RAILWAY ACCIDENT

Report on the Derailment and Consequent Collision that occurred on 23rd January 1975 near Watford Junction

IN THE
LONDON MIDLAND REGION
BRITISH RAILWAYS

LONDON: HER MAJESTY'S STATIONERY OFFICE
1975
£1.00 net

RAILWAY ACCIDENT

Report on the Derailment and
Consequent Collision that occurred
on 23rd January 1975 near
Watford Junction

IN THE
LONDON MIDLAND REGION
BRITISH RAILWAYS

LONDON: HER MAJESTY'S STATIONERY OFFICE
TWO STEEL STILLAGES OF THE TYPE INVOLVED IN THIS ACCIDENT

Picture reproduced by courtesy of Ford Motor Co. Ltd.
Sir,

I have the honour to report for the information of the Secretary of State, in accordance with the Order dated 24th January 1975, the result of my Inquiry into the derailment of a passenger train and the consequent collision involving another passenger train that occurred at 22.30 on Thursday 23rd January, 1975, near Watford Junction on a 4-tracked section of the Euston–Crewe Main Line in the London Midland Region of British Railways.

The train that was derailed was the 19.10 from Manchester to Euston, comprising 2 electric locomotives and 12 vehicles, running on the Up Fast line. It was just pulling away from a booked stop at Watford Junction when it ran into 2 heavy steel stillages which had fallen from a freight train that had passed a few minutes earlier on the adjacent Down Slow line, causing the leading bogie of the locomotive to become derailed towards and foul of the Down Fast line. Within a few seconds of coming to a stand it was run into by the 22.15 sleeping car train from Euston to Glasgow comprising 14 vehicles and hauled by an electric locomotive. The impact caused the locomotive of the sleeping car train to be derailed and deflected towards the cess so that it ran down the embankment, about 50 feet high at this point, and came to rest in soft ground at the foot, followed by a bogie brake van which ended up with its leading end at the foot of the embankment and its trailing end at the top. The remainder of the train continued forward, more or less upright and in line, each successive vehicle sustaining damage from the derailed locomotive of the Up train on one side and the brake van on the other.

Although the Slow lines were not obstructed by the trains, an electrification structure was demolished and the overhead line equipment was brought down over all four running lines.

I regret to report that one member of the railway staff, the rostered driver of the Up express who was occupying the secondman's seat of the leading locomotive at the time of the accident, lost his life in the collision and three others sustained injuries which required hospital treatment. Eight passengers were also injured and taken to hospital but all were released by 30th January.

The emergency services were summoned by resident staff of the George Stephenson College of Further Education, close to the line side, who also made their canteen facilities available to the stranded passengers. The first ambulance arrived at the site at 22.38.

The accident caused considerable disruption of traffic, the Slow lines not being reopened for electric traction until 26th January and the Fast lines, with a 20 mile/h speed restriction, on 27th January.

The weather at the time of the accident was showery but with good visibility.

DESCRIPTION

Site and Signalling

1. Watford Junction lies 17¼ miles from Euston on the West Coast Main line from London to Crewe. Between Bushey, MP 16, and Watford Junction the line is 4-tracked with the Up and Down Fast lines on the west of the Up and Down Slow lines and crosses the valley of the River Colne on a high embankment on a left hand curve of approximately ½ mile radius. The line is on a generally rising gradient in the Down direction but dips at 1 in 675 from Bushey to near the point of collision before resuming a climb at 1 in 538 towards Watford Junction. All 4 tracks are laid in CWR on concrete sleepers and spaced at the standard 6-foot intervals. The cant on the Slow lines, on which the maximum permitted speed is 75 mile/h, is 4 inches and on the Fast lines, where the maximum permitted speed is 100 mile/h, 6 inches. The line is electrified on the single phase system at 25 kV with the overhead line equipment supported by portal structures spanning all 4 tracks. Train working in the area is on the Track Circuit Block System with 4-aspect colour light signalling. All running signals are provided with AWS ground equipment and signal post telephones communicating with Watford Junction Signal Box.

