DEPARTMENT OF TRANSPORT

RAILWAY ACCIDENT

Report on the Double Collision that occurred on 25th June 1976 at Luton

IN THE
LONDON MIDLAND REGION
BRITISH RAILWAYS

LONDON: HER MAJESTY'S STATIONERY OFFICE

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RAILWAY INSPECTORATE,
DEPARTMENT OF TRANSPORT,
2 MARSHAM STREET,
LONDON SW1.
29th March 1977

SIR,

I have the honour to report for the information of the Secretary of State, in accordance with the Order dated 8th July 1976, the result of my Inquiry into the collision between a passenger train and an empty stock train, and the subsequent collision in which the former was struck by an express passenger train, that occurred at 19.06 on 25th June 1976 at Luton in the London Midland Region of British Railways.

Having failed in service, the empty stock train was being driven in an Up direction out of platform No. 3 via the Down Slow line onto the Up Slow line when the rear half of the leading car, which was traversing the connection onto the Up line, was struck by a Down DMU passenger train. This train, which had been driven past two Stop signals at Danger, was then diverted across the Up Fast line and was struck a glancing blow by an express train travelling at 80 mile/h on the Down Fast line.

By good fortune there were but few casualties. Only five passengers in the passenger train were bruised and shocked as was its driver. The express was slightly damaged along the offside of the locomotive and of all its coaches, but was able to continue its journey; the other two trains were badly damaged. All four lines were blocked, the Fast lines until 12.30 on 26th June and the Slow lines until 17.15 that day when a 20 mile/h restriction of speed applied to all lines. There was serious dislocation of rail traffic; 137 trains were either cancelled or terminated short of the obstruction during the two days.

The weather was fine and very hot; the air temperature was still 84°F at 18.30.

DESCRIPTION

The Site and Signalling

1. The accident occurred at the 30th mile post (from St. Pancras) on the Down Slow line within the protection of the Home signals of Luton South Signal Box (30 miles 150 yards), and 300 yards south of Luton Station. As shown in figures 2 and 3 at the end of this report, the Down and Up Fast lines lie to the west of the Down and Up Slow lines and there is a centre siding between the Up Fast and Down Slow lines as well as Up and Down sidings on each side of the running lines. Platform No. 3 is served by a platform line which diverges from the Down Slow line just south of the station at No. 35 points. Approaching from the south, the line rises to a summit just north of the 28¼ mile post where it curves left-handed and then falls at gradients of 1 in 209 for ¾ mile, 1 in 151 for ¼ mile and 1 in 250 for ½ mile until, at the 29¾ mile post it rises at 1 in 251 for ¼ mile to the site of the collision.

2. The line is worked on the Absolute Block system with a mixture of semaphore and colour-light signals. The adjacent signal boxes to Luton South are Harpenden Junction (4 miles 1,389 yards) and Luton North (418 yards). As shown in Figure 2 the Luton South Down Slow Distant Signal, which is first sighted at a distance of 440 yards, is a 3-aspect colour light situated at 28 miles 1,472 yards and worked by lever No. 40. The signal is on a gantry in parallel with the similar Down Fast Distant signal. At this point the line enters a cutting which continues to the 4-aspect colour-light Outer Home Signal worked by lever No. 41 which is 1,648 yards from the Distant signal. A driver first sights the Home signal from about 1,300 yards, but the centre pier of bridge No. 132 carrying Kimpton Road over the railway, which is about 500 yards before the signal, then intervenes and the driver does not get an uninterrupted view until he is 900 yards from the signal. The Down Fast Outer Home signal is mounted in parallel with that on the Slow line.

3. The Down Slow Inner Home semaphore signal is mounted above the Luton North semaphore Distant signal and is 440 yards in advance of the Outer Home signal and can be seen from it. It is worked by lever No. 42. The point of collision, at No. 29A points, was approximately 105 yards beyond the Home signal, and the Luton South Down Slow semaphore Block signal is 580 yards beyond it. This signal is mounted on a gantry with the Platform No. 3 Block signal worked by lever No. 33 and is mounted over a Luton North fixed semaphore Distant signal.

