

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
CINCINNATI, NEW ORLEANS & TEXAS PACIFIC RAILWAY,
SOUTHERN RAILWAY SYSTEM, AT HIGH BRIDGE, KY., ON
JANUARY 20, 1930.

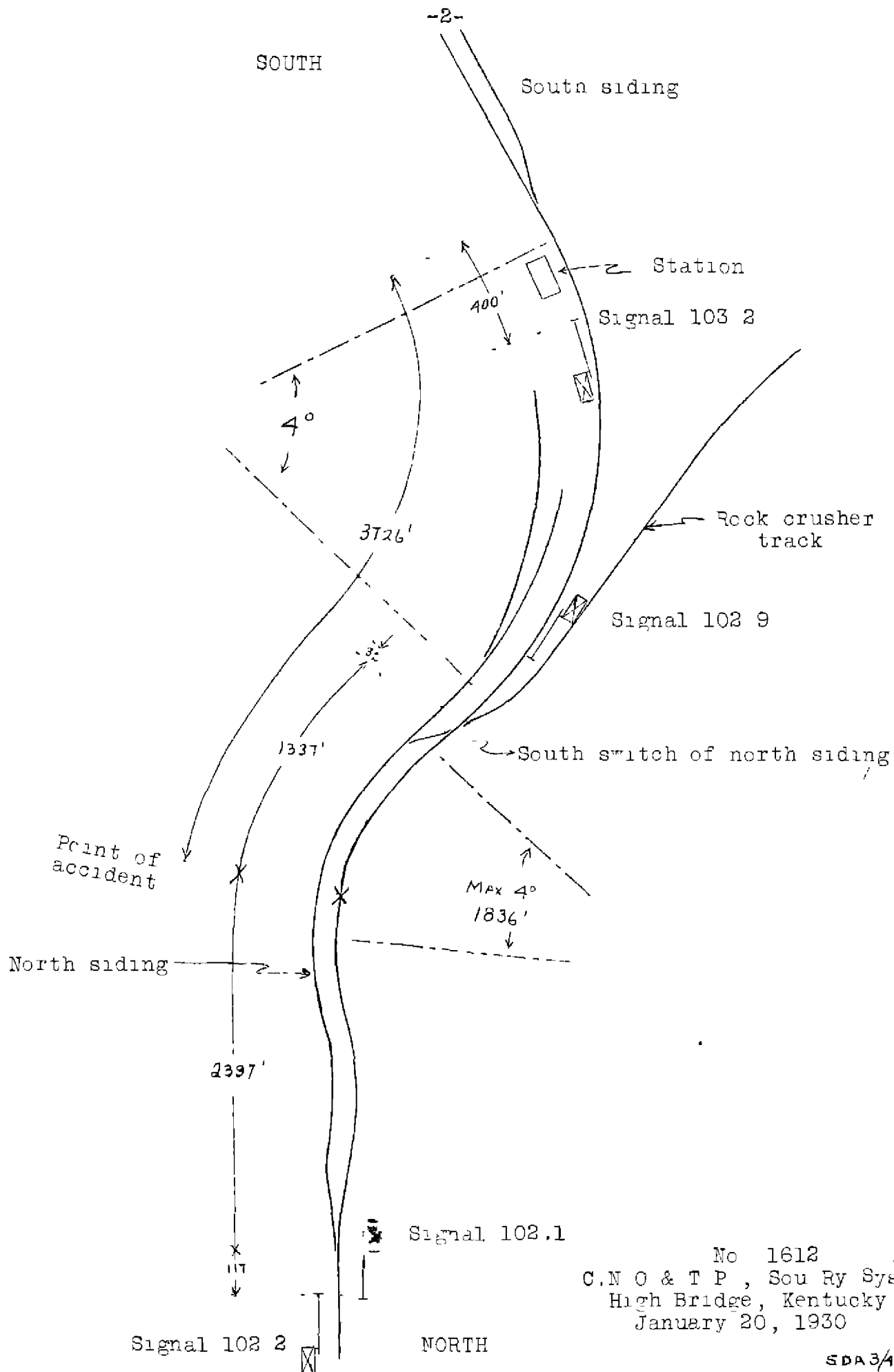
February 28, 1930.