2. The 19.10 express from Manchester to Euston, 1A81, consisting of 12 air-braked vehicles, left Manchester hauled by locomotive No. 86.204 which failed in the vicinity of Macclesfield. After some delay, locomotive No. 83.003 was attached in front to work the train forward and it arrived in Watford Junction at 22.27, 59 minutes late, to make a booked stop in the Up Fast platform. The total weight of the train was 558 tons and its length was 905 ft 3½ in. It was carrying 52 passengers. The rostered driver of this train was Driver J. S. H. Carter, stationed at Stoke-on-Trent, who lost his life in the accident.
3. The 22.15 sleeping car train from Euston to Glasgow, 1S18, was formed of 14 vacuum braked vehicles hauled by locomotive No. 86.209. The train was marshalled with a brake van behind the locomotive, followed by 3 sleeping cars, 8 corridor coaches of Mk I design and 2 further brake vans at the rear. The train was buckeye-coupled apart from the locomotive's screw coupling to the leading vehicle and the rear brake van which was a screw-coupled vehicle of LMS design.

4. The freight train running on the Down Slow line, which passed the site some 20 minutes before the accident occurred, was the 20.12 'Company' train from Dagenham to Halewood, 6M50, conveying motor vehicle components for the Ford Motor Company. It comprised 17 pallet vans of three different types. The train had been diesel-hauled from Dagenham via the Tottenham and Hampstead and North London lines to Willesden, where electric locomotive No. 85.017 had been attached for the run down the West Coast Main line.

5. This train is worked on a regular daily basis between the Ford Motor Company's works at Dagenham and Halewood transferring car components as required. The components are conveyed for the most part in box pallets or on specially designed stillages which are loaded into the pallet vans by fork-lift truck in a covered loading terminal within the works at Dagenham. The vans are closed up and sealed by the Company's staff and a further security check is carried out in the exchange sidings before the train is handed over to British Railways.

6. Of the 3 types of pallet van in use for this traffic, the majority are of 22-ton capacity, 35 ft in length with a wheelbase of 20 ft 9 in. They are divided into 4 compartments by fixed transverse partitions, each compartment having its own sliding door. The doors of the two centre compartments are bolted where they meet and secured by a single hasp and pin. The doors of the end compartments are not bolted but are secured by a pin inserted into a tongue which projects through a slot in the steel corner post of the wagon. The van floors are of steel chequer-plate and, on this design of van, a steel rave or lip about 2 inch deep is provided just within the doorway to prevent the loads sliding up against the doors and so preventing their being opened or closed.

7. The other 2 types of van are smaller and were originally built for other types of traffic. One is of 12-ton capacity, 18 ft 9 in. length and with an 11 ft wheelbase, the other of 10-ton capacity, 21 ft in length and with a 12 ft wheelbase. Both types have a similar layout and door arrangement to the 22-ton van but they are not provided with a rave within the doorways.

8. The point of initial derailment of 1A81 was at 16 miles 1,519 yards, 60 yards on the approach side of Bridge No. 61, a 5-span brick viaduct over the River Colne. The train came to a stand in just over its own length with the leading bogie of the leading locomotive derailed and displaced laterally towards the Down Fast line and partially supported by the twisted remains of an orange-painted steel stillage. A portion of the stillage spanned the right hand rail and the remainder was embedded in the ballast between the Up and Down Fast lines. The remains of a second, green-painted, stillage was found in the four-foot beneath the 6th vehicle of the train.

9. The collision between 1S18 and 1A81 took the form of a corner to corner impact between the locomotives of the two trains causing very severe damage to locomotive No. 83.003 of 1A81, the front right hand corner of which was completely swept away. A section of the roof and the pantograph were torn off and deposited on top of locomotive No. 86.204 which also sustained slight damage. Locomotive No. 86.209 of 1S18 was deflected towards the cess by the collision and came to rest on soft ground at the bottom of the steep embankment lying almost parallel to the running lines. It sustained less severe damage than the locomotive of the Up train.

10. The leading vehicle of 1S18, a non-passenger carrying brake van, followed the locomotive down the embankment and ended up at right angles to the track with its leading end at the bottom of the embankment and its trailing end still foul of the Down Fast line. The second to tenth vehicles were all derailed but remained in line on the top of the embankment, the three sleeping cars coming to rest beyond the brake van and just short of Bridge No. 61. None of these vehicles was very seriously damaged but two of them which were leaning at a dangerous angle were subsequently deliberately put down the embankment in order to speed the clearance of the line. These two coaches and the leading brake van were subsequently cut up on site. Seven of the 12 coaches of 1A81 sustained slight damage to the right hand side, including some broken windows.