4. A driver on the Down Slow line whose train is signalled into platform No. 3 would receive the following indications:

Colour-light Distant	Yellow
Colour-light Outer Home	Yellow
Semaphore Inner Home	Off over Distant On
Semaphore (Platform 3) Block	Off over Distant fixed On

A driver whose train is signalled only to the Inner Home Signal would receive:

Colour-light Distant	Yellow
Colour-light Outer Home	Red clearing to Yellow
Semaphore Inner Home	At Danger

The Distant signal will only indicate double Yellow if all Luton South signals are 'Off' and one or more Luton North signals are 'On'. The Standard British Railways Automatic Warning System (AWS) is provided 200 yards on the approach side of all the above signals.

The Trains

5. The 5C28 Luton to Cricklewood empty stock train, and the 2C32 St. Pancras to Bedford 18.18 passenger train which struck it, each consisted of two four-car suburban high-density DMU units. These units consist of two Class 127 Motor Brake Second cars marshalled at the ends of two Class 186 Trailer Second cars between them. They came into service in 1959 and are powered by two Rolls Royce 8-cylinder horizontal-type engines of 238 b.h.p. on each power car. Transmission is by hydraulic torque converter. Each train weighed 278 tonnes and they were 511 feet long overall. The Down express passenger train was 1P23, the 18.30 St. Pancras to Derby, consisting of 9 coaches hauled by a Class 45 diesel locomotive. It was 639 feet long and weighed 454 tonnes.

Accident Damage

6. The rear of the leading car of 5C28 was badly dented on its offside and its rear jumper cable castings and wiring were damaged. The following three vehicles were extensively damaged, their sole bars and longitudinal frames were bent and their underfloor equipments were badly damaged as were their car bodies. The leading end of the fifth car was also similarly damaged.

7. The leading two cars of 2C32 were extensively damaged; sole bars and longitudinal frames were bent and end panels stove in. The leading driver's cab was badly damaged both on its offside where it hit 5C28 and on its nearside where it was hit by 1P23. The locomotive of 1P23 sustained damage to its motor blower door which was stove in onto the fan, the offside front end cab door and handrails and to one of its sandboxes. All of the nine coaches were scraped and in places holed along their offsides, and side lights and door handles were broken.

8. There was damage to crossing timbers and sleepers on all four lines. One closure rail on the Down Slow line and two on the Up Slow line had to be replaced as well as 6 timbers and a wing rail of No. 29B points. No. 30B points were damaged and track-circuit cables severed affecting 33T, 34T and 35T track circuits. No. 26 ground signal was run over and damaged and the mechanical indicator at No. 5A points was torn out of the ground.

Evidence

9. At the time of the accident, *Signalman K. J. Waring* had been on duty in Luton South Signal Box for a little over one hour. At 18.57 he had 'Accepted' 2C32 on the Down Slow line with Signals Nos. 41 and 42 at Danger, and he received 'Train Entering Section' for it shortly afterwards. He had already signalled a light locomotive on the Up Slow line and it passed his signal box at 19.02. At that time, 5C28 was standing in Platform 3 ready to depart and, although he was expecting 2C32 to reach his Home signal at about 19.03 after about a six-minute run from Harpenden, he signalled 5C28 out onto the Up Slow line to await 'Line Clear'. He realised that the 8-car train would foul No. 29 crossover from the Down Slow to the Up Slow line and that there would be some delay before the light locomotive cleared the section, but he considered this move to be the best way to clear Platform 3 quickly. At 19.03 he accepted 1P23 on the Down Fast line and immediately offered it to Luton North and all signals were cleared for this train.

10. He was making entries in his train register when he saw 2C32 approaching. At first he thought that it was the express train on the Down Fast line but then realised that it was 2C32 on the Down Slow line and that it had passed two signals at Danger and that a collision would occur. Because he knew that the express was approaching, he sent the 'Obstruction Danger' bell signal on the Up and Down Slow lines to Harpenden Junction and Luton North Signal Boxes, on the Up Fast line to Luton North Signal Box and, after replacing his Up Fast signals to Danger he took refuge in a back corner of his box which he thought would probably be hit. Soon after the first collision occurred 1P23 passed his box, struck a vehicle of 2C32 and came to a stand just short of Luton North Starting signal. He then sent the 'Obstruction Danger' bell signal to Harpenden on the Down Fast line. He thought that the two collisions were only seconds apart, and that 2C32 was still moving towards his box when the express hit it.

