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IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE NORTHERN PACIFIC RAILROAD, AT FORSYTH, MONT., MAY 2, 1919.

June 2, 1919.

On May 2, 1919, there was a collision between a passenger train and a switch engine on the Northern Pacific Railread at Forsyth, Mont., which resulted in injuries to three employees and ten passengers. After investigation the Chief of the Bureau of Safety submits the following report:

The fourth sub-division of the Yellewstone Division on which this accident occurred extends between Billings and Fersyth, Mont., a distance of 101.6 miles. Except for the space of 12 miles between Billings and Huntley, Mont., this sub-division is a single track line over which trains are operated by time table and train orders transmitted by telephone, no block signal system being used.

The trains involved were eastbound passenger No. 4 and switch engine No. 1110. The latter, operating within the yards at Forsyth, was in charge of Engineman Olson and Yard Foreman Jerusal, who went on duty at 11.45 p.m. with instructions that delayed eastbound passenger train No. 4 was to leave Forsyth at 12.45 a.m. After doing some switching at the freight house and weel house track, in connection with which 4 cars were left standing on the main track, the switch engine continued on main track to the west yard switch, headed in on track No. 3 on the south side of the main line, the engine coupled onto some cars and started to pull back toward the main track, in the meanwhile leaving the main track switch open. The engine had reached

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a point on the lead, 230 feet from the west main track switch, when it was struck by train No. 4.

Mash., to St. Paul, Minn., consisted of locomotive ElSl, mail car, two baggage care, two coaches, tourist sleeping car, diner and two standard sleeping care, in charge of Cenduster Graham and Engineman Jorenson. It left Billings at 9.44 p.m., and at Huntley, 12 miles from Billings, received an order to man two hours late Osborn to Forsyth. The train passed the last open train order office at Howard, Mout., 8.9 miles west of Fersyth, at 12.20 a.m., 2 hours and 2 minutes late, and about ten minutes later ran through the open main track switch and collided with switch engine 1110 as above stated.

The enginemen and firemen of the switch engine were seriously injured, and the front brakemen and ten passengers on passenger train No. 4 sustained slight injuries. The front end of passenger engine 2181 was derailed and badly damaged, the engine coming to rest in an upright position diagonally across the west end of track No. 3. The mail car was derailed and came to rest in an upright position parallel with the track. Switch engine 1110 was also derailed, its tender practically demeliated, its back frames bent and cab almost entirely destroyed. On coming to rest its position was upright, parallel with track 3. Other freight cars were badly damaged or derailed, and several of the passenger cars sustained more or less damage due to their wooden construction.

approaching the scene of accident from the west the grade is slightly descending, and beginning at a point a little over a mile west of the west yard switch, there is a tangent 3290 feet in length, followed by a 1-degree curve to the left 2010 feet in length, then by a tangent 227 feet in length, at the end of which train No. 4 was diverted from the main track to the yard lead. The weather at the time was cloudy.

Hight Yardmaster Sansome stated that his only definite information was a line-up received from the dispatcher at about 10 p.m. showing train No. 4 to be one hour late. This was followed at 11.05 p.m. by a call for the departure of the train from Foreyth at 12.45 a.m., and he heard the sporator say that the train was two hours late. He did not see any order about it being two hours late. His only definite authority was the line-up showing train No. 4 to be one hour late, and under this line-up the main track should not have been used after 11.26 p.m., the time train No. 4 would be due out of the last station if one hour late. It was about 12.15 a.m. when he instructed the yard arew not to take cars out on the main line and to get into clear for train No. 4, but he did not tell them exactly when that train would arrive or specify any particular time when they should be into clear. He did not, however, expect they would go out on the main line with cars. He stated that he had no definite authority to use the main track on the time of delayed passenger trains except when the dispatcher gave them a line-up or verbally informed them of train delays.

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Switch Foreman Jerusal stated that he was making up an extra and after working at the freight house the engine went to the woel house track, where they picked up four care which he directed to be taken down to the west end of track No. 3. but Switchman Ohgo misunderstood him and left the cars on the main The engine then went to the west switch and headed in to track. get some cars from track 3. It was then 12.25 a.m. and he thought he had time to haul the cars out on the main line, pick up the four cars which had been left standing on the main line, and get into clear for train No. 4, but two minutes later, as they were backing toward the main track from track No. 3, the switch engine was run into by train No. 4. Eis instructions from the yardmaster were that train No. 4 was called to leave Forsyth at 12.46 a.m. and to be into clear, but no specific time for clearing the track was given, and he did not know how late train No. 4 was, but guessed it was two hours late on account of being called to leave at 12.45 a.m. He figured that train No. 4 would arrive at the west end of the yard at about 12.35 or 12.40. If train No. 4 made its running time of seven minutes between Rea, the previous station, and Foreyth and reached the west switch at Foreyth at 12.35 a.m., it would have to leave Rea at about 12,28 This meant that when the switch engine started to leave track 3 at 12.25 a.m. it had only three minutes to make the move without flag protection, and clear the time of train No. 4 out of Rea. While he saw that his time was short, he gave no instructions to flag No. 4. thinking that when the engine headed in on track 3 a flagman would be left at the main track switch.