To the Commission:

On January 20, 1930, there was a head-end collision between a freight train and a work train on the Cincinnati, New Orleans & Texas Pacific Railway, Southern Railway System, at High Bridge, Ky., which resulted in the injury of two employees.

Location and method of operation

This accident occurred on the First District, which extends between Cincinnati, Ohio, and Danville, Ky., a distance of 116.5 miles, and is a single-track line over which trains are operated by time-table, train orders, and an automatic block-signal and train-control system, the latter being of the intermittent type. There are two sidings in the vicinity of High Bridge, one located south of the station on the west side of the track, and one located a considerable distance north of the station on the east side of the track. These two sidings, which will be referred to in this report as the south and north sidings, respectively, are separated from each other by a distance of 2,389 feet. The accident occurred on the main track between the switches of the north siding, at a point about 1,337 feet from the south switch of this siding. Approaching the point of accident from the south, there is a compound curve to the left, which is 1,836 feet in length, varying in curvature from $1^{\circ} 56'$ to 4° , the accident occurring on the curve about 560 feet from its northern end, where the curvature is at its maximum. The grade is 1 per cent ascending for northbound trains. The track is laid on a shelf on the side of a high bluff, which results in the view around the curve being restricted to a few car-lengths. There is a rock crusher located between the two sidings and the switch leading to this rock crusher, which is a facing-point switch for southbound trains, is located 32 feet south of the south switch of the north siding.



No 1612
 C.N O & T P , Sou Ry Sys
 High Bridge, Kentucky
 January 20, 1930

The signals involved are southbound permissive signal 102.1 and northbound absolute signal 103.2. Signal 102.1 is near the north switch of the north siding, and its control extends southward to signal 103.2. Signal 103.2 is located about 400 feet north of the north switch of the south siding, and its control extends to a point 1,351 feet north of signal 102.1. When a northbound train passes the latter point, signal 103.2 goes from the stop to the caution position, provided the track between the two points is not otherwise occupied, and when the train is 3,067 feet north of signal 102.1, it permits signal 103.2 to assume the clear position.

The weather was clear at the time of the accident, which occurred about 6.25 p.m.

Description

On the day of the accident there were eight engines working extra between Danville and Rogers Gap, a distance of 53.3 miles, under an order authorizing them to work protecting against second and third-class trains. Work extra 6223, one of those so engaged, was in charge of Conductor Bowin and Engineman Covington. About 5.30 p.m. this train headed in at the south switch of the north siding and remained on the siding until after the passage of freight train No. 58, and passenger trains Nos. 42, 102 and 4. As soon as train No. 4 had gone, engine 6223 with five cars attached headed out at the north switch, intending to back down the main track and resume switching at the rock crusher, and it was approaching that point at a speed of about 10 miles per hour when train first No. 52 was seen approaching. The brakes were applied at once and the train had been brought nearly to a stop when the accident occurred.

Second-class freight train first No. 52 consisted of 43 cars and a caboose, hauled by engine 6319, and was in charge of Conductor Atkins and Engineman Hutchison. On arriving at High Bridge, the train headed in on the south siding in order to clear trains Nos. 42, 102 and 4. This was at 5.42 p.m., at which time train first No. 52 was about one hour late. As soon as train No. 4 had gone, train first No. 52 started to head out on the main track, about 6.20 p.m., moving slowly until signal 103.2 changed from the stop to the caution position. After a caution indication had been received, the train was stopped by an

automatic application of the air brakes, due to the failure of the engineman properly to latch the train-control lever. The brakes were then released and the train proceeded, and it had attained a speed variously estimated to have been between 15 and 25 miles per hour when it collided with work extra 6223.

