



HM Railway Inspectorate

**RAILWAY ACCIDENT AT HUDDERSFIELD**

A report on a collision that occurred  
on 6 November 1989



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The Permanent Under Secretary of State  
Department of Transport

Railway Inspectorate  
Health and Safety Executive  
Baynards House  
1 Chepstow Place  
Westbourne Grove  
London W2 4TF

17 November 1992

Sir

I report for the information of the Secretary of State for Transport, in accordance with the Direction dated 11 December 1989, the result of my Inquiry into the head-on collision between two passenger trains that occurred at 21.56 on Monday, 6 November 1989, at Huddersfield in the then Eastern Region of British Railways.

During hand-signalling arrangements, the delayed 21.26 Huddersfield to Wakefield Westgate train ran into the 19.25 Scarborough to Liverpool train that was standing just outside the station. Both trains were damaged.

There were no fatalities or serious injuries but 28 passengers (out of a combined total of 55) and 5 railway staff required hospital treatment. Of the injured only the conductor of the Wakefield train was detained but by the time I opened my Inquiry some ten weeks later he was well enough to attend.

The emergency services were summoned at 21.59 and arrived at 22.04. Another train was run to a position alongside the damaged trains so that passengers could be transferred to it and taken to the station.

As a result of this collision some services were diverted. A special train was run from Huddersfield to Liverpool at 23.10. Normal working resumed at 06.00 the following day.

At the time of the collision, the weather conditions were described as fine, clear but cold.

A Williams  
*HM Principal Inspecting Officer of Railways*

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**DESCRIPTION**

**The site of the accident and signalling**

1 Normal signalling equipment was not in use at the east end of the station due to the major renewal of track and signalling work there and trains were being hand-signalled through the area. A maximum speed of 15 mile/h was imposed on trains negotiating crossovers.

2 The primary running lines at the east end of the station comprised an Up Main line (from Leeds direction) and a Down Main line (towards Leeds). The collision occurred at Signal HU77, when the Wakefield train had travelled some 314 metres. The location is depicted at Figure 1. Figure 2 shows the general layout.

3 The planned general manning arrangements are given in Appendix 1.

**The trains**

4 The 19.25 Scarborough to Liverpool Lime Street train, IM80, with Driver P L O'Niell at its controls, was a Class 156 two-car Diesel Multiple Unit (DMU) number 156.476 built in 1988. The formation of the train was as follows:

Coach 52476 (leading) and coach 57476 (trailing) with total seating capacity for 150 people.

5 Each vehicle was 23 metres long, and weighed 38 tonnes.

6 The delayed 21.56 Huddersfield to Wakefield Westgate train, 2K30, with Driver A Howitt at the controls, was formed of a Class 141/1 DMU No 141.04, comprising two cars. Coach 55524 was leading with coach 55504 trailing. Their total seating capacity is for 94 people.

7 The vehicles, each 15.4 metres in length with an individual unladen weight of 26 tonnes, were built in 1984, but were overhauled during 1989.

8 The vehicles of this Class 141/1 have no side buffers; rather there is a combined buffing and draw gear. The vehicles are air braked employing a 3-step brake. An electrically energised control unit linked to the driver's brake valve (DBV) allows air into brake cylinders to effect brake block action on the wheels. In the design of the DBV the anti-clockwise movement of the handle goes from release to first stage, second stage, third stage (full service application) and finally, emergency position. Once the brake handle is beyond the first stage position, traction power is cut off automatically.

9 The damage caused to the vehicles in the collision was as follows:

Coach 52476 - BSI coupler badly damaged. Vestibule connection and mountings damaged. Some under frame damage above the auto coupler, and gangway flooring lifted. Engine timing case fractured and supported at one end only.

Coach 57476 - engine timing case fractured and engine supported at one end only.

Coach 55524 - entire body lifted and displaced on the four pedestal mountings. Body to underframe securing straps brackets at leading end adrift. Main underframe distorted and dropped 0.5 metre at leading end. BSI coupler badly damaged. Majority of securing bolts sheared on both battery boxes. Engine bell housing fractured and engine supported at one end only.

Coach 55504 - intermediate vestibule end damage, resulting from body movement of coach 55524.

**EVIDENCE**

10 At the start of the proceedings *Mr W Robinson*, Regional Operations Manager for the (then) Eastern Region of British Railways, gave a short statement. After briefly describing the circumstances leading up to the accident, and paying tribute to the speedy assistance given by the emergency services and railway staff he said:

"British Rail accepts full responsibility for this accident and in accordance with the law and our own Railway traditions, the accident has been the subject of a very lengthy and thorough internal investigation, which we believe has identified the cause. Whilst it is clear the accident was not caused by equipment, but human error, certain shortcomings have been identified. Suitable action has already been taken to ensure a similar accident cannot happen in the future.

"We can understand the public concern that the incident should be fully investigated and we welcome this independent Inquiry. We pledge our fullest co-operation and help during the Inquiry and in the days to follow."

**Planned operating procedures and their implementation**

11 *Mr D Nicholson*, Area Inspector based at Huddersfield, was the author of the train working procedures for the weekend under review. He had been involved with the whole scheme since September 1989 and saw his role as a co-ordinator between the different departments so as to ensure co-operation and to have, he said "the best methods of working we could adopt".

At a meeting on 19 October 1989 he learned that the Signalling and Telecommunications (S & T) Department needed to completely disconnect the signals at the east end of Huddersfield Station. The planned period was from 08.00 on Saturday until 06.00 the following Tuesday, 7 November 1989. He said that that was the first positive intimation obtained of the S & T work. Up until then, he took it that such work would be completed within the Civil Engineer's Department target completion time of 20.00 on the Sunday.

12 He expressed his concern about the necessity for all trains entering or leaving the east end of Huddersfield Station to be handsignalled during this prolonged period. At the end of the meeting he discussed the matter with Mr P Graham, the Area Operations Manager, and asked that the business sectors be contacted to get their requirements during this period. On returning to Huddersfield he discussed the handsignalling work implications with Mr Owen, Permanent Way Section Supervisor, and it was agreed that sufficient staff, both handsignalmen and pointsmen, could be made available on a 12-hour shift basis to cover the work.

13 Later Mr Graham suggested that he should discuss with Mr Pitcher, the Station Manager at Huddersfield, the possibility of reducing train working.

14 These discussions took place in the week beginning 23 October 1989 when Mr Nicholson found the business sectors were not happy about any curtailment of service. He was also aware of media criticism about cancellations and late running of trains. Having considered the various options open, including a bus service, it was decided to keep the train service intact, with the knowledge that the handsignalling method of working would add some four to five minutes delay time per train.

