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INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE  
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE  
WESTERN PACIFIC RAILROAD NEAR DAVID, CALIF., ON  
APRIL 19, 1931.

June 17, 1931.

To the Commission:

On April 19, 1931, there was a head-end collision between a freight train and a light engine on the Western Pacific Railroad near David, Calif., which resulted in the death of 1 employee, and the injury of 1 employee and 1 trespasser. This accident was investigated in conjunction with a representative of the Railroad Commission of California.

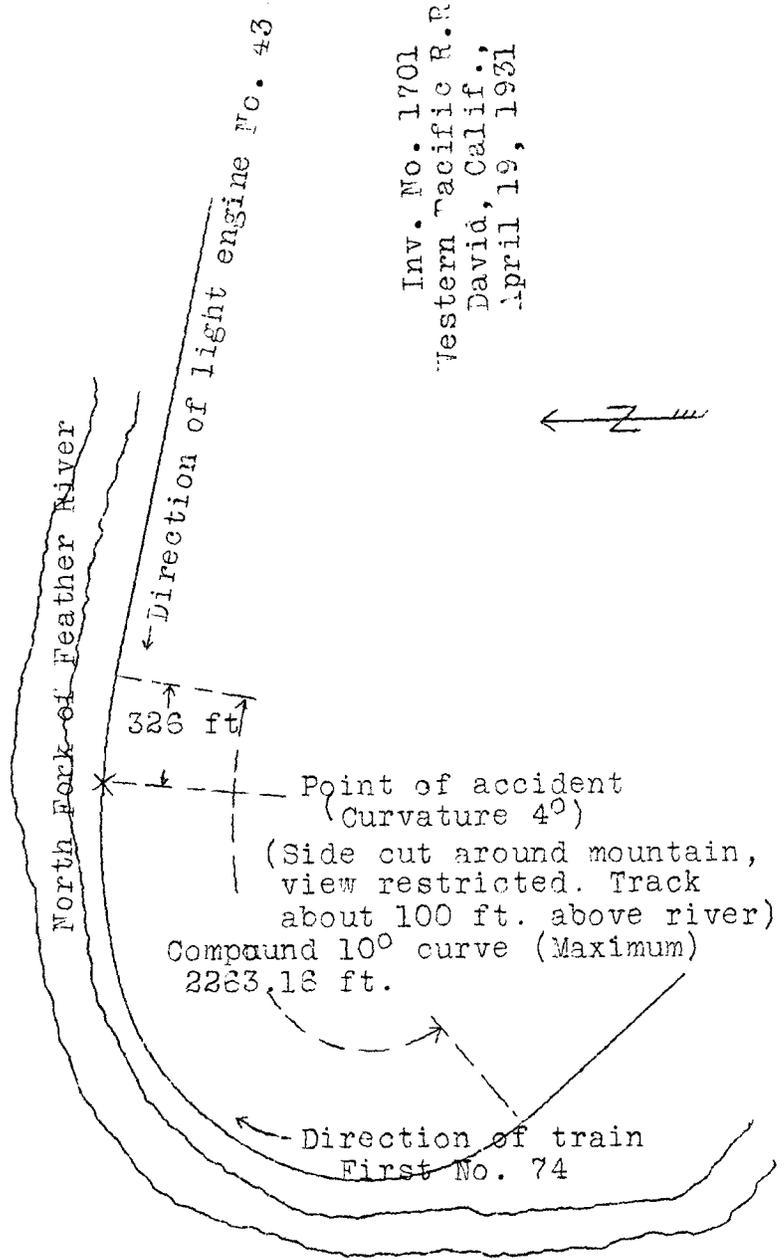
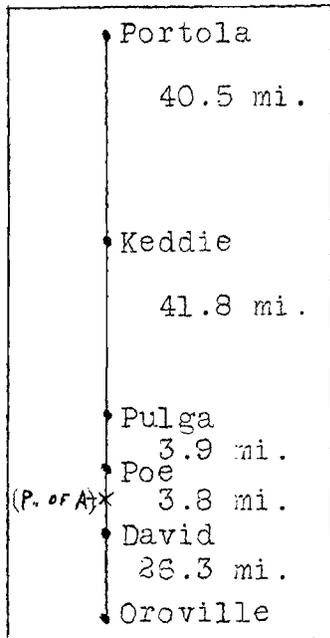
Location and method of operation

