DEPARTMENT OF THE ENVIRONMENT

RAILWAY ACCIDENT

Report on the Collision that occurred on 11th January 1975 at York Station

IN THE
EASTERN REGION
BRITISH RAILWAYS

LONDON: HER MAJESTY'S STATIONERY OFFICE

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RAILWAY INSPECTORATE,
DEPARTMENT OF THE ENVIRONMENT,
2 MARSHAM STREET,
LONDON SW1.
11th June 1976.

SIR,

I have the honour to report for the information of the Secretary of State, in accordance with the order dated 15th January 1975, the result of my Inquiry into the collision between two express passenger trains that occurred at 02.48 on Saturday, 11th January 1975 at the north end of York Station, in the Eastern Region of British Railways.

The 23.15 King's Cross to Aberdeen passenger train, having passed at Danger a multiple-aspect colour-light signal on the Down Main line, came into sidelong collision at about 20 mile/h with the rear two vehicles of the 19.20 Aberdeen to King's Cross diesel locomotive hauled passenger train which was running beside Platform No. 9 under clear signals at about 10 mile/h to make its booked stop.

Fortunately no passengers were injured but I regret that the guard of the southbound train sustained injuries and was detained in hospital for 14 days. The rear two coaches of the southbound train were derailed and they, together with the locomotive of the other train, suffered extensive damage. The body work of the two leading vehicles of the northbound train also suffered some damage. Two platform lines and the Up and Down Main lines were blocked but trains were diverted to other platforms and the delays caused were slight. Normal working was resumed at 11.40. The weather at the time of the accident was fine with good visibility and the station lights were on.

DESCRIPTION

The Site

1. York Station is on the East Coast Main line, 188 miles from London. Approaching from London the station lies generally north and south on a left-hand curve averaging 18½ chains radius. That part of the station in which the accident occurred extends to the north of the overall roof and, viewed as approaching from London, is bounded on the left by Platform No. 9 which is 1576 feet long and on the right by Platform No. 8 which is 1,706 feet long. Between the two platform lines lie the Down and Up Main lines. There is a general speed restriction of 15 mile/h through the station, but movements in the right direction on the Main lines are permitted at 25 mile/h. Both platform lines and the Up Main line may be traversed in either direction, the Up direction being towards London. At the north end of the station there is a series of connections between the Main and Platform lines which form a divergent junction between the Main and Scarborough lines as a train proceeds northwards. The point of collision was where the Down Main line and No. 9 Platform line converge, approximately 20 yards to the north of the north end of Platform No. 9. Approximately half way along Platforms Nos. 8 and 9, beneath the overall roof, there is a footbridge connecting them.

The Signalling

2. The York station area is equipped with multiple-aspect colour-light signals, electro-pneumatic point motors, and is fully track circuited. Subsidiary and shunting signals are of the position-light type and shunting signals on through routes precede the clearance of the running signals over that route. Junction indicators are of the 5 lunar-white light type and route indicators are of the theatre type which display white letters or numerals to an approaching train and a yellow light repeater to the rear for the benefit of those working in the station. The signalling was commissioned in 1951. Traffic is worked in accordance with the Track Circuit Block Regulations and the signalling is operated by a route-relay interlocking controlled from York Signal Box through a 'One Control Switch' panel on which each route available from a signal has an individual switch, the switches being set in a group. Provided a route is available and can be set, a line of white lights is illuminated along it on the panel diagram once the route switch is turned; the occupation of each track circuit is shown by the illumination of pairs of red lights. After the passage of the train the route lights and track-circuit lights are extinguished. The proceed and stop aspects of signals are indicated on the diagram; the lie of points is indicated close to the individual point switches with an additional indication which flashes when they are out of correspondence. Signals in the station area are not equipped with AWS because of the complication of routes. None of the signals concerned in the accident is automatic in operation. Trains are signalled using bells and train describers, which have illuminated displays for each signal approaching the station situated above the diagram in the signal box, showing train class and destination.