15 To his mind, safety of the line was of prime importance and the decision to operate a full service did not compromise that strongly held belief. Any reduction in service would merely have lessened the delay factor.

16 Because derailing equipment had to be removed from Platform Line 6, Mr Nicholson planned that Platform 4 should be used, on the Saturday, as a double-ended bay. Sheffield trains would arrive at the west end of this platform and the Wakefield/Huddersfield or Huddersfield/Leeds trains would use Platform 4 or 5 as available. Because Platform 4 would be frequently occupied by standing trains, Platform 1 would be used for Up through trains.

17 When Platform 6 became available for use on the Monday, Mr Nicholson planned that Sheffield terminating trains would work into Platform 1. These arrangements allowed greater use of Platform 4 and so the bulk of the Up train movements would be dealt with

by Platforms 4, 5 and 6. In turn this meant that Points 339A could be clamped, scotched and left not requiring to be operated.

18 He foresaw the need to have the signal box double manned as far as was reasonably practicable. He confirmed that the regular signalman would be in charge and that that person should deal with the east area of the station. The other signalman would work the panel for the west end. It was decided to have two-way radios, as the signal post telephones (SPTs) allowed for the signalman to receive calls only.

19 Mr Nicholson said that he referred to the British Railways Rules and Regulations when considering the safest possible method of working. He told me that there are no Rules or Regulations laid down to deal with planned signalling disconnections but Track Circuit Block Regulation 11, that relates to an extensive signalling failure, gave him guidance as to what procedures were required. For the event he decided that the following should apply:

Track Circuit Block Regulation 11;

BR Rule Book Section D.3.1;

BR Rule Book Section D.4.1.1;

BR Rule Book Section D.4.2.1;

BR Rule Book Section E.4.5.1;

BR Rule Book Section E.4.6.1; and

BR Rule Book Section E.4.6.2(d).

20 He said that the above were mandatory instructions for all staff to carry out and, if obeyed, then nothing should go wrong. For Rule D.4.2.1 he added that "he (the driver) should travel at such reduced speed that will enable him to stop short of any obstruction. Also, concerning any points that are ahead of the signal which he passes at Danger, he added "it is the driver's responsibility to examine these points". (The relevant instructions are given in Appendices 2 and 3).

21 He had decided that an operating supervisor should take charge of the east end movement activities. Such a person would liaise with the signalman concerning routes and he would be solely responsible for ensuring the safe setting of routes as requested by the signalman. The essentials of the workings are given in the supplementary sheets made out by Mr Nicholson and are at Appendices 4 and 5. Later, a brief opportunity arose for him to show the instructions to Mr Briggs, the Regional Chief Signalling Inspector, who agreed to their issue on behalf of the Regional Operations Manager. With Mr Graham's consent the

instructions were distributed on the Friday afternoon to the signalmen on duty at Huddersfield. Mr Nicholson assumed the other signalmen not on duty at the time would see the notices prominently displayed for their benefit.

22 In view of the difficulties in finding operating supervisors Mr Graham accepted Mr Nicholson's recommendation that Mr Oates, a Relief Signalman, who had some experience in the site, should be rostered. However, Mr Nicholson discovered on the Friday that Mr Oates would not be available. Instead, he appointed Relief Signalman B Rhodes to act as operating supervisor on the Sunday night when there should be no passenger train movement after 22.50 but he did not advise Mr Graham of this change. He considered that Mr Oates and Mr Rhodes were of equal ability from a signalling point of view and that both were familiar with the Huddersfield area.

23 However, when deciding on the cover for the subsequent night shift, Mr Nicholson opted for Mr Oates. His reasons were that Mr Rhodes was not as experienced as Mr Oates for outside work and the fact that Mr Rhodes had been rostered beforehand to be in charge of the signal box.

24 Again, on the Friday, he had a meeting with Mr Hanton, a Relief Station Manager who was to act as operating supervisor, and they discussed the working procedures, the signals that were disconnected and the positioning of handsignalmen. Mr Nicholson said that the handsignalman at Signal HU77 would also operate Points 339A and 340; he considered that such a person would be able to observe the lie of these points.

25 He went on to say that as physical changes were to take place to points, point numbers were not to be used when a signalman called for a route. However, he saw the need for the operating supervisor telling the handsignalman at Signal HU77 precise instructions; for example, "Set me 339A Point towards No 4 Platform" or "Will you set me 340 Points towards the Down line". It was incumbent on the operating supervisor to make sure that the proper route had been set before giving confirmation to the signalman. Mr Nicholson agreed that while it was possible to see the state of the points from a distance during the hours of daylight, a different set of circumstances might arise during the hours of darkness and therefore the operating supervisor might well need to walk the route to fulfil his obligations.

26 He assumed that neither Mr Hanton nor Mr Rhodes needed a reminder of the laid down Regulations.

27 Because Mr Oates would be unaware of his involvement with the outside work, Mr Nicholson suggested to Mr Hanton that Mr Oates be brought out of the signal box at approximately 20.00. Then, the duties

required of the operating supervisor could be explained to him and the opportunity taken to make sure that Mr Oates was conversant with the layout and was satisfied that he could undertake the job in hand.

28 On the Sunday evening Mr Nicholson withdrew Mr Rhodes from the signal box at about 20.00 to train him, believing that the remaining signalman was quite capable of dealing with the workload. Mr Nicholson spent up to one and a half hours taking Mr Rhodes through the job and, on one occasion, supervised Mr Rhodes' handling of a train movement. It was only when both of them felt satisfied that Mr Rhodes' was capable of carrying out the operating supervisor's duties that he was allowed to do so. During the course of the training session, the area inspector advised Mr Rhodes that he should work Points 339B himself for these were critical to the operation. Mr Nicholson considered that he had already emphasised this point to Mr Hanton.

29 *Mr P N Graham*, Area Operations Manager, who had held this position since March 1989, said that on his very first day in the post he attended a planning meeting concerning the Huddersfield Scheme. He went to another during July 1989; thereafter he delegated his Inspector, Mr D Nicholson, to attend these periodic meetings.

30 He first learned on 23 October 1989 (Monday) of alterations to the staging programme for the works when Mr Nicholson advised him that the S & T Department required their disconnections to continue until 06.00 on Tuesday, 7 November 1989. This concerned him and he asked Mr Nicholson to discuss with Mr Pitcher, the Station Manager, the feasibility of operating a full train service during the Monday. He made one or two suggestions such as running the Wakefield service to Marsden - but left it to Mr Nicholson to liaise with the station manager and deliberate on methods of train working. In the event Mr Nicholson telephoned him saying that a full service could be operated.

31 Later he was visited by the inspector and proposals (Appendices 4 and 5) for the working of trains at Huddersfield Station were discussed and agreed.