This accident occurred on the Third Subdivision of the Western Division, extending between Portola and Oroville, Calif., a distance of 116.3 miles; this is a single-track line over which trains are operated by time-table and train orders, no block-signal system being in use. The accident occurred at a point approximately 3,000 feet east of the east switch of the passing track at David; approaching the point of accident from either direction the track is composed of numerous short curves and tangents, the accident occurring on a compound curve 2,263.16 feet in length, with a maximum curvature of  $10^{\circ}$ ; this is a curve to the left for westbound trains and the accident occurred about 326 feet from its eastern end, at which point the curvature is  $4^{\circ}$ . The grade for westbound trains is 0.96 per cent descending.

In this vicinity the track is laid in a side cut around a mountain, the mountain being on the inside of the curve involved, while the track is about 100 feet above the North Fork of Feather River, which parallels it on the north. Owing to the mountain on the inside of the curve neither crew could see the opposing train until within about 200 feet of each other.

The weather was clear at the time of the accident, which occurred about 1.25 p.m.

Inv. No. 1701  
Western Pacific R.R.  
David, Calif.,  
April 19, 1931



Description

Westbound light engine 43, operating as an extra, was in charge of Engineman Calendar and Fireman Rafferty. On passing Keddie, 49.5 miles east of David, at 11.40 a.m., according to the train sheet, they received a copy of train order No. 236, Form 19, reading as follows:

FIRST 74 ENG 209 WAIT AT POE  
UNTIL ONE THIRTY 130 PM PULGA  
ONE FIFTY FIVE 155 PM CRESTA  
TWO FIFTEEN 315 PM FOR EXTRA 43  
WEST

On passing Pulga, 7.7 miles east of David, at 1.07 p.m., according to the train sheet, they received a copy of train order No. 244, Form 19, reading as follows:

SECOND 74 ENG 205 WAIT AT OROVILLE  
YARD UNTIL TWO FORTY FIVE 245 PM  
OROVILLE TWO FIFTY FIVE 255 PM  
QUARTZ THREE FIVE 305 PM  
BIDWELL THREE FIFTEEN 315 PM FOR  
EXTRA 43 WEST

This last mentioned order was read as referring to train No. 74, whereas it actually referred to train second No. 74, and instead of remaining at Poe, located 3.8 miles east of David, for train first No. 74, beyond which point it had no rights under train order No. 236, the light engine passed Poe and was approaching David when it collided with train No. 74 while traveling at a speed estimated to have been between 20 and 25 miles per hour.

Eastbound freight train first No. 74 consisted of 51 loaded and 14 empty cars, and a caboose, hauled by engine 209, and was in charge of Conductor Wilks and Engineman Kinchin; helper engine 50, in charge of Engineman Meyers and Fireman Pearce, was coupled behind the fifty-first car in the train. At Oroville Yard, the crew received, among others, a copy of train order No. 236, Form 31, previously quoted. Train first No. 74 departed from Oroville Yard, the last open office, 28.5 miles west of David, at 12.01 p.m., according to the train sheet, 51 minutes late, and shortly after passing David it collided with light engine 43 while traveling at a speed estimated to have been about 20 miles per hour.

Light engine 43 had its front end badly damaged and its cab was shifted forward by the force of the impact. Engine 209, of train first No. 74, also had its front end badly damaged, and its engine truck was derailed; one refrigerator car was broken in two, while the ends of several other cars were damaged. The employee killed was the fireman of light engine 43, while the employee injured was the engineman of that engine.