3. The running signals controlling a movement from Chaloners Whin Junction to the north end of York Station over the Down Main line are all 4-aspect with junction indicators in the higher speed areas and theatre-type route indicators in the station area. The running signals controlling a movement from Skelton Junction to the south end of York Station are also 4-aspect with theatre-type route indicators on the Up Main line and then 3-aspect with theatre-type route indicators over the Down Main line and No. 9 Platform line. Most of the running signals have subsidiary signals mounted with them and there is a number of shunting signals between the running signals. Referring to the diagram at the back of the report, Signal Y125

displays a single yellow aspect when the route is set to Signal Y164 at Danger, 262 yards further on, provided track circuits 162T, 163T, and 282T are clear, no conflicting routes are set ahead of Signal Y164 from Signals Y227 and Y163, and provided facing and trailing points in the route are set Normal. If the overlap of Signal Y164 at Danger is fouled by a conflicting route, under certain circumstances Signal Y125 will exhibit a proceed aspect under approach control. For Signal Y164 to display a proceed main aspect requires points 523 detected Normal and 524 Reversed with an 'M' (Down Main line) route indicator, or 523 detected Reversed and 524 Normal with an 'S' (Scarborough) route indicator. Signal Y164 is approach locked by the occupation of track circuit 282T and in the event of the signal being approach locked before it is replaced to Danger, a 60 seconds time delay would be imposed before any conflicting routes could be set, or before the route beyond the signal could be altered. A route set on the Up Main to Signal Y107 from Signal Y194 past Signal Y132 would require points 523 to be Normal. Signal Y125 is mounted on a bracket extending from Platform No. 9 as is Signal Y164 the red aspect of which is offset 2 feet to the left of the left-hand running rail of the Down Main line and 16 ft above it. Signal Y168 is mounted on a post beside 524 points to the left of the Down Main line in the right direction. Signal Y132 is mounted on a bracket extending from Platform No. 8 and Signal Y126 on a bracket projecting from Platform No. 9. A second signal, Y165, outboard of Y164 on the same bracket was moved to one extending from Platform No. 8 carrying Signal Y131 in April 1974.

The Trains Involved

4. The 23.15 King's Cross to Aberdeen train (1S77) consisted of diesel locomotive No. 47 255 marshalled with 3 car-carrying vehicles leading, followed by 3 coaches, 6 sleeping cars, and a gangwayed brake vehicle (BG) at the rear. The length of the train was 907 ft 11 ins. with a weight of 609 tons and a brake force of 451 tons. The 19.20 Aberdeen to King's Cross train (1E40) was hauled by diesel locomotive No. 55 007 and consisted of 11 passenger coaches with a BG at the rear. Its length was 857 ft 6 ins. with a weight of 504 tons and a brake force of 386 tons. The vacuum brake was operative throughout both trains.

The Course of the Collision and the Damage Caused

5. As 1E40 was running under clear signals into York Station to make its booked stop having entered the north end of the station by crossing from the Up to the Down Main line and then into No. 9 Platform line, its two rear vehicles were struck sidelong by the leading left-hand corner of the locomotive of 1S77 which was running through the station over the Down Main line as the two lines converged. The BG at the rear of 1E40 became detached from the train, derailed, and pushed northwards approximately 100 feet before coming to rest at an angle, leaning against Signal Y168. The outer body side of the BG as far as the first doors was buckled outwards by 12 ins. The main frame headstock and solebar welds were torn and the frame was broken and bent. The leading bogie solebars and headstocks were bent and twisted out of alignment. The penultimate vehicle, a second class coach, was derailed and forced up against the edge of Platform No. 9. It sustained damage along the full length of its body on the corridor side, and the trailing bogie, the dynamo, and the battery box were extensively damaged. The leading cab of locomotive No. 47 255, which came to a stand with its front 128 yards beyond Signal Y164, was badly crushed on the left-hand side. The driver's desk and seat pedestal were displaced upwards and to the rear. The air pipes, brake rigging, and lifting lugs of the leading bogie were damaged and the bogie itself was distorted, whilst the rear bogie was also damaged. Body panels on the left-hand side in the direction of travel of the two leading TCVs were torn open or scrubbed along the full length, a roof support member was displaced and roof panels were damaged. The Up and Down Main lines and Nos. 8 and 9 Platform lines were blocked to all traffic. The Up Main line and No. 8 Platform were returned to traffic at 09.30. No. 9 Platform and the Down Main line were restored to traffic at 11.40. About 12 yards of permanent way were pushed out of alignment, 45 feet of platform wall and copings were extensively damaged at the north end of Platform No. 9, component parts of a point motor and some cables were damaged, and the post of Signal Y168 was damaged.

