

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
MISSOURI-KANSAS-TEXAS RAILROAD AT SAVONBURG, KANSAS,
ON OCTOBER 31, 1929.

December 6, 1929.

To the Commission:

On October 31, 1929, there was a rear-end collision between two freight trains on the Missouri-Kansas-Texas Railroad at Savonburg, Kans., which resulted in the injury of two officials and one employee. This accident was investigated in conjunction with representatives of the Public Service Commission of Kansas.

Location and method of operation

This accident occurred on the Kansas City Division of the Parsons District, which extends between Kansas City and Parsons, Kans., a distance of 136.8 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; under an operating rule trains in the same direction are required to keep 10 minutes apart. The point of accident was 1,575 feet north of the station at Savonburg; approaching this point from the north the track is tangent for a considerable distance, followed by a 2° curve to the right, which is 1,129 feet in length, the accident occurring on this curve at a point 401 feet from its leaving end. The grade is ascending for southbound trains for a distance of about 2,000 feet, and is 1.1 per cent ascending at the point of accident. The speed limit for freight trains, according to the time-table instructions, is 30 miles per hour.

The weather was clear and it was nearly dark at the time of the accident, which occurred at 6.08 p.m.

Description

Southbound fourth-class freight train No. 99, which was a local freight train, consisted of 37 cars and a caboose, hauled by engine 745, and was in charge of Conductor Maxwell and Engineman Musson. At a station known as Parker, which is 44.8 miles north of Savonburg, the crew received a copy of train order No. 12, Form 19, reading as follows:

"No 99 Eng 745 will occupy main
track at all stations unprotected
by flagman against southward extras."

Train No. 99 left Parker at 10.42 a.m., 1 hour and 10 minutes late, stopped at various points en route, left Elsmore, 3 miles north of Savonburg, at 5.58 p.m., 4 hours and 23 minutes late, and stopped at Savonburg at about 6.01 p.m. in order to do local work, and it was while standing at this point that its rear end was struck by extra 868.

Southbound freight train extra 868 consisted of air-brake instruction car 419, 55 freight cars and a caboose, in the order named, hauled by engine 868, and was in charge of Conductor Hicks and Engineman Welker. Extra 868 passed Parker at 4.22 p.m., receiving a copy of train order No. 12, Form 19, previously quoted, together with a message from the dispatcher which stated that train No. 99 had passed Mildred, which is 25.4 miles south of Parker and 19.4 miles north of Savonburg. On the arrival of the train at Moran, which is 11.7 miles north of Savonburg, Road Foreman of Engines Tierney and Fuel Supervisor Wyant took charge of the engine, in order to allow the engineman and fireman to go back and ride in the air-brake instruction car, the engineman first turning over to the road foreman the train orders and message he had previously received.

As the train was departing from Moran, some additional train orders were handed on, which were not involved in this accident, and also a message from the dispatcher, advising that train No. 99 left Moran at 5.05 p.m. Extra 868 departed from Moran at 5.40 p.m., with Mechanical Engineer Bowers and Head Brakeman Reesor also riding in the cab of the engine, and was approaching the station at Savonburg when it collided with the rear end of train No. 99 while traveling at a speed of 45 miles per hour.

The caboose and three rear cars of train No. 99 were demolished, and four other cars in that train were derailed and damaged. Engine 868 was derailed and turned over on its right side, while the air-brake instruction car and the car immediately behind it were damaged to some extent. The officials injured were the road foreman of engines and the mechanical engineer; the employee injured was the head brakeman.

