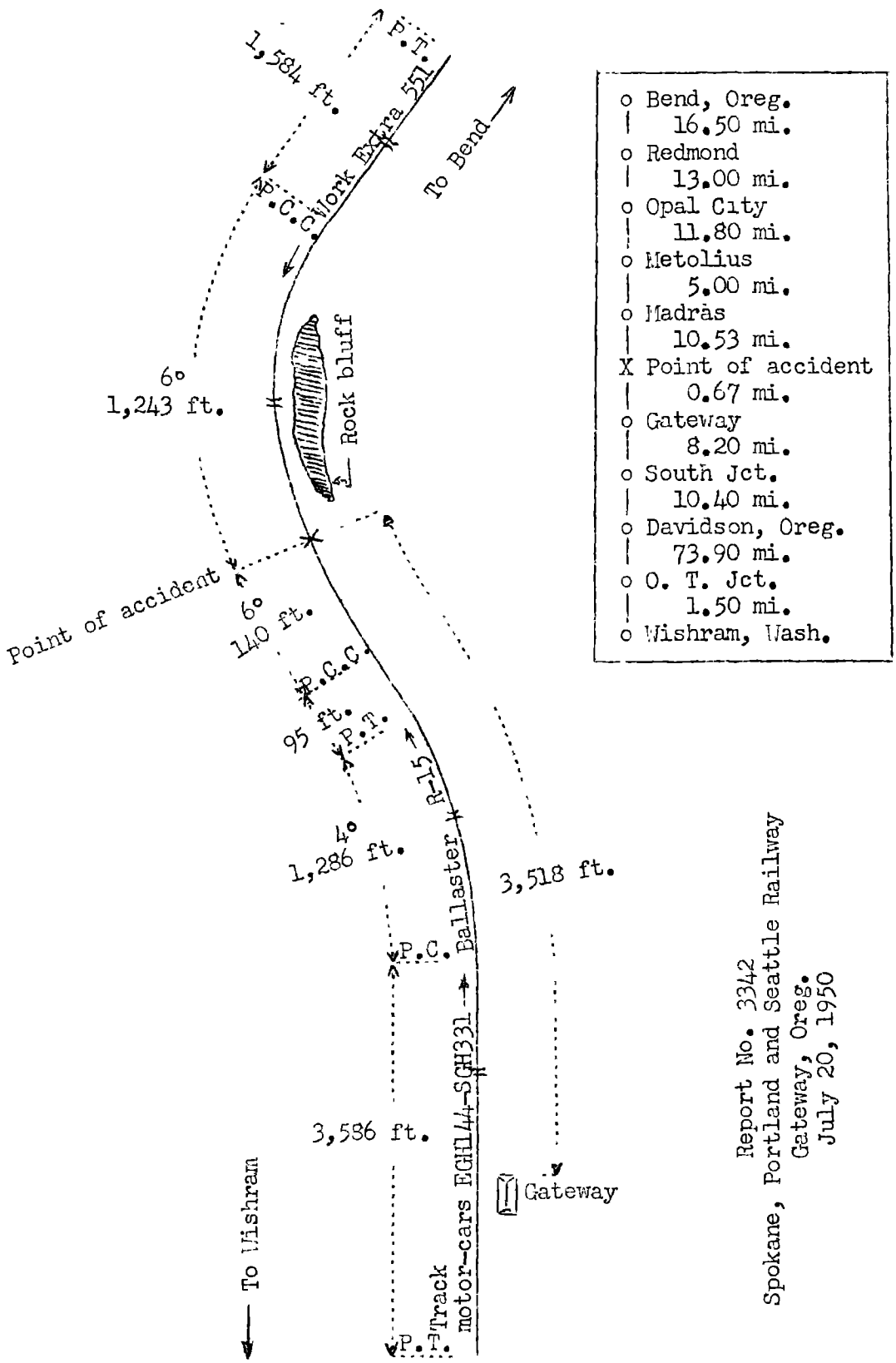
[1] Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Report No. 3342
Spokane, Portland and Seattle Railway
Gateway, Oreg.
July 20, 1950

