MINISTRY OF TRANSPORT

RAILWAY ACCIDENT

Report on the Derailment that occurred on 27th September, 1967 at Foxhall Junction, Didcot

IN THE
WESTERN REGION
BRITISH RAILWAYS

LONDON: HER MAJESTY'S STATIONERY OFFICE
1969

MINISTRY OF TRANSPORT,
ST. CHRISTOPHER HOUSE,
SOUTHWARK STREET,
LONDON, S.E.1.

29th November, 1968.

Sir,

I have the honour to report for the information of the Minister of Transport in accordance with the Order dated 27th September 1967, the result of my Inquiry into the derailment of an express passenger train at 10.41 on Wednesday, 27th September, at Foxhall Junction, Didcot, in the Western Region, British Railways.

On a fine morning, the 09.45 Paddington to Weston-super-Mare express, consisting of 9 coaches and hauled by a diesel-hydraulic locomotive, was travelling on the Down Relief line from Reading to Foxhall Junction because of engineering works on the Down Main line. It passed through Didcot Station under clear signals travelling at between 60 and 70 m.p.h., continuing at this speed towards Foxhall Junction where the train was routed to the Down Main line over two facing crossovers, the permitted maximum speed over which was 25 m.p.h. Most of the train, still travelling at a speed greatly in excess of this speed, successfully negotiated the crossover from the Down Relief to the Up Main line, but the rearmost coach was derailed at the trailing end and became detached from the train, coming to rest on its side beyond the Down Main line. The derailment of the 6th, 7th and 8th coaches followed as the train traversed the second crossover, the last two coaches turning onto their sides across the Up Main line, along which they were dragged until the train came to rest some 560 yards from the point of initial derailment.

I regret to state that of approximately 250 passengers in the train, one was killed, and 23 were injured. Of these 23 passengers, 12 were taken to the Radcliffe Infirmary at Oxford where 7 were detained with serious injuries. 10 other passengers were treated for minor injuries on the site and one further passenger, who complained of feeling unwell on arrival at Bristol, was taken to the Bristol Royal Infirmary where he was detained until the next morning. The remaining passengers were transferred to the leading 4 coaches of the train, which were still fit to travel, and the train departed for Bristol at 12.13.

As a result of the accident, all lines to the west of Foxhall Junction were blocked. Breakdown cranes from Old Oak Common and Swindon cleared the derailed coaches from the site by 01.30 on 28th September. The Up Goods loop was re-opened to traffic at 06.00 the same day, followed by the Up Main line at 10.30 and the Down Main line at 12.27, both main lines being relaid with plain track and made subject to a 5 m.p.h. speed restriction. During the time that the lines were blocked, trains to and from Bristol, Cheltenham, and South Wales were diverted via alternative routes.

DESCRIPTION

The Site

1. Foxhall Junction lies on the Western Region Main line from London to Bristol and South Wales, 53¾ miles from Paddington and approximately ½ mile to the west of Didcot Station. The junction links Didcot West Curve, leading from the west to Oxford and the north, to the Main line, and also provides connections off both the Up and Down Relief lines and the Up and Down Didcot West Curve to the Central Electricity Generating Board power station. Figure 1 at the back of this report shows the existing track and signal layout in the Foxhall Junction area, which was installed in December 1966, from which it will be seen that the route from the Down Relief to Down Main line consists of a standard 25 m.p.h. facing D.12 crossover from the Down Relief to the Up Main line followed by a similar crossover from the Up Main to Down Main line. A standard 25 m.p.h. speed limit "cut out" is located on the approach to the first crossover. The rail is BS 110A with pandrol base plates.

2. The line that is physically a continuation of the Down Relief is in fact the Up Goods loop, and there is working in both directions over the length of track between turnouts 628 and 630. Prior to December 1966, there were no facing connections in the Down Relief line, which crossed the Up Main line by a fixed diamond and ended in a trailing connection into the Down Main line. All lines are virtually level on the approaches to and through the junction. The line speed limit over the Down Relief line from Reading is 60 m.p.h., while that on the Down Main line is 100 m.p.h.