32 Mr Graham assumed that the operating supervisor would nominally be stationed about Points 339B that were, in his opinion, the key points in the ground layout and would receive an assurance from the pointsman that the lie of the points had been set to correspond with the desired route. It was not incumbent on the supervisor to physically check the state of the various points.

33 Despite inheriting known difficulties with availability of vehicles because of reliability problems, and there being adverse publicity concerning the train services, he was adamant that he was not swayed by such

considerations; safety came first. He was satisfied that the whole service could be operated reliably and safely.

34 Furthermore, he was satisfied with the proposed working of trains at Huddersfield from the Monday, namely Platform 1 to be used for terminating services from Penistone, Platform 4 for Up/Through services and Platform 8 for Down/Through services and the Bay Platforms for other terminating services.

35 When he visited that site during daylight hours on the Saturday and Monday he was accompanied by Mr Nicholson, who he saw personally attend to some points and receive radio confirmation as to the state of others. He was generally satisfied that the laid down working instructions were being adhered to except that on the Monday he had to mention to Mr Nicholson that he witnessed occasions when drivers of trains approaching Signals HU644 and HU77 were not shown the necessary yellow hand signal.

36 He told me that signalbox layouts gave a diagrammatic rather than actual form of the state of the lines. He expected that in the hand-over period Mr Oates would have become familiar with the position of the points. However, for the relatively small geographical area and the few points involved, he considered that it should not have been too difficult, as he said, "to relate inside to outside".

37 Mr Graham told me, "I would not have been happy knowing that Mr Oates was coming straight back off annual leave not knowing that he was going to do that duty". He added that he was not aware of the intention to have Mr Rhodes acting as operating supervisor when Mr Oates' name was put forward by Mr Nicholson during a telephone conversation that lasted five minutes.

38 In commenting on the various planning and commissioning meetings held, he considered that as his regional HQ was always represented, "(they) were, in my eyes, fully involved in what was going on, know what was going on."

39 *Mr S J Pitcher* was the Station Manager at Huddersfield. He told me that he had held the post for about eight months. He recalled attending a meeting at York during early September 1989. There he learnt of preliminary planning for the work that would be carried out each weekend, but he had not been involved in this planning. That was carried out by Mr Nicholson. However, Mr Pitcher was kept informed of proposals and was satisfied with what he was told but he admitted, "I have an involvement, but so far as engineering work goes it is by no means as deep as the area inspector's. So he was obviously the man who should have been in charge of the work. He had far more experience of that kind of work than I do."

40 Mr Pitcher foresaw a slightly different method of working the station than Mr Nicholson and reflected on the working in relation to the absence of Platform 1 facility. His view was that if Platform 1 had been open for use, then Points 339 would have needed to be worked more often. In concluding, he was, he said, "unable to say, in all honesty, that it (the use of Platform 1) would have reduced all elements of risk of this type of accident".

41 *Mr G Briggs* was the Regional Chief Signalling Inspector, based at York, a position he had held for over three years. Despite the fact that his duties included such matters he did not get personally involved with the Huddersfield scheme. Two of his assistants attended commissioning meetings. Usually if they perceived a problem, they would notify him; but nothing was said to him about Huddersfield. He was aware, he said, "there was big commissioning work going on at Huddersfield because it was in the Weekly Operating Notice" but he did not know of the disconnections.

42 Mr Briggs had visited the area inspector's office on 2 November 1989 in the hope of seeing one of his assistants, Mr C Laycock. There, Mr Nicholson handed him some paperwork to look at. He recognised the instruction sheets (Appendices 4 and 5) that I showed him and said that he read the instructions as far as two-way radio and SPT disciplines were concerned. Further reading was interrupted by the arrival of a Mr Sigsworth from the S & T Department. He returned the sheets to Mr Nicholson saying "that seems all right". Mr Briggs added that in the five minutes or so which he spent with Mr Nicholson he had not become familiar with the intended train workings for the forthcoming weekend.

43 During this conversation Mr Nicholson also told him that he was short of supervisors for the weekend work and asked for the release of a Regional Inspector. Mr Briggs refused this request saying that it was recent regional policy that regional staff should not be placed as a supervisor on a rostered identifiable role; rather, such staff should attend sites in a monitoring inspection role, when checks on adherence to laid down operational standards would be carried out.

44 The next day Mr Briggs thought that the Huddersfield scheme might be a bit bigger than he had imagined. He approached his superior about this point to be told, he said, "Let Colin Laycock look it over". And that was arranged.

45 *Mr C Laycock*, a signalling inspector based in the Operations Department at York, had attended two meetings concerning the works - one where he had learned of the initial, extended, handsignalling requirements and the other, at Huddersfield, held on the Thursday before the accident. He told me that he had voiced his disquiet about the extended work, but he

understood that once the disconnections were started there was no turning back until the work was completed. He added that it was not unusual for there to be overruns.

46 It was on Thursday prior to the weekend that Mr Nicholson asked him to comment on the working instructions. He considered that the issue of some sort of guidelines was an improvement on previous practices and that "the guidelines for the use of radios might be a good thing". While, previously, operating supervisors were obliged to walk routes to establish for themselves that points had been set correctly, Mr Laycock said that the use of radios would allow handsignalmen to overhear messages from the signal box, whereby they would attend as necessary to the lie of certain points and confirm their state to the operating supervisor.

47 For the working of trains, he had suggested that "trains should travel through one set of points, they should be secured and kept that way and run through Platform 1 to the west and all other ones should come down Platform 8, and in between the dominating services from the Sheffield direction should be kept at the west end of the station. The other services from Wakefield or Leeds should be run to the west, crossed over to Marsden and fed back in on the Down line through Platform 8, which would have resulted in very little point movement at Huddersfield". But he was told that a decision had been taken to run a full service necessitating freedom of points movement.

48 Mr Laycock revisited the work area the following day. Then he remained for some nine hours, from 08.30, and was primarily there to check on engineering work and the resumption of passenger services at 16.00.

49 He returned at 06.00 on the next day (Monday) "just to make sure that the job had started up reasonably well or to assist if it didn't", and stayed until about mid-day when he was called upon to act as Pilotman elsewhere.

50 Following a request from the Area Operations Centre at Leeds he arrived at site about 07.15 on Tuesday and reported to Mr Nicholson, who asked him to look after the points going in and out of 5 and 6 bay platforms and No 4 Platform.

51 Mr Laycock undertook his duty up until 08.25. Then Mr Nicholson asked him to temporarily act as the operating supervisor and said that the route for the next train movements had been set. In the event there was an oversight concerning the setting of points for the movement of a locomotive, and Mr Laycock was quick to assume responsibility here.