Location of Accident and Method of Operation

This accident occurred on that part of the Spokane, Portland and Seattle Railway designated as the Oregon Trunk Railway and extending between Bend, Oreg., and Wishram, Wash., 151.5 miles. In the vicinity of the point of accident this is a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. The accident occurred on the main track at a point 66.85 miles west of Bend and 3,518 feet east of the station at Gateway. From the east there are, in succession, a tangent 1,584 feet in length and a compound curve to the left, having a maximum curvature of 6°, 1,243 feet to the point of accident and 140 feet westward. From the west there are, in succession, a tangent 5,586 feet in length, a 4° curve to the left 1,286 feet, a tangent 95 feet and the curve on which the accident occurred. The grade for west-bound trains varies between 1.26 percent and 1.5 percent descending throughout a distance of about 2,800 feet east of the point of accident, and is 1.38 percent descending westward at that point.

In the vicinity of the point of accident the track is laid on a side-hill cut. The wall of the cut is a rock bluff that rises to a height of about 60 feet above the level of the track and extends throughout a distance of 500 feet along the inner side of the curve on which the accident occurred.

This carrier's operating rules read in part as follows:

14. ENGINE WHISTLE SIGNALS.

* * *

The signals prescribed are illustrated by "o" for short sounds; "___" for longer sounds. * * *

* * *

Sound	Indication
* * *	
(1) ___ ___ o ___	Approaching * * * obscured curves; also as frequently as necessary when moving in * * * obscured places to warn trackmen * * *.

* * *

The transportation, maintenance rules and general instructions for track and bridge and building foremen and employees of this carrier read in part as follows:

108. (M) In issuing line-up for foremen train dispatcher will list all trains on the road, ordered, or expected in the territory involved up to the time limit asked for, with information as to whether regular trains are late or on time, including sections, and for extra trains an approximate time at key stations. The period of time covered should be no longer than necessary. This information should be obtained from operator on duty in writing whenever possible. Foremen and others obtaining line-ups over phone from a designated operator or from the train dispatcher will acknowledge their understanding of the line-up by repeating and giving their name. They must read the line-up to members of their crew.

M 340. Definition--Motor, * * * and such other cars used in the Maintenance, Signal or Line Departments, the movement of which is not provided for by train order. Track equipment includes all mechanical machinery in use * * * in performance of work on * * * the track.

Special rules read in part as follows:

MOTOR CARS

2330. The person in charge of the operation of a motor car must keep in touch with train movements securing the necessary information from train dispatcher.

2331. Motor and push cars must not be placed on main tracks unless tracks are known to be clear or until proper lineup has first been received.

2332. Person in charge of motor car will be required at all times to keep himself informed as to train movements in the vicinity of their operation so as to avoid unnecessary hazards, from running * * * in the face of traffic. * * * They must protect themselves whenever and wherever necessary.

2345. Track cars loaded with * * * heavy material must not go on main track without flag protection.

2346. Operation of track cars on obscured curves, * * * must be properly protected by flag, unless the line is known to be clear of trains * * *.

The maximum authorized speed for the train was 25 miles per hour.

Description of Accident

Work Extra 551, a maintenance-of-way service train, consisted of engine 551, nine cars and a caboose. Engine 551 was headed east but moving in backward motion. At Metolius the crew received, among others, copies of train order No. 31, reading in part as follows:

ENG 551 WORKS EXTRA ELEVEN THIRTY 1130 AM UNTIL
NINE THIRTY 930 PM BETWEEN METOLIUS AND SOUTH JCT
* * *

Metolius and South Jct. are located, respectively, 15.53 miles east and 6.87 miles west of the point of accident. This train departed from Metolius at 12:30 p. m., passed Madras, the last open office, 11.2 miles east of Gateway, at 12:52 p. m., and while moving at an estimated speed of 25 miles per hour it collided with track ballaster R-15 at a point 5,518 feet east of the station at Gateway.