EVIDENCE

As to the Running of 1E40

6. The driver of 1E40 was *Driver N. Ward* who explained that his secondman was driving as the train approached York and that his job at the time was to observe the signals and supervise the way in which the train was being driven. He said that it had been a good run from Newcastle with good clear signals all the way, particularly in the York area, and that the train had been running to time. He was able to describe to me each signal on the approach to Platform No. 9 at York and the aspects which he noted in them on the morning of the collision. He saw a double yellow aspect at Signal S7 and green aspects at Signals Y222, Y221, and Y193; seeing a route indication of 'D' at Y221 and a route indication of '9' at Y193. He said the train entered the north end of Platform No. 9 at a speed of between 10 and 15 mile/h, but he was sitting in the secondman's seat, and that on the right-hand curve he was looking forward for Signal Y126 and for the right place to stop in order to take water near Signal Y101. He could see Signal Y126 exhibiting a single yellow aspect with a '9' route indication. There was then what he thought was an application of the brakes from the rear of the train and it stopped about 20–30 yards short of Signal Y126 having travelled about 10 yards further down the platform after the brake application. He was conscious of the train on the Down Main line to his left but it was of no significance to him until he discovered afterwards what had happened. He had not noticed where the two locomotives had passed since he had been concentrating on his own signals and had not noticed the aspects of any other signals in the station area.

7. Driving locomotive No. 55 007 was *Secondman J. A. Parker* who told me that it was the first night that week that he had driven this train. He described the journey from Skelton Junction to Platform No. 9 at York in the same way as had his driver. He confirmed the aspects and route indications at each signal and said that the speed along the platform line was 8–10 mile/h. He described the application of the brake when the train divided as being like an emergency application from the rear and thought that the train travelled a further 8–10 yards before coming to a stop about 30 yards before Signal Y126, which was displaying a single yellow aspect. He thought that the two locomotives had passed at some point between the north end of Platform No. 9 and the footbridge, but he could not be sure about this. He had not noticed any other movement in the station area apart from the one train going in the opposite direction on the Down Main line as his train ran into the station.

As to the Running of 1S77

8. On the morning of the accident *Driver M. H. Bacon* of King's Cross was driving 1S77. He told me that he had started duty at 21.55 on the Friday evening before the collision. He said that as he approached Signal Y4 it was at Danger and that he had brought his train nearly to a stand when the signal changed to a single yellow aspect. He correctly described the signal as having a junction indicator. He was not sure whether it was the next signal, Y8, or the one after, Y19, that changed from a yellow aspect to a green aspect, but he correctly described Signal Y19 as a 4-aspect signal although he could not remember whether it had a route indicator or a junction indicator. He described the next signal, Y34, incorrectly as being a 3-aspect signal with a theatre-type route indicator whereas it is in fact a 4-aspect signal; he said that it was displaying a single yellow as he approached with an 'M' indication. He said "with one yellow at Holgate Y34 I am expecting a yellow at Signal Y125" and explained this by saying that between leaving one signal and approaching the next it was possible for the aspect to change from red to a single yellow. He said that his speed between Signals Y34 and Y125 had been about 15–18 mile/h or slightly less, and that approaching Signal Y125 at yellow he might have picked up a bit more speed. He described Signal Y125 as near the York Arcade between Platforms Nos. 8 and 9 and said that it was displaying a yellow aspect when he first saw it, although when questioned immediately after the collision he had claimed that Signal Y125 was displaying a green aspect. He said that he thought there were 4 or 5 shunting signals between Signals Y34 and Y125 and was not sure whether there were any ground position-light signals between Signals Y125 and Y164.