52 *Mr D Owen*, Permanent Way Section Supervisor, said that he received about nine days warning of the need for both handsignalmen and pointsmen. The short

notice did not trouble him although he was obliged to cease other maintenance work from the Monday morning as 12 of his staff, rostered to work 12-hour shifts, were engaged on the remodelling work.

53 Mr Owen told me that the individual's workplace was specified in a posted roster; for example, "hand Signalman at No 77 Signal R French 07.00 Saturday, John Tracey 19.00 Saturday evening". He understood that Mr Nicholson would spell out the nature of their task to those that took up duties early on the Saturday. Mr Owen assumed that such information would then be passed on to the relief members of staff. While he, personally, did not brief his staff he told me "I was very confident in the men concerned".

54 He considered that the handsignalman at Signal HU77 was there for the purpose of handsignalling only - and not to be setting points. He added, however, that the operating supervisor on duty was at liberty to request any other work to be carried out.

55 On an occasion that he acted as Person in Charge of Possession at the station, he accompanied a pointsman and saw personally to it that all of the points lay in the desired position for a particular train movement within the possession.

56 *Mr D Wilson* was the Senior Project Manager at the time, and he had assumed this role since June 1989. He was to co-ordinate a wide ranging set of activities and see to it that the scheme met the specification, the budgeted cost and set deadline for completion. He said that while considerations of safety were not specifically built into his remit, he would react to any unsafe elements coming to his attention. Generally, though, he looked to the individual departments to conduct their activities within laid down rules and regulations.

57 He chaired monthly progress meetings at which the various departments were represented. He was led to believe that the S & T work would match the timescales set by the Civil Engineering Department. However, the minutes of these meetings consistently reflected a plea to the S & T Department to submit clear timescales for the various works. Although he spoke from time to time to the S & T representative, Mr A Sigsworth, he said that, in the main, his request for information had been left to the vehicle of the minutes of the meetings. He had not contacted Mr Parker, the Regional S & T Engineer, about his disquiet.

58 For the meeting held during August 1989, Mr Wilson was made aware of the need for handsignalling on one particular weekend, but he understood that this requirement was up until 06.00 on the affected Monday.

59 Up until the time of the accident he was not aware of strong criticism from the operating department

concerning delayed S & T activities. Since then there has been an instruction to hold commissioning meetings between interested parties some four weeks in advance of a particular weekend's work.

**As to the running of the trains**

60 *Mr A Howitt* was the driver of the 2K30 and had nearly eight years' driving experience. He was familiar with both the route to and from Huddersfield to Wakefield and there being engineering works about Huddersfield Station, for he had driven trains to and from there the previous day (Sunday).

61 He booked on duty at 15.30, having had a sufficient rest period from the end of his previous shift. He was to undertake four trips from Huddersfield to Wakefield Westgate via Wakefield Kirkgate, the first departure being at 15.38. The initial working was from Platform Line 6, while the second and third trips were from Platform Line 5. In each case, he said that he received authority from a handsignalman to pass the respective signals, ie HU99 for the initial journey and HU95 for the latter working, at Danger; additionally, he was told "the road is set up for you and obey other signals."

62 After the second trip, he took a meal break, that lasted some 50 minutes, and then took over a different train, a 141 unit (that was to be involved in the collision). After working his third trip to Wakefield, he arrived back at Huddersfield Station a few minutes late at 20.35.

63 His subsequent departure should have been at 21.26. However, his train on Platform Line 5 was delayed by the shunting of a train along Platform Line 4, and he became concerned at the length of time being taken for this operation. He suggested to a person on the ground that matters might be expedited if that train were to be moved back along Platform Line 4. This would then allow the train for Liverpool, that he saw standing "outside" the station, to get in behind it and then be directed through the Main line, adding, he said, "or get us to go". In the event the empty train was moved back. A little later when enquiring about the departure of his train he was told by one of two people, and whom he did not know, "yes we're going to get the points set up and then you'll be going on your way". Mr Howitt advised his guard accordingly. However, he again saw the same two people on the tracks who now said that they were going to check the state of the derailer that was ahead of his train. Next, he overheard a handsignalman, who was stationed at the foot crossing near Signal HU95, ask for the signalman to be contacted so that he could authorise the departure of the train destined for Wakefield. Next, the same handsignalman said "Right, you've got your authority. Pass 95 Signal at Danger, the road is set up for you, obey the rest". From his position in the cab, Mr Howitt could see the first signal, No 73, on the Down Main line

was showing a green aspect. Also he was conscious of a train, a Super Sprinter, standing at Signal HU77.

64 He had suffered some abrasive remarks from passengers kept waiting on the platform. However, he said "when I climbed onto the unit I felt fine".

65 He was aware that Class 141 units can display wheel slipping characteristics so, when moving away on the down slope he allowed the train to roll forward before applying power. He sounded a warning on the horn before passing the signal at Danger and then put the power handle to notch 1. When clear of the bay platform he increased power and happened to observe that the speedometer indicated 15 mile/h. He said that because there were people with lit handlamps about the lineside he continued to sound the horn and watch out for them. Then he said, "I looked down and saw the points were laid towards the stationary train and I just thought oh my God, and just banged everything on". He immediately left his driving seat and went back to warn the passengers of the impending collision. Then he heard a bang and he was thrown to the floor.

66 Mr Howitt considered that he was practically on the toes of the switches of Points 339B when he realised that, in the illumination of the train's headlights, they were set incorrectly and as such would take him on a collision course. Although he knew that a speed restriction of 15 mile/h applied when traversing points that were clipped, he admitted that the train's speed may have been greater just before passing over the points in question, perhaps because he was looking out for people about the lineside. He was not aware of either a white or red light being waved to attract his attention.

67 *Mr D Walsh* was the conductor on the delayed train 2K30. Just before the collision he had left the rear driving cab and was walking down the train to check on tickets. On an occasion that he looked forward he saw Driver Howitt entering the passenger compartment. When the impact occurred he was thrown to the floor. Later he was taken to a hospital.

68 When questioned about the state of his driver before departure, he replied "bright as a bobbin".

69 *Mr P L O'Niell* was the driver of 1M80, the stationary train. He had over 12 years' service in the grade and was familiar with the handling of a Super Sprinter. He was aware of the engineering work at Huddersfield Station from both reading the Weekly Operating Notice and having direct experience when working his earlier train from Liverpool to Leeds.

70 He took over 1M80 at Leeds City Station but his departure was delayed some 12 minutes awaiting his conductor. The journey was uneventful as far as Signal

HU644. There he was brought to a halt and shortly after was authorised to proceed past the signal at Danger. At Signal HU77 Driver O'Niell was told, "You've got to wait here a few minutes until he (signalman) has a train out of the station and then we'll have you in".

