RAILWAY ACCIDENT

Report on the Derailment that occurred on 25th August 1974 at Dorchester West Station

IN THE
SOUTHERN REGION
BRITISH RAILWAYS

LONDON: HER MAJESTY'S STATIONERY OFFICE
Sir,

I have the honour to report for the information of the Secretary of State, in accordance with the Order dated 29th August 1974, the result of my Inquiry into the derailment of an express passenger train at about 20.16 on Sunday, 25th August 1974, at Dorchester West Station in the Southern Region of British Railways.

The train was the 20.00 Weymouth to Hereford return passenger excursion train, consisting of 12 coaches and hauled by a Class 47 diesel-electric locomotive. Travelling at about 15 mile/h, the head of the train passed Dorchester Junction Up Main Starting signal at Danger, the locomotive and first two coaches being diverted into a sand drag by trap points protecting the single line to Maiden Newton. The locomotive and leading coach ran off the end of the sand drag and were derailed before the train came to a stand.

I am glad to report that of the 600 passengers, who were railway staff and their families from the Hereford Staff Association and Social Club, only 6 were required to be taken to hospital for the treatment of their minor injuries and a further 12 were given first aid attention on site. A special train was formed from the rear 10 coaches of the train, after they had been examined and found fit to run, and the passengers finally departed for Hereford via Bournemouth and Southampton at 23.46.

The derailed locomotive and leading coach were clear of the Up Main line and thus once the signalling had been tested and the track, including the trap points, inspected, normal services could be run between Dorchester Junction and Maiden Newton.

At the time of the accident it was raining heavily and, although it was only a few minutes after sunset, the light was beginning to fade; visibility was fair. The lights at Dorchester West Station were not illuminated.

**DESCRIPTION**

The Site

1. Dorchester West Station lies on the line from Weymouth to Yeovil and Castle Cary approximately 700 yards north of the junction with the line to Dorchester South, Poole and Bournemouth. The line is double track as far as Dorchester West Station and then single track to Castle Cary. As will be seen from the track diagram at the back of the Report, the single line is protected in the Up direction by the provision of trap points, located immediately beyond the Up Starting signal, leading to a sand drag beyond the north end of the Up platform.

The Signalling

2. The whole of the signalling in the Dorchester area was remodelled in 1970 and is controlled from Dorchester Junction Signal Box. All running signals are now colour light and running lines are fully track circuited. The signalling on the Weymouth to Dorchester Junction line is by Track-Circuit Block, while that on the single line from the north end of Dorchester West Station to Maiden Newton is by Tokenless Block. The lines are not equipped however with the British Railways standard design of Automatic Warning System. A diagram showing the signalling in the Dorchester area is at the back of the Report.

3. A train proceeding on the Up line from Weymouth to Dorchester, on emerging from Bincombe Tunnel, passes a 2-aspect automatic signal 3,787 yards from Dorchester Junction Signal Box (WFW) and then the Up Distant signal, WFW D4, also 2-aspect, 1,439 yards from the signal box. The signal controlling the junction, WFW 4, is a 3-aspect signal with a junction indicator for trains proceeding on the Bournemouth line: it is 282 yards before the actual junction. This signal, as well as being the junction signal, is the Up Home signal for Dorchester West Station and reads direct to the Up Main Starting signal, WFW 5, which controls the entrance to the single line to Maiden Newton, and is locked by the tokenless block. It is located at the north end of Dorchester West Up Platform, 688 yards beyond the signal box. The line is on a left hand curve through the station and, as the sighting distance of Signal WFW 5 is only 160 yards, a Banner Repeater Signal, WFW 5R, is provided at the south end of the station canopy, 108 yards before the actual signal; the repeater can be seen from a distance of 400 yards.

4. As will be seen from the gradient diagram at the back of the Report, the line from Weymouth to Dorchester West, after emerging from Bincombe tunnel, runs for a short distance on the level before falling at 1 in 72 for about a mile. Thereafter there is a short length of level track followed by just over 1/2 mile of 1 in 154 falling, another short length of level track, and then about 1/2 mile of 1 in 117 rising to Dorchester Junction. The line between the Junction and Dorchester West Station is level.