The head end of the lead car of the work extra was badly damaged, while the car which was next to the work-train engine was knocked off center. Engine 6319 came to rest with all its driving wheels raised from the rails. The rear end of the third car in this train and the fourth, fifth and sixth cars were derailed and more or less damaged.

Summary of evidence

According to the statements of Conductor Bowin, of work extra 6223, he went to the telegraph office while his train was working on the rock crusher track, and received two orders, one of which provided that train No. 42 would wait at Dixdam nearly 2 miles south of High Bridge, until 5.45 p.m., he also received instructions from the dispatcher to clear second-class train No. 58. Conductor Bowin then returned to his train, had it coupled up, and pulled in on the north siding for the purpose of clearing the train in question. He said they then discussed the movements to be made, and that he finally instructed Flagman Baker, who was an inexperienced man, that he would come back down the main track as soon as the three passenger trains had passed, meaning trains Nos. 42, 102 and 4, and to look out for him. At the time these instructions were issued, he was about three or four car-lengths distant from the flagman, who was then climbing down from the side of a car after having set hand brakes. He did not use the word "hold" in giving these instructions to the flagman, but said the flagman seemed to understand what was wanted and he supposed the flagman would go out the proper distance. The engine then started for the north end of the siding with five cars attached, and as soon as train No. 58 and the three passenger trains had gone, engine 6223 headed out on the main track and started backing southward. Conductor Bowin, who said he did not notice the indications displayed by the signals at the time they moved out on the main track, was riding on the engine, with Brakeman Garrett on the leading car, and the first Conductor Bowin knew of anything wrong was when he saw the reflection of the headlight of train first No. 52, then about 10 car-lengths distant, and he at once called to the engineman, who applied the brakes, and had brought the train nearly to a stop when the accident occurred. Conductor Bowin had not seen any stop signal given by Brakeman Garrett.

Conductor Bowin was questioned again several days afterwards, and at that time he stated that he had intended to make the back-up movement on the main track as soon as trains Nos. 58 and 42 had passed, that he thought there would be time enough for this movement before train No. 102 arrived, that he told Flagman Baker he would return as soon as train No. 42 had gone, and that he could not remember just when it was that he told the flagman about the three passenger trains. After train No. 42 had passed, however, he found that there was not time enough to make the back-up movement, and consequently remained on the siding until trains Nos. 102 and 4 had passed. During the intervening time, he made no attempt to inform the flagman of the change which had been made in his plans, although there was time enough for him to have done so, and the result was that the flagman was out protecting the train after the passage of train No. 42, without any definite instructions and without knowing what the next movement would be. In view of the fact that he had told the flagman to look out for him after train No. 42 had gone, Conductor Bowin was asked if the flagman should have stopped trains Nos. 102 and 4, and he replied that he supposed the flagman should have taken such action. Conductor Bowin further stated that although the rules required the use of written flagging instructions in work-train service, it was not customary to use them in making such movements as the one involved in this case, their use being confined to instances of flagging out on the line, or when requiring a train to drive in or call in a work train.

Flagman Baker, of work extra 6233, said he had two conversations with Conductor Bowin about flag protection when the latter returned from the station after setting a line-up, the first occasion was when coupling up the cars preparatory to heading in on the north siding, and at that time Conductor Bowin told him they were heading in for train No. 42, and that they would cut off some cars and come back down the main track as soon as that train had gone. The second occasion was when Flagman Baker was climbing down from the cars on the siding after having set some hand brakes, and at that time the conductor called from a distance of a few car-lengths and said to watch out for him, that he would be down as soon as train No. 42 had passed. From these instructions, Flagman Baker understood that he was to hold all trains after train No. 42, but on the other hand he said it was not the practice

to stop passenger trains, and as the trains came so close together and as he also supposed the conductor had obtained a line-up, he did not stop trains Nos. 102 or 4, while train first No. 52 started to move out of the south siding so close behind train No. 4 that Flagman Baker did not think his own train could make any move at that time, supposing that the signals would be actuated by the presence of train first No. 52. While his instructions, therefore, were to watch out for the return movement of his engine after train No. 42 had gone, yet under the circumstances he said he did not expect to do any flagging until train first No. 52 had gone, and the result was that when the last mentioned train passed him, at a point north of the south switch of the north siding, he did not do anything other than make a sign to the engineman to sound his whistle. Flagman Baker then started to board his caboose, intending to get his red lantern and go out to flag so that Conductor Bowin could make the return movement down the main track. Flagman Baker further stated that he entered the service in June, 1929, and had been in service since that time except for five weeks' absence on account of an injury; his experience as a flagman had been confined to one round trip in through freight service, one week on a work extra, and three days in local freight service.