11. Soon afterwards the Traffic Assistant at Luton, Mr. Hoggard, came into the signal box and told him to replace the No. 3 Platform Up signal and the Up shunting signal for No. 29 points, worked by No. 39 and No. 36 levers respectively, which he had left cleared for a witness to see. The drivers of both 5C28 and 2C32 came into his box and he told the former that he had cleared the signals for his train to leave the platform. He felt very shaky after his experience and told Mr. Hoggard that he would like a relief, but later, when he felt calmer, he decided to continue working. He told me that soon after the accident many people came into his signal box including members of the local police and he was not able to check that the 'Obstruction Danger' signals were being observed; Mr. Hoggard replaced the Down Fast line signals to Danger. Signalman Waring told me that the majority of trains on the Down Slow line stopped in Platform 3 at Luton; there were only one or two passenger trains which were booked through on the Down Slow line, as well as a few freight trains.

12. *Mr. A. C. Hoggard* had come on duty at Luton Station at 13.30, and was walking along No. 2 Up Fast platform when he saw 5C28 departing. Almost immediately he saw 2C32 approaching from the London direction on the Slow line. He first saw it as it approached the Inner Home signal and thought that it was travelling at the normal speed of a train coming into the station which is between 25 and 35 mile/h. As he reached the 'TOPS' office he saw the collision occur, so he went into the office, told the supervisor there to

call the emergency services, took his high visibility vest and ran along the platform. As he was passing the 'GPO' office on the platform he saw the Down express train approaching round the curve and as it passed him he noticed that the leading coaches were damaged and their windows broken. He ran on to the signal box and called up to the signalman and was assured that the 'Obstruction Danger' signal had been sent, and by the time he arrived at 2C32 the police and ambulance crews were already arriving.

13. There was no driver in the driving cab and most of the passengers had also got out of the train and were gathered along the sides of the track in the cess. He was told that a man was trapped in one car and he asked firemen to release him, and he also asked the police to escort the passengers to the platform. He then went to the rear of the train where he met the guard of 2C32 whom he told to go back and protect both the Slow and Fast lines in rear with detonators.

14. On returning to the signal box he met the driver of 2C32, who was obviously in a state of shock. On entering the box he found that the signals were still cleared for 5C28 from Platform No. 3 to the Up Slow Starting signal worked by lever No. 47. The Down Slow Inner Home signal (No. 42) was at Danger and the repeater for the colour-light Outer Home signal (No. 41) also showed that it was at Danger. The levers of all the Down Fast signals were still reversed for the express although the aspect of the Down Fast Outer Home Signal (No. 13) would have been replaced to Danger following the occupation of track circuits ahead of the signal. The levers of all the Up line signals were Normal in the frame. Mr. Hoggard considered that Signalman Waring was "badly shocked" when he first saw him in the signal box but that he soon recovered.

15. The driver of 5C28, was *Driver W. S. Brown*, who described to me the events after his train was ready to depart from Platform 3. He saw the Up Platform Signal (No. 39) clear and, after his guard had given him the 'train ready to start' signal, drove steadily out onto the Down Slow line towards the crossover to the Up Slow line, on which he could see the Up Starting signal (No. 47) at Danger. When he was about 75 yards from the crossover (No. 29) he saw the Down train 2C32 coming under Crawley Green Road Bridge some 575 yards ahead of him and travelling at some 40 to 45 mile/h. Realising there would be a collision he accelerated hard and just managed to get the front of his train through the crossover and onto the Up Slow line when it was struck a glancing blow just behind his cab.

16. His guard had just come through into his cab, and when his train came to a stand with the second car over on its side he asked him to go back to the signal box; but they soon found that the car had destroyed a ground shunting signal the oil lamp of which had started a fire under the car and they busied themselves collecting fire extinguishers from various cabs and trying to put the fire out. Some firemen soon arrived and finally put it out. Driver Brown then set about shutting down the diesel engines in his own train and those of 2C32 which were still running. He told me that while he was doing this he was asked for his name and address three times by various police officers and also for details concerning the accident.