Signalling

3. The layout at Foxhall Junction is controlled from Reading power signal box through a remotely controlled relay room at Didcot. The signal controlling the diverging routes from the Down Relief line since 16th December 1966 has been Signal R.180. This signal at the time of the accident covered 3 routes, R.180A (Down Relief to Down Main line), the principal route with Main aspects only and no Junction Indicator, R.180B (Down Relief to C.E.G.B. No. 1 Reception line) Main and Draw-Ahead aspects with Junction Indicator (position 4), and R.180C (Down Relief to C.E.G.B. No. 2 Reception line) Main and Draw-Ahead aspects with Junction Indicator (position 5). Signal R.180A had no approach control, while R.180B and R.180C had approach controls, in each case the Main aspect only clearing to Yellow and requiring the approach track circuit RK occupied for 18 seconds, and the Draw-Ahead aspect requiring RK occupied for 35 seconds before clearing.

The Train

4. The Paddington to Weston-super-Mare express passenger train was hauled by "Warship" class diesel-hydraulic locomotive D853, of 2,200 horse power and weighing 79¼ tons. The train consisted of 9 coaches of British Railways standard design, fitted with buck-eye couplings and Pullman type gangways. The combined brake power of the locomotive and the train was 75·8% of their total weight of 396 tons and the length was 650 ft.

Course of derailment

5. It would appear that the rear vehicle was the first to become derailed and to cause the damage to the track between the two crossovers. Part of an axlebox was found at the beginning of the crossover Up Main to Down Main line and a piece of a brake block carrier was found nearby, as were parts of a battery, all of which were found to be parts missing from the rear coach.

6. The second and third vehicles from the rear were almost certainly derailed on the crossover Up Main to Down Main line, overturning to the right and being dragged along the "six foot" rail of the former line after losing their bogies. The 4th vehicle from the rear traversed both crossovers without becoming derailed but was finally dragged off the Down Main line by the 2 overturned vehicles which were still attached to it. Figure II shows the positions in which the coaches and locomotive of the train came to rest.

Damage to the train

7. Damage to the 3 rear vehicles of the train, the bodies of which came to rest on their sides, was extensive and serious. In each case the bogies were displaced, and there is little doubt that the 7th and 8th coaches, which remained attached to the train, and were dragged along the 'six foot' between the Up and Down Main lines, would have been even more seriously damaged if the sides of the vehicles had not slid along the 'six foot' rail of the Up Main line. The 6th coach in the train, a restaurant-miniature buffet car, although completely derailed, remained upright and thus the damage was appreciably less. The locomotive and leading 4 coaches of the train suffered only minor damage and, after being examined on the site of the accident, were considered fit to work forward with the passengers to Bristol. The locomotive and the coaches were subsequently re-examined at Bristol, where marks were found on the bogie frames and helical springs of the coaches, which suggested that excessive lateral sway had taken place. There were also marks on the wheels and bogie side frames of the locomotive where each wheel had rubbed on the frame, and the bogie side rubbers had sheared. The brakes of the locomotive and 4 leading coaches were tested and found to be in good working order, and the speedometer of the locomotive was found to be accurate.

Damage to the track and signalling equipment

8. The two crossovers Down Relief to Up Main and Up Main to Down Main were extensively damaged and the track of the Up and Down Main lines destroyed for some 360 yards. The signalling equipment associated with the crossovers was also severely damaged.

Evidence

9. *Signalman J. L. Blackall* was working the Didcot end of the panel of Reading power signal box on the morning of the accident. He said that the 09.45 Paddington to Weston-super-Mare express approached his portion of the panel on the Down Relief line, having been diverted from the Down Main line by his colleague working the Reading end of the panel on account of engineering works and a broken rail in the latter line. The train left Reading at 10.24 and, once on the Down Relief line, it had a clear run to Foxhall Junction with Green aspects all the way. At 10.41 Blackall received a call from the Didcot Platform Inspector stating that the train on the Down Relief line was travelling at an excessive speed and coaches were turning on their sides as the train traversed Foxhall Junction. At the same time he noted that the track circuit on the Up Main line on the country side of the junction was indicating that it was occupied, and he also lost the detection on the crossover Up Main to Down Main line. He immediately sent the "Obstruction Danger" signal to Uffington signal box and maintained all the signals in the Foxhall Junction area at Danger. At 10.44 he received a message from the telephone at Up Main signal R.11 that the express was derailed and all lines blocked, and that there were casualties. He immediately advised the Supervisor in Reading signal box who in turn advised Paddington Control.