#### Summary of evidence

Engineman Calendar, of extra 43, the light engine, stated that at Keddie train order No. 236, together with a clearance card, was picked up by Fireman Rafferty, and the engineman said that the contents of the order were fully understood. Approaching Pulga, Engineman Calendar and Fireman Rafferty both agreed that there was time enough for their engine to go to Poe, 3.9 miles west of Pulga, for train first No. 74, but that they would have to get help at Pulga on train second No. 74. On passing Pulga, however, train order No. 244, together with another order and a clearance card, was picked up, Engineman Calendar saying that when Fireman Rafferty got the orders the fireman was on the deck of the engine and that he took the orders off the hoop and misread train order No. 244 as referring to "No. 74." The fireman then got up behind the engineman and put the orders on the clip board, which was hanging up behind the engineman, as it was too hot to keep the clip board in front of the engineman. Engineman Calendar then turned around to read the order while the fireman held it for him and the engineman also misread it as "No. 74", saying that the fireman must have had the word "second" covered up by his thumb, and the fireman then remarked, "Well, the fruiter has fallen down and we have time to go to Oroville for them." After this the engineman reached around with his gloves on, and took the orders down to read them again, and he said he must have done the same thing that the fireman did, that is, covered the word "second" with his thumb and therefore misread it again as "No. 74", and when about one-half mile west of Pulga, the engineman again took the orders down to read them. On account of train order No. 244 having been misread, light engine 43 passed Poe, at which point it should have taken the siding, and the first time the engineman realized that there was anything wrong was when the fireman shouted a warning of danger, while rounding the curve, when about 100 feet from the point of collision; the engineman estimated the speed of light engine 43 to have been between 20 and 25 miles per hour at the time of the accident. Engineman Calendar said that train orders Nos. 236 and 244 were clear, written very plainly, and worded in such manner that they should not

have been misunderstood, and that the reason he made the mistake was that he thought there was only one train No. 74. It further appeared from the engineman's statements that even had the second order involved related only to "No. 74", he would have no rights under it because he still had to meet the first section, the first wait order <sup>not</sup> having been fulfilled, superseded, or annulled.

Engineman Kinchin, of train first No. 74, stated that he was en route to Poe, at which point his rights were first restricted by the wait order, which required his train to wait until 1.30 p.m. for extra 43 west, and the first intimation he had of anything wrong was soon after passing David, when he saw the light engine about 200 feet away, at which time he estimated the speed of his own train to have been about 20 miles per hour; he immediately reached for the brake-valve handle in order to apply the air brakes in emergency, but the collision occurred about the time he moved it to the emergency position. Statements of Fireman Jordan substantiated those of Engineman Kinchin. Head Brakeman Gillette was riding on about the fifteenth or sixteenth car in the train at the time of the collision, while Conductor Wilks, Middle Brakeman Webb and Flagman Richardson were riding in the caboose; their statements, as well as those of Engineman Meyers and Fireman Pearce, of helper engine 50, which was coupled behind the fifty-first car in the train, brought out nothing additional of importance.

#### Conclusions

This accident was caused by Engineman Calendar and Fireman Rafferty, of extra 43, misreading a wait order, resulting in the light engine occupying the main track on the time of an opposing superior train.

Under the requirements of train order No. 236, extra 43 did not have time to go beyond Poe for train first No. 74. The evidence indicated that both Engineman Calendar and Fireman Rafferty at first decided that their engine would clear at Poe accordingly for that train; however, on passing Pulga, 3.9 miles east of Poe, a copy of train order No. 244 was received, giving them time on train second No. 74. This train order was misread as relating to "No. 74", the word "second" apparently being covered while holding it in their hands. The result was that instead of getting into clear at Poe, as it had at first been decided to do, they proceeded westward on the supposed authority of the second wait order, the fact being overlooked both by the engineman and the fireman that train No. 74 was being run in at least two sections.

Both train orders involved were clear and concise, written plainly, and worded in such manner as to have been easily understood.

The subdivision on which the accident occurred requires that extreme care and precaution be exercised by employees engaged in train operation, as well as on the part of supervisory officers toward rule observance, in order to insure safety, owing to the physical characteristics, such as heavy grades, numerous curves, and the obscured view at many points; in this connection over 140 efficiency tests were made on this division in March with a view toward minimizing the danger of accident, the record indicating that there were failures in about 14 per cent of these tests.

During the 30-day period prior to the accident there was an average daily train movement on this subdivision of approximately 14.5 trains, both directions included, and it is also to be noted that on July 1, 1929, the Bureau of Safety investigated a head-end collision on another portion of this division, near Nilgarden, Calif., investigation No. 1531, which accident was caused by the engineman and fireman of a light engine overlooking an opposing superior train, and a rear-end collision at Sunol, Calif., on November 28, 1930, investigation No. 1679, caused by disregarding the schedule of a preceding train. In view of the physical characteristics on this line, the traffic density, and also the fact that the connection between the Western Pacific Railroad and the Great Northern Railway at Keddie, Calif., is expected to be completed within the next year, the carrier should at once give serious consideration to the need for additional protection on this line, which would be furnished by the adoption of the block system.

All of the employees involved were experienced men, and at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,  
Director.