11. When 6M50 was stopped at Rugby for trainmen's relief at 23.38, 3 vans were found to have doors open and there was damage to the 12th vehicle which appeared to have been in violent contact with something. The hand brake lever on the left hand side in the direction of travel was bent and the outer section of the brake guard was missing. It and the securing pin were subsequently found at the scene of the accident. There was also minor damage to the left leading door of the 13th vehicle.

12. Permanent way damage amounted to 200 yards of track in the Down Fast line and 100 yards in the Up Fast line which had to be completely relaid. One overhead line portal structure was demolished and the
 boom carried northwards a distance of approximately 210 ft, ending up resting on the roof of a coach of the Up train close to the adjacent structure. The damage to the overhead line equipment caused the traction power to be cut off automatically on all 4 lines.

Evidence

In Respect of the Derailment

13. At the controls of the locomotive of 1A81 when it was derailed was Driver G. C. Wynne, stationed at Stoke-on-Trent. He had been requested to act as secondman to Driver Carter following a failure of the train engine and the consequent delay. He told me that Driver Carter has continued to drive from Stoke but that they had changed over near Weedon to afford Driver Carter a meal break. The train made a normal booked stop at Watford Junction and he recalled receiving a green aspect at Signal WJ 46 which is immediately at the south end of the Up Fast platform.

14. As the train accelerated away he felt a check to the train and then became aware that the locomotive was derailed. He made a brake application and both he and Driver Carter got out of their seats and stood against the bulkhead at the back of the cab. As the train came to a stand he leaned forward to cancel the AWS horn which was sounding but he could not remember whether he had lowered the pantograph. He was not aware of the approach of the other train but he thought that they were at a standstill for only a few seconds when the collision occurred. Driver Wynne suffered severe lacerations to the head and his right leg was broken in two places.

15. In charge of 1A81 was Conductor Guard C. Dummett stationed at Euston. He told me that the train left Watford Junction 59 minutes late at 22.29 and that when the train had reached about 50 mile/h he felt a brake application and it quickly came to a stand. He then looked out on the off-side and saw a Down train approaching and within seconds there was a banging and flashing. He estimated that no more than 10 seconds elapsed between his train coming to a stand and the collision taking place. Guard Dummett then described to me how he saw the locomotive and leading part of the other train leave the track and career down the embankment and then became aware of the rear portion coming straight towards him but coming to a stand before reaching his brake van. He at once took his track circuit operating clips and placed them on the Up and Down Slow lines. He then went through the train to see that the passengers were all right, telling them to remain seated until instructed to leave the train. When he reached the front he met the guard of the Down train who agreed to go back and protect his train in rear.

16. Guard Dummett then set off towards Watford Junction where he placed three detonators on the Up Fast line near the trailing end of the Up Slow to Up Fast crossover before telephoning the signalman to report the accident and asking for the emergency services to be alerted.

17. The driver of 1S18 was Driver H. Fewtrell stationed at Crewe. He told me that he had been running on green signals since leaving Euston until, as the train came through Bushey station at about 86 mile/h, he saw the next signal ahead at Red. He immediately made a full emergency brake application, released the DSD and 'pop' whistled, and vacated the driving seat. Realising that there might be an obstruction ahead he warned his secondman to get back into the locomotive corridor and then he saw the lights of the other train ahead which he thought was already stationary. When only about 40 yards from it, he realised it was foul of the Down Fast line and he tried to shelter behind the driver's seat partition. He thought that his speed at the moment of collision was about 65 to 70 mile/h. The next thing he remembered was trying to get back on his feet on the sloping cab floor. He and his secondman eventually climbed out of the front window on the secondman's side, which was missing, and were helped up the embankment.

18. Conductor Guard G. J. Forster was in charge of 1S18. When he first felt the brakes being applied at Bushey he thought it was for the normal Watford Junction stop but he then realised that it was an emergency application and saw the vacuum gauge registering zero. Within a few seconds he heard a loud bang and he was then thrown across his van on to the floor against the partition in a semi-conscious condition. After the train stopped he was helped to his feet by a passenger and grabbing his detonators jumped down on the near side and then, remembering that he should go forward on the off-side, went round the rear of his train to look for the secondman, not realising that the locomotive had gone down the embankment. Guard Forster told me that he then met Guard Dummett who told him that he had put clips on the Slow lines and Forster then set off to protect in rear, placing his detonators on both Down lines at the south end of Bushey station from where he spoke to the signalman on the telephone after having been unable to get a reply on the signal post telephone as he walked back. In reply to questioning, Guard Forster confirmed that the first signals in rear of the train applying to both Down Fast and Down Slow lines were at Red. He admitted to having forgotten to use his track circuit operating clips because, he thought, he was somewhat dazed immediately after the accident.

