

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON
THE NORTHERN PACIFIC RAILWAY AT DIXON, MONT.,
ON APRIL 4, 1931.

June 10, 1931.

To the Commission.

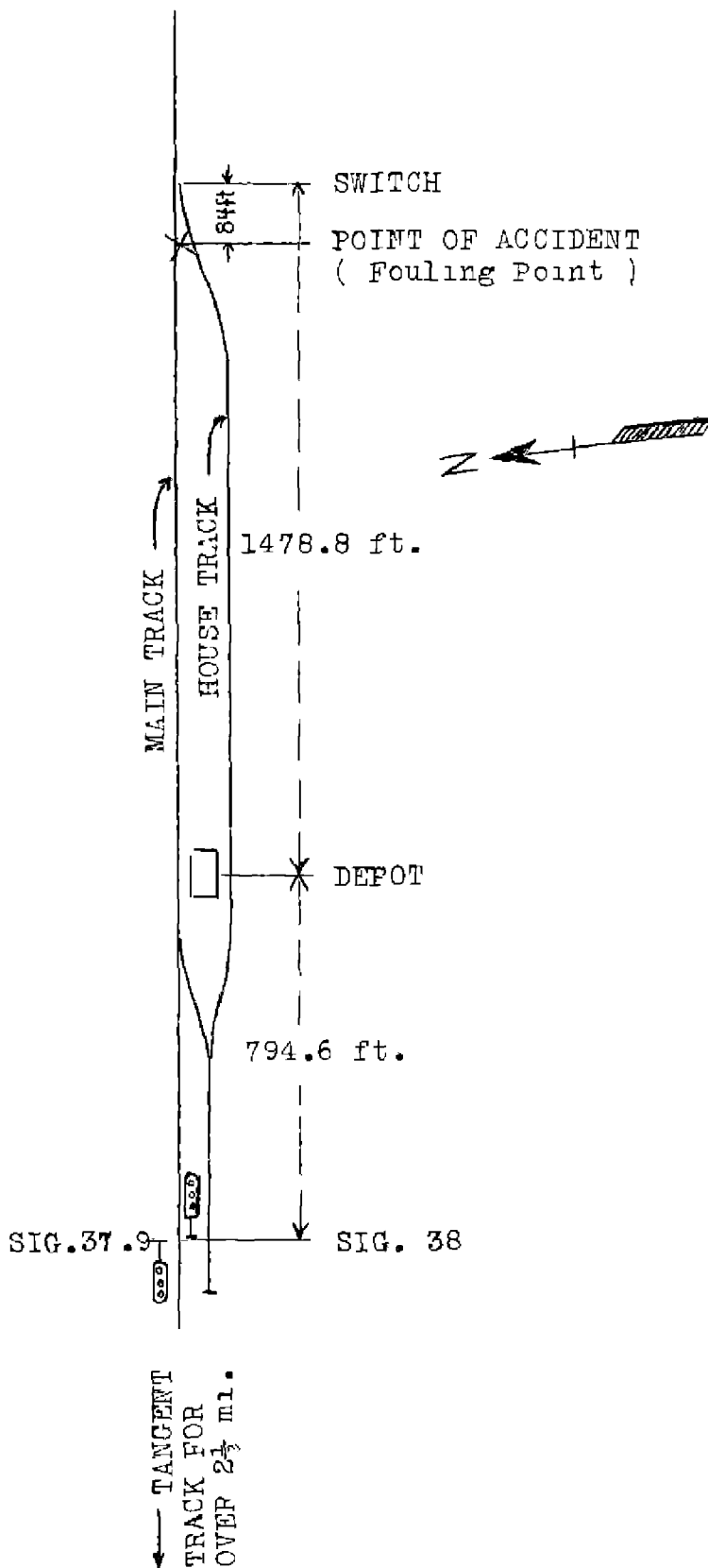
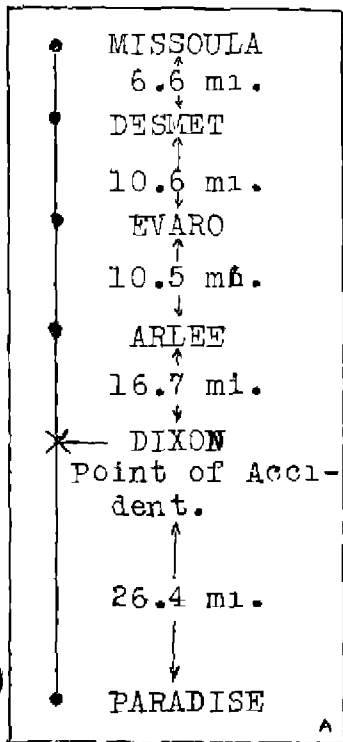
On April 4, 1931, there was a side collision between a passenger train and a light engine on the Northern Pacific Railway at Dixon, Mont., which resulted in the injury of 13 passengers and 3 employees. The investigation of this accident was held in conjunction with a representative of the Montana Board of Railroad Commissioners and Public Service Commission.