9. Driver Bacon said that as he approached Signal Y164 he had noticed two other signals (probably Y165 and Y131) which he thought were both at red. To the best of his knowledge he had not seen the back of the route indicators applying to any other signals at all. He claimed that Signal Y164 was displaying a yellow aspect as he approached it and that it changed to a red aspect when he was almost directly underneath it. He could not recollect seeing any route indication associated with the signal. He said that he had seen a side view of Signal Y164 more at an angle through the right of the window when it changed from yellow to red as he was going by it and claimed that he saw the close-up indications, which on that signal are on the right-hand side as one faces it. He agreed that his speed had possibly increased approaching Signal Y164 and was about 20 mile/h. He seemed to be very unclear as to the precise location of Signal Y164 and said that it was on a bracket and was more or less over the outside line of the track or practically directly over the top of the track which was on a slight left curve at that point. He said that after passing Signal Y125 he would be looking "a little bit more over to the right. You more or less start to go round slightly on the curvature to the left, so I am looking more or less to that way to bring me round to the left". In view of this comment I questioned him in detail about the way in which he had seen Signal Y164 after passing Signal Y125. He said that he was on a left-hand curve passing under the footbridge and he would be looking slightly to the right in order to see Signal Y164. He thought that he passed the locomotive of 1E40 south of the footbridge and claimed that he saw Signal Y164 at yellow before he passed the locomotive of 1E40 and before it was first obscured by the footbridge and then by the other train.

10. Driver Bacon said that he was sure that Signal Y164 was at yellow before he lost sight of it and that it turned to red when he was almost directly underneath it; he said that he had glanced up at this particular signal and that it had changed from yellow to red. He agreed that signals are normally positioned on the left-hand side whichever direction one was travelling in but still gave the impression that he would be looking to the right for Signal Y164. He said that he made an emergency brake application when he saw the red aspect and that when he saw the rear portion of 1E40 looming up in front of him he immediately vacated the driver's seat before the collision occurred. He agreed that he had been driving on this route for at least the last 5 years and that on a considerable number of occasions he had driven on the Down Main line not stopping at York as he did on the night of the collision. He admitted that neither he nor his secondman had done anything about protecting his train after the collision and that they had not used the telephones at all. He also said that on other occasions as on the night of the collision there had been a train passing him in the opposite direction as he travelled through York station although it did not happen often.

11. Driver Bacon described his previous duties as an afternoon duty on the Monday; then booking on at 20.50 on Tuesday, finishing early Wednesday morning; booking on at 20.00 on the Wednesday night to finish on the Thursday morning; having a rest day on the Thursday before commencing the duty which ended in the collision. He said that he might have taken a drink at lunchtime on the Friday but nothing exceptional and that he was not undergoing any treatment from a doctor. When questioned about alterations to the signalling at the north end of York Station in April 1974, he agreed that he received a copy of a notice referring to the changes that had been made, but he could not remember exactly what change was made to

Signal Y164 although it had not made things more difficult. He said that his train was running to time on the night of the collision and that he might have remarked about something in front causing the checks which he had received south of York.

12. *Secondman M. Bell* who was with Driver Bacon at the time of the collision had proved to be an unreliable and confused witness when giving evidence to the Railway Officers at their own inquiry. He was not available for my inquiry and I did not interview him.

As to the Signalling of the Trains

13. The traffic regulator in York Signal Box on the morning of the collision was *Regulator L. H. Wood.* He told me that things were running normally until the collision and trains were in their normal paths during his shift. In the Down direction there was a Freightliner train, 4N61, on the Down Doncaster line routed into York Yard, and 1S77 was following close behind it; 4N61 was diverted at Signal Y19 into the Down Holgate Loop and he estimated that 1S77 received a red aspect when approaching Signal Y4, because of 4N61 in front, which cleared to a single yellow after 4N61 passed Signal Y19. He thought that Signals Y8, Y19, Y34, and Y125 should have been cleared for 1S77 although he was not in a position to see the indications on the signalman's panel. He was sure Signal Y164 was showing red because the white route strip which had become illuminated past Signals Y34 and Y125 ended at Signal Y164 and there were definitely no illuminated white lights beyond that signal on the diagram. He said that he was actually watching 1E40 arriving on Platform No. 9 with 1S77 proceeding on the Down Main line on the illuminated diagram, when he realised that track circuit 283T had been occupied and that something had gone wrong. He ran to the signal box window and saw that the front part of 1S77 had passed Signal Y164 and had collided with the rear of 1E40 and that both trains were at a stand. He confirmed that he actually saw the occupation of track circuits 283T and 313T on the diagram although he could not say which had indicated first and thought that it had probably happened simultaneously.

14. Mr. Wood said that after the collision a route was shown on the panel diagram set from Signal Y193 to Y101 for 1E40 to proceed on No. 9 Platform line. He had also seen that the white route lights were illuminated on the Up Main line as far as Signal Y107 for a Freightliner, 4M65, and as its crew were due for relief at that signal he had noticed that the route had been set. He said that he did night duties one week in three and that on a considerable number of times it was necessary to regulate the running of the two trains concerned in the collision to avoid their routes conflicting.