71 Some ten minutes later, the driver observed a train heading towards him. However, when he saw the train was past the crossover between the Up Main line and the Down Main line he realised that a collision was imminent. Whereupon Mr O'Niell left his cab just before hearing a screech and one bang.

72 He was surprised to find a gap of some 9 feet between trains and the fact that his train had been pushed back about 16 feet despite his release of the deadman's safety device beneath his feet, thus causing a full brake application. He considered that the approaching train was travelling at not more than normal speed for trains departing the station.

73 Driver O'Niell was active in the rescue work and he is to be commended for his caring attitude.

74 *Mr M T Dooley* was the conductor of 1M80. He provided no contradictory evidence to that given earlier.

**As to control procedures at and just prior to the collision**

75 *Relief Signalman B Rhodes* was the signalman on duty in Huddersfield Signal Box at the time of the accident. He told me that he was very familiar with the working of the box and turned up for duty one hour early at 21.00. He relieved Mr I Brogden at 21.30. This meant that Mr Rhodes was without the planned assistance until 22.00 but, he told me, he felt comfortable in the circumstances. He knew that Mr Oates was to relieve Mr Hanton as operating supervisor on the ground.

76 When calling at about 21.30 for the supervisor he received no reply; he repeatedly tried for some ten minutes but to no avail. Eventually, at 21.40, Mr Oates contacted him to explain that he had experienced difficulty with his radio telephone. It was agreed that an empty train should be moved back to stand at the signal on Platform 4. Next, Mr Rhodes requested Mr Oates to set up a route from Platform 5, where the Huddersfield/Wakefield train was standing, to the Down Main line. No instructions were given as to the setting of individual points. After about five minutes Mr Oates radioed to say that he had set the route. Mr Rhodes then contacted the handsignalman on the platform and told him that he could authorise the train to pass Signal HU95 at Danger and to obey all other signals. Soon after Mr Oates advised him of the collision.

77 Mr Rhodes told me that instructions had arrived at the signal box some two weeks before the start of the

signal disconnection work. They were from Mr Nicholson the Area Inspector; one sheet concerned the method of working and the other the use of the radio telephone. (See Appendices 4 and 5).

78 His training in his duties as operating supervisor consisted of some 40 minutes on site with Mr Nicholson, before taking over from him just before midnight on the Sunday. Earlier, he had acted as signalman since 18.00. Mr Rhodes said that he was shown all connections and it had pointed out to him the points that required operation by crank handles and scotching. He recalled being taken as far as Signal HU77 and understood that a person there might well be asked to attend to Points 340. He considered that no greater emphasis was to be placed on the need to attend to Points 339B than any other. From his own experience, however, on Monday morning the need to alter Points 339B and 340 did not arise. He took it that it was not incumbent on the operating supervisor to walk to check any action taken concerning point changes. He said that the signalman would summon the operating supervisor on the radio and request a route to be set up. No instructions were received concerning the lie of individual points. When it was considered that the requested route had been established the operating supervisor would contact the signalman either by radio or telephone.

79 When questioned about the use of Route Lists, Mr Rhodes said that he knew of them. But considered that they were directed towards S & T personnel; at no time had he made use of them.

80 *Relief Signalman L Oates* was the operating supervisor on duty. He told me that he was very familiar with the workings of Huddersfield Signal Box and the outside layout before the current alterations because he had worked there on numerous occasions.

81 Mr Oates resumed duty at 18.00 on Monday, his previous working day being the preceding Wednesday. He was surprised to learn that from 22.00 he was scheduled to work outside as an operating supervisor. While not enthusiastic about this he told me "you get your orders and you just do as you are told". Up until 21.10, when Mr B Rhodes arrived, he had worked the panel associated with the signalling at the west end of the station. From time to time he had overheard, so he said, the signalman, Mr Brogden, contacting a handsignalman and telling him to change a specific point to either normal or reverse; then Mr Hanton, the operating supervisor on duty, would be told what was to be done and to check both the state of points and the route.

82 At about 21.20 Mr Oates left Mr Rhodes in sole charge of the signal box. He went to find Mr Hanton so as to determine his duties when acting as operating supervisor. He took a two-way radio with him. He told

me that he was familiar with its use, but he was not so familiar in changing the instrument's batteries. This was put right, however, after meeting Mr Hanton at the cabin, just beyond Points 345.

83 Mr Oates spent some 10 to 15 minutes with Mr Hanton. During this time he was taken about points controlling train movements from Platforms 5 and 8. However, while Mr Oates knew the location of Points 339, he was not taken to them and no one emphasised to him the importance of Points 339B. He recalled Mr Hanton saying that the points were set for Platform 4. Moreover, he was told that there was a handsignalman at Signal HU77, but Mr Oates did not encounter him. He understood that that handsignalman had responsibilities for operating Points 339, that is 339A and 339B, and Points 340. Mr Oates said that before Mr Hanton departed he had felt confident that he knew what his responsibilities were to be and that he knew how to do the particular job. He was aware of the disposition, and names, of the handsignalman and points operators about the site.

84 Next, Mr Oates, observed a train at Signal HU77. He tried to contact the signalman but failed to do so on account of problems with his radio. He said that he later found that his radio had somehow altered to select Channel 1; he believed that this may have occurred when discussing battery replacement with Mr Hanton. It did not occur to him to approach a handsignalman in order to use his radio. He used an SPT and informed Mr Rhodes of the train. He was told to move another train from Platform 4 to a position on the Down Main line outside the signal box. But in the event, this could not be accomplished.

85 Mr Oates learned that the next movement was to be the train for Wakefield and was told Points 365 had to be moved. He and the points operator attended to these. He confirmed events to the signalman, who challenged him about the derailer at Platform 5. After checking he spoke to the signalman from the telephone at the barrow crossing.

86 Mr Oates then noticed two trains about Signal HU77 and became aware of the collision. He learned that passengers had been injured whereupon he advised the signalman immediately.

87 Mr Oates said that until the Railway's internal inquiry into the accident he was unaware of any instructions issued by Mr Nicholson concerning the method of working.

88 I asked him to consider whether or not he positively knew if the points had been set correctly for the Wakefield train. He told me "I assumed that with me not having a (workable) walkie-talkie and not being able to talk to the flagman at 77, that the signalman had been

on to the flagman at 77 and I assumed that the route was set. So I never queried it. So I never checked 339 points". He agreed that he reacted to point numbers being given by the signalman; if told to alter particular points then he would do so.

89 In the favourable light of hindsight, Mr Oates considered that he might well have been contacted to report for duty some two hours before his booked time. Then, the opportunity could have been taken of showing him about the altered site during daylight.