10. *Platform Inspector T. C. Gibbard* was standing on Platform No. 5 at Didcot as the 09.45 from Paddington approached on the Down Relief line and noted that both the signal at Oxford Junction, at the west end of the station, and the signal at Foxhall Junction were showing Green aspects. He stood back from the platform edge when the train passed through the station at a speed considerably greater than normal for a train travelling on the Down Relief line. He estimated that it was travelling at about 70 m.p.h. and was certain that the brakes were not being applied as the train passed him; nor did it appear to slow down at all as it approached Foxhall Junction.

11. Gibbard said he expected to see the locomotive turn over as it traversed the first crossover of the junction, but the train successfully negotiated the crossover until the last vehicle became derailed and turned very slowly onto its left hand side. He then immediately sent Porter Box who had been standing with him on the platform to telephone for the emergency services, while he phoned Reading signal box and Paddington Control.

12. *Porter R. W. H. Box* confirmed in general terms the evidence given by Inspector Gibbard. On seeing the last coach turn over onto its side, he immediately went to the Telegraph Office, and, as instructed by Inspector Gibbard, told the operator to call the emergency services. He then told the Area Manager what had occurred, after which he ran to the scene of the accident and assisted passengers from the last coach.

13. *Permanent Way Inspector G. E. Naish*, in whose area Foxhall Junction lies, arrived on the site of the accident at about 11.00 and found that the heel of the facing switch Down Relief to Up Main had been pushed out of line by about 2 in. The first indications of the derailment were marks along the head of the left hand stock rail of the trailing end of the crossover Down Relief to Up Main. Naish said he had examined the crossovers on September 19th and confirmed that they were in first class condition, all cross levels being correct to within 1/16 in. The track in the Down Relief line leading up to the junction was also in good condition and there were no excessive variations in cant.

14. *Patrolman I. Kilcznski* had examined the Down Relief line and the crossovers at Foxhall Junction at about 08.00 on the morning the accident occurred. He confirmed that both the plain line and the crossovers were in good condition.

15. *Driver E. Biggin*, aged 55, a Westbury driver of some 21 years experience, had relieved the driver of the 09.45 Paddington to Weston-super-Mare express, after working the 07.32 diesel multiple-unit train from Westbury to Reading. He said that, after leaving Reading on the Down Main line, he received a Yellow indication at Reading West Junction and was diverted to the Down Relief line, an unusual movement for this train and one he had never previously carried out. From there he drove the train on the Down Relief line at between 68 and 70 m.p.h., under clear signals, being under the impression that the maximum speed permitted on the line was 70 m.p.h.—it was only since the accident that he had learnt that the maximum speed was 60 m.p.h. In anticipation of being returned to the Down Main line at Moreton Cutting he had shut off power, but he was not returned there and he knew that the next point he could then be returned to the Down Main line was beyond Didcot Station.

16. Biggin maintained that on approaching Didcot, he shut off power and reduced speed to between 55 and 60 m.p.h. through the station, and that he made a full brake application soon after leaving the platform. He admitted that he misjudged the distance to the crossovers at Foxhall Junction and said that the locomotive traversed the first crossover at 50 m.p.h. After reaching the Down Main line, just before the train came to a stand, he looked back and saw the extent of the disaster that had occurred at the rear end of the train. Immediately the train stopped, his second man went forward to protect the Up Main line and telephoned Reading signal box from a telephone located at a nearby signal. Biggin said he went back to the guard's van and assisted in rescuing passengers from the rearmost coach that was on its side.