Summary of evidence

Conductor Maxwell, of train No. 99, stated that after train order No. 12 had been received, his train occupied the main track at different points without flag protection. While his train was at Moran, he had suggested to the dispatcher that the latter give the crew of extra 868 a message

to the effect that train No. 99 had work to do at Elsmore and Savonburg, and he said the dispatcher replied that he would give them a message telling them the time at which train No. 99 departed from Moran. When train No. 99 left Elsmore, which Conductor Maxwell said was about 5.55 p.m., the entire train crew was riding in the rider car, which was the third car from the engine, and he said that they arrived at Savonburg at 6.01 p.m., and stopped with the merchandise car, which was the fifth car from the engine, opposite the platform. Conductor Maxwell then received an order giving him time on a following third-class train, No. 275, which was due at that point at 6 p.m., performed what station work there was to be done, and had given a signal to proceed, but before the train could be started, its rear end was struck by extra 868. The statements of none of the other members of the train or engine crews of train No. 99 brought out any additional facts of importance in connection with the actual operation of their train, except that Flagman Nickell said he lighted the markers when the train was leaving Mildred, which, according to the train sheet, was at 4.02 p.m. The flagman also stated that he rode on the rear of the train from Mildred to Moran, a distance of 7.7 miles, was in the rider car between Moran and Arden, 4.3 miles, was in the caboose from Arden to Elsmore, 4.4 miles, and then from Elsmore to Savonburg, a distance of 3 miles, he was again back in the rider car. There was considerable testimony from these employees concerning their rights under the protecting order No. 12, which will be briefly referred to later in this report.

Enginemen Welker, of extra 868, said that at Parker he received a copy of train order No. 12, Form 19, previously quoted. When his train left Moran, Air Brake Supervisor Vergan came close enough to the engine for Enginemen Welker to speak to him, and Enginemen Welker said he asked the air brake supervisor if he should ride in the air brake car to Parker, and the supervisor told him he did not have to do so, but in view of the fact that Enginemen Welker wanted to ride in the car, he then asked Road Foreman of Engines Tierney if he could do so and received the necessary permission. Enginemen Welker then went back into the air brake car and was still in that car, talking with the air brake supervisor, when the accident occurred. He said that before leaving his engine he turned over to the Road Foreman of Engines Tierney the orders he had received up to that time, together with the message received at Parker, but did not discuss the orders with the road foreman or call his particular attention to the order authorizing train No. 99 to occupy the main track at stations without protection.

Fireman Lovelass, of extra 868, stated that he read the orders and the message received at Moran, and that after leaving Moran he was told by Fuel Supervisor Wyant that he could go back into the air brake car, which he did, at the same time saying that the local was ahead of them, but addressing this remark to no one in particular.

Fircman Lovelass said he had seen Road Foreman of Engines Tierney reading some of the orders, but did not have any conversation with him and was not positive that either the road foreman or the fuel supervisor actually read or were acquainted with the contents of train order No. 12, although he did state that the road foreman was in possession of the message received at Moran, together with the orders, and that after reading them the road foreman handed them to him to read, which he did and then turned them over to the fuel supervisor.

Head Brakeman Reasor said that when pulling by the tower at Moran, at which time the road foreman was in charge of the engine, additional orders were received, together with the message saying that train No. 99 left Moran at 5.05 p.m., and he read those orders to the road foreman. Head Brakeman Reasor did not read train order No. 12 to him, but said that when the road foreman took charge of the engine, both Engineman Welker and himself told the road foreman that they had a protecting order on train No. 99. Head Brakeman Reasor further stated that when he read the message and orders received at Moran, he read them aloud to all of those on the engine, and he remarked that they would have to look out for train No. 99 all the way to Parsons, which statement he said was acknowledged by the fuel supervisor, while the road foreman acknowledged it by saying that he was not sure but that anyway they had a protecting order on the local. It also appeared from statements of the head brakeman that he was riding on the engine as the train approached Savonburg, and that his first knowledge of anything wrong was when Road Foreman of Engines Tierney applied the air brakes in emergency and told them to get off.