Location and method of operation

This accident occurred on the Fourth Subdivision of the Rocky Mountain Division, which extends between De Smet and Paradise, Montana, a distance of 64.2 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. The accident occurred at the fouling point of the house track with the main track at Dixon, 84 feet west of the east switch of the house track, this being a trailing-point switch for eastbound trains; the house track parallels the main track on the south and the east switch is located 1,478.8 feet east of the station. Approaching the point of accident from the west, the track is tangent for a distance of 2.53 miles and for a short distance beyond that point, while the grade at the point of accident is 0.1347 per cent ascending for eastbound trains.

The signal involved, signal 38, is located 2,273.4 feet west of the east house-track switch. It is of the approach-lighting, color-light type, and displays red, yellow, and green, for stop, caution, and proceed, respectively.

INV. NO. 1699
NORTHERN PACIFIC RAILWAY
DIXON, MONT.
APRIL 4, 1931.



While the view of the east switch of the house track is unobstructed from the engineman's side of an eastbound engine, yet on account of the depot being located between the house track and the main track, a helper engine on the east end of the house track would be obscured from the view of an eastbound engineman until his engine passed the depot.

Missoula, division headquarters, is located 6.6 miles east of De Smet, on the Third Subdivision; Evaro is located 10.6 miles west of De Smet, Arlee is located 10.5 miles west of Evaro, while Dixon is located 16.7 miles west of Arlee. Both engine and train crews of passenger trains are run out of Missoula, and helper engines are operated on regular assignments between Missoula, Evaro and Arlee. Westbound passenger trains are helped from Missoula to Arlee, and eastbound passenger trains are helped from Arlee to Evaro, the helper engines usually returning to Missoula on the last train they help over the hill. On special occasions, and when so required, helper engines are run out of their assignment, to Dixon or other points, but under such conditions message instructions are given them as to just what to do and which train to help. In this instance, however, no such message instructions were given to the helper engine involved, although it was run out of its assignment to Dixon.

The weather was clear at the time of the accident, which occurred about 3.58 p.m.

Description

Helper engine 1563 was in charge of Engineman Bell and Fireman Beebe. After assisting westbound passenger train No. 3 from Missoula to Arlee, the helper engine was cut out, according to message instructions. The crew of helper engine 1563 then received train order No. 126, Form 19, directing them to run extra from Arlee to Dixon, with right over train No. 2. This movement was executed, the helper engine arriving at Dixon about 1.35 or 1.40 p.m. After the helper engine was turned, it entered the east switch of the house track and moved into clear. In the absence of any message instruction as to what to do, it having been overlooked by the dispatcher that helper engine 1563 was at Dixon without instructions, Engineman Bell and Fireman Beebe formed the erroneous impression that they were to help eastbound passenger train No. 2. Helper engine 1563 remained

in the clear on the east end of the house track at Dixon until train No. 2 was observed approaching, after which the helper engine started to head out, directly in front of the approaching passenger train, in conformity with the practice of helper engines that assist eastbound passenger trains from Arlee, but just before the helper engine reached the main track, moving at a low rate of speed, the left rear corner of the tender was struck by train No. 2.

Eastbound passenger train No. 2 consisted of 1 baggage car, 1 coach, 1 tourist car, 1 dining car, 4 Pullman sleeping cars, and 1 observation car, in the order named, all of steel construction, hauled by engine 2260, and was in charge of Conductor Kilcoyne and Engineman Riley. This train left Paradise, 26.4 miles west of Dixon, at 3.25 p.m., according to the train sheet, 2 hours and 28 minutes late, passed signal 38, which was displaying a clear indication, and collided with helper engine 1563 at the east house-track switch while traveling at an estimated speed of from 20 to 30 miles per hour.