90 *Mr P Sykes*, a Leading Trackman, was the points operator who accompanied both Operating Supervisors Messrs Hanton and Oates in turn. Over the weekend he had been involved with the handsignalling of trains at the west end of the station. When, however, he booked on duty at 19.00 on the Monday evening he was asked to perform duties at the other, east, end.

91 He told me that he accompanied Mr Hanton initially. Then, solely under the operating supervisor's direction, he would change the setting of points as required and clamp and scotch accordingly. In the main he dealt with Points 345 and 348 and checked on the state of the derailer; he added that while he was attending to one set of points, Mr Hanton could well be altering another. To the best of his knowledge, someone near Signal HU77 dealt with points that end, but he was uncertain who was responsible for Points 339A and 339B. He said that he understood that the normal lie of points meant that the points were set towards the point number marked in raised figures on the ends of sleepers. He noted that where some of these had been damaged doing the engineering work, the figures were written in yellow chalk.

92 At about 21.15 Mr Hanton was relieved by Mr Oates, and the exchange lasted some 15 minutes.

93 Next when Mr Oates told him to alter Points 345 and 348 and lower the derailer to enable a train to depart from Platform Line 5, he asked "Are they all right at the other end?", meaning Points 339. The reply was, he said, "yes, they're all right at the other end", and Mr Oates walked away from him towards a wall telephone. Since Mr Oates' arrival, he was unaware of any work done on Points 339.

94 Mr Sykes considered that 2K30 departed at normal speed. During its brief journey, no waving light, either white or red, had caught his eye and he witnessed the collision from his safe position about opposite Points 345.

95 At 19.00 *Mr A Wade*, a Leading Trackman, took up handsignalling duties. As on the previous occasions he was to work at the east end of Huddersfield Station and be responsible for instructing drivers to pass Signals

HU95, HU97, HU101 as appropriate. He was clear in his mind that he was working to directives given by the signalman, Mr Rhodes, and was always summoned by words to the effect, he said, "Would the handsignalman for 101 Signal please come in". He responded by contacting the signalman using the telephone at either the end of Platform 5 or the end of Platform 8.

96 He was aware of there being an operating supervisor, Mr Oates, and the pointsman, Mr Sykes, about, and considered that they would be dealing with the setting of points, a task that Mr Wade took no part in.

97 On receiving permission from the signalman to instruct the driver, Mr Wade said that he displayed a yellow hand signal (from his position at track level) towards the train, walked towards the driver who was on the platform and verbally instructed him to pass the Signal HU95 at Danger and obey all others.

98 Mr Wade considered that the speed of departure of the train was normal. He did not witness the collision but earlier he had noticed a train, without a headlight on, standing near Signal HU77.

99 *Leading Trackman J Tracey* told me that he had taken up duties at 19.00 to work for 12 hours, as on previous days. He was stationed near Signal HU77 and had responsibilities for both verbally instructing drivers to pass that signal at Danger and attending, as required by the operating supervisor, to the setting of Points 340 and 339A. He was handed, as usual, a radio telephone from the person he was relieving and encountered no difficulty in using it. It was by this means that he was to receive instruction concerning the setting of points. This did not worry him. He said that the operating supervisor would help him to place points either normal or reverse. He took it that the supervisor would have known the state of the points before asking him to change their position.

100 Mr Tracey said that IM80 came to a halt near Signal HU77. He advised the driver that he was to await further instructions. Next, anticipating advice from the signalman Mr Tracey walked towards Points 340. He noted that the points were not set for a train departing eastwards from the station at the same time as he happened to look up and saw a train coming towards him. Instinctively he waved his lamp, which was showing a white aspect. Next he changed the aspect to red and again waved his lamp but to no avail because he now saw the train heading directly towards the one standing at Signal HU77. While, however, he would have expected the driver of a train heading towards him to see his waving lamp, he added "but with him (the driver) coming the other angle, I don't think he would have much chance (of seeing the lamp)". With a collision imminent, Mr Tracey turned his head just prior to the impact. He was of the opinion that the moving train was travelling at normal speed.

101 *Relief Station Manager J Hanton* acted as operating supervisor over the weekend. He was a former station manager at Huddersfield and in his present capacity he covered, again, Huddersfield Station; he was, therefore, very familiar with the area.

102 Mr Hanton said that he began his 12 hours turn of duty at 08.00 on Saturday and Sunday and an 8-hour turn on the Monday starting at 14.00.

103 He knew in advance of his involvement but, he said, he sought clarification as to his role. On the Friday, 3 November, he discussed arrangements with Mr Nicholson; Mr Owen, a Permanent Way Section Supervisor, was present. He understood that he would be supervising handsignalmen and points operators with a view to taking requests from the signalman for particular routes to be set, confirming the routes were set and passing the information back to the signalman. There was to be a handsignalman and points operator stationed near Signal HU77, covering Points 339A and 340; a handsignalman stationed about the east end platform for the departing movements and a points operator would accompany the operating supervisor. He said that in his experience over the weekend the points operators tended to chop and change somewhat so that if one was absent near Signal HU77 then the handsignalman there attended to Points 339A and 340.

104 Mr Hanton said that the signalman would call on the radio words to the effect "Box to Ops Supervisor" and state the route required, for example Down Main to Platform 5; no specific point numbers were given. Mr Hanton added that the point number method had been tried earlier, but it caused confusion because some points were no longer either in operation or existence. Indeed, this physical circumstance had created difficulties when attempting to use route lists and he had, he said "felt safer myself working to platform to line route setting".

105 Mr Hanton spoke either directly or by radio to points operators or handsignalmen concerning the route settings. He felt confident that the person would know the manner in which the points should lie for particular routes but he said that all points were set correctly by observing their lie from a common position he took about Points 339B. From there he could easily see the state of the points during the hours of daylight; when dark, he said "If I could not see I made sure that I did see it before I confirmed that the route was set".

106 He went on to say that he always attended to Points 339B, even though there may have been a points operator with him there. He gave as his reason the fact that "I specifically knew (they) would create problems if they were not done correctly". But he told me that he had received no specific instructions concerning these points.

107 Mr Hanton said that Mr Oates came to relieve him at about 21.15 at the cabin, some 20 metres from Points 339B; he had not visited the signal box just prior to Mr Oates' arrival. He said that he informed Mr Oates what route was set, emphasised both the importance of Points 339 and need to ensure the route was set before confirming it, and walked as far as Points 339B, that were, he said, clipped and set for a route from Signal HU77 to Platform 4. Mr Hanton learned that Mr Oates had already observed Points 348 and 345 while proceeding earlier to the cabin.

108 Mr Hanton went on to say that he showed Mr Oates where the crank handles were placed; one was at Points 339B, one at 346 and a pump handle at 345.