About 12:45 p. m. a line-up of train movements was transmitted by the operator at Davidson, 12.6 miles west of Gateway, to the timekeeper of the maintenance-of-way force at Gateway. It read as follows:

No 314 leave O.T. June 10:25 AM
Exa East, leave Wishram about 3:00 PM
No 313 by Davidson 12:15
Exa 535 West local, left Davidson 12:36 PM
Exa 530 West lcl, left Redmond 11:25
for Metolius
Exa 560 West lev Bend about 1:15 PM
BCX 38, Opal City & Redmond
551 Metolius & So Jct.
MROTAAT

The letters MROTAAT were used by the timekeeper to abbreviate the words: May run other trains at any time. Track ballaster R-15, coupled to and pushing two loaded push cars, occupied by a maintenance-of-way foreman and two employees, departed east-bound from Gateway about 1 p. m. It was followed closely by track motor-car EGH-144, two trailer cars and track motor-car SGH-331, coupled in the order named. The track motor-cars and trailers were occupied by an assistant maintenance-of-way foreman and 56 track employees. About 20 minutes later, while stopped on the main track, it was struck by Work Extra 551. The track ballaster was moved westward and it struck the following track motor-cars and trailers.

Work Extra 551 stopped with the front end of the train 858 feet west of the point of accident. The truck at the rear of the tender was derailed and turned at right angles to the track. The rivets of the truck-center casting were sheared off and the truck stopped under the center of the tender. The tender stopped with its west end on the platform of the track ballaster. Engine 551 was somewhat damaged. The track ballaster was not derailed. A container of gasoline to supply the ballasting equipment was carried on each push car. The gasoline became ignited and the track ballaster was badly damaged by fire as well as by the collision. The two push cars, track motor-car EGH-144 and two trailers were demolished, and track motor-car SGH-331 was derailed and somewhat damaged.

One employee on the track ballaster was killed, and 24 employees on the track motor-cars and trailers were injured.

The weather was clear at the time of the accident, which occurred about 1:20 p. m.

According to data furnished by the railroad, track ballaster R-15 was a self-propelled ballast-tamping machine. It was 16 feet 6 inches in length, 9 feet 1 inch wide and weighed 52,000 pounds in working order. It was mounted on four 20-inch flanged wheels for track movement, and had a wheelbase of 113 inches. A 100-horsepower gasoline engine provided power for propulsion and for operating the ballast-tamping machinery. The track ballaster could attain a maximum speed of 25 miles per hour moving forward or backward. It was equipped with air brakes and a hand brake. Power-operated jacks and power-driven transverse wheels were provided for removing the track ballaster from the track at prepared set-offs. The push cars weighed, respectively, 650 pounds and 840 pounds. Each was loaded with a portable air compressor, which weighed

1,125 pounds. Track motor cars EGH-144 and SGH-331 were of the 4-wheel type, equipped with 4-wheel brakes and were powered by 4-cylinder 31 horse-power gasoline motors. Each weighed 1,800 pounds and had seating capacity for eight persons. The trailers were of the 4-wheel type and each had seating capacity for 20 persons. The light weight of each of the trailers was 1,230 pounds.

During the 30-day period preceding the day of the accident the average daily movement in the vicinity of the point of accident was 9 trains.

Discussion

The rules of this carrier provide that before a track motor-car is placed on the main track the operator of the car must obtain a line-up of train movements. A line-up may be obtained directly from the operator at a designated station or by communicating by telephone with either the train dispatcher or an operator. The line-up must contain information whether regular trains, including sections, are on time or late and the approximate arriving time of extra trains at key stations. When received by telephone it first must be repeated and then must be read to all occupants of the track motor-car. The operators of track motor-cars are required to keep informed as to train movements in the vicinity of their operations. When a train is approaching a curve, the engine whistle must be sounded and repeated as often as is necessary to warn trackmen.

As Work Extra 551 was approaching the point where the accident occurred the speed was about 25 miles per hour. The engine of this train was headed eastward but it was moving westward in backward motion. The enginemen and the front brakeman were maintaining a lookout in the direction of movement from their respective positions in the cab of the engine. The conductor and the flagman were in the caboose. The brakes of this train had been tested and had functioned properly when used en route. No train order restricting the movement of Work Extra 551 with respect to track ballaster R-10 and the track motor-cars and trailers of the track force had been issued, and members of the crew of this train had not been informed that this equipment was occupying the main track. The accident occurred near the west end of a side-hill cut, the wall of which was a rock bluff rising to a height of about 60 feet on the south side of the track. Because of track curvature and the wall of the cut the engineer's view approaching the point of accident was restricted to about 350 feet. When the engineer observed the track ballaster occupying the main track he immediately initiated an emergency application of the brakes. The accident occurred before the speed of the train had been materially reduced.

