

## INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING  
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE  
SOUTHERN RAILWAY NEAR PEAK, TENN., ON MARCH 1, 1932.

March 31, 1932.

To the Commission:

On March 1, 1932, there was a head-end collision between two freight trains on the Southern Railway near Peak, Tenn., which resulted in the death of three employees and the injury of three employees.

## Location and method of operation

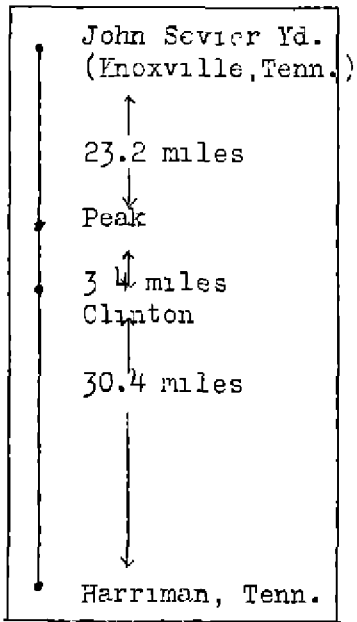
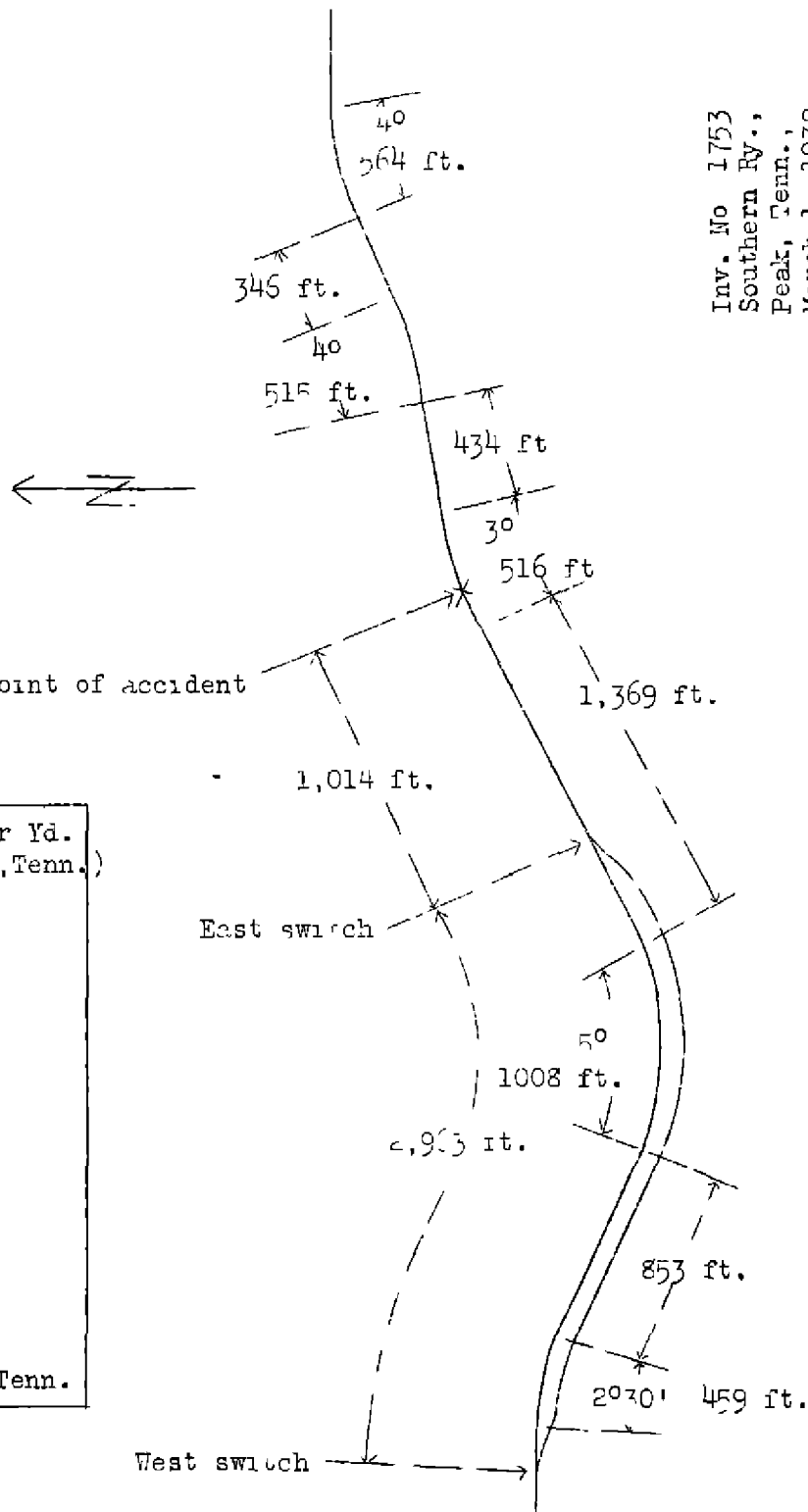
This accident occurred on that part of the Knoxville Division extending between John Sevier Yard, at Knoxville, and Harriman, Tenn., a distance of 57 miles, this being a single-track line over which trains are operated by timetable and train orders, no block-signal system being in use. The point of accident was 1,014 feet east of the east passing-track switch at Peak, this passing track being 2,983 feet in length. Approaching the point of accident from the west, there are 853 feet of tangent and then a 5° curve to the left 1,008 feet in length approaching the east switch, this curve is followed by 1,369 feet of tangent and then a 3° curve to the right 516 feet in length, the point of accident being on this latter curve about 160 feet from its western end. Approaching from the east, there is a 4° curve to the right 515 feet in length, 434 feet of tangent, and then the curve on which the accident occurred. The grade is 1.3 per cent ascending for eastbound trains.