17. Biggin said that he carried out this particular "turn" (driving the 09.45 Paddington to Weston-super-Mare express from Reading to Bristol Temple Meads) one week (5 days) in every 12 weeks, but that the turn had only recently been introduced into his "link" at Westbury, and consequently the week that the accident occurred was only the third week he had carried out this particular duty. On all previous occasions when driving the train he had been routed along the Down Main line. He confirmed that he had no other turns that included driving from Reading through Foxhall Junction, either on the Down Main or Down Relief lines.

18. Biggin stated that he learnt the route from Reading through Foxhall Junction to Swindon in January 1967, some two weeks before he first drove over it. On two occasions, in order to learn the Down Relief line, he rode on a Reading to Oxford diesel multiple-unit train as far as Didcot Station, but he had never travelled from Didcot Station to Foxhall Junction on that line. However, on one of the days that he travelled to Didcot, he walked along the Down Relief line towards the Junction to observe its layout.

19. Despite never having driven or ridden over Foxhall Junction from the Down Relief to the Down Main line, Biggin maintained that he knew the route and was aware that, if he received a Green aspect at Signal R180 without any route indication, he was routed through the crossovers to the Down Main line, and that the maximum speed when traversing these was 25 m.p.h. Biggin said that the fact that the track that formed the Down Relief line as far as the first crossover (see Figure I) continued straight on to connect with turnouts leading into the C.E.G.B. sidings and then to form the Up Goods loop did not confuse him; he knew he had to cross to the Down Main line at this point. He agreed, however, that he had misjudged the distance from Didcot Station to the Junction.

20. On being asked to describe signal R180, Biggin said he was not sure, but thought it was a 2-aspect signal, whereas in fact it was a 3-aspect signal with two junction indicators and a subsidiary signal.

21. Biggin confirmed that he had no trouble with the brakes of the locomotive or the train en route from Reading. The reaction he obtained when using the brakes was what he would have expected from a passenger train of this type with the brakes in good condition.

22. Finally, Biggin confirmed the details given in his records, namely, that he learnt the route on 3rd–5th and 7th January, 1967, and signed for it on 13th January. He reviewed the route on 1st April and re-signed his route card on 25th July. He had first worked the 09.45 Paddington to Weston-super-Mare express from Reading on 7th April, covering the turn for a driver on a rest day, then for 5 days during the week 17th April, followed by a rest day on 9th June and 4 days during the week commencing 3rd July. He had again worked it on a rest day on 1st September, followed by the 2 days prior to the accident, 25th and 26th September. On all 14 occasions that he worked the train prior to the accident he had driven it along the Down Main line.

23. *Second Man R. Wilson*, a driver who had reverted to the grade of second man owing to redundancy, had been stationed at Westbury since March 1967. He confirmed Biggin's evidence concerning the journey as far as Didcot, including the fact that they had been travelling at between 60 and 70 m.p.h. along the Down Relief line under clear signals. Wilson said that on approaching Didcot Biggin shut off power and made a partial application of the brake; he estimated that they passed through the station at between 50 and 60 m.p.h. As far as Wilson could recall Biggin did not make a full application of the brake until they saw the crossovers after having passed under the road over rail bridge beyond Signal R.180. He did not notice the speed at which the train was travelling when the locomotive started to traverse the first facing crossover.

24. Wilson said that he had never travelled along the Down Relief line before, nor did he have any knowledge of the signals at Foxhall Junction.

25. The guard of the express was *Passenger Guard R. W. A. Mason*, also of Westbury. On leaving Reading, he noted that the train was being diverted from the Down Main to the Down Relief line, after which he went into the luggage compartment for about 10 mins. to sort out the bags of mail. On his return to the guard's compartment in the last coach he started to write his journal. Somewhere between Reading and Didcot he was conscious of the brakes being applied but he could not say where this occurred; he agreed that this could well have been on the approach to Moreton Cutting.

26. Mason said that he did not look at any of the signals after the train had crossed to the Down Relief line, nor had he looked out on approaching Didcot, since he was busy writing, nor was he conscious of any braking at this point. If the brakes had been applied, Mason said he would have been aware of it, as he would have "got a bit of a row from the brake setter" and might well have heard the needle of the vacuum gauge flickering.