Both engines and their tenders were derailed and came to rest on their right sides, the engines resting diagonally across the main track with the forward end of engine 2260 about opposite the cab of helper engine 1563. The tenders stopped directly behind the engines, although the tender of helper engine 1563 was about 15 feet south of the track and the rear end of the tender of engine 2260 rested on the track. The forward end of the first car in train No. 2 was also derailed. The engines were quite badly damaged and the first car was slightly damaged. The employees injured were the engineman of the helper engine, and the fireman and a brakeman of train No. 2.

Summary of evidence

Engineman Bell, of engine 1563, stated that he received instructions before leaving Missoula to help train No. 3 to Arlee; he also gathered the erroneous impression that his engine was to help train No. 2 eastward from Arlee. Upon arrival at Arlee his engine was cut off and after train No. 3 departed he moved to the station, where the operator handed him the order to run extra to Dixon with right over train No. 2. He remained at Arlee until an opposing train passed and then proceeded to Dixon, turned the engine, and backed into clear on the house track at the east switch. Engineman Bell then went to the station and registered,

at about 1.45 p.m., and inquired of the agent as to the expected arriving time of train No. 2, the agent informing him that it would be about 3.50 p.m. He did not inquire of the agent as to why his engine had been sent to Dixon, but when he learned that train No. 2 was late he assumed that it was the intent to help that train, although he had no instructions to that effect, further stating that he expected to receive such instructions after his engine coupled to the train, as had been the custom when helping trains from Arlee. He then returned to his engine and awaited the arrival of train No. 2, and shortly before its expected arrival he boarded the engine and watched the automatic signal west of the station from the fireman's side of the cab, being unable to see the approaching train on account of buildings obstructing his view, and the fireman being located at the switch, ready to open it. As soon as he saw the signal change to a stop indication he knew that the approaching train had passed that point and he immediately crossed over to his side of the cab and started moving the engine out onto the main track without having noticed whether the train was coming to a stop, which he expected it would do, as he was still of the opinion that it was the train he was to assist, and in this connection it might be noted that train No. 4 was also overdue and that so far as he knew he might have been pulling out in front of train No. 4 instead of train No. 2. On the day prior to the accident Engineman Bell had helped train No. 3 all the way west to Dixon and then had helped train No. 2 eastbound from Dixon, but on that day he had received previous instructions as to what he was to do, and pulled out on the main track in front of the train in the same way as on the day of this accident. Engineman Bell said that the message received at Missoula on the day of the accident, however, contained no information about train No. 2, and that he had not received any instructions concerning the movement of his engine after arriving at Dixon, but started moving out onto the main track, as soon as the approaching train passed the signal, through force of habit, as it had been the practice to make movements of this kind at Arlee, and he thought the same practice applied at Dixon. Bulletin No. 31, dated October 17, 1929, and relating to the practice at Arlee, required helper engines at that point to remain into clear until the train to be helped had passed the signal at the west passing-track switch. This part of bulletin No. 31 was superseded by bulletin No. 34, dated October 21, 1929, requiring helper engines at Arlee to remain into clear

until the arrival of the train which they were to help. According to Engineman Bell, however, the practice at Arlee had not been changed since the issuance of bulletin No. 34, it still being the custom to move out on the main track as soon as the train to be helped had passed the last automatic signal, couple to the train, and get orders or instructions, which usually require him either to help the train to Evaro and then return to Arlee, or else go through to Missoula. No adequate reason was developed to explain how Engineman Bell developed the erroneous idea that he was to help train No. 2.