Engineman Covington, of work extra 8223, said that after getting in on the north siding, the conductor came up to the engine and said they would pull to the north end of that siding, and that after trains Nos. 58, 42, 102, and 4, had gone, they would back down and finish their switching, and that the flagman would look out for them. They proceeded to the north end of the siding, and Engineman Covington said that he started to work steam, preparatory to heading out on the main track, as train No. 4 was passing; and that he pulled out on the main track right behind that train, and then started the back-up movement, he also stated that he operated the acknowledging lever of the train-control device when pulling out on the main track. As the train was backing down the main track, some one called attention to a light, and Engineman Covington leaned out of the cab and saw Brakeman Garrett jump off the rear of the cut of cars and then give him a signal to stop, and he said he at once applied the brakes in emergency and called to the others on the engine to jump. Engineman Covington further stated that at no time was it his idea that they would make the back-up movement as soon as train No. 42 had passed, saying that when the conductor talked with him, all the conductor said was

that as soon as train No. 58 and the three passenger trains had passed, they would resume work, and that the flagman would look out for them. Engineman Covington knew he had a young flagman and said it was the practice when entering the main track, under the circumstances as they existed in this case, to whistle out a flag and then sound a back-up signal. He did not do so in this case, however, because he did not think of it, although he had no orders on train No. 52 and was occupying the main track on the time of that train.

Fireman Grace, of work extra 6223, said that the north switch of the siding was opened when the rear of train No. 4 was only three or four car-lengths beyond the switch, and that his engine started to head out on the main track immediately afterwards, he did not, however, notice the position of the block signals located near the switch. As the back-up movement was being made down the main track, Fireman Grace and the conductor saw train first No. 52, at about the same instant, and called to the enginemen, who applied the brakes in emergency. Fireman Grace had the same understanding as Engineman Covington to the effect that his engine would remain in the clear until all four trains passed, and he further stated that he had not heard anything said about making the movement as soon as train No. 42 had gone.

Brakeman Garrett, of work extra 6223, said he was instructed to open the north switch of the siding as soon as train No. 4 had passed, and that he took this action as soon as the rear end of that train had cleared the switch; he did not notice the indications of the block signals at the time. Brakeman Garrett rode on the head end of the leading car as the back-up movement was being made, and finally saw the reflection of a light. At first he thought it came from the rock crusher, but it gradually became brighter, and finally he saw the headlight of the approaching train. It was at about this time that he jumped off the car and ran towards the fence on the engineman's side, giving an emergency stop signal. Brakeman Garrett further stated that he had not heard any conversation about making the movement after train No. 42 had gone, and it was his understanding that Flagman Baker was to hold all trains after train No. 4.