109 Mr Hanton handed his radio set to Mr Oates. There was no reason for Mr Oates to be instructed in its use because Mr Hanton believed he had been using one for some three and a half hours at the signal box. The radio was to be used on Channel 9 and was to be locked in that position. Mr Hanton ventured to say that if one overlooked to press the lock, the channel would change - even when storing the radio in a pocket.

110 Mr Hanton estimated that he spent a half an hour explaining the workings to Mr Oates. When he departed, he considered that Mr Oates was in a fit state to undertake the duties of an operating supervisor at site.

111 He thought that he had advised the signalman that he had been relieved by Mr Oates. When he left, he said that Points 339B were still set for a train to proceed from Up Main line to Platform 5.

112 He made his way, he said, via Platform 4. He spoke to both the driver, who appeared somewhat impatient "to go home", and guard of the train destined for Wakefield.

113 When questioned about the safe working arrangements over the weekend, Mr Hanton expressed unease concerning the necessary loss of the signalling interlocking safeguards. In his time at site, however, nothing in the method of working had caused him alarm in terms of safety. He went on to say that he felt that more use could have been made of Platform 1 during the early stages. He considered that if you can do away with one conflicting movement you are improving the safety of the job. He raised such concerns with Mr Nicholson and others but, in the end, accepted that the existing laid down working instructions should be adhered to.

114 *Mr I Brogden* was a regular signalman at Huddersfield Signal Box. Following a finishing time of 06.00 on the Monday morning, he resumed duty at 14.00. He was to work until 22.00 but, in the event, Mr Rhodes relieved him at 21.00.

115 Mr Brogden said that he was the person-in-charge and, as laid down, dealt with the movements of trains at either end of the station. Mr Oates' role was to be an assisting one, for example recording train running times.

116 He was aware of the instructions issued by Mr Nicholson concerning procedures for the weekend. He said that they had been pointed out to him when taking up duty on the Saturday night. He assumed that Mr Oates would have spotted them when he turned up for duty at 18.00 for they were pinned up in a prominent position, he said, "they were in clear view of anybody that was taking up duties".

117 Mr Brogden dealt with the operating supervisor, Mr Hanton. He would request a route to be set up and, later, Mr Hanton would call back confirming the arrangements without specifying the disposition of individual points. He added that because of the disconnections he relied on the operating supervisor knowing the state of particular points.

118 Mr Brogden saw Points 339 as being important ones. This, he believed, was the result of discussion with Mr Hanton. But he was not able to recall if he had passed on that type of emphasis to Mr Oates.

119 On telling Mr Oates that he was required to work as operating supervisor for about half the turn of duty, Mr Brogden considered that Mr Oates' reaction displayed more concern for the absence of suitable warm clothing than that of performing the duty.

120 Mr Brogden said that he accompanied Mr Oates out of the signal box at 21.25 and he indicated that Mr Hanton could be found probably near Points 340.

#### **Examination of rolling stock**

121 *Mr R W Peck*, Provincial Depot Engineer, arrived at the site at 23.55. His recollection was that the two trains were about 4 to 5 metres apart. He judged this to be the result of an impact-speed of the order of 20 mile/h. He found the handle of the brake valve in the leading car of the 141 unit to be in the emergency position with the power handle in notch position 3. Mr Peck considered that the state of the handles represented their position before impact. He saw no evidence of skid marks on the rails.

122 Some two weeks elapsed before this unit was able to be moved to Neville Hill Depot for brake testing and further examination. Then overall brake test results satisfied laid down standards. The set was in date for preventive examination.

123 The account of damage to the vehicles that appears earlier in this report was taken from evidence submitted by Mr Peck.

124 *Mr P Summerhayes*, Provincial Engineer (North), gave evidence concerning the mechanism of vehicle component interaction following the collision. Briefly, he said that he was advised that the strength of the Class 141 unit was superior to that of the earlier design BR Mark 1 coaches, and he considered that the integrity of the body was well demonstrated by there being virtually no damage to the passenger area. He said that results of the deliberation of a British Railways' vehicle design team was that the speed of impact was no greater than 20 mile/h.

125 He said that from considerations of the falling gradient and some loading factors it had been calculated in the time between the first movement of the brake handle and stopping the Class 141 train would come to a stand within 55 and 65 yards from an initial speed of 20 mile/h; from 15 mile/h, the stopping distance was about 25 yards. Neither distance took into account the driver's reaction time.

**As to the Civil Engineering Department's schedule**

126 *Mr P M Summers* was the Senior Technical Officer within the Area Civil Engineer (ACE) office at Leeds who developed civil engineering staging sketches for each weekend's work, and which were presented at the project meetings. Essentially, the various staging schemes were adhered to in practice.

127 He was present at an S & T commissioning meeting held on 19 October 1989 at Leeds. There, he learned of the S & T requirements - and repercussions on handsignalling arrangements. In this respect he went on to say that in order to supply the handsignalman "... we should be given, we prefer to be given, somewhere in the region of six weeks' notice to provide that amount of men. As you can imagine, that is not the only civil engineering work going on that weekend and it can be a problem to provide manpower". He added that in his experience the lateness of advice was "normal these days".

128 *Mr Summers* wrote that day to the Civil Engineering Engineers/Supervisors affected and indicated the location at which handsignalmen and points operators were required. He left it to *Mr Owen* to allocate the appropriate staff.

**As to matters concerning the Signal and Telecommunications Department**

129 Evidence was given by *Mr A Dyson*, Area Signal Engineer (Works), *Mr P J Ledger*, Signalling Project Engineer, *Mr J D Armistead*, Area Signal Works Engineer and *Mr A Sigsworth*, Senior Engineering Assistant and who was the S & T representative at the monthly progress meetings.

130 I learned of unexpected delay in obtaining both the required number (some 2500) of special connectors, and drawings for the weekend work. In this latter connection *Mr Ledger* said that there were no spare resources to be put on their preparation; but an additional sub-section of three staff would have enabled him to cope reasonably well with the Huddersfield scheme.

131 *Mr Sigsworth* agreed that the S & T programme of work had not been discussed in relation to that of the Civil Engineering Department. He said "I would suggest that it is very, very rarely that we (S & T) finish when the civil engineer finishes because he has done his work and we 99 per cent of the time have a lot more to do after he has finished".

132 It was *Mr Sigsworth* who advised other departments of the initial and, later, extended overrunning of the S & T works. *Mr Dyson* commented here that the situation was "rather resignedly accepted" by the Operations Department.

**As to the Rules and Regulations**

133 *Mr W M Robinson*, Regional Operations Manager, York, made the following observation. "The method of operating adopted for widespread disconnections of routes uses principles contained within the Rules. The Rules do not actually lay down exactly how it should be done". He formed the opinion that there may be a slightly different emphasis by one person or another.