Road Foreman of Engines Tierney said that before taking charge of the engine at Moran, he had read the order received at Parker giving train No. 99 the right to occupy the main track at stations without protection against following extras, and also had read the message saying that they had passed Mildred. When relieving Engineman Welker at Moran, the engineman handed him the orders which had been previously received, and he also received the message that train No. 99 had left Moran at 5.05 p.m. It appeared, however, from the statements of Road Foreman of Engines Tierney, that he did not read this message, nor did he read all of the orders or remember hearing anyone say anything about train No. 99, and after leaving Moran he gave no thought to that train at any time. He operated his own train at a speed which he

said was a little fast, estimating it to have been about 40 or 45 miles per hour, and said that he made no application of the air brakes, with the possible exception of an application of the independent brake at one point in order to take care of the slack, and his first knowledge of the presence of train No. 99 ahead of him was when he saw two red lights, and on looking at them closely he realized there was a train ahead and immediately applied the air brakes in emergency. The only explanation offered by the road foreman for the occurrence of the collision was that he had forgotten.

Fuel Supervisor Wyant said he had been riding on the engine at different points en route, returning to the engine for the last time at Moran, and that he had read all of the orders and messages received, either reading the copies delivered to the engine crew or the copies delivered to the air brake car. Mr. Wyant stated that Engineman Welker delivered his orders to the road foreman of engines, while standing beside the engine at Moran, and to the best of his knowledge the engineman called the road foreman's attention to the fact that the local was ahead of them. Orders also were received while pulling out of Moran, being delivered to the head brakeman, who in turn unfolded them and handed them to the road foreman, who did not take them but asked the head brakeman to hold them up so that he could read them. The road foreman then read the orders, which were accompanied by a message, and later on, Mr. Wyant saw the road foreman take out of his pocket the orders he had received from Engineman Welker and look them over, and he therefore supposed the road foreman was fully acquainted with the orders which had been received. In addition, Mr. Wyant also stated that while there was no discussion of the orders among those on the engine, yet when the fireman left the engine to go back to the air brake car, the fireman remarked that the local was ahead of them and that they would have to look out for it. Fuel Supervisor Wyant was riding on the seat box on the left side of the engine, and as the train approached Savonburg he was watching the road foreman closely, expecting that he would reduce the speed, which was from 40 to 45 miles per hour. The road foreman at that time was sitting on the engineman's seat box, looking out of the window across the curve in the general direction of the station, and had every appearance of being about to apply the air brakes, but Mr. Wyant said

he did not make any move to do so until suddenly he applied the brakes in emergency. Mr. Wyant then crossed over to the engineman's side and saw the rear end of train No. 99 immediately ahead of them. It further appeared from Mr. Wyant's statements that he had been closely associated with the road foreman for many years and considered him to be an expert in the handling of trains, and he said the road foreman appeared to be in normal mental condition on the day of the accident. He also stated that the road foreman was not engaged in conversation with Mechanical Engineer Bowers, who at that time was standing beside the road foreman.

The statements of the train crew of extra 868 brought out no additional facts of importance concerning the operation of their train or the handling of the various train orders and messages involved. Conductor Hicks, who had been riding in the caboose as the train was approaching Moran, had started over the train towards the head end and had reached a point about 15 cars back from the engine when the train left Moran, and he said that by the time he had reached the air brake car, both the engineman and fireman were in there.

Air Brake Supervisor Vergan stated that the air brake car was equipped with various recording instruments for the purpose of enabling the car to be operated behind all enginemen in freight service, with the idea of checking air brake performance and eliminating break-in-twos, flat wheels, etc. An increase in break-in-twos had been noted on the Parsons District, and it was for this reason that the air brake car was being operated in this territory at the time of the accident. While looking over the air brake equipment at Moran, Mr. Vergan met Engineman Welker at the side of the engine and told him he had operated the car properly and that it would not be necessary for him to ride in the air brake car. The engineman replied, however, that he would like to do so, and about the time the train was leaving Moran the engineman and fireman came back into the car. Mr. Vergan had not read the orders himself, but said he asked all those in the car if the orders were understood, this being his practice whenever a crew is changed. He then began explaining to Engineman Welker how he had handled the train, and about the time he had finished talking with the engineman he looked out of the window to ascertain his location, saw mile post 106, and immediately glanced at the speedometer to see if the speedometer was correct at the mile post. At about this time the air brakes applied in emergency and he at once announced this fact, supposing at the time that it was due to a break-in-two.