19. Mr. J. P. Marson, Divisional Maintenance Engineer, inspected the line about 13 hours after the accident, starting at the Watford end and walking south. He noted various pieces of metal on the Up Fast line which he could not immediately identify, but which did not appear to him to be part of any railway equipment. Certain items looked to him like portions of metal pallets or stillages and he therefore made arrangements for previous trains which had passed the site on either of the Down lines to be stopped and examined.
20. Mr. B. Heard, Acting Divisional Signal Engineer, told me that when the area of the derailment was examined shortly after the accident it was found that 2 signal cables had been severed by the derailed locomotive. They were the cables feeding the track circuit that controlled Signal WJ 175 to danger, thus this signal would have reverted from a green aspect to a red aspect a few seconds before 1A81 came to a stand.

21. Mr. M. McLoughlin of the British Railways Research and Development Division, who was also present at my Inquiry, reached the site at about 02.45 where Mr. Marson told him how he believed the derailment had been caused and asked him to make a detailed record of where material was found. Mr. McLoughlin made a careful examination of the area and confirmed the conclusion that the derailment and subsequent collision was the direct result of the locomotive of 1A81 striking two empty steel stillages which had fallen from a train on the Down Slow line. His statement is reproduced as Appendix ‘A’ to this Report.

In Respect of the Dagenham–Halewood Train (6M50)

22. Carriage and Wagon Examiner A. Coles made an examination of 6M50 when it was stopped at Rugby. He had been told about the accident at Watford and he looked carefully at the left hand side of the train, starting at the rear. On the rear vehicle he found a door of an empty compartment open; on the 13th vehicle there was a damaged door; on the 12th vehicle the brake guard was missing and there was a score mark along the brake lever as though something had ridden along it; on the 11th vehicle, a 10-ton Palvan No. B782538, the third door from the front was open and the door fastenings were bent, the compartment concerned being empty. He also found a door open on the 9th vehicle, a 22-ton van, but the pin and fastenings were in good order and the load still in place. Mr. Coles noted that on several of the vehicles the seals had been applied in such a way that it was possible to withdraw the pin and open the door without breaking the seal.

23. Mr. D. Smith, Area Maintenance Engineer, confirmed Mr. Coles’s evidence. He paid particular attention to the 11th vehicle of 6M50 and noted that the door fastenings were in good order, apart from the locking bar on the 3rd compartment which was slightly bent, but which could still be fastened. The seal on the centre two doors had been incorrectly applied and was still intact. He produced it for my inspection. It was a thin wire seal with a green and white numbered disc. The first and fourth compartments had been properly closed and sealed. When he saw the vehicle at Rugby, there were 2 stillages in the first compartment and three in the second. The third and fourth compartments were empty.

24. Mr. W. E. Hay, Rail Terminal Manager at the Ford Motor Company’s works at Dagenham described the procedure followed for loading the pallet vans to form the two daily trains to Halewood and a similar service to Swansea. The layout of the terminal is such that all loading and unloading of Halewood traffic is done using the doors on the left-hand side of the train as it departs from Dagenham. The operation is carried out by a team of 3 men, a fork-lift truck driver, a checker and a door opener, who unload and reload the train in a continuous operation to and from road vehicles. As each van is loaded the checker ensures that the correct load has been placed in the van and the door opener closes and fastens the doors and puts on the seals, one at the centre and one at each end of each van. He also checks that the off-side doors are fastened and sealed. The loading shed is long enough to hold half a train at a time, and when it has been loaded it is moved to a siding parallel to the shed and the second half is then dealt with.

25. Mr. Hay also provided me with a detailed description of the stillages involved in the accident. They are known as transmission racks and are used for the conveyance of gear-box assemblies from the transmission plant at Halewood to Dagenham and are subsequently returned empty to Halewood. They are of welded steel construction, 6 ft 8 in. long, 4 ft wide and 1 ft 5 in. high and the tare weight of an individual rack is 4½ cwt. The racks are provided with corner posts to enable them to be stacked but when standing on a flat surface the weight is taken by steel skids on all 4 sides.