27. Soon after passing through Didcot Station Mason felt a jolt and then was flung all over the guard's compartment, finally finding the coach on its side. He struggled to open the door in the side which was uppermost, which, on being opened from the outside, swung downwards and hit him on the head. He was helped out of the van in a dazed condition and laid down on the lineside bank. After a while he asked someone if the rear of the train had been protected and, on being told that it had, he walked back to see if he could assist in rescuing the passengers, but he found everyone was being attended to. He was then taken to hospital.

28. I questioned Mason at some length concerning the application of the train brakes, both on approaching Didcot Station and between the station and Foxhall Junction, but he said that he was unable to state definitely whether they had been applied or not.

29. Mason had carried out this particular turn one week (5 days) in 8 weeks for nearly two years, but had never before been routed along the Down Relief line. He agreed he had signed for the route Westbury to London via Swindon on 24th April 1967.

30. *Mr. O. S. Nock*, a well-known author of books on railway matters, who, over the last 27 years has travelled more than 250,000 miles in trains, a high proportion of his journeys having been recorded in detail with point-to-point timings and stop-watch records of maximum and minimum speeds, was a passenger in the train, but unfortunately was unable to attend my Inquiry since he was abroad. However, in a written statement he said:—

> "On leaving Reading I noticed that we were put over on to the Relief line, and at first we were running at fairly reduced speed. I took up my work again, and it was not until we were approaching Didcot that I realised we were travelling unusually fast for the Relief line. Our speed would have been quite normal for the Main line, on which the alignment is, of course, perfect for high speed travel. I did not take a precise reading, but passing through Didcot station I judged the speed to be between 70 and 75 m.p.h.
>
> At this stage I grew very apprehensive because there was no slackening off. I did not then know the exact nature of the layout at Foxhall Junction, and in the few seconds that remained I was expecting some brake application. I am quite positive, however, that there was none, and then the coach in which I was riding—the last but one in the train—was suddenly swept to the left and all was chaos immediately afterwards.
>
> Two points stand out very clearly in my recollection of the affair:—
>
> 1. There was no brake application by the time my coach took the first set of facing points.
> 2. There was no appreciable reduction in speed between Didcot station, where we were travelling at 70 to 75 m.p.h., and the point of derailment.
>
> The fact that I was so near to the tail of the train would suggest that the engine and the leading vehicles had all negotiated the first crossing and part of the second crossing before any application of the brakes was made.
>
> After that, of course, it was impossible to know whether the brakes were being applied or not in our coach because we had lost all our wheels; in any case, an emergency application would have been made when the last coach broke clean away and turned over on its left hand side.
>
> I would not be dogmatic, and assert that the driver did not apply the brake earlier; it is only that I was expecting a brake application every second after we had passed Didcot station and am confident that none came."

31. *Mr. K. W. Pearce*, the Divisional Civil Engineer, London Division, confirmed that the track layout at Foxhall Junction at the time of the accident was as shown in Figure I, that there was a permanent speed restriction of 25 m.p.h. over both the crossover Down Relief to Up Main line and Up Main to Down Main line and that the speed limit 'cut out' sign which indicated this was in position on the approach to the first crossover. He confirmed that the speed limit over the facing connection into the C.E.G.B. Power Station sidings was also 25 m.p.h., and that the maximum speed permitted on the Down Relief line between Reading and Foxhall Junction was 60 m.p.h.

32. *Mr. J. R. W. Kirkby*, the Divisional Movements Manager, London Division, stated that the arrangements for drivers learning routes at the time of the accident was as follows:—

(*a*) A driver, on being required to learn a particular route, was given as much time as he required to learn the route.

(*b*) He was not obliged to sign for the route until he was satisfied as to his knowledge of it and felt fully competent to drive over it. When he got to this stage he signed at his Depot to acknowledge that he knew the route, including the signalling, permanent speed limits and restrictions, and other matters that are relevant to drivers.

33. Mr. Kirkby confirmed that there were no arrangements for examining drivers on their knowledge of routes before they initially drove over them. It was left entirely to the driver to decide when his knowledge of a route was sufficient to enable him to drive over it competently. Nor was there any arrangement for the Divisional Traction Inspectors to check drivers' knowledge of the routes for which they had signed.

