INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE LINE OF THE SOUTHERN PACIFIC COMPANY, PACIFIC LINES, AT CORTENA, CALIF., ON JULY 29, 1928.

November 3, 1928.

To the Commission.

On July 29, 1928, there was a rear-end collision between two passenger trains on the Pacific Lines of the Southern Pacific Company at Cortena, Calif., resulting in the injury of 67 passengers, 3 mail clerks, and 53 Pullman and railroad employees. This accident was investigated in conjunction with representatives of the Railroad Commission of California.

Location and method of operation

This accident occurred on that part of the Sacramento Division, extending between Davis and Tehama, Calif., a distance of 110.7 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table and train orders, no block-signal system being in use, trains in the same direction are required to be spaced at least 10 minutes apart, except in closing up at stations. The accident occurred at a point 896.3 feet west of the east switch of the passing siding at Cortena, the passing siding is 3,482.2 feet in length and parallels the main track on the north. Approaching the point of accident from the east the track is tangent for a considerable distance and then there is a 1° curve to the left 2,258 feet in length, following which the track is tangent for 359.3 feet to the point of accident and for a considerable distance beyond. The grade at the point of accident is 0.1377 per cent descending for westbound trains

The view of the point of accident across the inside of the curve was restricted by trees and a barn to 1,522 feet while the engineman's view was restricted by the curvature of the track to 679 feet, although from a point about 3,925 feet east of the point of accident, at the Cortena one mile board, there was an unobstructed view of the standing train across the inside of the curve for a distance of about 920 feet before the view was cut off by the barns and trees, within this distance of 920 feet, however, it is difficult to ascertain on which track a train at the point of accident might be standing.

The weather was clear at the time of the accident,

which occurred at about 4.20 p. m.

Description

Westbound passenger train third No. 43 consisted of one baggage car, one buffet car, four Pullman cars, two dining cars, four Pullman cars and one observation car, in the order named, hauled by engine 2437, and was in charge of Conductor Sanders and Engineman Lang. All of the cars were of steel construction with the exception of the dining cars, which were of wooden construction. This train passed Willows, the last open office, 20.8 miles east of Cortona, at 3.43 p. m., according to the train sheet, 7 hours and 23 minutes late, and while passing Maxwell, 3.6 miles east of Cortona, at a speed of about 60 miles per hour, the engine struck a hand mail cart that stood on the station platform fouling the main track, resulting in the right cylinder cock of the engine being broken off. At Cortona train third No. 43 was stopped at about 4.10 or 4.12 p. m. in order to make temporary repairs, the stop was made between the passing-track switches so as to allow the following train, first No. 17, to run around it through the passing siding in the event it was overtaken. After standing at this point for about 8 or 10 minutes, however, the rear end of train third No. 43 was struck by train first No. 17.

Westbound passenger train first No. 17 consisted of one baggage and mail car, one baggage car, one club car, two Pullman cars, one dining car, three Pullman cars and one observation car, in the order named, all of steel construction, hauled by engine 2438, and was in charge of Conductor Burrows and Engineman Weymouth. This train passed Willows at 3.53 p. m., 16 minutes late, and struck the rear end of train third No. 43 at Cortona while traveling at a speed estimated to have been about 35 miles per hour.

The force of the impact drove train third No. 43 ahead a distance of about 80 feet, the observation car was telescoped by engine 2438 a distance of 21½ feet and the seventh car in train third No. 43, a wooden car, had its forward end telescoped a distance of about 10 feet by the steel car immediately ahead of it. All of the cars in the first train sustained more or less interior damage. Engine 2438 turned over to the left and was considerably damaged. All of the cars in the second train were also damaged, but none of them was derailed.

Summary of evidence

Engineman Lang, of train third No. 43, stated that approaching Maxwell the speed of his train was about 60 miles per hour, he noticed the mail cart standing on the station platform near the track, but he thought it would probably clear, however, his engine struck it, resulting in the right cylinder cock and its appurtenances being torn off the engine.

he eased off on the throttle in order to reduce the steam pressure in the cylinders and at Cortena he brought his train to a stop between the switches of the passing siding, sounded the whistle signal for the flagman to protect the train and then started to make temporary repairs to the cylinder cock, being assisted by Fireman Howard, Head Brakeman Veet and Conductor Sanders; a wooden plug was driven into the cylinder-cock hole, and it was just after this had been done that the accident occurred. Engineman Lang knew that his train was on the time of the following train, first No. 17, but said that on looking back at a point about 1 mile east of Maxwell he had seen nothing of that train, and he depended upon the flagman to afford proper protection.