26. The general foreman in charge of the loading shed at Dagenham on the afternoon of 23rd January 1975 was Mr. J. Wimborne, who confirmed that the loading of the Halewood train on that day was carried out in the manner described by Mr. Hay, by a team consisting of a fork-lift truck driver, Mr. Allen, a checker, Mr. Jennings and a door opener, Mr. Lighterness. He explained that each van is loaded in accordance with documentation provided and all the paperwork is placed in a box in one van at the end of the train.

27. Mr. Allen recalled loading the Halewood train on 23rd January and remembered one particular 10-ton van because there had been a query in connection with its documentation. He told me that he had loaded two compartments of this van with 2 stillages each and one with 3, with one empty compartment. Mr. Jennings confirmed that altogether 7 stillages were loaded into this particular van, the last 2 digits of the number of which were 38. Mr. Lighterness, too, remembered van No. ‘38 because of the query over the paperwork and confirmed that 2 stillages were loaded into the 3rd compartment and that the 4th compartment was empty. He also told me that, in fastening the doors of the vans he usually found it necessary to hammer the pins in, and confirmed that the type of seal that he was using was a thin wire seal of the type shown to me earlier by Mr. Smith.

28. Mr. J. W. Hillier, who was in charge of the security arrangements for traffic entering or leaving the Ford Motor Company’s works at Dagenham, described the security procedure in respect of outgoing
29. The security guard on duty on the evening of 23rd January was Mr. A. Green. He told me that at about 18.20 a large shunt of sealed vans was brought into the exchange sidings and split into two parts, 20 vans forming the Swansea train and a further 11 to form part of the Halewood train. He first checked the latter finding all in order and then turned his attention to the Swansea train on which he found 3 vans without the correct release documentation. Whilst he was sorting out this problem a further shunt of 6 vans for Halewood was brought out and coupled to the 11 that he had already checked, forming the front portion of the train. Owing to his preoccupation with the Swansea train Mr. Green admitted that he had not time to make a full detailed check of these 6 vans before the departure of the Halewood train but he recalled that, as it left the siding, he was standing on the left hand side and saw that the doors of the front 6 vans were closed, but he did not check the seals.

30. Mr. G. C. Parslew, Divisional Maintenance Engineer, Liverpool Street, described the procedures carried out by the Eastern Region staff at Dagenham and told me that all vehicles brought out of the Ford Motor Company's works were examined before departure by a carriage and wagon examiner whose responsibility it was to see that the vehicles were fit and safe to run. This meant that he had to ensure that all fixtures and fittings were secure on the wagon. His responsibility did not extend to making sure that the doors were properly secured, this being the responsibility of the guard during his pre-departure examination of the train.

31. Carriage and Wagon Examiner T. T. Scanlon was on duty at Dagenham on the evening of 23rd January and examined the pallet vans which were to form the Halewood train. He assured me that during his examination of the wagons he looked at the doors and their fastenings and he would certainly have noticed if any doors were not properly closed. He was satisfied that all the pins and bolts were in, but he did not examine the seals. He recalled that he began his examination at about 19.00, examining the rear portion of the train first.

32. The guard of the train was Guard W. L. Coleman stationed at Willesden, whose experience of working the Dagenham–Halewood trains extended back to 1968. He assured me that he had examined the train thoroughly before leaving Dagenham and was satisfied that it was all in order with all doors properly secured. He told me that he had checked this train on many occasions and that he had never found an insecure door.

33. Guard Coleman then described his journey from Dagenham to Willesden and told me that the train had been stopped for signals twice en route, first at Gospel Oak, where they had been held from 20.30 to 20.40 waiting for a passenger train to precede them, and then again for about 4 minutes at Finchley Road. He was travelling in the rear cab of the leading locomotive and though he looked back along the train at Gospel Oak it was dark and he could only see the leading wagons. At Finchley Road they were stopped in the platform with the rear part of the train in the tunnel. He saw nobody on the station.

34. At Willesden the train was routed into No. 1 Down Through Siding in Brent Siding which lies to the north of and immediately adjacent to the Up Slow line, arriving at 21.05. Coleman had no occasion to go back along the train, he merely uncoupled the locomotives and left the train papers in the clip on the leading wagon.