17. *Guard A. W. Jones* who was in charge of 5C28 travelled in the second car of the train, and after seeing the platform signal cleared with an 'S' indication he gave his driver the 'train ready to start' signal and went forward to join him in the cab. He too saw 2C32 approaching but was unable to estimate its speed. It was 7 or 8 minutes after the accident when he reached the signal box. The signalman told him that the lines were protected although, Guard Jones told me, "there were quite a lot of people up there". After being questioned by the police three times he went towards London with his detonators to protect both Fast and Slow lines.

18. The driver of the express train 1P23 was *Driver D. Bonser*. His train was travelling at 80 mile/h as it rounded the left-hand curve approaching Luton when he saw, some 500 yards ahead, a train obstructing both Fast lines. He made a full emergency brake application and lay down on the cab floor and braced himself for the collision. He felt his locomotive strike 2C32 but it carried on not derailed until it came to a stand with the last two coaches of the train opposite to Luton North Signal Box. His secondman, who had done the same, got down onto the track and put track-circuit operating slips on the Up Fast line, on which an Up train was already approaching the Luton North Home Signal which was at Danger, and because of that train they could not see the Slow lines. He walked back through his train looking at the damage, which was not serious, and then went up to Luton North Signal Box and told the signalman that his train had been struck. They were later allowed to proceed after passengers had been moved from the front two coaches. Driver Bonser told me that approaching Luton the sun had been on his left side and low in the sky, but had in no way interfered with his sighting of the colour-light signals.

19. *Guard Szczukowski* was in charge of 2C32 which was two minutes late in leaving St. Pancras. The journey seemed to him to be quite normal and the brakes were working effectively. They were still one minute late at Harpenden and they ran to Luton at a normal speed and were not checked by signals. He travelled in the brake compartment of the fifth car of the train, which was a power car, and its engines seemed to give no trouble.

20. Approaching Luton at a normal speed he suddenly felt a severe lurch and thought that the train had become divided. He was thrown over but got up to look out of the window, but there were then three or four more impacts which threw him down again so that he never saw the signals. When they came to a stand he put on his high-visibility vest, and collecting his detonators got down onto the track. On his way to the signal box he opened doors and helped passengers to alight. He was still 20 yards from the signal box when the Down express went through. It was then that he met Mr. Hoggard who told him to protect both Down Lines which he did. He did not use his track-circuit operating clips which he admitted leaving in his van. In going back he noticed that the Down Slow Outer Home signal was displaying a red aspect.

21. The driver of 2C32 was *Driver T. P. McNicholas.* He had signed on duty at 15.36 at Cricklewood and worked the 16.01 empty coaching stock train to St. Pancras to form the 16.28 DMU to Luton where he had to fill the London-end power car radiator before returning to St. Pancras. He watched the shunter attach a further 4-car set onto the country end of his train to form the 18.18, 2C32, to Bedford. The Bedford driver of the added set told him that the set was working well and there were no faults on it.

22. His train was routed on the Fast line to Elstree which was his first stop, and where he made a normal stop, and again at Radlett. At Harpenden the Distant signal was On, and he was signalled from the Fast to the Slow line. He did not believe that he had been able to make up any of the lost time due to the late start because his train was not capable of achieving it, but neither did he believe he had lost any time.

23. After leaving Harpenden the line climbs up to the Luton Distant signal and he became aware that the engines on the front two power cars of the leading set were cutting out. He assumed that they were overheating due to low water level or reduced oil pressure caused by the very hot weather; this problem had been a common one during the very hot spell. The running of the engines are indicated by sets of small blue lights mounted on a starter button panel on the side of the driver's cab so that a driver has to lean forward and peer to the left to see the lights. Driver McNicholas told me that the lights were difficult to see in the bright sunlight coming through the window behind the indicators; he was still trying to re-start the engines when he came into view of the Luton South Down Slow Distant signal which was displaying a single yellow aspect; he was expecting this because his train was due to be signalled into Platform No. 3. He cancelled the AWS and shut off power to coast down to Luton.