15. The signalman dealing with the north end of the panel from Signal Y222 up to Y101 was *Signalman C. Meggitt*. He said that when his track circuits showed the approach of 1E40 he set a route for the train from Signal Y222 up to Signal Y101 as a continuous movement from signal to signal, the last switch that he touched being that for Signal Y126. In his opinion the aspects which a driver would have received were a green in Signals Y222, 221, and 193, with a yellow aspect at Signal Y126 because the white route lights had become illuminated as far as Signal Y101. He had then watched the progress of 1E40 past these signals because 4M65 was following closely behind. He told me that as soon as 1E40 had crossed from the Up Main line to the Down Main line at 539 points and passed Signal Y193 he put back the switches for Signals Y222, 221, and 193 and only a few seconds after the passage of the passenger train he set a route for the Freightliner up to Signal Y107. When he looked to see if 1E40 was clear into the platform he noticed that track circuit 283T was showing occupied and then immediately track circuit 313T also showed occupied. This put the aspect of Signal Y194 back to Danger and he noticed that this was indicated on the panel before he put the switches for Signals Y194 and Y132 back to Danger having realised that something was wrong. He thought it would only have been a matter of a few seconds between the time that he cleared the signals for 4M65 and then seeing that track circuit 283T was occupied.

16. Mr. Meggitt told me that he saw 1S77 shown on the train describer on the Down Main line at Chaloners Whin, noticed that this train was behind 4N61, and knew that he had plenty of time to bring 1E40 into Platform No. 9. Consequently he allowed 1E40 to precede 1S77. He said that he thought things were running slightly before time and that there were no other movements at the north end of the station apart from those he had signalled. He said that he had not set a route beyond Signal Y164 for 1S77 or attempted to do so and that he could not have cleared Signal Y164 in error and then replaced it, because the interlocking would not have allowed it. He said that the route beyond Signal Y125 was set by another signalman and not by him and that he had not touched the signal switch for a Down train at all.

17. *Signalman T. W. Taylor* was the only other signalman in York Signal Box at the time of the accident because the signalman on the extreme left of the panel, who dealt with Chaloners Whin, had gone for a refreshment break and so he was looking after both southern sections at that time. He told me that in the Down direction 4N61 was booked to go into the yard and he cleared a route for this train from Signal Y19. He said that 1S77 was very close behind and he had replaced the thumb switches for each of the signals as 4N61 passed them and within a few seconds, as soon as it cleared each overlap track circuit, he set the route again for 1S77 not wishing to delay the train. Although he could not be sure, he thought that the driver of 1S77 would probably have seen a red aspect at Signal Y4 before getting a green aspect and that at Signals Y8, 19, and 34 he would probably have seen double yellow aspects because of 4N61 ahead and Signal Y125 exhibiting a single yellow aspect since the last switch he had operated was that for Signal Y125 for a route to Signal Y164. He said there were no other trains moving at the time, that the signalling equipment was working perfectly that evening, and that he had not touched the switches for Signals Y101 or 126. He told me that

on a few occasions 1S77 had been re-routed through one of Platforms Nos. 14, 15, or 16 to avoid having to stop the train, although these routes take a little bit longer, since conflict between the two trains occurred probably once or twice a week. He was certain that he did not touch the switch for Signal Y164 and that he saw the white route lights for 1S77 on the panel diagram illuminated only as far as Signal Y164.

As to the Tests Carried Out on the Signalling Equipment

18. The first person to check the signalling equipment was *Senior Technician G. M. Hugill.* He told me that as soon as he was informed of the collision he went upstairs and took note of the position of the individual switches and indications for the points. Those for 522, 523, and 524 points were in the central position for route setting, the first two were indicating Normal and the latter had a flashing light showing that there was no detection or that they were out of correspondence. Track circuits 281T, 285T, 283T, and 313T were all showing occupied, the latter due to a cable being cut as he discovered afterwards.