Conductor Sanders, of train third No. 43, stated that when the train was brought to a stop at Cortena he got off the baggage car, a flag was whistled out and he saw Flagman Taylor start back to flag. He then proceeded to the engine to assist the engineman in making temporary repairs to the damaged cylinder cock and paid no further attention to the flagman. He said Flagman Taylor had worked for him for a long time and on previous occasions had always complied strictly with the flagging rules, he thought his train was sufficiently in advance of train first No. 17 to allow ample time for Flagman Taylor to afford full protection. Although he knew the engineman had brought the train to a stop between switches to permit the following train to use the siding and pass his own train in the event of being overtaken, he did not go to the rear of his train to direct train first No.17 to head in on the siding but remained at the engine, lending what assistance he could, and was still at the engine when his train was struck by train first No. 17.

Flagman Taylor stated that he knew his train was on the time of train first No. 17 and that as speed was reduced approaching Cortena he opened the trap door at the head end of the observation car and when the train stopped he got off with flagging equipment, heard the whistle signal to protect the train, and immediately started back, walking around the rear end of the observation car to the right side so that Conductor Sanders could see him. Flagman Taylor at first said he kept going until he had reached a point which according to measurements afterwards taken was 1,481 feet from the rear of his train, and put down a torpedo. When he saw train first No. 17 approaching he gave stop signals with a red flag, first on the fireman's side, then on the engineman's side, and then back on the fireman's side again, but without receiving any answer to his stop signals. He tried then to put down another torpedo but did not have time to do so, and when the train passed him he was on the fireman's side of the engine, several car-lengths east of where he had placed the first torpedo; he estimated that when train first No. 17 stopped he was about six or seven car-lengths east of its rear end, and about 1,900 feet from the

rear of his own train. Some of the statements of Flagman Taylor as to how far back he went to protect his train were at variance with other evidence, and upon further questioning he finally admitted that he placed the torpedo not more than 900 feet from the rear of his own train, or in the immediate vicinity of the east switch of the passing siding, and that the greatest distance between him and the rear of his train was never more than 1,450 feet. He was unable to explain why he did not get back a greater distance within the period of about eight minutes which he had at his disposal.

Engineman Weymouth, of train first No. 17, was seriously injured and only a brief statement was obtained from him. He said that train third No. 43 left Gerber, 59.3 miles from Cortena, about 18 minutes ahead of his own train. When approaching Cortena the speed of his train was about 60 miles per hour and he sounded the station whistle at the mile board. The first intimation he had of anything wrong was when Fireman Sutcliffe shouted a warning of danger, he immediately applied the air brakes in emergency, leaned out of the window, saw Flagman Taylor in a stooping position somewhere in the vicinity of the east switch of the passing siding, and also saw a corner of the rear car of train third No. 43, the accident occurring shortly afterwards. The air brakes on his train had been tested and they worked properly en route. Engineman Weymouth did not hear a torpedo exploded just prior to the accident and did not recall whether he closed the throttle before making the emergency air-brake application, but he did remember reaching to open the sanders

Fireman Sutcliffe stated that in addition to the trees and barn which obstructed his view across the inside of the curve, there was also a glare caused by the sun shining on a roof, and he did not obtain a clear view of the conditions near the station until just after being flagged by Flagman Taylor, who was about three telegraph poles east of a cattle guard which in turn is located about 150 feet east of the east switch of the passing siding. The fireman said he called the flag to the engineman, after which he saw the rear end of train third No. 43 and shouted a warning of danger. He said he did not hear a torpedo exploded. He estimated that the speed at the time of the accident had been reduced to about 35 miles per hour.

Conductor Burrows, of train first No. 17, stated that he was riding in the second car from the rear of the train when approaching Cortena and he estimated the speed to have been about 60 miles per hour at the time the air brakes were applied in emergency just prior to the accident After the accident he got out of the car on the fireman's side of the train and on looking back he saw his own flagman going back to flag, following the flagman of train third No. 43, who was then 300 or 400 feet in the rear of train first No. 17.

Flagman Garner, of train first No. 17, who was riding on the front end of the observation car, said his first knowledge of anything wrong was when the air brakes were applied in emergency. He looked out on the fireman's side of the train, which was then passing a barn on the inside of the curve about 2,000 feet east of the point of accident. As he looked ahead he saw the flagman of train third No. 43 and also the rear end of that train and he estimated that Flagman Taylor was about at the point fixed by Fireman Sutcliffe, three telegraph poles east of the cattle guard. After the occurrence of the accident he saw Flagman Taylor about six or seven car lengths, or possibly a little farther, in the rear of train first No. 17, still going eastward.

Mr. George Hofflefinger, of Woodland, Calif., stated that he was on the state highway in the vicinity of the point of accident and heard a report like the explosion of a torpedo, and also a short blast of an engine whistle. Statements made by other witnesses, including residents and employees, brought out nothing additional of importance.