The Train

5. The Weymouth to Hereford return passenger excursion train, 1261, consisted of 12 Standard Mk I British Railways' coaches fitted with buckeye couplings and was hauled by diesel-electric locomotive No. 47236 of 2,750 h.p. and weighing 114 tons. The combined brake power of the locomotive and train was 86 per cent of their total weight of 498 tons and the length overall was 858 feet.
justed the control valve of the windscreen wiper as they approached Dorchester West Station. He was not

4. trap points protecting the single line to stop the train before a derailment occurred, but the train pushed the

5. locomotive's straight air brake.

6. the sand drag into total derailment. While his secondman protected the front of the train,

7. seconds before he felt the brakes actually being applied. When the centre of the locomotive was approximately

8. Jones walked back along the train to ascertain whether any of the passengers had been injured; he was

9. aware that his secondman had said anything to him soon after they had first sighted the banner repeater.

10. until he reached the 3-aspect signal protecting Dorchester Junction (WFW 4) which was displaying a Yellow

11. the banner repeater was ‘On’ and was also illuminated. He observed that the banner repeater was ‘On’ and

Damage

6. The main damage to the locomotive was at the trailing end where the leading coach had ridden up

7. The track was not damaged at all by the derailment and the only damage to the signalling equipment

EVIDENCE

8. The driver of train 1261 was Driver T. Jones, 56 years old and a driver since 1948. He had signed off
duty at Bath Road Depot, Bristol, at about 22.30 on the evening before the accident, went to bed at about
23.00 and had about 8 hours sleep. On the Sunday he signed on duty at 13.20 and then travelled as a passenger,
together with Secondman Pope and Guard Stockham, to Weymouth, arriving there at about 16.20. He had not
been booked to do any work before driving the 20.00 train but, on arrival, he was met by the shunter who
asked him to shunt the train to enable the rear vehicle to be detached. This was not carried out immediately
and so the three men had some tea in the mess room and then walked for about an hour along the sea front.

9. Jones said that he went to the sidings at the request of the shunter at about 19.00, accompanied by
his secondman, and boarded the No. 2 end cab of locomotive No. 47236, from where he was to make the
shunt move and later to work the train. He first created vacuum throughout the train and destroyed it to
ensure that the brakes were working correctly. Releasing the brakes again, he eased back on instructions
from the shunter to enable the latter to detach the rear vehicle. He then shunted the remaining 11 coaches of
the train into Platform No. 6 onto a coach standing against the buffer stops that was to be included in the
train on the return journey to Hereford. While carrying out the shunting movement the locomotive and train
behaved quite normally; after completing it, he again destroyed the vacuum on receiving a hand signal from
the shunter that the coupling was complete.

10. In due course Guard Stockham came to see Jones and told him that the load was 12 coaches, 406
tons; he also asked him if everything was all right, to which Jones replied that it was. Jones said that he took
this to mean that Stockham was asking him if he was generally satisfied with the train and satisfied with the
brakes in particular.

11. The train left Weymouth on time and Jones said that on starting he kept its speed down by a slight
application of the brakes in case any of the people on the platform attempted to join the train and also to
observe the 10 mile/h speed restriction on leaving the station; the brakes worked correctly and he could hear
the brake blocks rubbing against the tyres of the wheels on the train. By this time it had started to drizzle and
Jones started the windscreen wipers; visibility was not good but he was able to observe the signals between
Weymouth and Dorchester without any difficulty. Jones said that he received Green aspects on all the signals
until he reached the 3-aspect signal protecting Dorchester Junction (WFW 4) which was displaying a Yellow
aspect. He applied the brakes gradually to reduce the train’s speed for the 40 mile/h speed restriction at
Dorchester Junction; again they worked correctly. He released the brakes just before passing the junction,
but did not apply power to the locomotive as he knew that there was a double curve at the north end of
Dorchester West Station where the Up Main line joined the Down Main line to form the single line to
Maiden Newton. Soon after passing under the road bridge just beyond Dorchester Junction Signal Box he
sighted the banner repeater signal (WFW 5R) for the Up Main Starting Signal (WFW 5); he estimated that
the repeater was then at least 300 yards distant and that the train was travelling at about 35 mile/h.