19. The route switches for the signals were all in the 'On' position and the indications were showing red for Signals Y194, Y193, and Y164. He then went through to the relay room and made a note of the relay positions before disconnecting lock relays from signals and points leading into the area of the collision to provide protection. He said that all three point lock relays were set Normal which meant that the points would be laid Normal outside. The lock relay for Signal Y193 was at Normal because a train had gone past the signal and the signalman had replaced the switch. The cut cable in track circuit 313T had put Signal Y194 to Danger but he assumed that the signalman had replaced the switch immediately he saw the accident happen. The lock relay for Signal Y164 indicated that the signal was at Danger and on the panel the switch was in the 'On' position indicating that the signal was not cleared. He told me that during that evening, apart from the earth testing, neither he nor anybody else had any cause to go into the relay room and that it was kept locked except when someone was inside. He could not recollect there having been any danger-side failures with the signal-box equipment. He also told me that when he first looked at the illuminated diagram, track circuit 313T had both white route lights and red track-circuit lights illuminated. From there up to Signal Y132 the route lights were illuminated which meant that initially a route had been set from Signal Y194 up to Y132 and that, because track circuit 313T was occupied, the route was being held by the route locking relays.

20. *Supervisor D. Horton* arrived at the signal box having visited the scene of the collision. He had noticed that 524 points were undamaged with the exception of the electro-pneumatic valve chest. His statement of what he saw on the illuminated diagram agreed exactly with that of Senior Technician Hugill's. As a preliminary test he obtained permission to clear the track circuit by applying current to the relays and he also produced Normal detection on 524 points by applying current to the detection, He then tried to set a route from Signal Y164 but was unable to do so because the points were in the Normal position and to the best of his knowledge that was the position in which they had been since the collision occurred. He had also carried out satisfactory tests of the signal lamp voltages and the approach locking timing relays of Signals Y164, Y193, and Y194. He told me that he did not know of any irregularities or danger-side failures of any of the signalling equipment at the north end of the station since the alterations were carried out in 1974, nor had there been any complaints of bad signal sighting and when he had ridden on trains in the area he had found that the signal sighting was up to standard.

21. A summary of all the tests carried out was given by *Senior Outdoor (Maintenance) Assistant N. E. Pick*, who told me that when he got to the signal box on the Saturday morning the tail cables had been tested, the damaged points had been restored and tested, and a functional panel test had been carried out together with aspect sequence tests of the signals from Y34 up to Y168. In the functional panel test the trains were signalled in the same way as they were signalled prior to the collision and their progress was simulated inside the relay room. On the Sunday a main cable test from the signal box to the locations for the signals concerned was carried out, as were a circuit test of the lock relays controlling 524 points and the routes forward from Signal Y164, and circuit tests of the relays controlling the clearance from Danger to a proceed aspect for the relevant routes from Signals Y164, Y193, and Y125. He said he had also supervised an interlocking test which consisted of checks of the point-to-point interlocking, route interlocking, route setting and locking, route holding and sectional release locking, approach locking and releasing, and a signal control test. These tests were carried out on all signals and points in the area concerned in the collision. Having proved that the signal aspects were repeated correctly into the signal box, attempts were made to set a route from Signal Y164 at the same time as routes were set on the Up Main line and into Platform No. 9 and it was found that it was not possible to set the route. At the end of this statement I asked the *Chief Signal and Telecommunications Engineer of the Eastern Region, Mr. H. Baldwin*, what he considered was the result of all the tests and he said that he was perfectly satisfied that there were no defects in the signalling equipment at the time of the collision.

As to the Condition of the Locomotive and Rolling Stock

22. The rolling stock concerned in the collision was examined by *Carriage and Wagon Foreman G. A. Pool*, who said that he had been a foreman for 24 years and described the probable course of the collision to me. When he arrived he said he found that all the brakes were applied on 1S77, the buffers of the leading 3 vehicles were not compressed, the couplings were still tight, and there were bright brake marks on the rails due to the effect of braking. He told me that he had come to the conclusion that the driver had applied his

brakes and had been skidding to a stand when he came into contact with 1E40; the skid marks were continuous from wheel to wheel. When they carried out brake tests and checks of the coaching stock of both trains, no faults were found on either train and he had come to the conclusion that the brakes on both trains at the time of the accident were in good working order.