Station Clerk Harbin stated that on the date of this accident, which occurred on Sunday, he came to the station at about 3.30 p. m. to bill out a carload of fruit, he noticed that the mail cart was on the platform in a position parallel with the main track and about 12 or 16 feet therefrom. Later he heard this cart being moved, and a local resident came in to make an inquiry, but he paid no further attention to it until he went out on the platform, at about 3.55 p. m., saw train third No. 43 approaching, about 60 feet from the station, when he noticed that the mail cart was standing about 2 feet from the main track. He started for the mail cart in order to pull it away from the track but realized that he could not reach it in time and he went behind the station building in order to avoid personal injury. He had no knowledge of train third No. 43 and was not expecting any train ahead of train No. 17

Conclusions

This accident was caused by failure to provide proper flag protection for train third No. 43, for which Conductor Sanders and Flagman Taylor are responsible. Engineman Weymouth of train first No. 17 is also at fault, under the rules, for operating his train at an excessive rate of speed when approaching a station where the view was obscured, in territory not protected by automatic block signals.

Rule 99 of this railroad is definite in its requirements; the flagman must put down one torpedo one-fourth of a mile from the rear of his train and then continue back

and put down two torpedoes one-half mile from the rear of his train, after which he may return to the single torpedo and remain until relieved or recalled The weight of evidence is to the effect that Flagman Taylor was in the vicinity of the east passing-track switch, or only about 900 feet from the rear of his train, when the following train rounded the curve. Flagman Taylor knew his train was on the time of train No. 17, and in view of the fact that he had at least eight minutes at his disposal there is no reason why he should not have been able to go back around the curve far enough for the engineman on the following train to have seen him in time to stop before reaching the point of accident. Had Flagman Taylor given proper attention to the performance of his duties he could have prevented the occurrence of this accident.

Rule 850 of the General regulations states that the proper protection of trains is of first importance and that conductors must not allow other duties to interfere therewith. Not only is it the conductor's most important duty to see that his train is properly protected, but on this railroad it is provided in rule 100 that when the flagman goes back to protect his train the conductor must, in the case of passenger trains, take the flagman's place on the train. Had Conductor Sanders made it his business to know where the flagman was located, or had he complied with rule 100, he would have known that this train was not receiving proper protection and would have been in position to take measures toward correcting the situation. Under these circumstances Conductor Sanders is equally responsible with Flagman Taylor for the occurrence of this accident

Rule 91a provides that when the view is obscured trains must approach stations at a rate of speed which will enable them to stop should an emergency arise, except in automatic block-signal territory. This rule further provides that the responsibility for collisions rests with the following train, although this is not to relieve the preceding train of the duty of protecting itself. There is no block-signal system in effect in the vicinity of the point of accident, and under rule 91a therefore it was the duty of Engineman Weymouth, of train first No. 17, to approach Cortena, where the view was obscured by a curve to the left, and obstructions on the inside of the curve, prepared to stop should an emergency arise. According to his own statements, however, his train approached Cortena at a speed of about 60 miles per hour and although he made an emergency application of the air brakes when warned by the fireman yet he was only able to reduce the speed of his train to about 35 miles per hour before the accident occurred. In view of the fact that the flagman apparently was back a distance of about 900 feet and that the brakes, which were working properly, undoubtedly were applied several hundred feet in advance of the point where the flagman was located, it is

clear that Engineman Weymouth when approaching Cortena must have been operating his train at an excessive rate of speed; had he obeyed the requirements of this rule this accident undoubtedly would not have occurred.

Although in no way excusing the conductor and flagman of train third No. 43 for their failure to provide proper flag protection at the rear of their train, Engineman Long of the same train could have provided an even better opportunity for such protection by reducing speed and whistling out a flag before his train had passed around the curve when entering Cortena, since none of the train crew knew an unusual stop was to be made at this point.

Station Clerk Harbin, located at Maxwell, said that for convenience the mail cart was left on the station platform, while he was in the office he heard the mail cart being moved but he did not notice where it was until he came out as train third No. 43 approached the station. Rule No. 915 provides that skids, trucks and scales, when not in use should be placed in baggage room or warehouse. If necessary to leave on platform, they must be neatly lined up at end or rear of station building and so placed or secured that they cannot roll out of position. Had this rule been observed the damage to the engine of train third No. 43 which was responsible for that train being brought to a stop at Cortena would have been avoided.

At the time of this accident an automatic block-signal system was being installed on the division on which this accident occurred, had such a system been in operation in the vicinity of Cortena this accident would not have occurred.

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.