The weather was clear at the time of the accident, which occurred about 1.50 p. m.

## Description

Eastbound freight train extra 1252 consisted of 2 flat cars, 1 derrick car, 1 flat car, 1 dining car, 4 box cars, and a caboose, in the order given, hauled by engine 1252, and was in charge of Conductor Miller and Engineman Wood. The last three box cars were bad-order cars, extra 1252 had proceeded from Knoxville to a point near Harriman for the purpose of picking up these cars following a derailment,

Inv. No 1753  
Southern Ry.,  
Peak, Tenn.,  
March 1, 1932



and after doing so came into Harriman in order to turn the engine and switch the derrick for the return trip to Knoxville, it being on this later portion of the trip that the accident occurred. At Clinton, 3.4 miles west of Peak, the crew in charge received a copy of train order No. 125, Form 31, giving them rights over second and third-class trains and also directing them to take siding and meet train No. 153 at Heiskell, a station 4.1 miles east of Peak, they also received a copy of train order No. 128, Form 31, directing them to meet train No. 153 at Peak instead of at Heiskell. Extra 1252 departed from Clinton at 1.35 p. m., met extra 4631 at East Siding, 1 mile east of Clinton, and then proceeded eastward, passing Peak without stopping and colliding with train No. 153 east of the east switch while traveling at a speed variously estimated to have been from 4 to 15 miles per hour.

Westbound second-class freight train No. 153 consisted of nine cars and a caboose, hauled by engine 2509, and was in charge of Conductor Frazier and Fireman Bishop. The crew in charge had received a copy of train order No. 125, previously referred to, and at Heiskell they received a copy of train order No. 128, changing the meet with extra 1252 from Heiskell to Peak. Train No. 153 passed Heiskell at 1.39 p. m., according to the train sheet, four hours and nine minutes late, and was approaching Peak at a speed of 12 or 15 miles per hour when it collided with extra 1252.

The front ends of the two engines locked together and were raised some distance above the rails, while the tenders were forced upward and against their respective cabs. The first car in train No. 153 telescoped the second car, while the first car in the train of extra 1252 was demolished. Both of the engines were considerably damaged. The employees killed were the fireman and brakeman of train No. 153 and the engineman of extra 1252.