34. Mr. Kirkby explained that when Permanent Way or Signalling arrangements were altered on any route, notices were issued to all the drivers who had signed for the route and they were required to sign to indicate that they had received the notice.

35. I asked both *Mr. H. C. Sanderson*, at that time the Movements Manager, Western Region, and *Mr. F. J. Dean*, Divisional Movements Manager, Bristol Division, whether they considered that drivers had to know a greater route mileage at the present time than the mileage they had to know in the days of the steam locomotive. Both Mr. Sanderson and Mr. Dean felt that drivers were probably going further afield from their home depots with goods trains, but that the route mileage covered by drivers of passenger trains was probably less than under the old arrangements, as lodging turns were being abolished.

Conclusions

36. This accident was due to excessive speed over the two facing crossovers from the Down Relief line to the Down Main line. For this the responsibility rests with Driver Biggin, who failed to control the Paddington to Weston-super-Mare express properly on approaching Foxhall Junction and to observe the 25 m.p.h. speed restriction over the two crossovers.

37. Despite Driver Biggin's and Second Man Wilson's evidence to the contrary, there is little doubt that the express passed through Didcot Station at about 70 m.p.h., and that the brakes, if applied at all, were not applied until immediately before the locomotive started to traverse the first crossover. Had the former reduced the speed of the train to between 55 and 60 m.p.h. through the station and then made a full brake application soon after leaving the platform, as he stated in his evidence, the speed of the train would have fallen to 25 m.p.h. before the locomotive reached the first crossover.

38. Despite Driver Biggin's assurance that he knew the route along the Down Relief line from Reading to Foxhall Junction and was aware that, if he received a Green aspect at Signal R180 without any route indication, he was routed through the crossovers at the Junction onto the Down Main line, the evidence concerning his handling of the train along the Down Relief line through Didcot and over Foxhall Junction clearly indicates that his knowledge of the route was insufficient for him to drive a train safely over it. I also believe that while he had driven trains 14 times along the Down Main line at Foxhall Junction, the fact that his total knowledge of the Down Relief line consisted of two journeys in the driver's compartment of a diesel multiple-unit train from Reading to Didcot Station in January 1967, followed on one occasion by a walk towards the Junction to observe the layout, confirms his lack of knowledge.

39. I have no reason to doubt Passenger Guard Mason's statement that, although he was aware that the train had been diverted to the Down Relief line, he had never travelled on it previously during the 18 months from when he had signed for the route. I feel that, even if he had been paying attention to the running of the train through Didcot, instead of writing up his journal, he could not have been expected to realise that the train was approaching Foxhall Junction at a dangerously high speed and thus to apply the brakes from his compartment.

Remarks and Recommendations

40. While the responsibility for this accident must rest with the driver of the express, I feel that the signalling arrangements at the time of the accident on the Down Relief line approaching Foxhall Junction could have been misleading, particularly if a driver's knowledge of the route was poor. At the junction, the main route (A) to the Down Main line turns out from the Down Relief line to the left physically, the line straight ahead becoming the Up Goods loop with the subsidiary routes (B) and (C) turning out to the right to the C.E.G.B. Reception lines. In the remodelling of the junction in December 1966, Signal R180, which controls the junction on the Down Relief line, was altered to bring it into line with the British Railways Board's signalling principle for diverging junctions where the difference in maximum speed permitted on all routes is less than 10 m.p.h., i.e. there was no approach control on the signal when reading to the principal route (A), (the approach controls on both routes (B) and (C) reading to the C.E.G.B. Reception lines were

necessitated by the lack of overlaps beyond the permanent Red aspects on these lines). Similarly, to bring the signalling into line with the principle concerning the provision of junction indicators on running signals, they were only provided for the subsidiary routes (B) and (C). Thus, a driver, running along the Down Relief line and crossing to the Down Main line, could receive a plain Green aspect at Signal R180,located about ¼ mile before the crossovers, having also received Green aspects at the previous two or more signals. Travelling beyond the signal, a driver would see facing turnouts in the track, both to left and to right, but he would also see the track carrying straight on ahead of him. In my opinion, a driver having received Green aspects through Didcot, including one at Signal R180, could momentarily overlook the fact that the principal route lay via the crossovers to the Down Main line, and mistake the Up Goods loop for the continuation of the Down Relief line. In this case he would see no reason to reduce speed unless he actually noticed the facing crossover in front of him set to take his train to the Up Main line and thence to the Down Main line, by which time it would be too late to make any effective reduction in speed.