12. Jones said that when he first looked at the repeater it appeared to him that it was in the ‘Off’
position and added “I must admit at this stage that it was my mistake at this time in thinking that the banner
repeater was in the ‘Off’ position and unfortunately I did not check its position again before passing it.”
Jones said that by this time it was raining heavily, the windscreen wiper on his side of the cab was only
working intermittently and the blade was only partially touching the window; he remembered that he ad-
justed the control valve of the windscreen wiper as they approached Dorchester West Station. He was not
aware that his secondman had said anything to him soon after they had first sighted the banner repeater.

13. Jones said that he allowed the train to coast towards Dorchester West Station in preparation for
entering the single line. He estimated that the head of the train passed the repeater at between 20 and 30 mile/h
and, after he had passed the banner repeater by about 20 yards, both he and his secondman saw Signal WFW 5
at Red. Jones immediately made an emergency brake application and he estimated that it was four or five
seconds before he felt the brakes actually being applied. When the centre of the locomotive was approximately
opposite the signal Jones noted that the speedometer was showing a speed of 15 mile/h and he then applied the
locomotive’s straight air brake.

14. He hoped that there was sufficient distance in the sand drag into which the train was directed by the
trap points protecting the single line to stop the train before a derailment occurred, but the train pushed the
locomotive through the sand drag into total derailment. While his secondman protected the front of the train,
Jones walked back along the train to ascertain whether any of the passengers had been injured; he was
assured that there were no injuries. He observed that the banner repeater was ‘On’ and was also illuminated.
He then telephoned the signalman at Dorchester Junction from the telephone at Signal WFW 34 to inform
him that the train had been derailed and also that, as far as he knew, there were no injuries.

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15. He then walked back along the line towards Dorchester Junction to the point where he estimated he had first seen the banner repeater. On looking at the signal from this position it appeared as though there was a shadow across it, giving the impression that the signal was in the 'Off' position. On walking towards the signal however Jones could see that it was in the 'On' position, the apparent shadow disappearing. Jones confirmed that the station lighting was not on while he was examining Signal WFW 5R.

16. Jones regularly drove both locomotive-hauled and diesel multiple-unit trains on the Castle Cary, Dorchester, Weymouth line, normally doing two weeks work in sixteen weeks on the route; he was a regular driver of Class 47 locomotives. He said that he had never had any trouble previously in observing the indication given by Banner Repeater WFW 5R.

17. Jones said that he was in good health and that he had no personal problems which could have distracted him from his driving duties. He assured me that at no time on the day of the accident, either before booking on for duty, or during his turn of duty, did he take any alcoholic liquor. A police officer had visited him in his cab after the accident and he had offered to carry out a breathalyser test, but the officer had said that this would not be necessary (see paragraph 35).

NOTE: Jones was medically examined on 2nd September 1974 and found to be in good health. In particular the vision in his left eye was 6/9 and 6/6 in his right eye, while his colour vision was normal.

18. Secondman B. L. Pope of Bristol, Bath Road Depot, said that he had booked on for duty at 13.20 on the day of the derailment and worked with Driver Jones until the accident. Pope confirmed the evidence of Jones both prior to the departure from Weymouth and also during the journey to Dorchester Junction. He noted that Jones reduced speed to just under 40 mile/h for the permanent speed restriction at the junction.