35. Driver A. E. Wright confirmed his guard's evidence about the 2 stops between Dagenham and Willesden. He said that the stop at Gospel Oak was a regular one, to wait for the Broad Street–Richmond train to go by, but that the stop at Finchley Road was unusual. He told me that the journey had been a smooth one and he could recall no jolts or snatches which could have caused an insecure door to roll open.

36. In charge of 6M50 from Willesden to Rugby was Guard C. A. Miller. He told me that he arrived at the train at about 21.30 and, after coupling on the electric locomotive, proceeded to the rear of the train to check the tail lamp and carry out a brake test. He walked along the right-hand side of the train in both directions because of the narrow space between the siding and the adjacent running line, but told me that he had shone his handlamp along the other side of the train from both ends and did not see any open doors. The train left Willesden at 21.50 with the guard travelling in the rear cab of the locomotive. He said that it was a smooth run without jolts or snatches, reaching Rugby at 23.40.

37. The driver of the train from Willesden to Rugby was Driver H. T. Carter with Electric Locomotive No. 85.017. He told me that his journey was quite uneventful with a clear run the whole way. The speed of the train was limited to 45 mile/h and he was running at this speed between Bushey and Watford Junction.

Subsequent Investigations

38. In response to my request, it was ascertained that on no occasion had a Dagenham–Halewood train been reported as arriving at Halewood with doors open or insecure.
39. In view of the possibility that the open doors on 6M50 were the result of irregular interference with the train at some point on its journey, I paid visits to Gospel Oak, Finchley Road and Brent Sidings, Willesden, in the company of Mr. D. E. Holyfield, Divisional Operating Superintendent, London, and Superintendent J. Constantine of the British Transport Police. Of the 3 sites it was at once apparent that the most likely point of interference was at Gospel Oak. There was evidence, in the form of damaged fencing on both sides of the line, to indicate that trespass was taking place regularly in an area which was not overlooked by buildings and out of sight of the signal box. Superintendent Constantine reported that thefts from vans and containers on freight trains stopped at signals were known to have taken place at this point and in the immediate vicinity over the past few years. Police observations had been maintained in the area, but there had been no known thefts since August 1974. Police records also revealed that a complaint was received on 15th July 1974 to the effect that 3 children had ‘boarded’ a Dagenham-Halewood train at Gospel Oak at 21.03 on that date. Police went immediately to the site but the children had left the area.

40. The situation at Finchley Road, where the locomotives and leading wagons of 6M50 would have been opposite the platform and the rear portion of the train, which included all the vans which had been tampered with, in a tunnel, did not make it a likely point for interference.

41. At Brent Sidings, Willesden, the No. 1 Down Through Siding where the train stood from 21.05 to 21.50 lies immediately adjacent to the Up Slow line and the clearance between them over most of its length is the standard ‘six foot’ applicable to running lines. The location is not one which would lend itself to irregular interference, particularly on the side of the train adjacent to the Up Slow line on which trains pass at 75 miles/h.

42. I also asked the representatives of the Research and Development Division for an opinion as to the likely movement of the steel stillages in the 10-ton van on the journey from Willesden to Watford and, in particular, the effect of the left hand curve between Bushey and Watford, where the stillages were precipitated from the wagon. After taking into consideration the lateral accelerations arising from the assumed hunting behaviour of this type of vehicle at 45 miles/h, their calculations showed that the forces acting on the stillages would have caused a progressive shift towards the inside of the curve and demonstrated that the movement of the stillages through the open door as a consequence of the dynamics of the moving vehicle was quite possible.

**CONCLUSIONS**

43. There can be no doubt that the sole cause of the derailment of the locomotive of the Manchester–Euston express and the subsequent collision between the Euston–Glasgow sleeping car train and the derailed locomotive was the obstruction of the Up Fast line by 2 steel transmission stillages that had fallen from the 11th vehicle of the Dagenham–Halewood car-parts train which had passed the point of derailment 20 minutes previously on the Down Slow line and on which 3 doors were found open when it reached Rugby.

44. I am satisfied that the loading arrangements and security system in force in the Ford Motor Company’s works at Dagenham are such that it is improbable that a train would be handed over with even one door insecurely fastened, let alone three, though there was evidence to indicate that the seals were not always properly applied making it possible, in some instances, to withdraw the pin and open the door without breaking the seal. This, in itself, cannot be regarded as unsafe. After handover to British Railways at Dagenham, the additional examinations made by a carriage and wagon examiner and the guard of the train lead me to the conclusion that the train left with all doors closed and secured and that it was interfered with at some point en route.