Fireman Beebe, of engine 1563, stated that he did not read the message received at Missoula pertaining to the movement of his engine, but asked the engineman to read it to him and was certain that the engineman read the message to cut the helper off at Arlee and to help train No. 2 to Evaro. He read the train order received at Arlee directing his engine to proceed to Dixon, but did not discuss it with the engineman as he was still of the impression that the movement was being made so they could assist train No. 2 eastward. After their engine got into clear on the house track at Dixon the engineman went to the station, and upon his return the engineman informed him that train No. 2 would not arrive until about 3.50 p.m. Fireman Beebe went to the station, about 3.25 p.m., and made inquiry as to when train No. 2 would arrive and whether the helper engine was to assist that train to Missoula, the agent replying that he did not know as he had no instructions to that effect, but possibly the crew of the train had received such instructions at Paradise. The agent then informed him that helper engine 1656 had been sent to Arlee to help train No. 4 and had already arrived at that point, also that his own engine would receive a clear board out of Dixon. Upon returning to the engine, Fireman Beebe informed the engineman as to the conversation held with the agent, adding that engine 1656 probably had been sent to Arlee to assist train No. 4. About five minutes before the expected arrival of train No. 2, he went to the east house-track switch, and as soon as the train passed the signal west of that point he opened the switch, while at about the same time the engineman started moving out of the house track. In justifying his action by opening the switch directly in front of an approaching train, the fireman said that when he first started working with Engineman Bell in helper service the engineman told him that as soon as a train which was to be helped had passed the last signal, the helper engine was to enter the main track promptly in order to avoid unnecessarily delaying the

train. He also stated that he did not see any instructions as to what his engine was expected to do after arriving at Dixon, but was of the impression that when the operator at Arlee handed the order to the engineman to continue to Dixon it was for the purpose of helping train No. 2, and during the conversation with the engineman and also the agent at Dixon, he received no advice to the contrary.

Engineman Riley, of train No. 2, stated that he received a message at Paradise to pick up a helper engine at Arlee, but received no information concerning a helper engine at Dixon. The automatic signal at Dixon was displaying a clear indication when his train passed it, and he did not see the engine standing on the house track until his own engine passed the station. At the time he thought the engine on the house track was standing still, but upon reaching a point about 12 or 15 coach-lengths from this engine he observed steam escaping from the cylinders and on looking ahead he noticed that the switch target was showing a red indication and saw somebody standing in the vicinity, although he received no signal from this person. He immediately sounded the whistle, shut off steam, and applied the brakes in emergency, but was unable to stop before the helper engine had fouled the main track. He estimated that his train passed the signal west of the station at a speed of 60 miles per hour, although this speed had been reduced to about 20 miles per hour at the time of the accident. Engineman Riley further stated that he had operated train No. 2 since November, 1930, and it had always been the practice to pick up a helper engine at Arlee, but it was not his custom to go into that point expecting to find the helper engine on the main track; he could not recall of ever having picked up a helper engine at Dixon.

Fireman McDonald, of train No. 2, stated that he read the orders received at Paradise, among them being the message to pick up a helper engine at Arlee. While approaching the signal west of the station at Dixon he observed it displaying a clear indication, but did not see the engine standing on the house track, although he saw smoke in the vicinity of the east switch. When his train neared a road crossing, located about 700 feet east of the station, he noticed some one open the east house-track switch and thought the engineman observed it about the same time, as the engineman sounded the whistle and applied the brakes in emergency. He estimated the speed of the train at the time the brakes were applied at 60 miles per hour, but thought the speed had been reduced to 30 or 40 miles per hour by the time he jumped off, which was just before the collision occurred.

The statements of Conductor Kilcoyne, and Brakemen Beauchamp and Davis, of train No. 2, added no additional facts of importance, as they were unaware of anything wrong until they heard unusual whistle signals sounded after passing the station at Dixon, followed by an emergency application of the brakes, the accident occurring very shortly afterwards.

Agent-Operator Crane stated that he was on duty at Dixon on the day of the accident, but did not see Engineman Bell enter the office although upon looking up he saw him registering. He inquired of the engineman as to where he came from, and, as well as he could remember, the engineman replied that he was there to help train No. 2, although he said it was possible the engineman inquired as to how the passenger trains were running. He immediately communicated with the dispatcher and was informed that train No. 2 would arrive about 3.50 p.m. and train No. 4 about 4.40 p.m., and after repeating these times to the engineman he advised the dispatcher that engine 1533 had arrived. To the best of his knowledge he held no further conversation with Engineman Bell, but about 3.30 p.m. Fireman Beebe came into the office and asked if there was any change in the time of train No. 2, and upon again inquiring of the dispatcher he was advised that that train would arrive between 3.45 and 3.50 p.m. The fireman then inquired about the train-order board being displayed and he told the fireman that it was for the purpose of allowing another helper engine to reach Arlee; he did not remember whether he told the fireman the other engine was to help train No. 4, but did tell the fireman that he expected that engine would arrive shortly and that the order would then be annulled, and he was of the impression that the fireman was still in the office when the order was cancelled and he cleared the train-order board accordingly. The operator also said the fireman asked whether there was a message for his engine, and that he told the fireman there was none. Operator Crane further stated that as a general rule, helper engines arriving at his station receive instructions before reaching there, and that the only time he makes any inquiry concerning these engines is when the engineman inquires as to whether his engine is to couple behind the train or ahead of it, under these circumstances, therefore, he pays little attention as to what transpires when helper engines arrive at his station.