23. The locomotive of 1S77 was examined at the York Locomotive Depot by *Maintenance Supervisor C. Lonsdale* who told me that to the best of his knowledge nothing had been touched when the locomotive was recovered and moved to the shed. The AWS indicator was all black which could have been either a clear signal or a caution that was not cancelled. The automatic brake valve was in emergency, the master controller power handle was in the 'Off' position and the reverser handle was locked in the 'Off' position. He said that the locomotive could not have been operated with the controls in this position and that the reverser handle would have been turned to 'Off' when the engine was shut down. He told me that he had noticed that the head-code light was still on and that when a brake test was carried out later it showed that the brakes on the locomotive were in good order.

Details of Signal Sighting Trials

24. On the evening of 14th January 1975, Officers of British Railways travelled over the Down Main line through York Station in the cab of a similar class of locomotive and found that at two points it was possible to catch a glimpse of the rear illuminated yellow light repeater of the route indicator of Signal Y132. On the evening of 11th February 1975 I also travelled in the cab of a Class 47 locomotive over the Down Main line in a reconstruction of the running of the two trains concerned in the collision, and found that a cursory glance at the rear of the route indicator of Signal Y132 at one or other of these two points might give the impression that a signal displaying a yellow aspect had been seen. Both views occurred before the point at which Signal Y164 became visible for the first time from the cab of a locomotive on the Down Main line. I also noticed that the view of Signal Y164 was obscured by the train running in on No. 9 Platform line in the Up direction after the two locomotives had passed one another.

Discussion

25. It is clear from the aspects of the signals concerned and the position of 523 and 524 points, together with the white route lights for the route set for the Freightliner train on the Up Main line, that Signal Y164 could not have been cleared for a route on the Down Main line unless there had been some fault with the route relay interlocking. I have considered the possibility that a route was inadvertently set from Signal Y164 to the Scarborough line and then that the signal was replaced to Danger when the mistake was realised and the need arose for the route to be set for the Freightliner train from Signal Y194 to Signal Y132 and onto Signal Y107. This could only have been done without restriction if Signal Y164 was not approach locked by 1S77, and Signal Y164 would then have exhibited a red aspect as 1S77 approached instead of the yellow aspect Driver Bacon claims he saw. If the signal had been replaced to Danger as described by Driver Bacon there would have been a delay of 60 seconds before the route in advance of Signal Y164 could have been altered, during this period 1S77 would have overrun the signal and passed on to the Scarborough lines, and the route for the Freightliner train could not have been set. The only other possibility is that Driver Bacon was in some way misled by some extraneous indications which he saw on approaching and passing through York Station and believed that he was approaching a signal exhibiting a single yellow aspect which, when he approached it closely, proved in fact to be a Danger aspect.

26. Driver Bacon who is 55 and in good health was adamant that Signal Y164 was replaced to Danger as he passed it. Clearly it could not have been exhibiting a proceed aspect for the route that 1S77 took, and if it was replaced to Danger as he says it was, the route beyond it would have been approach locked for 60 seconds and could not have been changed so as to bring about the collision. He could not recall a route indication being associated with Signal Y164 as he approached and, with the route knowledge which he must have, he would have challenged the indication 'S' or alternatively should have been aware that the presence of an Up train entering Platform No. 9 meant that a conflicting move was in progress and that the Down Main line must have been occupied by the other train.

Conclusion

27. I am satisfied that the signalling equipment at York was properly designed and was operating correctly before the accident, that Signal Y125 was displaying a single yellow aspect with a route indication of 'M', and that Signal Y164 was correctly exhibiting a Danger aspect as Driver Bacon's train approached. I therefore conclude that 1S77 was not controlled in accordance with the signals and ran past Signal Y164 at Danger into sidelong collision with the rear of 1E40. The sole responsibility for this accident therefore rests with Driver Bacon who was not paying due attention to the signals or to his surroundings and may have been misled by a cursory glance at the the rear yellow lights of the route indicator of Signal Y132. He did not receive the assistance which he might have expected from Secondman Bell who failed to assist his driver in the observance of signals as required by Rule H 3.5.4.

Remarks and Recommendations

28. I am informed by the Officers of the Eastern Region of British Railways that there are two recorded previous occasions when Signal Y164 (and Y168) were passed at Danger, neither resulting in an accident. In 1968 there was a case of misreading and in May 1974 the driver of a class 8 freight train with two locomotives in multiple claimed that he was distracted by an air leak.