24. He told me that the engines were starting and then cutting out again and as he thought that he had plenty of time before arriving at Luton South Home signals, he continued to try to restart them. When he first saw the Outer Home signal he thought it displayed the yellow aspect which he was expecting to see, but as his train passed over the AWS magnet he received a horn warning and saw that the signal was displaying a red aspect; his train was still travelling at 60 mile/h and although he applied the emergency brake he could not prevent the train from passing the signal at Danger.

25. When I asked him what he was expecting to see after passing the Outer Home signal (No. 41) displaying a yellow aspect he replied "I would expect to have the two semaphore signals intervening between signal 41 and the platform to be 'Off' and to go right into the (platform)". He was therefore driving his train as he always did to bring it steadily into the platform.

26. As his cab passed under the bridge he saw that the Inner Home semaphore signal was also at Danger, and he then saw the other train on his line. He tried to open the communicating door behind him but it was locked and the key was on the ring with his ignition key, so he lay down on the floor and braced himself. When the train finally came to a stand he cancelled his AWS, which was buzzing and almost immediately the driver's side of his cab was struck by the express train. He eventually collected his belongings, got out of his cab and sat down on a bank beside the lines where some passengers helped him to clean himself up. He then went up to the signal box, after which he was taken to hospital.

27. Driver McNicholas was 31 years old and had been driving for over 7 years. He was married with two children, and he told me that, although he had financial worries, as most people have, he thought they were no worse than those of an average man. In any case he thought that he did not worry about them whilst driving and was certainly not doing so prior to the accident when his thoughts were entirely towards restarting his engines. He was fit and played squash regularly, and had taken no alcoholic drink on the day of the accident. The previous day had been his rest day and he had slept well. He sometimes did night shifts but the previous week he had been on early turn starting at 04.57. He had never driven a train past a signal at Danger before.

28. I discussed with him the reasons for his having failed to observe the signal properly. He was sure he had not been daydreaming but agreed that he may have 'seen' the Outer Home signal as yellow because he was expecting to see it as such. He was sure that he had not read the Down Fast signal alongside it. That he was expecting the Outer Home signal to be displaying a single yellow aspect having passed the Distant at yellow came out in his evidence when he told me that he had had a clear run from Harpenden and he went on to say "One more or less knows that the line ahead is clear; the chap in front of you is well ahead of you. So there is nothing to arouse anybody's suspicion". (I discuss this further in paragraph 37).

29. After the accident the red lamp in the Outer Home signal was removed for testing by the Central Services Laboratory in Derby, whose *Mr. B. Littlewood* explained to me their findings. The lamp filament was found to be broken when delivered to the laboratory but, although it was probably nearing the end of its service life, he thought that it had broken in transit. The outer lens was of Joblin manufacture and a sound moulding; a small amount of dust on its outer surface was insufficient to reduce the light transmission by more than a small percentage. The inner red lens was also manufactured by Messrs Joblin in the mid 1960s and the colour co-ordinates at 2854°K were found to be x–0·691 and y–0·306. The maximum permitted 'y' co-ordinate according to the BRB specification (BR 820) for long-range colour signals is 0·295, and the laboratory report states that "the value of 0·306y represents a colour which is outside the specification to such a degree that it could seriously increase the risk of confusion with amber".

30. At my request Mr. Littlewood had prepared a diagram indicating the wavelengths in Angstrom units (A°) of the predominant colours of three lenses which is reproduced at Appendix 1. In addition to the lens tested, the diagram shows the ranges of the permitted yellow and red aspects. He had brought with him the lens taken from the signal (B) to compare it with a red and a yellow lens at the limits of these ranges

nearest to that tested (A and C). The tested lens was significantly yellower than the red lens, but when placed between the other two, the tested lens displayed very much a red aspect and could certainly not be taken for a yellow one.

31. Mr. Littlewood agreed that sunlight shining directly onto the surface of a lens could alter the emitted colour towards yellow, but great care had been taken in the design of signalling lamps and it was not possible for sunlight to be reflected internally. Nor would the lamp voltage affect the colour emitted, although the signal's background was important. He did not think that the fact that Driver McNicholas had been looking directly at blue lights shortly before seeing the signal could have effectively altered his 'colour accommodation' mainly because the blue lights were very low intensity ones, but he agreed that if he looked directly into the sun it could have affected his colour perception.