The collision occurred 13 seconds after the brake valve had been placed in the emergency position, by which time the speed of the train had been reduced from 47 miles per hour to 43 miles per hour, and he said the distance between the point where the brakes were applied and the point of collision was approximately 2/10 of a mile. Mr. Vergan further stated that about two hours after the accident he looked over the train in company with a car foreman and found the brakes still applied on all of the cars in the train with one exception, and in this one case the brakes had leaked off.

Conductor Maxwell, of train No. 99, was questioned in detail concerning the protection afforded his train at various points en route, and it appeared that there had been irregularities at Beagle, Mildred, and Savonburg. Work was done at Beagle, which is 7 miles north of Parker, but the train occupied the main track at that point without flag protection, the conductor saying that he had called up the dispatcher and had been informed that there was nothing behind him and that he would get a protecting order when he left Parker. Train order No. 12 was received at Parker, as promised by the dispatcher, and after that time, work was done at various stations en route without flag protection, this being in accordance with the provisions of the order. At Mildred, however, it was necessary to back out of the siding, and on account of its being a bad location for such a movement, Conductor Maxwell inquired of the dispatcher before the back-up movement was started as to what southbound trains might be behind him, and then made the movement without flag protection, although the protecting order he had previously received did not relieve him of protecting a back-up movement. It further appeared that his train arrived at Savonburg at 6.01 p.m., and that train No. 275, a following train of superior class, was due there at 6 p.m., and when questioned as to what protection he had at Savonburg against train No. 275, Conductor Maxwell replied that he had talked with the dispatcher and had been told that train No. 275 would not leave Moran before 9 p.m.; this was the only protection he had against train No. 275 upon his arrival at Savonburg, and at that point he received an order giving him time on that train.

A great deal of testimony was taken from the various members of the two crews as to the meaning of train order No. 12, particularly with reference to the requirements of a state law which was read into the record and which provides in part that when a train is occupying the main track it must be protected "against approaching trains at all times", regardless of block signals or yard limit boards, by a competent flagman with both visible and audible signals; there was also considerable testimony as to where the rear end of a train could stand, and still be relieved under the

protecting order. For all practical purposes, a summary of the statements of most of the various witnesses in regard to these matters may be had from the statements of Conductor Maxwell, of train No. 99, who said that in his opinion train order No. 12, which directed his train to occupy the main track at all stations unprotected against following extras, meant just what it said; that the use of such orders was a matter of custom, and that extra 868 should have approached under control, expecting to find train No. 99 occupying the main track without flag protection. As to the application of the state law, Conductor Maxwell said that all he knew about it was based on conversation he had heard among the employees; to the best of his knowledge, he had never read the law, did not know when it took effect, did not know personally that there was such a law, and he said he had no intention of violating any law or rule. When questioned as to where the caboose could have been standing and still be protected under the order, Conductor Maxwell said that no instructions on this point had been issued, nor had he discussed it with the rules examiner, but his understanding was that his train would be protected while doing its work in the usual manner, even up to the maximum length of the train, and even though at some stations the caboose might be inside of the switches and at other points it might be outside of the switches.

Not all of the witnesses, however, agreed with the statements of Conductor Maxwell, as expressed in the preceding paragraph. The fireman of train No. 99, for instance, thought his train would be protected under the order if it were standing at any point inside of the whistling post, and the flagman of that train seemed to be of the same opinion. The conductor, head brakeman and flagman, of extra 868, seemed to think that the protecting order would relieve a crew only when standing between the switches, although the conductor stated that in the past, when in possession of such an order, he had allowed his train to go without protection, even when outside the switches, provided the track behind the caboose was straight for a considerable distance. In the case of the accident under investigation, however, he thought the rear end of train No. 99 should have been protected by flag, because of the difficulty in seeing at a time of day when it was just getting dark, coupled with the curvature of the track, and his flagman also stated that he thought the curvature was sufficient to require flag protection. The fact that all employees might not be of the same mind when operating trains under orders of this kind seems to have been recognized several years previously, when instructions were issued to the division superintendents over the signature of Vice-President and General Manager McGee. These instructions, issued on December 29, 1924, read as follows:

"The practice of relieving fourth class trains from protecting by flagman at their regular and flag stops by giving them an order that all extras following them will wait at a certain station until a certain time, has been misinterpreted, as relieving these trains from flagging while making stops between stations.