19. Pope said that he first saw Banner Repeater WFW 5R on the Up platform of Dorchester West Station from a distance of approximately 300 yards; he could see that the aspect was in the 'On' position quite clearly. He was not aware of any background lighting or shadows which could affect the view of the signal. He said to Jones in a normal voice "Got him on Tal." Pope said that Jones did not reply but he thought that he had heard because he kept his hand on the brake lever. Immediately after passing the banner repeater Pope saw Signal WFW 5 showing a Red aspect. He shouted to Jones "He's got him on" and Jones immediately responded by making a full emergency brake application, but he was unable to prevent the head of the train from going through the trap points and sand drag into derailment.

20. After the train came to a stand, Pope took a track-circuit operating clip and detonators from the cab and placed the clip on the single line opposite the locomotive. He then ran up the track towards Maiden Newton, exhibiting a red hand signal, and placed one detonator about ½ mile from the obstruction and then 3 detonators opposite Signal WFW 35. He telephoned the signalman from there, informing him that the locomotive and leading two coaches had been derailed and that he had carried out protection on the single line.

21. Pope assured me that at no time earlier that day or during his tour of duty did he consume any alcoholic drink, nor was he aware at any time of Jones taking any alcoholic drink. He also assured me that at no time prior to the accident had any of the passengers offered them a drink. They had been offered a drink after the accident but they had refused.

22. The guard of the train was Guard R. H. Stockham. He had travelled down from Bristol with Jones and Pope and, after having some tea, had accompanied them on their walk along the sea front. Stockham said that he remained in the mess room while Jones and Pope went to shunt the train and he joined the train just after the shunt had been completed into No. 6 platform. He checked the train and ensured that the vacuum brake pipes were correctly coupled between each coach. He noted that the brake gauge in the guard's compartment of the eleventh coach was recording 21 inches of vacuum. He also checked that the brake blocks were fully applied on the wheels of the rear vehicle. Walking then to the front of the train, Stockham gave Newton, exhibiting a red hand signal, and placed one detonator about ½ mile from the obstruction and then 3 detonators opposite Signal WFW 35. He telephoned the signalman from there, informing him that the locomotive and leading two coaches had been derailed and that he had carried out protection on the single line. He had travelled in the eleventh coach of the train, a BCK, on leaving Weymouth. He said he spent the journey until the derailment in writing up his journal, checking through the Traffic Notice, and answering queries from passengers about the arrival time at Hereford. He pointed out that the luggage compartment immediately adjacent to his guard's compartment was being used as a bar, but he assured me that he was a teetotaller and he had no alcoholic drink on the day the accident occurred.

23. Stockham did not observe any of the signals between Weymouth and Dorchester West but, after passing through Bincombe Tunnel, he felt the brakes being applied and saw the needle drop on the vacuum brake gauge in his guard's compartment. On approaching Dorchester West Station there was a severe brake application terminating in a jolt as the train came to a stand and Stockham thought that the driver must have inadvertently released the driver's safety device. He immediately walked along Dorchester West Up Platform towards the head of the train, noting that the signal at the north end of the platform, WFW 5, was displaying a Red aspect. He walked round the derailed locomotive and satisfied himself that the Down line was clear. He was then joined by a civil policeman and they both walked back through the train to check if anyone was injured. After checking the leading three coaches, Stockham left the policeman to continue checking while he went back to protect the rear of his train. He placed a detonator 100 yards to the rear of the train and three detonators about 20 yards apart on the Up Main line opposite Dorchester Junction Signal Box. He then went
up into the signal box and informed Signalman Shuttleworth that he had protected the line. While he was there he learnt of the proposal for re-routing the portion of the train that was fit to travel via Bournemouth and Southampton, and he returned to the train to inform the passengers.

25. Stockham said that he frequently worked with Jones and that he had never known him to have an alcoholic drink while on duty or to come on duty having drunk alcohol. He was quite sure that Jones had not had any alcoholic drinks since coming on duty on the day of the accident.

26. Signalman W. C. Shuttleworth was on duty in Dorchester Junction Signal Box from 18.00 on the evening of the derailment occurred. The Hereford train was described from Weymouth at 20.02 and it passed the signal box at 20.15. At that time the levers for Signal WFW 5 and Points No. 30 were both in the ‘normal’ position in the frame, the indicator for Signals WFW 5 and 5R was showing ‘On’, and the point indications were showing ‘normal’. Shuttleworth explained that the section to Maiden Newton was occupied at that time by the preceding train, the 19.43 from Weymouth, and thus he was unable to offer the excursion train forward.