45. The most likely place for interference to have occurred is Gospel Oak, in view of the earlier history of thefts from trains at this point, although there is no actual evidence in the present case. I believe that the unmarked sealed wagons attracted the attention of potential thieves who, after opening some doors and finding the contents unattractive, let the train go on its way with the doors either open or insecure.

46. It is clear that the interference had already taken place by the time the train departed from Willesden and had Guard Miller made a proper examination of his train, as required by Section H.6.3 of the British Railways’ Rule Book, he would have walked along both sides of it and would doubtless have observed the open doors, thus the accident would have been prevented. However, in view of the tight clearances between the sides on which the train was standing and the adjacent running line, he did not wish to expose himself to danger and I do not think he can be criticised on this score. In paragraph 55(c) of the Secretary of State’s ‘Requirements’ it states:—

‘In new work, and also in reconstruction on existing railways (except when otherwise approved in cases of special difficulty), the clear interval between a running line and the nearest siding to be not less than 9 feet. Where wagon examination or shunting operations are likely to be regularly performed in sidings, this dimension should be increased to not less than 10 feet.’

47. The pallet van out of which the transmission stillages fell was of the smaller type which were not fitted with raves within the door openings and it appears that, at a speed of 45 miles/h, the 4 inches of cant on the curve between Bushey and Watford, designed for an equilibrium speed of 70 miles/h, was enough
to cause the stillages to slide towards the inside of the curve and so to fall out onto the track. The original object of providing the raves in the larger pallet vans, as explained in paragraph 6 above, was to prevent damage to the doors but it is clear that, had they also been provided in the smaller vans, this accident would not have occurred.

48. I must conclude, therefore, that the scene for this unfortunate accident was set when intending thieves, prospecting the Dagenham–Halewood train while it was standing waiting signals at Gospel Oak, opened 3 doors and, finding the contents unattractive, let the train go on its way with the doors unfastened. That it occurred when and where it did was purely fortuitous and it was indeed fortunate that the first train to pass on the obstructed Up Fast line at Watford was not travelling at the full line speed of 100 mile/h. Though, with hindsight, the accident could have been prevented, no part of the responsibility for it can be laid at the door of any of the individuals, whether employed by the Ford Motor Company or the British Railways Board, involved in the preparation and working of the Dagenham–Halewood train concerned.

49. To ill-intentioned observers, the Dagenham–Halewood train, made up of unmarked sealed vans, may well have looked as if it contained a large consignment of attractive goods. The light seals used by the Ford Motor Company are no deterrent and it is the work of a moment to remove one and open a door. When the service was first introduced, the 22-ton pallet vans carried a large 'Ford' sign and the nature of the contents was thus clear to everyone. It is for consideration whether the resumption of some form of exterior marking might not be sensible.

50. The circumstances of this accident showed that the existence of steel raves within the door openings of pallet vans can have a considerable safety value, particularly where steel stillages are loaded into steel-floored wagons. I am pleased to be able to report that I have been informed by the British Railways Board that steps have already been taken to provide raves in all pallet vans in use for this type of traffic.

51. In view of the inadequate clearance between the No. 1 Down Through Siding at Brent Sidings, Willesden, and the adjacent Up Slow line, train examinations requiring a guard or carriage and wagon examiner to look at both sides of trains should not be carried out in this siding, and I recommend that a safer location for engine changing and crew relief should be adopted.

I have the honour to be,
Sir,

Your obedient Servant,

I. K. A. McNAUGHTON
Lieutenant Colonel.

The Permanent Secretary,
Department of the Environment.
Derailment near Watford Junction—23rd January 1975

I was called out to investigate the above derailment at 23.35 on 23rd January 1975 by the Research & Development Division Duty Officer and travelled to the derailment site accompanied by D. J. Coxon, also of the Research & Development Division. We arrived on site at approximately 02.45 and were briefly acquainted with the facts concerning the derailment by Mr. J. P. Marson, the Divisional Maintenance Engineer.

I made a cursory examination of locomotive 83.003 then proceeded to the rear of the Manchester to Euston train where I began a detailed examination of the derailment site. I constructed a sketch plan of the derailment site and took measurements of the vehicle positions, items of evidence and damage marks to the track with reference to the positions of the overhead structures.