"In order to avoid such a misconstruction and also to prevent tying up extras that may be following up these fourth class trains at unexpected times, train orders covering should be changed to read as follows:

'No. _____ will occupy main track at regular and flag stop unprotected by flagman against inferior extras south (or north). This order annulled after _____ P.M. or (_____ A.M.)"

Dispatcher Hillman, when questioned about the statement of Conductor Maxwell that he had occupied the main track at Beagle without protection, after ascertaining from the dispatcher that there was nothing behind him, said that this was not the usual practice, and yet he felt that under such circumstances the conductor would be relieved of flagging. When asked if there was any rule to that effect, he replied as follows:

"Rule reads when trains expected that they shall flag. If he ascertained that no trains were due, it would relieve him."

The dispatcher was also questioned about the operation of train No. 99 on the time of train No. 275, a superior train, and he stated that train No. 99 had verbal authority for the movement and that it could keep on going until it received orders. It was not his practice, however, to run inferior trains ahead of other trains on verbal orders, and he said that according to the rules, a train order should be obtained for such a movement. It further appeared from the dispatcher's statements that very few extra trains were operated in this particular territory, the majority of trains being scheduled movements, and this statement was verified by a check of the train movements for the 30 days immediately prior to the date of the accident, which indicated that on the average the movement of extra trains in this territory was only slightly more than one such train daily in each direction.

With regard to the question of how far the rear end of a train could stand from a station without flag protection, providing the crew was in possession of the usual protecting order, Train Rules Examiner Wachker said that there were so many factors governing the question that when the instructions were issued allowing the use of the protecting order, the officials did not undertake to fix any definite distance, leaving it to the local officers to determine, according to the conditions on their particular districts, and he said that whenever anyone inquired about the matter he would tell the inquirer to look for the rear of the train at a point a long train-length from where the head end of the train would stop in order to do its work. Mr. Wachker also stated that the local freight men were told that whenever the view was obscured within a distance of 750 feet from their rear end, they should assist the following train, although this would not in any way relieve the following train from responsibility. It also appeared from Mr. Wachker's statements that the protecting order had been in use for a number of years, and in his opinion there had not been as many rear-end collisions since its adoption. Mr. Wachker also made the statement that prior to the occurrence of this accident he had not known anything about the requirements of the state law as to flagging, and that he did not examine the employees on the requirements of various laws.

Conclusions

This accident was caused by the failure of Road Foreman of Engines Tierney, who was acting as engineman, to read all of the orders affecting the movement of his train, as a result of which he was moving at a high rate of speed when approaching a station where a train was occupying the main track without flag protection.

The evidence in this case indicated quite clearly that for several years it had been the practice on this line to relieve the crews of local freight trains from the necessity of protecting their trains while occupying the main track at stations, the evident purpose being to enable the flagman to be used in connection with the station work. This practice was carried out through the issuance of orders directing the train involved to occupy the main track at all stations unprotected by a flagman against following extras. It further appears that this practice was well understood by all concerned, and it was in accordance with this practice that such orders were issued to the crew of train No. 99 and copies furnished to the crew of extra 868. After the issuance of this order and while the train was at Moran, Road Foreman of Engines Tierney relieved Engineman Welker so that the latter could ride in the air brake car immediately behind the engine. The orders then in the possession

of Enginemen Welker, together with a message, were turned over to the road foreman, but for some unknown reason he failed to read all of the orders, including the one authorizing the local to occupy the main track without protection, and he also failed to read the message which would have reminded him that the local freight train was ahead of him. It also appears that when looking over orders received as his train was leaving Moran, the road foreman again failed to look them over carefully, and in some way did not notice the message issued at that point, which stated that train No. 99 had left Moran at 5.05 p.m.