27. Shuttleworth said that he watched the train as it proceeded towards Dorchester West. The train seemed to be slowing down as it passed under the bridge between his signal box and the station, and then the tail of the train appeared to be going further than he would have expected, knowing that the train was required to come to a halt at Signal WFW 5. He heard the sound of a bump and then noted that CF track circuit covering the junction and sand drag at the north end of the station was showing ‘Occupied’ on its track diagram from which he assumed that the train had run into the sand drag. Shuttleworth immediately informed the signalman at Maiden Newton what he assumed had happened and also alerted the leading railman at Dorchester South, instructing him to call out the station manager and station supervisor. He did not alert the emergency services, however, although he had a G.P.O. telephone, as he felt that it was best to ‘leave it to the person in charge when he got to the site.”

28. Shuttleworth said that he had never had any reports of any difficulty in the sighting of Banner Repeater WFW 5R nor, as far as he was aware, had any of the other signalmen at Dorchester Junction Signal Box. I questioned Shuttleworth at some length concerning the indication in the signal box of Signals WFW 5 and 5R. He was adamant that the indication was showing ‘On’ throughout the time the train approached the junction and ran up to the signal. He was equally certain that at no time as it approached did the indicator move to the vertical downward or ‘Wrong’ position. He confirmed that he had no difficulty in clearing the signal. He said he then proceeded back along the Up platform to check Signal WFW 5 which was displaying a Red aspect, after which he made it to the signalman at Dorchester South Signal Box to test the signalling. Once the coaches occupying track circuits CE and CF had been drawn clear, Few tested the functioning of Signals WFW 5 and 5R, No. 30 points, track circuits CE, CF and CG, and the tokenless block to Maiden Newton. He found that all the equipment was functioning correctly. The next day Few tested the resistances of all the cables, both core to core and core to earth, associated with the equipment he had tested the previous night; he found them all to be satisfactory.

29. Technician-in-Charge K. E. Few, the senior signal and telecommunications technician in the Weymouth–Dorchester area, was off duty when the accident occurred. He was called out by the leading railman at Dorchester South and he proceeded to Dorchester West Station where he found the train standing in the Up Main Platform with the locomotive derailed beyond the sand drag. He visually examined No. 30 points and found both ends intact and set in the ‘normal’ position. Few said he then proceeded back along the Up platform to check Signal WFW 5 which was displaying a Red aspect, after which he made it to the signal box to test the signalling. Once the coaches occupying track circuits CE and CF had been drawn clear, Few tested the functioning of Signals WFW 5 and 5R, No. 30 points, track circuits CE, CF and CG, and the tokenless block to Maiden Newton. He found that all the equipment was functioning correctly. The next day Few tested the resistances of all the cables, both core to core and core to earth, associated with the equipment he had tested the previous night; he found them all to be satisfactory.

30. Few said that since the installation of the banner repeater in June 1968 he had received no complaints regarding its sighting. About three months before the accident, however, the signalman at Dorchester Junction Signal Box had reported that he could not replace the lever of Signal WFW 5 to the normal position. Few found that the contacts in the banner repeater indicating the position of the repeater in the ‘On’ position were not making correctly, thus causing a safe-side failure which prevented the signal lever being restored in the frame. Since then there had been no further trouble with the operation of the signal or the repeater.

31. I questioned Few at some length concerning the interlocking in Dorchester Junction Signal Box and the significance of various indications. He confirmed that if the Banner Repeater WFW 5R was in any other position than fully ‘On’ when Signal WFW 5 was ‘On’ the indicator in the signal box for both signals would have been showing ‘Wrong’, that is to say the indicator needle would have been pointing vertically downwards. Further, if that had been the case, the signalman would have been unable to clear Signal WFW 4, with the route set for the Up Main line, even to a single Yellow aspect. Thus the fact that this signal was cleared to a single Yellow for the passage of the excursion train proved both that the repeater was in the ‘On’ position and that Signal WFW 5 was displaying a Red aspect.