At 41 yds on the London side of structure G.16.27 I observed a groove in the ballast on the left-hand side of the Up Fast line leading to a concrete sleeper which bore damage marks to the 'running off' face. This end of the sleeper was displaced approximately 8 ins towards Watford and from the information I had received I concluded that this was the point of impact of the steel stillages falling from a train on the Down Slow line. Additional evidence recovered from this area was a 'Ford' Quality Control label and a car delivery pro forma.

A number of steel bars and angles of several shapes and sizes were found to be strewn along the line extending from the damaged sleeper towards Watford, the furthermost piece (an orange painted steel bar approximately 3 ft 6 ins x 2 ins x \(\frac{3}{8}\) in.) being situated to the left-hand side of the Up Fast and at a distance of 64 yds. A damage mark smeared with orange paint on the 'running off' side of a concrete sleeper situated 6 sleepers on the London side of this steel bar indicated the bar had become detached from a stillage and was travelling towards Watford before it came to rest.

It was apparent from the fragments found that two steel stillages were involved, one painted green and one painted orange. Traces of green paint and drag marks were observed on the right-hand rail 40 yds on the Watford side of the damaged sleeper together with light damage marks in the four foot to the 'running on' side of the concrete sleepers. It would appear that the green stillage came to rest at this point and was subsequently struck by locomotive 83.003 hauling the Manchester/Euston train.

Minor fragments of both green and orange stillage were then deposited along the track for approximately 28 yds until several larger fragments were found adjacent to two faint marks on the right-hand rail where the leading bogie derailed. There were no conventional flange marks, pressure marks on the gauge face nor heavy marks on the railhead normally associated with derailment of a heavy axleload vehicle, only two faint marks approximately 2 ft apart visible on the outside edge of the railhead where the wheels had been caused to ride over some portion of steel stillage. Corresponding tread corner drop-in marks were observed on the left-hand rail almost opposite the flange marks. This point of derailment occurred at 16 miles 1,519 yds on the transition from straight track to a right-hand curve, the track components consisting of continuous welded 110A rail, rectangular SHC clips and concrete sleepers.

The derailed bogie caused relatively heavy damage to the concrete sleepers and in negotiating the track curvature became increasingly displaced towards the inside of the curve such that 11 yds from the point of derailment the left-hand wheels were displaced 18.5 ins from the rail and approximately 33 yds from the point of derailment the left-hand wheels were in the centre of the four foot i.e. the locomotive was running foul of the Down Fast line. At this point the heavy wheel damage marks changed to medium damage marks, and approximately 67 yds from the point of derailment the wheel damage reduced to light marks on the sleepers and larger fragments of both green and orange stillages found prior to this point indicated that the stillages had jammed further under the bogie and were partially supporting the front of the locomotive.

Locomotive 83.003 came to a stand at approximately 16 miles 1,213 yds having run derailed for 306 yds, the tangled remains of the orange stillage being trapped between the leading wheels and the bogie bolster. A portion of the stillage spanned the right-hand rail and the remainder was embedded in the ballast between the Up and Down Fast lines. The major portion of the green painted stillage was found in the four foot behind the leading bogie of kitchen car No. M1562 (marshalled 6th in the train) i.e. approximately 152 yds from the leading end of 83.003.

Locomotive 83.003 was struck by locomotive 86.209 hauling 14 coaches and forming the 22.15 Euston to Glasgow train. The collision caused locomotive 86.209 to become derailed to the cess side whereupon it ran down the steep embankment causing the cess rail to overturn, become displaced to the inside of the curve and fracture. The first coach (BG No. M81348) followed the locomotive down the embankment and the second to tenth coaches inclusive, although derailed, remained in line at the top of the embankment, the fifth coach came to a stand against the buckled rear end of the first coach and the ninth coach (M25686) came to a stand adjacent to locomotive 83.003 on the Up Fast line.
From the relative positions of the two derailed trains it would appear that the Manchester/Euston train was travelling very slowly or was almost stationary when the collision occurred.

My findings confirmed those of the Divisional Officers on site in that derailment of the Manchester/Euston train, with subsequent collision and derailment of the Euston/Glasgow train, occurred solely to locomotive 83.003 striking two empty steel stillages which had fallen from a train on the Down Slow line and become wedged under the leading bogie causing derailment to the right-hand side.