Conclusions

32. The accident was caused because Driver McNicholas drove his train 2C32 past both the Outer and Inner Home signals at Danger and into collision with the approaching empty stock train 5C28. He was expecting to be signalled directly into platform No. 3 and was caught totally unawares by the reversing move by the other train which, although a properly signalled one, was unusual. I must treat with reserve his claim that he was fully occupied in trying to restart his engines; there was no need for him to restart them on the falling gradient and it would have been more sensible for him to have done so after checking the radiators at Luton.

33. In my view the main reason why he misread the Outer Home colourlight signal was that he saw what he expected to see, and that he probably did not give the signal a very close look, allowing his concentration to be diverted to restarting his engines. The fact that the signal's red aspect was slightly outside the permitted colour tolerance is likely to have played little part in the making of this mistake. The sun was behind the signal and cannot further have affected the aspect's colour. Nor do I think that Driver McNicholas was blinded by sunlight because the railway runs in cutting and there were buildings at its edge which effectively screen the railway at that time of day.

34. Signalman Waring was entitled to signal 5C28 out of the platform while 2C32 was approaching; it was a permitted move and did not obstruct the overlap beyond the Outer Home signal. I am satisfied that he had not set the route for 2C32 and then changed his mind since the approach locking makes this impossible, and in any case 5C28 was occupying Platform 3 into which he wished to signal 2C32. He took quick and effective steps in sending 'Obstruction Danger' bell signals to protect the lines, and that he failed to then replace the levers of all the protecting signals was not immediately dangerous because the colour-light signals were already at Danger following the occupation of track circuits. The signalman wanted a witness to see that he had signalled the move correctly and he left the levers pulled for this reason.

35. In accelerating his train so that at least his cab cleared the crossover onto the Up Slow line, Driver Brown displayed fine judgement and considerable bravery. He not only saved his own life and that of his guard but also that of Driver McNicholas.

36. Because Driver McNicholas was driving his train according to his expectations of the signalling and not according to the actual aspects displayed, AWS was not able to prevent this accident.

Remarks

As to the Cause of the Accident

37. When he inspected new items of signalling between St. Pancras and Bedford, including alterations at Luton, on 26th and 27th April 1960, Colonel D. McMullen was informed that it was considered to be temporary only, and that full colour-light signalling was to be provided. Although this was then not likely for many years, he accepted the presence of mixed colour light and semaphore signalling as a temporary situation. AWS was subsequently fitted to all Distant signals. This was because, in common with other signalling on the Midland Main Line, colour-light signalling had been grafted onto semaphore signalling under the Absolute Block system and normal rules for a colour-light signal do not apply. Unlike multiple-aspect signalling, a signal displaying a Yellow aspect does not necessarily indicate that the next is at Red, on the Midland Main Line. At Luton, the fact that the Distant signal is at Yellow indicates that the train may be signalled only to the Outer Home at Danger, or to the Inner Home at Danger, or indeed that the signals are clear into Platforms 3; and on almost every occasion the latter is the case. As Driver McNicholas said "there is nothing to arouse anybody's suspicion" that the unlikely is about to occur, and that one is signalled only as far as the Outer Home signal. With multiple-aspect colour-light signalling, which has just been authorised for this line, there can be no such confusion.

As to the Role of the Civil Police

38. At my inquiry Mr. Bridger representing the Associated Society of Locomotive Engineers and Firemen made a formal protest that his colleagues, whilst trying to carry out their duties after the accident,

were obstructed by local Police officers. I had invited the Chief Constable of the Luton Constabulary to be represented; accordingly *Inspector Cohen* attended my Inquiry. *Mr. V. A. Chadwick, Divisional Operating Superintendent* (*London Division*) had received various statements including one from a member of the BR public relations staff who was travelling as a passenger in 2C32, which he read out at my Inquiry. In the statement he said that he was being interviewed by the local police on the station platform when he overheard another policeman asking about the position of the signals immediately before the point of collision. He accompanied this policeman by car to the Outer Home signals which were at Danger. After failing to make contact on his police pocket radio they used the signal-post telephone and the policeman asked the signalman if he could clear the signals to see if they worked; the signalman replied that he could not because the signals were locked. They then went back to the Distant signals, and after some searching and climbing down the embankment they found they were both indicating yellow aspects. Inspector Cohen told me that he had not previously heard of these events. We discussed the role of the police and he summarised them, but he agreed that at this accident the police had no grounds for supposing that any crime had been committed; it was a nasty incident but not a major disaster. *Mr. W. P. Bradshaw, Chief Operating Manager*, LM Region, pointed out that the railways knew the names and had full details of all railway staff at the scene of an accident, and that it was vital that train staffs and others should not be delayed in carrying out their protection procedures: any delay might result in another train running into an accident, with possible serious implications for passengers.