32. Carriage and Wagon Examiner F. Hughes told me that when he reported for duty at 12.00 on Sunday, 25th August he was asked to examine one vehicle in a special excursion train from Hereford to Weymouth which was suspected of having a hot axle box. When the train had been shunted into the berthing sidings he examined the leading coach, belonging to the 6000 Locomotive Association, Hereford, and found that it had a hot axle box and would have to be detached from the train. Hughes then examined the 11 other vehicles in the train. His examination included detailed scrutiny of draw gear, buffer gear, brake equipment, and wheels to ensure that the train was safe to run. He also observed that all the brake cylinders were working and that the strokes were reasonable. Hughes said that, as a result of his examination, he was quite satisfied that the train was safe to run. He was not present prior to the train’s departure when a coach was added to the rear of the train.
33. Sergeant D. Heath of the Dorset Constabulary said that he arrived at the scene of the accident at 20.54 and initially walked through the train to make sure that nobody was seriously injured. He then went to the cab of the locomotive and interviewed Driver Jones who told him “It’s an error of judgement. I saw the Yellow light and carried on and I then saw some lights and got confused, so I braked and the train pushed me up here.”

34. Sergeant Heath then returned to the train and took the names of all the passengers who had received minor injuries. He was informed that ambulances had been summoned, but he made his way back to his patrol car to use the radio to request an additional ambulance to ensure that there were sufficient to transport all those who required hospital treatment to the Weymouth and District Hospital.

35. Sergeant Heath told me that he smelt no alcohol in Jones’ breath while interviewing him, nor did he see any containers of alcoholic drinks in the cab of the locomotive. In his opinion, Jones was perfectly normal, apart from being a little shaken by the accident, and definitely had taken no alcohol during his tour of duty leading up to the accident.

36. Mr. K. Weatherley, the South West Divisional Traction Engineer, was unable to attend my Inquiry, as he was abroad, but he submitted a written statement. He stated that he had arrived at Dorchester West Station at about 22.00 to find that the rear 10 coaches of the train had been detached from the derailed portion and that a Class 33 diesel locomotive had been attached to the Weymouth end with a view to drawing it back to enable it to be rerouted via Bournemouth. He had immediately issued instructions that the train must not be moved until he was satisfied that the brakes were in proper working order.

37. Mr. Weatherley instructed the driver of the locomotive to make an emergency brake application and he then examined the train, paying particular attention to the amount of brake piston stroke left in each vacuum cylinder, checking that the brake blocks were firmly applied against the wheels, and carefully examining the centre castings and couplers. The only faults he found were that the brake blocks on the northern bogie of coach E.4657 were very thin, but they were not breaking up and so were still operating effectively, and the brake blocks on coach E.4299 were flanging rather badly. He then instructed the driver to release the brakes and checked that all the brake blocks came away correctly from the wheels. The driver and guard then carried out a normal brake test which was satisfactory.

38. Mr. Weatherley explained that, as Driver Jones had told him that he thought the brakes were slow in applying immediately prior to the derailment, he rode in the cab of the Class 33 locomotive as far as Bournemouth to witness the operation of the train’s brakes. They operated satisfactorily throughout the journey and the time between the driver’s brake application and the operation of the brakes on the train was normal for a vacuum braked train.

39. Mr. M. Millard, who was the Acting Divisional Traction Engineer at the time of my Inquiry, explained that when locomotive No. 47236 had been rerailed the wipers in No. 2 cab were tested with a main air reservoir pressure of 67 lbs/in², the maximum obtainable due to a fractured air pipe in No. 1 cab. It was found that both wipers moved correctly from side to side, although their movement was somewhat jerky in the middle of the wipe. The rubber blades tended to leave rings of water across the windscreen, slightly impairing the visibility. Mr. Millard explained that the main air reservoir would normally be at a pressure of between 100 and 110 lbs/in² but, in his opinion, the higher pressure would not have made any appreciable difference to the operation of the wipers. The driver’s repair book for the locomotive could not be produced at my Inquiry, but it was confirmed subsequently that there had been no reference to windscreen wipers in the book for over a month before the accident.