Engineman Hutchison, of train first No. 52, said train No. 4 passed him at 6:18 p. m. and that he started to head out on the main track about two minutes afterwards, but he did not know how long the switch had been opened before he started the movement. At this time, signal 103.2 was still in the stop position, and he therefore moved very slowly, and it was not until he was close to the signal that he saw the arm start toward the caution position. When it started to move, he reached for the throttle and did not pay any more attention to the signal. In trying to hold down the train-control lever, however, and at the same time open the throttle, the train control lever flew up and caused the brakes to apply. After stopping and releasing the brakes, he again proceeded, and finally saw a man giving a signal which he understood as meaning that he should sound the whistle, and he had reached for the whistle cord when he saw a man flagging him. He then raised up so that he could see ahead, called to the man on the engine to jump, and applied the brakes in emergency, the collision occurring immediately afterwards. The statements of Fireman Holland brought out nothing additional of importance. Head Brakeman Dugger said he opened the switch as soon as train No. 4 had passed, and gave the engineman a proceed signal. Approaching the point of accident, Head Brakeman Dugger saw Flagman Baker giving what he thought was a short proceed signal, and notified Engineman Hutchison accordingly, but shortly afterwards the head brakeman saw the white lantern of Brakeman Garrett, about three or four car-lengths distant, and at once called a warning to the engineman. Flagman Grieme was on the engine as train first No. 52 started out of the south siding, and corroborated the statements of Engineman Hutchison to the effect that the block signal was in the caution position when he last saw it. Conductor Atkins was in the caboose of train first No. 52 and knew nothing of the circumstances preceding the occurrence of the accident.

Conclusions

This accident was caused by failure to provide proper flag protection when making a back-up movement on the main track, for which Conductor Bowin and Flagman Baker are responsible.

The statements of the conductor and flagman make it perfectly clear that there was no understanding between them as to what protection should be provided. To sum it all up, there were five northbound trains, Nos. 58, 42, 102, 4 and first 52, the first and last mentioned being freight trains and the others being passenger trains, and Flagman Baker understood that the back-up movement was to be made after the passage of train No. 42, and according to his idea of his instructions he should not have allowed any other train to pass. He said it was not customary, however, in this kind of work, to stop passenger trains, and therefore allowed trains Nos. 102 and 4 to go, and when train first No. 52 came along he thought it was too close to train No. 4 to give his own engine any opportunity of using the main track. His statements indicated that he did not have the slightest idea as to what he was supposed to do. Conductor Bowin, when questioned a second time admitted telling the flagman that they would make the back-up movement as soon as train No. 42 had passed; he did not give the flagman any explicit instructions about "holding" all trains after that time, merely telling the flagman to look out for him. After finding out that he could not make the movement after train No. 42 had gone, and before the arrival of train No. 102, Conductor Bowin made no effort to communicate with the flagman for the purpose of notifying the latter of the change in the plans. Just what he expected his inexperienced flagman to do under such circumstances is not entirely clear. Conductor Bowin was in charge of the movement, was so situated that he could supervise it and also supervise the work of the various members of his crew, and there is no excuse for his failure to see that the proper precautions were taken, especially as train first No. 52 then was more than one hour overdue. It also appears that the instructions given to the flagman were not in writing as required by the rules, and Conductor Bowin said it was not his practice when making movements such as that involved in this particular case to issue written instructions, confining their use to cases of flagging when out on the line. The rules, however, make no exception, and as long as they are in effect, and have not been modified by any subsequent instructions, they should be strictly enforced and obeyed.

The evidence indicates that when engine 6223 moved out on the main track, none of the members of the crew paid any attention to the signal indications, although the engineman operated the acknowledging lever of the train-control device when making the movement. If they opened the north switch of the north siding as soon as the rear end of train No. 4 had passed it, then signal 103.2 never could have gone to the caution position, in view of the fact that the control circuit of that signal extends 1,458 feet north of the switch in question. On the other hand, however, if the switch was not opened as quickly as they thought was the case, then the engineman of train first No. 52 could have received a caution indication at signal 103.2, which with this type of train control device would have required him to operate the train-control acknowledging lever, as he stated actually was the case, and in this latter event, after the engine of train first No. 52 had passed over the track inductor, any subsequent opening of the switch at the north siding by the crew of extra 6223 would not have affected the movement of his train. Under the circumstances of the case, with each engineman operating the acknowledging lever on ^{his} respective engine, it is impossible to say definitely just what did occur in connection with the operation of the train-control device. The system was found to be in good working order when examined immediately after the accident.

Flagman Baker and Brakeman Garrett, of work extra 6223, and Head Brakeman Dugger, of train first No. 52, were inexperienced men. At the time of the accident none of the employees involved had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W.P. BORLAND,
Director.