39. I believe that the local police did, somewhat, delay train crews in carrying out their protection duties, and they also wrongly tried to test the signalling. However, I believe that it was as a result of excess zeal on the part of some junior officers coupled with some lack of full understanding of their proper role. I suggest that where outside police are called to a railway accident it is mainly for the following reasons:

(a) to escort and help passengers to safety;

(b) to take charge of personal belongings left behind;

(c) to note the names and addresses of injured or killed passengers so that friends and relations may be informed;

(d) to control crowds and 'gawkers' who may interfere with rescue operations;

(e) to provide radio communications particularly in a country area, if required;

(f) to evacuate property following the spillage of dangerous chemicals or explosives and to cordon off dangerous areas;

(g) to co-ordinate rescue and restoration activities being carried out by other emergency services, i.e. fire, ambulance, public utility, feeding etc.;

(h) to retrieve, identify and remove bodies on behalf of H.M. Coroner.

The police also have an important role to play in dealing with vandals and thiefs, but it is the railway police who are mainly involved here.

40. There are three activities that the civil police should be careful to avoid:

(a) They should not cause any delay to train crews in the protection of the lines after an accident. This can involve the placing of track-circuit operating clips on adjacent lines, telephoning the signalman or visiting the signal box, and placing detonators at sufficient distances to caution approaching trains.

(b) They should not interfere with a signalman's duties in his signal box. Indeed without good reason they should not enter a signal box unless accompanied by a competent railway officer and even then it is vital for railway safety that the signalman should do his work without unnecessary interruptions.

(c) Railway signalling is complicated and many locks and interlockings are involved. These include track-circuit, mechanical, electrical, and time release locks, of routes, points and signals; and police officers are not competent to test these. Indeed, until the lines are fully protected, it is vital that protecting signals which the signalman has replaced to Danger are not interfered with; the railway operating officers and signal engineers would also wish nothing to be operated until it had been examined in order to retain essential evidence.

Finally, it is dangerous to go onto the railway where trains are running, and particularly without look-out protection and without high-visibility clothing; a police officer is putting himself, and possibly others, unnecessarily at risk if he does so.

41. In making the above remarks I in no way wish to criticise the police in their work. They arrived at the scene of the Luton accident extremely quickly and carried out their duties most efficiently. The railways are grateful for this and conscious of their reliance on the police and of the need to work together, and I hope that the above comments may help to maintain the close liaison that already exists.

As to the Protection of the Lines

42. Finally I must remark on the fact that only one train crew, that of 1P23, thought to put down track-circuit operating clips on adjacent lines. The use of these clips on track-circuited lines automatically and immediately replaces the signals in rear to Danger; they may also indicate to the signalman that something is amiss. Section M.3.7.1 of the British Railways Rule Book requires trainmen to place clips on adjacent lines even when an accident occurs within the protection of Home signals, and before informing the signalman, and I recommend that all guards and drivers working on the Midland Line should be reminded of this vital task.

I have the honour to be,

Sir,

Your obedient Servant,

A. G. TOWNSEND-ROSE,

Lieutenant Colonel.

The Permanent Secretary,

Department of Transport.