Some of the evidence indicated that the road foreman had been reminded of the presence of the local. Fireman Lovelass said that when relieved by the fuel supervisor, he (the fireman) remarked that the local was ahead of them, which statement was verified by the fuel supervisor; the latter also said that he thought the engineman spoke to the road foreman about it, while the head brakemen said that both he and the engineman had told the road foreman that they had a protecting order on train No. 99. The engineman, however, said he did not call the road foreman's attention to the protecting order, and at the time the road foreman was questioned, which was in the hospital, he did not remember that anyone had said anything about the local. He admitted that he knew of the protecting order having been put out at Parker, which was more than seven hours prior to the accident, and said that he subsequently overlooked the preceding train.

The statements of the road foreman and the engineman did not agree exactly as to the conversation which took place at the time the orders were transferred, but it seems apparent that at the most there was only some general conversation between the two men. Rule 220 prescribes a definite method for turning over orders to a relieving engineman, there being a provision which says that all train orders and instructions must be delivered to the relieving engineman, and must be compared by the conductor and engineman before proceeding. Road Foreman of Engines Tierney had placed himself in the position of a relieving engineman, and in view of the fact that he occupied an official position, he should have been particularly careful to set an example in obedience to the rules.

No statement was obtained from Mechanical Engineer Bowers, who was riding on the engineman's side and was among those injured in the accident, but Fuel Supervisor Wyant and Head Brakeman Reasor had seen the orders and were fully acquainted with the situation. They were riding on the fireman's side of the engine, however, when approaching Savonburg, and could not see what was ahead of them, but

apparently they had every reason to believe that the road foreman knew what was transpiring; Fuel Supervisor Wyant also said that he had been watching the road foreman closely, expecting him to reduce speed at any moment. Notwithstanding these facts, however, it does not seem as if either of these men was justified in failing at least to say something about the presence of the local freight train ahead of them, and it is believed that had either of them said anything at all, instead of leaving the whole thing to the road foreman, who was operating the train considerably in excess of the speed limit, it is possible that the accident might have been averted.

The form of protecting order used in this case, although not strictly in accordance with the instructions issued by the vice-president and general manager in 1924, has been in use for years and appears to have been well understood. There was a conflict of opinion between the witnesses, however, as to where the rear end of a train could be standing and still be at a station within the meaning of the order. Some witnesses thought it meant between the switches; others that it applied when inside of the whistling posts, and others took the view that it applied whenever a train was standing where it normally would stand in order to do its regular work, even though this might cause the rear end of the train to be outside of the switches. The last-mentioned idea seems to have been the one intended by the management. The providing of proper flag protection, however, is one of the most fundamental principles of railroading, and when some substitute is adopted, then the utmost care should be exercised in its application. In the case here under consideration, differences of opinion such as those just referred to, could lead easily to the creation of a dangerous situation, and particularly would this be the case if the number of extra trains in operation were larger than is the case on this particular division. If the use of this form of order is to be continued, then the necessary instructions should be issued to insure that all concerned have a uniform understanding as to their rights when operating under such an order.

There is a question as to whether the existence of the practice of relieving the flagmen of local freight trains did not have a more or less direct bearing on the irregularities noted in connection with the handling of train No. 99 at Beagle, where it occupied the main track without flag

protection and before the protecting order had been issued; at Mildred, where a back-up movement was made without flag protection, and at Savonburg, where the train was on the time of a following superior class train without flag protection, having nothing but verbal authority from the dispatcher. There is no question as to the fact that the conductor, through the dispatcher, was watching out for following trains, but this does not alter the fact that the requirements of the rules should be paramount, and unless modified by written instructions from recognized authority, they should be enforced and obeyed.

All the employees involved were men with long experience, that of Road Foreman of Engines Tierney extending over a period of 50 years in engine service, and none of the employees had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,

Director.