



MINISTRY OF TRANSPORT

RAILWAY ACCIDENTS

REPORT ON THE COLLISION
which occurred on
28th July, 1949, at
EPSOM STATION
in the
SOUTHERN REGION
BRITISH RAILWAYS

LONDON : HIS MAJESTY'S STATIONERY OFFICE

1950

THREEPENCE NET

SOUTHERN REGION
BRITISH RAILWAYS

MINISTRY OF TRANSPORT,

Berkeley Square House,

London, W.I.

14th November, 1949.

SIR,

I have the honour to report for the information of the Minister of Transport, in accordance with the Order of 29th July 1949, the result of my Inquiry into the collision which occurred at 7.28 a.m. on 28th July at Epsom Station in the Southern Region.

The 7.10 a.m. eight-coach Up electric passenger train, Effingham Junction to London Bridge, started against the signal from No. 3 platform and collided sidelong with the 7.7 a.m. eight-coach Down electric passenger train, Wimbledon to Effingham Junction, which was entering No. 2 platform at a speed of about 20 m.p.h.

There were some 70 to 80 passengers in the Up train and from 80 to 100 in the Down train. Fortunately there were no serious casualties ; three passengers and two railway servants were slightly injured and received prompt attention.

Both trains were 515 feet long and consisted of two sets of four coaches, each set with a motor bogie at either end. All the coaches, except the second set of the Down train, were of modern all-steel construction; of the remainder, three had timber bodies and one was all steel. Non-ferrous brake blocks operated on all wheels except those of the motor bogies, which were fitted with cast iron blocks. The Up train weighed 284 tons and the Down train 279 tons ; the brake efficiencies were 68.8% and 58.9% respectively.

The Down train was struck by the corner of the leading coach of the other train. The all-steel body-work of the first two vehicles stood up well to the shock of the sidelong blow ; the off side panelling was badly scored and dented but neither coach collapsed and comparatively few compartment lights were broken. The trailing bogie of the second coach was derailed and this apparently caused complete derailment of the third, which was detached from its bogies and overturned. The fourth coach was tilted to the left and the leading bogie was derailed. The rear four vehicles were undamaged. Only the first coach of the Up train was damaged ; the off side of the leading motor compartment was driven in and the leading bogie was torn from the underframe.

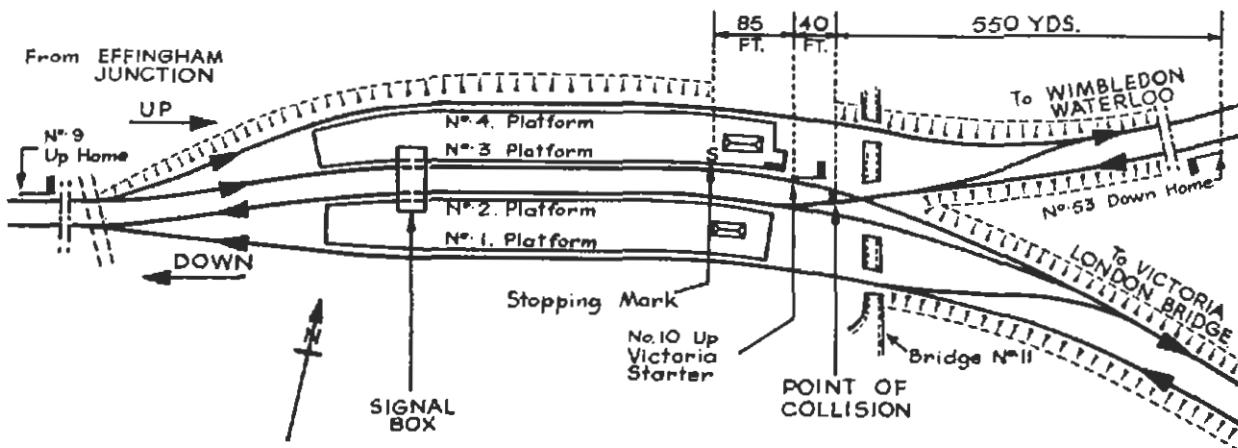
Damage to track and signalling was slight and was confined mainly to the diamond crossing at which the collision occurred. Current on the affected lines was cut off immediately when the high speed breakers opened on short circuit. Current on the adjoining lines was shut off five minutes after the accident ; it was restored on the Up Wimbledon line one hour later and on the Victoria lines by 9.36 a.m. A local bus service was operated initially, but emergency arrangements were soon completed for the resumption of the passenger train services. The lines were finally cleared by 7.10 p.m. the same evening, without having caused any serious inconvenience to the passengers using these busy routes.

The weather was fine and clear.

DESCRIPTION

1. At Epsom Station the double line from Effingham Junction divides into two routes ; the south-east line runs to Victoria and London Bridge, and the north-east to Waterloo via Wimbledon. There are two island platforms served by four tracks, as indicated in the sketch ; Nos. 1 and 2 are Down lines ; Nos. 3 and 4 are the Up lines to Victoria and Waterloo respectively. It will be noted that the Up Victoria and Down Waterloo lines cross each other on the road underbridge at the London end of the station. The platforms, which are straight in the centre and curved at each end, are elevated above the roadway and are approached by stairways from the booking hall at road level. They are covered by verandahs which somewhat restrict the station staff's view of the starting signals.