41. The question of the signalling of diverging junctions where the principal route is not the straight route has subsequently been the subject of discussion between the Inspecting Officers of Railways and the Officers of the British Railways Board, and it has been agreed that in such cases a junction indicator should be provided for the principal route, but that the provision of an approach control is unnecessary unless the difference in speed over the diverging routes is greater than 10 m.p.h. I am satisfied that this arrangement is suitable on the Down Relief line at Foxhall Junction, where Signal R.180 is some 365 yards from the first crossover and the sighting distance of the signal is at least ¼ mile, thus giving the driver ample braking distance to reduce his speed from the line speed of 60 m.p.h. to the 25 m.p.h. limit over the junction. However, occasions may arise where the signal may, of necessity, have to be sited nearer the junction, or the sighting distance is limited, and the provision of an approach control may then be advisable in addition to the junction indicator.

42. The standard method of learning a new route by drivers is for them to travel over the route in the cab of a locomotive driven by a driver who is familiar with the route. As explained by Mr. Kirkby at my Inquiry, a driver on being asked to learn a particular route is given as much time as he requires to learn it and is not obliged to sign to acknowledge that he knows the route, including the signalling, permanent speed limits and restrictions, and other relevant matters, until he feels fully confident to drive over it. With the remodelling of the railways, however, including the large scale introduction of multiple aspect signalling, many more drivers today require to learn new routes than in the past, when most route knowledge was acquired over a considerable number of years when men were "passed" cleaners and firemen. The reorganisation of many "links" to enable a greater number of drivers to work a proportion of long "turns", for which they earn extra payment based on the mileage travelled, while providing greater flexibility and increased utilisation of staff, as more men are available for allocation to the various routes, has also resulted in the need for more drivers to learn new routes.

43. The loss of many landmarks, such as stations and signal-boxes, now makes the learning of a route more difficult than in the past. To assist drivers on the Western Region, route learning classes have been run at Reading, Cardiff and Paddington. These were initially to familiarise all drivers with the new track layouts and signalling in the respective station areas and immediate surroundings, but they have been continued in order to assist other drivers who are learning the routes in these areas. These classes, held during normal working hours and normally of one or two days' duration, are run by Traction Inspectors who illustrate all the various routes by means of wall charts and coloured slides showing individual signals. Drivers subsequently walk the routes in concentrated areas, such as Paddington, and ride in the cab to learn routes in more open areas. The Western Region are also equipping a single diesel power car for route learning by groups of drivers under the instruction of a Traction Inspector, who will point out the various signals, speed limits, gradients and other matters that are essential for the drivers to learn. I understand that the other Regions of British Railways have adopted, or are considering the adoption, of similar methods of instruction for drivers' route learning.

44. I consider that these steps are a valuable addition to drivers learning routes by travelling in the cab of a locomotive, and that their extension to cover complete routes and to form a definite part in the training of drivers on new routes is most important. In addition, the manner in which drivers learn a new route when travelling in the cab should be laid down in greater detail, the railway management deciding the programme for learning the various sections of a route, including what trains drivers are to travel on, and laying down the particular features to which special attention should be paid.

45. I am glad to learn from the British Railways Board that it is proposed to include a period of 4 weeks that will be devoted to route learning principles, both theory and practice, in the training of Traction Trainees when this scheme is introduced; also that on the completion of his course the Trainee will act as a second man, normally travelling over the routes on which he will drive, for a period of at least two years.

46. Finally, with drivers learning routes ab initio and with the introduction of the training scheme referred to above, I consider that it should not be left to the driver to decide when he is competent to drive over a route, but that he should be tested in his knowledge in the same manner as he is tested in his knowledge of the Rules and of the handling of locomotives.