29. The signalling at York is now some 25 years old and it is no longer the policy of the British Railways Board to provide rear lights to theatre-type route indicators.

30. It seems illogical to provide approach controls to Signal Y125 when routes are set across the overlap of Signal Y164 from Signal Y163 or Y227 but not for a converging route. I therefore recommend that the approach control also be applied when points 523 are Normal and a route is set from Signal Y193 to Platform No. 9. I am pleased to say that this has been agreed by the Railway Officers and the work is now in hand.

I have the honour to be,
Sir,
Your obedient Servant,

A. G. B. King
Major.

The Permanent Secretary,
Department of the Environment.

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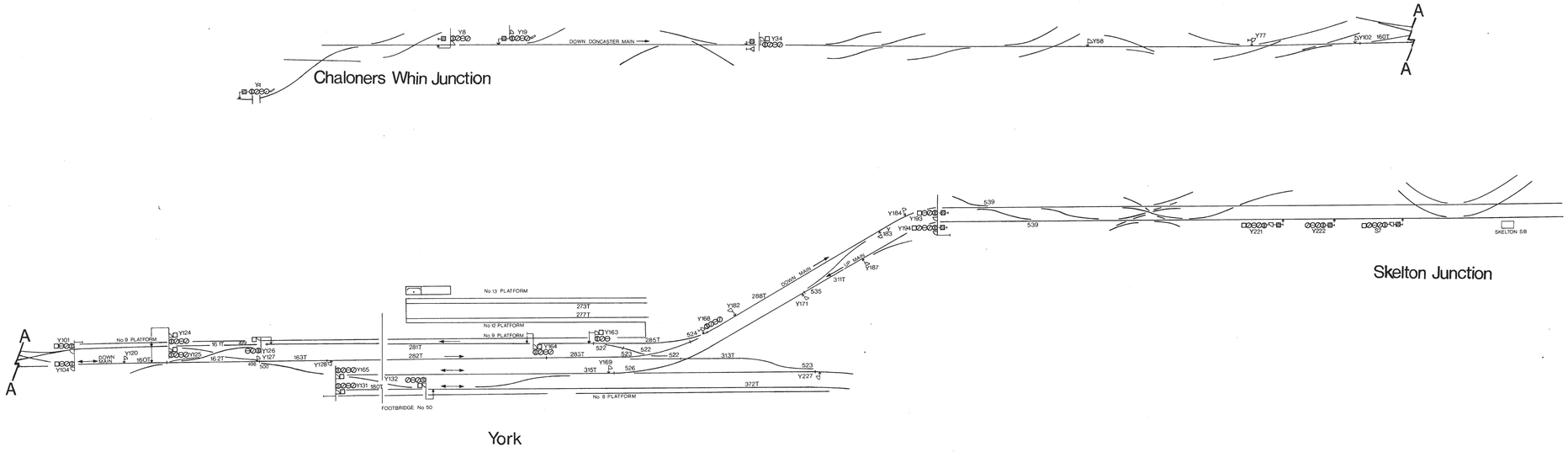
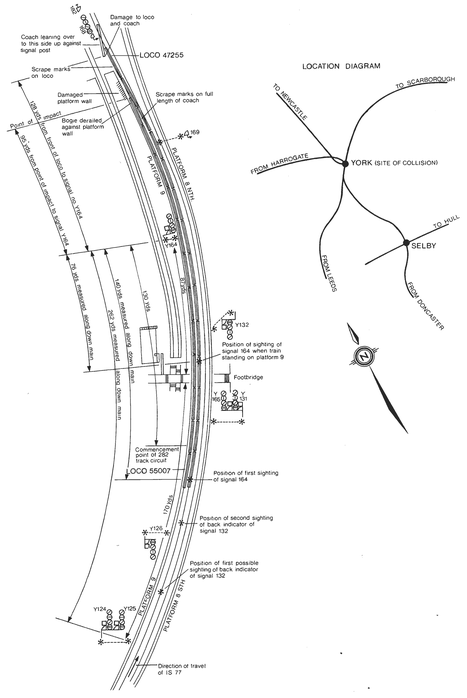


COLLISION AT YORK STATION 11th JANUARY 1975

YORK STATION SIGNALLING LAYOUT

NOT TO SCALE

POSITION OF TRAINS AFTER COLLISION



SCALE : Approx 120 ft to 1in.