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He also stated that it was customary, when he gave no instructions to take care of the main line switch, to attend to it himself. He also stated that the line-ups or information which they received from the dispatcher concerning train movements could not be depended upon.

Engineman Olsen of switch engine No. 1110 stated that after switching the four cars out on the main line, he moved his engine to the west end of the yard. It was 12.25 a.m. when the engine reached the west switch and started to head in on track 3. It occurred to him that train No. 4 was soon due and he told Switchman Ohgo to look out for it, but gave him no definite di-The yardmester previously had told him that No. 4 rections. was called for 12.45 a.m., and he figured that it would be in at 12.40 s.m. and that the main track ought to be clear and the switch closed by the time No. 4 was due out of Res. or 12.33 a.m. He knew that the main track switch had been left open, with no one around to protect it, but he gave no instructions to flag or to close the switch. Such train information as he received came from the yardmaster, and on the latter's advice concerning delayed passenger trains it was oustomary to use the main line in yard work.

to back toward the main line with the care it was taking from track No. 3, Engineman Olson remarked to him that they were en short time for train No. 4, and he replied that he thought so too, but that Foreman Jerusal know the time of No. 4 and his watch could be relied upon. He was on the footboard of the

engine when he noticed the reflection of an approaching light; after trying to determine whether it was train No. 4 or seme automobile, he observed that it was the headlight of train No. 4. He immediately called to the engineman, who reversed the engine, while he started to run for the switch, but failed to reach it in time. He stated that Foreman Jerusal had told him to place the four ears from the weel house on the main track, and though he knew that No. 4 was about due he did not stay at the switch for the reason that he did not know what time it was, and also because the foreman had told him to go into the yard.

Engineman Sorenson of eastbound passenger train No. 4 stated that he made a number of stops on route to Foreyth and found the brakes in first-class condition. He had an order to run two hours late Huntley to Foreyth, and passed Rea, the last station west of Foreyth, only half a minute late on the order. His practice was to reduce speed on approaching Foreyth yard, and he had acted accordingly and was moving at a rate of from 35 to 40 miles an hour, with the brakes applied, when he sighted the open switch. He immediately made an emergency application, which reduced the speed to about 18 miles an hour when the collision occurred. He stated that the switch light was burning brightly, but that the needlight on the tender of engine 1110 was somewhat dim.

Fireman Helgerson stated that he noticed the switch was wrong about the same time as the engineers, though he could have noticed it sconer, being on the inside of the curve, had he not been engaged in putting in coal and scrubbing the deak

of the engine. He estimated the speed at about 15 miles and hour when the collision occurred.

Trainmaster Pearce stated that there were no rules covering the work of yard engines on the main line on the time of delayed passenger trains, with the exception of instructions contained in a bulletin from the superintendent of the Yellowstone Division, addressed to yardmasters, which in part reads as follows:

\* \* \* \* use great care in giving a line-up on the time first-class trains are due to your switch foremen. Be sure he fully understands that the main track must be clear at least five minutes before the passenger train is due, and if necessary you should personally figure out the time and advise him exactly when to be in clear.

This accident was caused by the onew of switch engine 1110 working on the main track without protection on the time of an overdue first-class train, for which Switch Foreman Jerusal and Enginemen Olson are responsible. They went on duty at 11.45 p.m. and were told that the train had not arrived. The only definite information they had was that the train was called to leave Forsyth at 12.45 a.m. They did not know how late the train was, and so far as their information went, they had no right to use the main track after 10.26 p.m., the time card schedule of the train at the previous station. Regardless of this fact, however, four ours were left on the main line, the west switch was open and engine 1110 was backing toward it with a cut of ears, with no protection of any kind and with the full knowledge of everyone concerned that they were not protected. Members of this grew showed further carelessness by assuming that the train was two hours late, which happened to be correct.

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and even then not protecting when encroaching on the time of the passenger train.

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Switch Foreman Jerusal was employed as a brakeman in Nevember, 1918, previous to which he had had six years' experience on other railroads as a switchman and brakeman. Engineman Olson was employed as a foreman in 1906 and premoted to engineman in 1912. The records of both of these employees were good. At the time of the accident they had been an duty less than one hour after a period off duty of 16 hours.

master Sansome to give definite instructions to the switch crew, as required by the bulletin order above quoted. His only information was that train No. 4 was one hour late, while he had heard the operator say it was two hours late. In view of the bulletin instructions from the superintendent he should have obtained exact information as to the time of train No. 4 and have communicated this to the switch crew, at the same time telling them when to be into clear. Had the matter been brought to their attention in this manner, it is probable that the switch crew would not have used the main track without protection.

Yazdmaster Sansome was employed as a fireman in 1902 and served in various other capacities until 1911, when he worked on other railroads for a few months. He was re-employed by the Northern Pacific Railroad as a brakeman in 1911, was prometed to freight conductor in 1917 and to night yardmaster on March 1, 1919. His record was good. At the time of the accident he had been on duty 5% hours after 10 hours off duty.