I have the honour to be,
Sir,
Your obedient Servant,
P. M. OLVER
(Major)

The Secretary
Ministry of Transport

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DERAILMENT AT FOXHALL JUNCTION, DIDCOT. WESTERN REGION. 27th SEPTEMBER 1967.

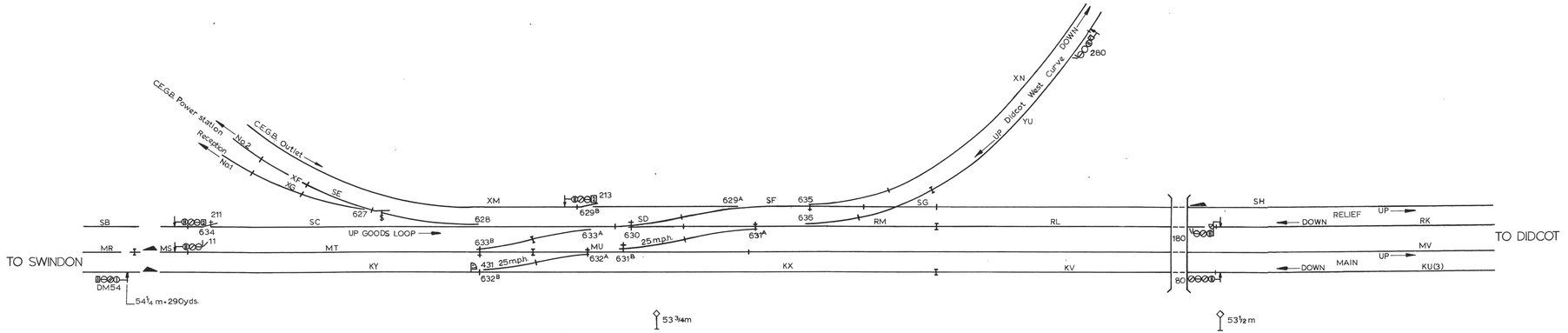

FIG.I. FOXHALL JUNCTION TRACK AND SIGNALLING LAYOUT

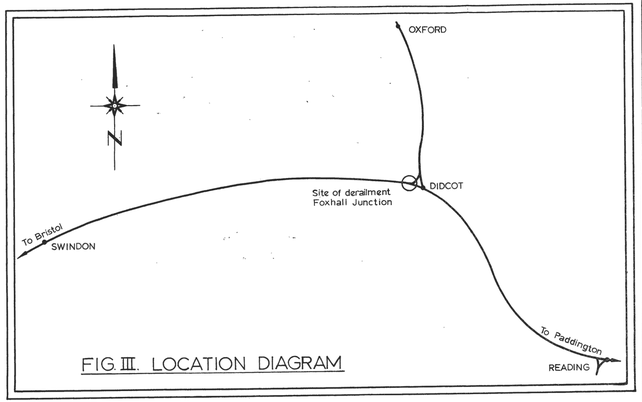

FIG.III. LOCATION DIAGRAM

SCALE:- 2 Chains to 1 inch.
100 50 0 100 200 300 Feet

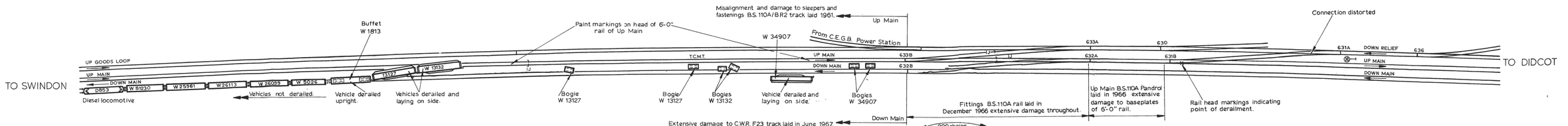

FIG.II. SITE PLAN SHOWING INITIAL POINT OF DERAILMENT, POSITION WHICH TRAIN CAME TO REST, AND DETAILS OF DAMAGE TO TRACK

SCALE:- 1 Chain to 1 inch