About 15 minutes before the track ballaster departed from Gateway, a line-up of train movements was received by the timekeeper, who delivered it to the foreman. Among other things, the line-up contained the information that engine 551 was between Metolius and South Jct., points, respectively, 16.2 miles east and 8.2 miles west of Gateway. Neither the timekeeper nor the foreman read the line-up to members of the crew, and there was no discussion between them concerning its contents. About 1 p. m. the track ballaster, pushing two loaded push cars, departed east-bound from the siding at Gateway. It was followed at a distance of about 400 feet by the track motor-cars and trailers carrying the personnel of the track force. The track ballaster and the motor-cars and trailers proceeded eastward at a speed of about 3 or 4 miles per hour. The foreman was operating the track ballaster. Because of motor failure the track ballaster was stopped several times, and each time the track motor-cars and trailers were stopped behind it. When the ballaster reached a point 3,518 feet east of the station at Gateway it stopped again, and a few seconds later it was struck by Work Extra 551. The ballaster was moved westward and it collided with the track motor-cars and trailers that had stopped behind it.

The foreman said that when he read the line-up he overlooked the information that Work Extra 551 was between Metolius and South Jct. The foreman said there was an oral understanding with the conductor of the work extra and the roadmaster that he would be informed of the time that the work extra would leave Metolius to pass through the location where the track force was engaged in ballasting operations. He said that if he had been aware that Work Extra 551 was working between Metolius and South Jct. he either would have kept the equipment in the clear at Gateway until he knew it was safe to occupy the main track or would have sent a flagman eastward to protect the movement of the ballasting equipment. The conductor of the work extra and the roadmaster said they had no understanding with the foreman regarding the movement of the work extra. The conductor said that about a month before the accident occurred he had told the foreman that he would try to arrange the work so that it would not be necessary for the work extra to make more than one trip each day through the location where the track force was working.

In this territory track motor-cars and heavy self-propelled track-maintenance equipment are operated on the main track by line-ups. They are issued by the train dispatcher to designated offices regularly at 7 a. m., 12 noon,

and 3 p. m., and at any other time when requested. However, a line-up does not confer authority for a track motor-car or track equipment to occupy the main track. Train crews and the operators of track motor-cars or track equipment are not informed when a track motor-car or track equipment is occupying the main track. A line-up of train movements is issued as information only and foremen and others are required to provide the same degree of protection when they have a line-up as when they do not have it. In the instant case the line-up obtained by the timekeeper of the maintenance-of-way force at Gateway did not contain an approximate time of Work Extra 551 at any station within the working limits of that train. The line-up was issued by the dispatcher to the operator at Davidson at 11:51 a. m., and the operator at Davidson transmitted it to the timekeeper of the maintenance-of-way force at 12:45 p. m. No member of the crew of Work Extra 551 was informed that the track was occupied by the track-maintenance equipment. However, under these conditions, three units of track-maintenance equipment which weighed, respectively, 32,000 pounds, 1,965 pounds and 1,775 pounds, two track motor-cars, each of which weighed 1,800 pounds, and two trailers, each of which weighed 1,230 pounds were occupying the main track without protection, and 60 persons were riding on this equipment.

Since January 1, 1944, the Commission has investigated 29 collisions, including the present case, which were caused by failure to provide adequate protection for the movement of track motor-cars. In the present case, there were 25 casualties among the 60 persons on the track cars involved. In other cases also the casualties were high, 6 persons being killed in one accident, 5 killed in one accident, 4 killed in each of 3 accidents, and 3 killed in each of 5 accidents. The total number of occupants of the track cars involved in these 29 accidents was 246, and these accidents resulted in a total of 59 deaths and 101 injuries. In the present instance, the track cars were heavy and heavily loaded and could not be readily and quickly removed from the track. In 10 other cases investigated, the track car equipment also consisted of more than a single motor-car. In one case it consisted of 2 motor-cars and 8 trailers.

Cause

It is found that this accident was caused by failure to provide adequate protection for the movement of track motor-cars.

Recommendation

It is recommended that the Spokane, Portland and Seattle Railway Company provide adequate protection for the movement of track motor-cars on its line.

Dated at Washington, D. C., this fifth day of September, 1950.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.