APPENDIX 1

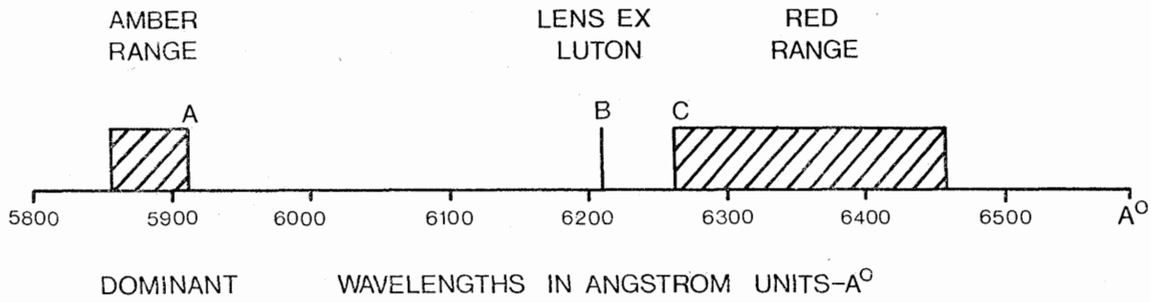

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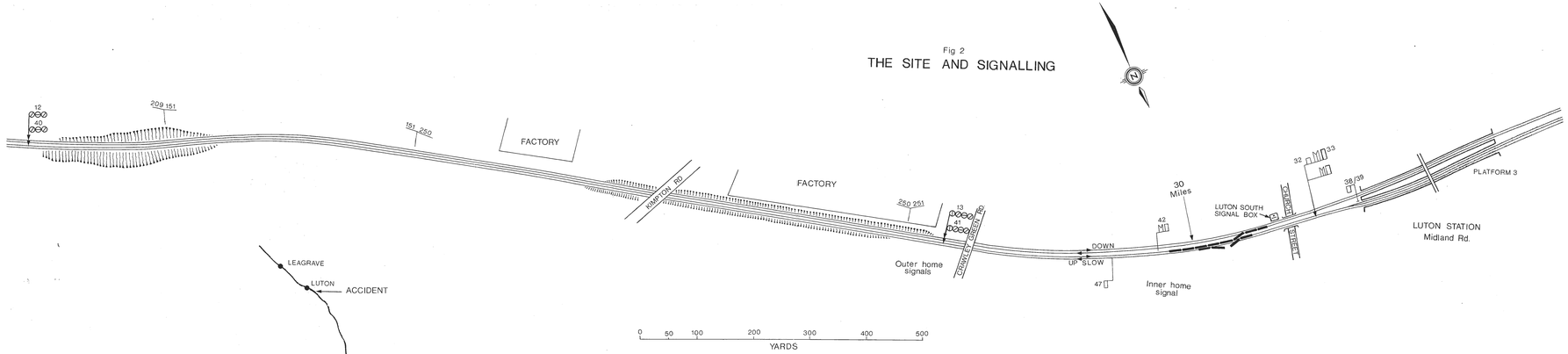
Fig 2
THE SITE AND SIGNALLING



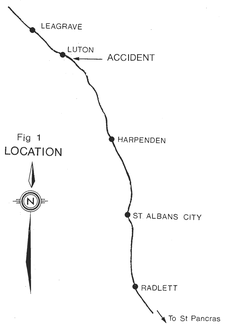
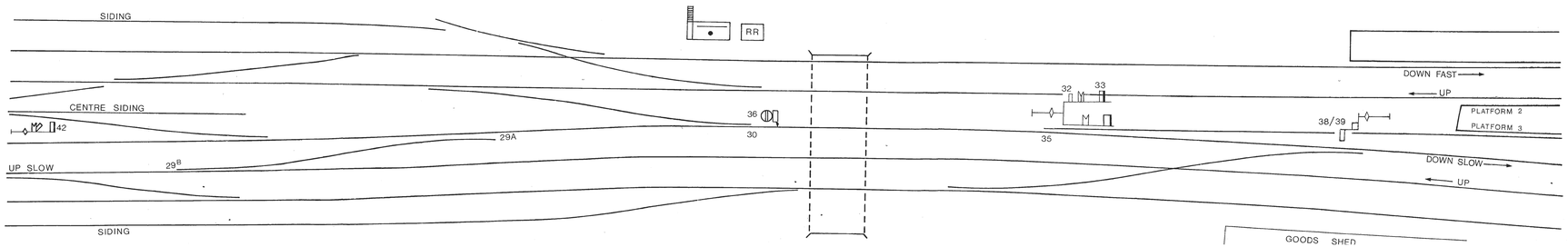


Fig 1
LOCATION

SIGNALLING DIAGRAM