Agent-Operator Wilson, on duty at Arlee, stated that shortly before train No. 3 arrived, he received a message from the dispatcher, addressed to the crew of that train

and the helper engine assisting it, directing them to help the train through to Dixon and then to help train No. 4 from that point to Missoula. Just after train No. 3 arrived, the dispatcher again called, instructed him to cancel the message, and issued train order to run engine 1563 light to Dixon with rights over train No. 2. When engine 1563 arrived at the station after cutting off from train No. 3, he handed the order to the engineman and notified the fireman, who was riding on the pilot at the time, that his engine was to run light to Dixon. He could not recall holding any further conversation with the crew of the light engine, and said he volunteered no information as to why their engine was being sent to Dixon, being of the opinion that the crew had received previous instructions, which was usually the case when helper engines arrived at Arlee. Agent Operator Wilson further stated that it was the practice at Arlee as was stated by Engineman Bell; that is, the helpers go out on the main track as soon as the train has passed the last signal.

Trick Dispatcher Bixby, at Missoula, stated that he issued message instructions at Missoula at 11.03 a.m. as follows: "No 3 cut helper out at Arlee." After train No. 3 departed from Missoula he sent message instructions to Arlee, at 12.21 p.m., to "Take your helper through to Dixon. To double head No 4 Dixon to Missoula." Afterwards it was decided to cancel the message instructions sent to Arlee, which was done, verbally and in a hurry, and train order No. 126 was issued to Arlee at 12.33 p.m. providing as follows: "Eng 1563 run Eng Extra Arlee to Dixon. Has right over No 2 Arlee to Dixon." Trick Dispatcher Bixby overlooked the fact that when the message instructions sent to Arlee were cancelled, it cancelled the entire instructions, including the part "To double head No 4 Dixon to Missoula", and it did not occur to the dispatcher that when the helper engine got to Dixon it would be there without instructions as to what to do; as a matter of fact, it was intended that the helper engine should assist train No. 4 from Dixon to Missoula. Trick Dispatcher Bixby further stated that under ordinary conditions nothing of serious consequence would have followed his oversight, only possibly a slight delay, necessitating that the helper engine crew go to the office at Dixon and find out why they were there.

Chief Dispatcher Snyder stated that he instructed Trick Dispatcher Bixby as to what message instructions to issue; he also instructed the trick dispatcher to have helper engine 1563 run light from Arlee to Dixon.

Chief Dispatcher Snyder entered the dispatcher's room several times between the time of departure of train No. 3 and helper engine 1563 from Missoula, and the time of the accident, for the purpose of ascertaining the progress of delayed trains; he noticed on the train sheet that helper engine 1563 was on the way to Dixon, but he did not examine the message file and ascertain whether the helper engine had instructions as to what to do on arrival at Dixon, saying that he assumed they did have such instructions, as he had personally written the first message instructions that were sent to Arlee, relative to helper engine 1563 going through to Dixon and to double head No. 4 Dixon to Missoula, and therefore he did not inquire into the matter.

Road Foreman of Engines Le Van stated that he was fully aware of the practice at Arlee wherein helper engines would head out on the main track after the train they were to help had passed the automatic signal west of the passing track, this practice being in violation of bulletin instructions issued when automatic signals were installed in 1939. He had never questioned the practice, however, as it had been done in this same general manner for 35 years, there being yard limits at Arlee, while trains stop there at the water tank while picking up the helper engine. Prior to the accident it never entered his mind that there was any danger, consequently he permitted the violation of bulletin instructions, not considering for example that a helper engine crew at Arlee could mistake some other approaching train, such as a silk train, for the one they were to help and then head out on the main track directly in front of it. Road Foreman of Engines Le Van stated that it was an entirely different proposition at Dixon, however, as trains do not stop there, nor was it the practice for helper engines at that point to enter upon the main track until the approaching train had come to a stop, and as a matter of fact it was very seldom necessary to send a helper engine to Dixon to assist a train. His only basis, however, for enforcing the bulletin at Dixon and not at Arlee, seemed to rest on the difference in conditions at the two points; in fact, when Assistant General Manager Lowry suggested that there was no danger at Arlee, Mr. Le Van replied "None whatever", and when Mr. Lowry asked the question, "So the bulletin that we have out is not necessary from a safety standpoint?" Mr. Le Van replied "I would say not. It has been that way for 35 years."