The signal box is well sited on an elevated stage above Nos. 2 and 3 platforms with an excellent view of the approaches at both ends of the station. The relevant signals are shown on the sketch. No. 53 Down Home, which gives entry to No. 2 platform, is interlocked with No. 9 Up Home and No. 10 Up Starter. No. 10 signal was only 40 feet from the fouling point of the Down line from Waterloo and, as the road underbridge was so close to this junction, protection of the fouling point by a facing trap or crossover was impracticable. A co-acting detonator was therefore provided in order to give the driver immediate warning of an over-run. A stopping (S) mark for all trains, irrespective of length, is fixed on the side of the stairway at the London end of No. 3 platform.



TRAIN WORKING

2. Relevant extracts from the rules regarding starting trains and observing signals are as follows :—

"RULE 141. Starting of Passenger Trains :

* * * * *

(b) *The signal for starting a passenger train must be given by the Guard, where provided, after obtaining an intimation from the person in charge of the platform that all is right for the train to proceed*

* * * * *

When it is impossible for the Guard's signal to start the train to be seen by the Driver, the person in charge of the platform must, after satisfying himself that the signal to start has been given by the Guard, signal to the Driver accordingly."

"RULE 143. Driver not to leave station without proper signals :

When a train is about to leave a station, siding, or ticket platform, the signal to start given by the Guard only indicates that the station duty or the collection of tickets is completed ; and, before starting the train, the Driver must satisfy himself by observation that the line is clear, and the necessary fixed signal, where provided, is lowered

REPORT

3. Traffic through Epsom Station is heavy, especially during the morning and evening peak. Passenger trains on weekdays, excluding Saturdays, average 180 on the Victoria-London Bridge lines and 130 on the Wimbledon-Waterloo lines. Between the hours of 7.0 a.m. and 8.0 a.m., six Up Victoria-London Bridge and six Down Wimbledon trains pass over the diamond crossing outside the station and each pair of trains is booked to cross within two minutes of each other. The 7.10 a.m. Up Effingham Junction-London Bridge train normally leaves from No. 3 platform at 7.26 a.m., and the 7.7 a.m. Down train from Wimbledon is due to arrive in No. 2 platform at 7.28 a.m.

4. On the morning of the accident the Up train was running about a minute late and the Down train was on time, or possibly a little early. Signalman W. F. Smith of Epsom box accepted both in accordance with normal procedure and allowed the Up train to enter No. 3 platform first. He then saw the Down train standing at No. 53 signal and decided to bring it into No. 2 platform before lowering the Starting signal for the Up train. Consequently, as soon as the latter had stopped at the platform, Smith lowered No. 53 signal and watched the Wimbledon train enter the station. As it was crossing over the junction he saw the Up train start against No. 10 signal at Danger, and heard the detonator explode, followed by the collision. He immediately sent "Obstruction Danger" to the boxes in each direction and advised the Redhill control. Smith explained that on the two previous days the Up train had left before the Wimbledon train arrived, but sometimes he held the Up train at the platform and allowed the Wimbledon train to enter the station in front of it.

5. Carriage Cleaner E. Sibley stated that he was standing by the S mark on No. 3 platform when the Up train stopped opposite him and he had some conversation with the motorman. After a moment or two, Porter Matthews, who was about half-way down the platform, gave the "Right Away" signal and Sibley repeated it to the motorman. The train started at once and just as it was leaving, two passengers rushed past him and jumped into a compartment. Sibley heard the detonator explode and then saw the two trains collide. He said that he did not look at the Starter and thought he was helping by passing on the "Right Away" signal. He explained that he had previously been employed as a Porter and knew the station routine.

6. Porter F. E. Matthews was on duty on Nos. 3 and 4 platforms ; he was near the country end of the station when the Up train arrived and, after it had stopped, he walked up the platform closing carriage doors. He had gone about half-way when he saw all doors were closed, so he turned round and signalled to the guard, who thereupon waved his green flag. Matthews said that he could not see the Starter from his position but he passed on the guard's signal to the driver, who started at once. Matthews also saw the two passengers jump into the train when it was moving. The driver was still looking out of his cab and his attention appeared to be attracted by these late-comers.

7. Guard C. F. Abbs of the Up train said he was riding in the brakevan at the rear of the end coach. The train left Effingham Junction one minute late and ran normally to Epsom, where it stopped in the usual position at No. 3 platform. He unloaded some mail bags and then a porter standing about the middle of the train gave him the "Right Away". Abbs said that he could not see the Starter from his position but gave the green hand signal, which the porter passed on to the driver.