40. Mr. P. Perry, the Running Maintenance Engineer, Southern Region, explained that it had been impossible to test the locomotive’s brakes due to damage to the brake-gear during the derailment. Arrangements were made therefore for the driver’s air brake valve from No. 2 cab, the triple valve, the air-vacuum relay valve, the air-vacuum isolating valve, and the automatic type D1 air relay valve to be removed from the locomotive and tested on another locomotive of the same class. All the items were found to be in good working order. The brake gear on the locomotive’s two bogies was visually examined and also found to be in good order.

41. Mr. Perry confirmed that with the brake switch on the locomotive switched to ‘passenger-vacuum’ there would be a delay of the order of 5 seconds after the driver had made an emergency brake application until the brakes were fully applied throughout the train. He considered that Driver Jones’ description of the delay in the brakes actuating on the application on the immediate approach to Signal WFW 5 was correct and what he would have expected. He also confirmed that Jones’ statement that the train was travelling at 15 mile/h as the locomotive passed the signal was in broad agreement with the theoretical braking curves which his department had produced for the train.

42. Finally Mr. I. D. Fowler, the Movements Manager, South West Division, explained that three sighting tests of Signal WFW 5 and Repeter WFW 5R had been carried out 10 days after the accident using a Class 47 locomotive similar to the one involved in the accident. The first test was carried out at 16.19 during heavy rain which necessitated the use of the windscreen wiper. Repeter WFW 5R, sited on a post on the Up platform, could be seen from a distance of approximately 400 yards. The red aspect of Signal WFW 5 could be clearly seen from the driver’s seat at a distance of 47 yards before the repeater or 155 yards from the signal. When the front cab of the locomotive was 128 yards from the signal, the driver lost sight of the red aspect and it was not seen again until he was 103 yards from it. This was due to a ‘Way Out’ sign erected shortly before the
accident on the platform which was in a direct line with the driver’s view of the signal. From the secondman’s seat however the signal could be clearly seen from the time the locomotive reached the south end of the Up platform until it reached the signal.

43. The second test was made at dusk in an attempt to re-create conditions similar to those at the time of the accident. During the test, as it was not raining, water was squirted onto the windscreen and the wipers used to simulate the conditions leading up to the accident. No difficulty was experienced in observing the repeater, which was illuminated and in the ‘On’ position, from 400 yards. Both the driver’s and secondman’s view of the signal were similar to that experienced in the first test. The station lights were switched on automatically about two minutes after completing the test.

44. The final test was made after dark and it was found that the station lights affected the sighting of the repeater at 400 yards and that it was not until the locomotive was approximately 300 yards from it that it could be clearly determined that it was in the ‘On’ position. The view of the signal was similar to that experienced in the two earlier tests.

45. Mr. Fowler explained that immediately following the tests steps were taken to remove the ‘Way Out’ sign and thus improve a driver’s view of the signal. A sighting meeting was also being held to investigate ways of improving the sighting distance of the banner repeater during darkness when the station lights were illuminated.

CONCLUSIONS

46. This derailment was caused by Driver Jones failing to observe that the banner repeater, WFW 5R, at the south end of Dorchester Wes Up Platform was in the ‘On’ position as he approached it. He also failed to observe that the Up Main Starting Signal, WFW 5, was displaying a Red aspect until he had travelled about 20 yards beyond the repeater, i.e. to a point about 90 yards from the signal. Despite then making an immediate emergency brake application, it was impossible to bring the train to a stand before the locomotive and the leading two coaches had passed the signal and been diverted through the trap points protecting the single line into a sand drag.