#### Summary of evidence

Fireman Bruce, of extra 1252, said he had read and understood the orders relative to meeting train No. 153 at Peak instead of at Heiskell. As the train approached Peak, the engineman sounded the station whistle signal but Fireman Bruce did not remember whether he sounded any other signal. The train reached the summit of the grade, at that point moving at a speed of 10 or 12 miles per hour, and the engineman then eased off on the throttle while going through the sag approaching the grade commencing near the east switch and at about that time Fireman Bruce began to work on the fire. At one point in his statement Fireman Bruce said that it was not until after the accident had occurred that he recalled having overlooked the meeting point, but later on he said that while engaged on the fire he heard

the brakeman talking with the engineman but did not understand what they were saying, at the same time, however, he was wondering about the meet order and could not remember whether it had provided for a meet at Peak instead of at Heiskell, or at Heiskell instead of at Peak. As soon as he had finished putting in a fire, he shut off the injector and had intended inquiring about the orders, but about that time the brakeman called a warning of danger and Fireman Bruce got off just as the accident occurred. Fireman Bruce estimated the speed at the time to have been 15 miles per hour, with the engine working steam, so far as he knew, and he did not hear the air brakes being applied. Fireman Bruce further stated that he had made many trips with Engineman Wood, that the engineman seemed to be in normal condition on the date of the accident, and that he had always considered the engineman to be a safe and reliable man.

Head Brakeman Ellis, of extra 1252, said he was in the office at Clinton when the conductor and engineman received and read their orders, that the engineman gave his copies of the orders to the fireman, who read them and gave them to Brakeman Ellis, who in turn read them and gave them back to Engineman Wood, at the same time saying that they met trains at East Siding and at Peak, holding the main line in each case. Head Brakeman Ellis said he was riding on the engineman's side, standing in back of the engineman, and that the engineman sounded the station whistle signal when approaching Peak, answered a signal, and then sounded a road crossing signal. The speed of the train was about 10 miles per hour when it reached the top of the grade and started down through the sag, the engineman shutting off steam. Supposing that the engineman was going to stop at the east switch, Head Brakeman Ellis began cleaning a lantern and the first knowledge he had that the engineman was not going to stop was when he heard the engine going over the frog of the switch, he then asked the engineman if they did not meet a train there and the engineman did not understand and asked him what he said. Head Brakeman Ellis said he then told the engineman a second time and about the same time he saw train No. 153 coming around the curve, called a warning of danger and jumped. He saw the engineman's hand start toward the brake valve but did not know whether or not he or the conductor applied the brakes in emergency, in any event, however, he said that the speed when the accident occurred was not over 4 or 5 miles per hour. When he last saw the fireman before leaving the engine the fireman was working on the injector. About 10 minutes after the accident, Head Brakeman Ellis saw Engineman Wood and he quoted the engineman as asking who had hit them, but he did not know of anything else said by the engineman prior to the latter's removal to an ambulance. Head Brakeman Ellis further stated that while he did not

know whether an air-brake test had been made at Harriman, the brakes had appeared to work all right, and he had heard them release when coupling the engine to the train after taking water at Clinton.

Conductor Miller, of extra 1252, said he understood the orders clearly and that he had told Engineman Wood they would meet extra 4631 at East Siding and train No. 153 at Peak, holding the main track, and he said the engineman repeated that they were to hold the main track at both points. When approaching Peak, Conductor Miller thought he heard Engineman Wood sound the whistle and said that he held his hand out of the cupola window but did not hear any answering signal from the engineman. The train was moving at a speed he estimated to have been from 10 to 12 or possibly 15 miles per hour and when passing the office, 30 or 35 car-lengths west of the east switch, the flagman remarked that train No. 153 had not arrived, not feeling any slack in the train as it entered the sag between that point and the east switch, Conductor Miller told the flagman that he did not believe the engineman was going to stop, he at once left the caboose, went ahead over the three bad-order cars and into the tool-car coach, where he opened an emergency valve, but by this time his entire train had passed the east switch. He could feel the speed being reduced and estimated that it was about 4 or 5 miles per hour when the accident occurred. Conductor Miller said he had made many trips with Engineman Wood, that he considered him to be a safe man, and that he had appeared to be in normal condition on the day of the accident. It further appeared from the statements of Conductor Miller that the bad-order cars had been picked up at mile post 49, near Harriman. The brake pipes on these cars had been torn off and he thought the brake cylinders on some of them had been broken, he had talked about them with the tool-car men while at Harriman, and the tool-car foreman had thought he could use the brake pipe through them but was not able to do so. The brakes on the other equipment in the train had been in use throughout the day and nothing wrong with them had developed.