8. Motorman L. H. Pallot of the Up train, said that on approaching Epsom, the Distant signals were at "Caution", and the Home signal was off, with the Distant arm underneath it at "Caution" ; the Starting signal was at Danger. He stopped the train with his cab door opposite the S mark and began talking to a man whom he thought to be a porter, but whom he had since learned was Carriage Cleaner Sibley. After they had been talking together for a minute or two Sibley raised his hand and said "Right Driver". Pallot took this for the "Right Away" signal and started at once. He admitted that he did not observe the Starter but continued to look across the platform, because he saw two men attempting to join the train.

Meanwhile, as the train was gathering speed, the detonator exploded and Pallot realised what had happened. He immediately released the "dead man's handle" and made a full application of the brake, but he was unable to stop before his coach collided with the Down train. Pallot said that on some mornings his train was held to allow the Down train to enter before it, but generally he got a clear run. The Starter could be seen from the S mark, but if, as occasionally happened, the train ran a little further ahead, he had to bend down to see the signal arm, which was a high one. Pallot admitted that it was his responsibility to satisfy himself that the necessary signals were lowered before he started the train and that the guard's signal only indicated that the station duties were completed.

9. Motorman H. J. Hughes of the Down train said that the brakes were tested before leaving and that he had had a normal run up to the Epsom Home signal, which was at Danger. After waiting there for nearly two minutes, the signal was lowered and he restarted. As he approached the diamond crossing he noticed that the London Bridge train was standing in the station and the Up signal was at Danger. He saw the porter give the "Right Away" and was astonished to see the train moving just as his leading coach was passing over the crossing at a speed of about 15 m.p.h. He made an emergency brake application but could not stop before the compartment immediately behind his cab was struck. His train came to a stand about two coach lengths further on. Hughes explained that he was often stopped at the Epsom Home signal and it was quite a common occurrence to find a train standing at No. 3 platform when he entered the station.

10. Guard J. D. Gladdis of the Down train confirmed that the brakes were tested before leaving and that the train was stopped at the Epsom Home signal. After it was lowered, the train ran towards the station at slow speed and Gladdis thought it was travelling at about 10 m.p.h. when the collision occurred.

11. Based on the assumption that Driver Pallot made a normal start, the Electrical Engineer, Southern Region, calculated that the Up train would have been travelling at a speed of 10 to $10\frac{1}{2}$ m.p.h. when it passed the Starting signal and exploded the detonator. Allowing one second for the motorman's reaction before lifting the "dead man's handle" (representing about 15 foot travel before the brake application became effective), the train would have stopped approximately 52 feet further on, or 67 feet from the signal—an over-run of 27 feet beyond the fouling point. If, on the other hand, the Starting signal had been only 45 feet from the stopping mark, and thus 80 feet from the fouling point, the speed of the train would have been approximately 7 m.p.h. at the signal and, allowing for the same time lag in brake application, the train would have stopped 45 feet beyond the signal, or 35 feet clear of the fouling point.

CONCLUSION

12. The Wimbledon train was entering the station under proper control and with clear signals and the collision was due to the serious failure of Motorman Pallot to carry out the elementary rule of observing the Starter before leaving the station. Instead of attending to his duty and watching this signal, which he admits having seen at Danger when he arrived, he spent his time talking to a carriage cleaner, from whom he accepted the "Right Away" without further thought. After starting, his attention was attracted by two last-minute passengers running for the train and it was only the noise of the exploding detonator which brought him to his senses. Although he applied the brake promptly the Starter was too close to the fouling point for the train to stop before it struck the incoming train, which was probably travelling at about 20 m.p.h. Motorman Pallot is 48 years of age with 30 years railway service. He has been driving steam and electric trains for the last four years. His previous record as a motorman has been fair.

13. It is unfortunate that Carriage Cleaner Sibley, in an attempt to speed up station working, gave the "Right Away" signal without first observing the Up Starter, which was clearly in his view. Porter Matthews could not see this signal from his position half-way down the platform but he was in order in passing on the guard's hand signal. Guard Abbs, on the other hand, could have seen the Starter if he had stepped back two or three yards from the train, but he cannot be seriously criticised for failure to observe it.

REMARKS

14. The rules regarding starting of passenger trains are clear, and they correctly place responsibility for observing fixed signals solely on the driver who should not allow his attention to be distracted. This is a matter of self-discipline.

15. Owing to the position of the road underbridge at the London end of the station, it is not practicable to provide a trap siding or crossover to protect the Down Wimbledon line from an over-run past No. 10 Up Starter. In these circumstances, the maximum degree of protection should be provided and the signal has now been moved 60 feet nearer the platform stopping mark, so that the over-run distance has been increased to 100 feet and sighting of the signal from the platform has also been improved. Moreover, in the unlikely event of another over-run in the future, the shorter distances for acceleration from the stopping mark to the signal should result in the speed of the train being sufficiently low for the warning of the co-acting detonator to be effective. In view of this action I have no recommendation to make.

I have the honour to be,

Sir,

Your obedient Servant,

C. A. LANGLEY,
Brigadier.

The Secretary,
Ministry of Transport.