Conclusions

This accident was caused primarily by helper engine 1563 heading out on the main track directly in front of an overdue first-class train, without authority, for which Engineman Bell is responsible.

Helper engine 1563 assisted westbound passenger train No. 3 from Missoula to Arlee, where the helper engine was cut out. Chief Dispatcher Snyder had instructed Trick Dispatcher Bixby to send a message to Agent-Operator Wilson at Arlee, for train No. 3 to take the helper through to Dixon, from which point it was to double head train No. 4 Dixon to Missoula, but later on, just after train No. 3 arrived at Arlee, the trick dispatcher verbally instructed the agent-operator to cancel the message. Train order No. 126 was then issued, directing engine 1563 to run extra from Arlee to Dixon, with right over train No. 2 between those points. Engine 1563 then proceeded to Dixon, and the dispatcher overlooked the fact that the cancellation of the message last mentioned resulted in the engine being at Dixon without instructions as to what to do. Engineman Bell did not make any inquiry at Dixon as to what he was to do and both he and Fireman Beebe were under the erroneous impression that they were to help train No. 2. The result was that when train No. 2 approached Dixon, and after it had passed the last automatic signal, engine 1563 headed out on the main track directly in front of it, this being in conformity with the practice at Arlee. Had either Chief Dispatcher Snyder or Trick Dispatcher Bixby been fully alert as to the existing conditions they would have realized that helper engine 1563 was at Dixon without instructions as to what to do, and they could have taken necessary measures to remedy the situation; their failure, however, does not excuse the error made by the engineman.

Under instructions contained in superintendent's bulletin No. 31, issued October 17, 1929, it is required that:

Helper engine at Arlee must remain clear of main line until the train they are to help passes the signal at the west passing track switch.

These instructions were cancelled by superintendent's bulletin No. 34, issued October 21, 1929, and the following instructions substituted in lieu thereof:

Enginemen of helper engines arriving at Arlee to help a passenger train will *** stand into clear of the main line *** until the arrival of the train they are to help.

The testimony indicated that no attention was being paid to bulletin No. 34, and that it was the practice for helper engines at Arlee to head out on the main track as soon as the approaching train passed the last signal, and Engineman Bell explained his action in heading out as he did at Dixon by saying that he permitted the practice at Arlee to govern his actions at Dixon, although there is a difference in the conditions at the two points, to the extent that at Arlee there is a water tank, also yard limits, and trains stop at the water tank while picking up the helper. Road Foreman of Engines LeVan knew of the violation of bulletin instructions at Arlee, but had not criticised the violation nor had he reported it to his superior officer, saying he had not realized the danger involved and that it had been the practice for 35 years for helper engines to head out on the main track at Arlee, directly in front of the trains they were to assist without an accident having occurred, and questions asked of him by Assistant General Manager Lowry indicated that the latter official also did not seem to think that bulletin No. 34 was necessary from the standpoint of safety. This would be true, perhaps, but only if the operating rules were enforced and obeyed, and the evidence in this case indicates that they were not enforced or obeyed by any one; to be more specific, the rules require inferior trains to clear the time of superior trains in the same direction not less than five minutes, and the custom or practice at Arlee constituted an open and clear violation of this rule. Under such circumstances there would appear to be ample reason for the existence of bulletin No. 34, forbidding a continuation of the practice; in fact, from the standpoint of safety, it is difficult to understand why the rules should not have been enforced to such an extent as to make these particular provisions of both bulletin No. 31 and bulletin No. 34 unnecessary. Bulletin No. 31 placed official approval on the practice, but this approval was cancelled a few days later in bulletin No. 34, and with this latter bulletin once issued, there remained little excuse for

the failure of supervising officials to enforce it by correcting the practice which had existed for many years, and any attempt to justify their failure to do so on the ground of custom, or that bulletin No. 34 is not necessary from a safety standpoint, does not reflect credit on them.

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.