Flagman Benson, of extra 1252, corroborated the statements of Conductor Miller up to the point where the conductor started ahead to apply the brakes. The flagman said that at this time he went out on the rear platform, jumping off just before the collision occurred, at which time the speed of his train was about 10 miles per hour, he thought the speed had been reduced to some extent but did not know what had caused it. Flagman Benson did not know of any air-brake test having been made except to say that at Harriman he had cut in the air when picking up the derrick and the brakes released at that time, while they also worked properly when making a stop at one point en route on account of a hot box.

Engineman Bishop, of train No. 153, said he had applied the brakes when approaching Peak and was traveling at a speed of 12 or 14 miles per hour when his fireman jumped from his seat box and called a warning of danger just before the accident occurred, his statements indicated that he did not have time to do anything after being warned by the fireman. Conductor Frazier, who was riding in the caboose of train No. 153, said the brakes had been applied and that his train was traveling at a speed of 12 or 15 miles per hour when he saw the top of the derrick in the train of extra 1252, just before the collision occurred. Flagman Anderson, who was also in the caboose of train No. 153, said he did not have any warning prior to the accident and he estimated the speed of his train at that time to have been about 15 miles per hour.

Operator Graham, on duty at Clinton, said the orders were delivered to Conductor Miller and Engineman Wood, of extra 1252, that they read the orders in his presence, and that he felt sure they understood them properly. At that time Engineman Wood had appeared to be in normal health and not excited in any way.

#### Conclusions

This accident was caused by failure to obey a meet order, and by operating in a train cars having defective brake equipment which reduced the percentage of operative brakes below legal requirements and rendered inoperative air brake devices at the rear of the train.

The order fixing the meet with train No. 153 at Peak instead of at Heiskell had been received at Clinton, only 3.4 miles from Peak, and the evidence indicated that it was fully understood by all the members of the crew of extra 1252 when they departed from Clinton. The train proceeded up the grade into Peak and for some unknown reason Engineman Wood, who subsequently died from his injuries, failed to bring his train to a stop clear of the east switch, but proceeded eastward until he collided with train No. 153. Fireman Bruce was engaged in working on the fire and putting on the injector, and although apparently confused in his mind as to whether the meeting point had been changed from Peak to Heiskell or from Heiskell to Peak, he made no effort to find out the true situation, with the result that his first knowledge of danger was when the head brakeman gave warning. Head Brakeman Ellis had not confused the orders but said he thought the engineman was going to stop short of the east switch and consequently allowed himself to become engrossed in cleaning a lantern, not realizing that the train was proceeding until he heard the noise made by the engine as it passed over the frog at the east switch. There is no excuse to be offered for the action of these

employees in allowing other and less important duties to interfere with the proper observance of the train orders in their possession.

The fact that there were three bad-order cars ahead of the caboose of extra 1252, with defective brakes and without the air connected through them, resulted in this train being operated with less than the required percentage of power brakes and prevented the conductor from making an emergency application of the brakes when he found that the engineman was running by the meeting point, under the circumstances he was required to make his way over the bad-order cars, and it was then too late to avert the accident. These three cars had been picked up near Harriman and taken into that point, where the engine was turned, and the entire train then started back to Knoxville. The men and facilities were available at Harriman for piping the three cars sufficiently to run air back to the caboose, such action should have been taken, instead of allowing the train to depart from that point in the condition above noted.

Two lines of the Knoxville division merge at Clinton and the traffic density between Clinton and Knoxville is considerable for single-track line, the average daily movement for the 30 days prior to the accident having been between 21 and 23 trains, while in normal times the line is quite congested. On this line there are many cuts and fills, with grades requiring frequent helper service. In view of these conditions it is believed that the carrier should give serious consideration to the installation of an adequate block-signal system at the earliest practicable time.

All of the employees involved were experienced men, at the time of the accident the crew of extra 1252 had been on duty nearly 12 hours, after more than 10 hours off duty, and the crew of train No. 153 had been on duty about 1½ hours, after more than 36 hours off duty.

Respectfully submitted,

W. B. BORLAND

Director.