47. It was indeed fortunate that the train was only travelling at about 35 mile/h as it approached Dorchester West Station due to Driver Jones incorrectly believing that there was a 25 mile/h speed restriction from the Up Main to the single line north of the station. Had Jones been accelerating from 40 mile/h at Dorchester Junction to the maximum speed of 75 mile/h permitted on the line, the accident would have been very much more serious.

48. I am satisfied that, despite Jones’ view through the locomotive’s windscreen being somewhat impaired by the faulty operation of the wiper, he should have clearly seen the repeater in the ‘On’ position in ample time to bring his train to a stand well before reaching the Starting signal. The fact that he thought initially that the repeater was in the ‘Off’ position in no way excused him from checking its position as he approached it, particularly in view of the allegedly poor sight of it through the windscreen. I can only conclude that Jones, despite being warned by a single Yellow aspect at Signal WFW 4 that he was likely to receive a Red aspect at Signal WFW 5, failed to pay sufficient attention to the signals. The fact that he allowed his mind to wander also probably accounts for his failure to be alerted by Secondman Pope’s verbal warning, given when they were about 300 yards from the station, that the repeater was in the ‘On’ position.

49. I am unable to account for this lapse in Jones’ concentration, but I am entirely satisfied, as a result of Police Sergeant Heath’s expert evidence, that neither he nor Pope drank any intoxicating liquor before the accident, although supplies were readily available from their fellow railwaymen in the train who were travelling as passengers. I see no reason to doubt Jones’ evidence that he was well rested when he came on duty and that he had no domestic or other worries to distract him.

REMARKS AND RECOMMENDATIONS

50. While the signal sighting tests carried out after the accident revealed that the erection of a ‘Way Out’ sign in the direct line of the driver’s view of Signal WFW 5 resulted in the driver losing sight of the signal from a point 128 yards from the signal to a point 103 yards from it, I am quite satisfied that this was in no way a cause of the accident. The erection of notices and signs on station platforms and at similar locations, however, without first ensuring that they in no way interfere with the sighting of signals is obviously completely unacceptable. I strongly recommend that the procedures throughout British Railways governing their erection where they can interfere with the sighting of signals should be reviewed as a matter of urgency to prevent further incidents of this nature occurring.

51. This accident clearly demonstrates the importance of secondmen, when they are provided, positively warning their drivers of any restrictive aspects of signals which they are approaching. Had Pope’s warning alerted Jones, the accident would have been averted. I recommend that secondmen be reminded that it is part of their duties not only to assist their drivers in observing the aspects of the signals while they are approaching them but particularly to ensure that drivers are fully alerted when approaching a signal displaying a restrictive or Stop aspect.

52. The provision of trap points and a sand drag where a double line converges into a single line, such as that in the Up Main line at the north end of Dorchester West Station, is, in my opinion, the only certain way of protecting the single line. Had there been no trap points at this location, the excursion train would have run through No. 30 points onto the single line with the obvious risk of a head-on collision occurring.
53. The British Railways Standard Signalling Principles lay down that trap points shall be provided to protect the single line if there is not a full overlap beyond the signal controlling the entry to the single line, and it was on account of the absence of a full overlap at Dorchester that the trap points were provided immediately beyond Signal WFW 5. Where full overlaps are available however trap points are not required to be provided. No head-on collisions on Tokenless or Track-Circuit Block single lines have occurred in these conditions and thus I do not feel justified in asking for any alterations to the signalling principles laying down when trap points shall be provided where a double line converges into a single one or from a station loop into a single line section.

I have the honour to be,

Sir,

Your obedient Servant,

P. M. OLVER,

Major.

The Permanent Secretary,
Department of the Environment.
FIG. I SITE PLAN SHOWING TRACK LAYOUT AND POSITION WHERE TRAIN CAME TO REST

FIG. II PLAN SHOWING DETAILS OF SIGNALLING AT DORCHESTER JUNCTION (W.F.W.)

Fig. III GRADIENT DIAGRAM WEYMOUTH - DORCHESTER WEST