134 *Mr Graham* considered that an interpretation of Rule D3.1.3 allowed the use of an operating supervisor in place of the handsignalman specified. Similarly he took the former person to assume the role of handsignalman referred to in Rule B.8.5.4. He contended that Regulation 11 entitled 'Failure of Signalling Equipment' (see Appendix 3) was applicable in view of the 'Note' at end of Section D of the Rule Book (Appendix 2).

**As to post accident events**

135 *Mr Briggs* told me that he visited the site the day after the accident. His early investigation caused him to alter the method of operation. He was concerned that there was no back-checking on the lie of the points along a set route. He realised that it was not always easy to observe all of a route and that, during darkness, a handlamp might be capable of only illuminating at any time one end of points. *Mr Briggs*, after ensuring that there were ready physical means of determining which way points had to lie to be described as 'normal' and 'reverse', instructed that when setting routes under verbal instructions, route tables shall be used and individual point numbers quoted and acknowledged. This method was to be effective from 14.00 that Tuesday.

136 Mr Graham tabled a letter dated 7 December 1989 sent to such staff as station managers and area inspectors. Extracts from it appear in Appendix 6. In the letter, guidance is given concerning approval of train workings, competency of operating supervisors, briefing as to task, use of route-setting charts, walking of a route prior to giving final route confirmation to signalmen, and qualification given to British Railways Rule Book, Section D, Clause 3.1.3.

137 On the evening of 19 December 1989 I journeyed in the leading cab of a Class 141 DMU from Platform line 5 to just beyond Signal HU74 - that is, part of the intended route for 2K30. Given Mr Howitt's account of keeping a lookout for people about the lines, and poor illumination of the site, I did not find disagreement with his evidence.

## DISCUSSION

138 I accept the evidence submitted by Mr P Summerhayes, noting that the speed of impact is assessed as being no more than 20 mile/h; Mr Howitt admitted to a speed above 15 mile/h when approaching Points 339B. The train itself was in date for servicing and I have no reason to doubt that it was in sound mechanical condition.

139 I have no hesitation in accepting Mr Nicholson's integrity in endeavouring to devise and have implemented safe procedures for the working of trains by handsignalling methods. I do not believe that the decision to maintain a full train service was impossible to reconcile with an adequate standard of safety in the circumstances.

140 During the course of my Inquiry, I considered that Mr Nicholson was laying particular emphasis on implementation of Rule D.4.2.1 - Duties of drivers. My examination of this Rule reveals that its clause (d) concerning stopping before any train or obstruction on the line ahead, is rendered invalid because of the exclusion given in the 'Note' appearing at the end of the Section. And my personal observations lead me to conclude that it was not practicable for the driver to see the lie of Points 339B. Therefore reliance on clause (b) should not have formed part of safety arrangements.

141 While Mr Robinson observed that the principles of the Rules were used for widespread disconnections, it is of interest to highlight the interpretation given to certain Rules. Rule B.8.5.2 requires a handsignalman to ensure that the route is correctly set and give an assurance to the signalman accordingly. Rule B. 8.5.4 dictates that the handsignalman is responsible both for carrying out the instructions of and for all communications with the signalman. (This latter action is repeated in Rule B.9.2.2). Rule E.3.6.2 demands that

handsignalmen and points operators work solely to the signalman's instructions. From the evidence, however, it is clear that most of these rules governing handsignalmen were embraced by an operating supervisor.

142 Mr Owen did not positively see to it that his staff were suitably briefed concerning respective roles. Instead he left that task to the operating supervisor. By such means I believe it became possible for both the handsignalmen and the pointsmen to accept methods of working, as indicated in the preceding paragraph, that were in conflict with those Rules that, as certificated personnel, they ought to be familiar with. But there was no formal documentation available to them to clarify such changes in working arrangements.

143 It is a matter of further disquiet that there were split responsibilities. For instance, the handsignalman at Signal HU77 could be responsible for the operation of Points 339A and 340, and the operating supervisor in charge of Points 339B.

144 Such informal deviations from laid down instructions and variation in working practices can and, indeed, did culminate in incorrect assumptions being made by Mr Oates.

145 I consider that there were some shortfalls in the performance of the handsignalmen when authorising drivers to proceed. It is fair to say, however, that any deficiencies here had no bearing on the accident.

146 The use of route charts for checking on the lie of points was not appealing to either Mr Nicholson or Mr Hanton, because of the physical changes that had taken place. Yet, later, Mr Briggs had this method adopted, and Mr Graham, by the letter of 7 December 1989, endorsed this action. In any event, there was a lack of clear direction at the time as to how the route was to be checked - especially during the hours of darkness, and this issue was not covered during the monitoring visits paid by Mr Graham.

147 There is conflicting evidence concerning the advice given about the degree of emphasis to be laid on Points 339B. This was not a problem for Mr Hanton whose experience dictated his course of action. However, neither Mr Rhodes nor Mr Oates were so gifted or fully appraised.

148 The absence of good communication is further supported by the indifferent manner in which essential notices were left to be posted in the signal box. It was left to those not on duty to spot them on arrival.

149 It is with concern that I learned of the contrast between the information and instruction time given by Mr Nicholson to Mr Hanton and by the latter to

Mr Oates. The more remote such advice from source the more likely it becomes that problems will arise in promulgation, interpretation and understanding.

150 In this latter respect an opportunity was afforded Mr Hanton, who was not due to book off duty until 22.00, to either have Mr Oates observe his handling of 2K30 or, indeed, have Mr Oates action the route under his supervision. If that opportunity had been taken, it is inconceivable that a collision would have occurred when it did.

151 I have to express concern at the change of operating supervisor. Whatever Mr Nicholson's reasons, I consider that having given Mr Rhodes experience in the role, he should have persisted with him for the following night. And that Mr Graham ought to have been approached about such a proposed change.

152 Mr Oates was the unfortunate end link in the broken chain. I am satisfied that he was not presented with adequate information concerning the procedures and his understanding of the workings were short of Mr Nicholson's notions - crucially he was unaware of who had responsibility for what and made assumptions.

153 Without doubt Mr Nicholson was under a great deal of pressure. The task was onerous and I believe that he took too much upon himself - both in regard to the formulation of proposals and physical involvement on site. But nowhere in the proceedings did I feel that there were others prepared to commit themselves to either planning or implementing the train working as wholeheartedly as Mr Nicholson did. It was unfortunate that Mr Briggs did not devote more time to scrutinise the operating arrangements and that both he and Mr Graham did not pursue the availability of a suitable supervisory graded person to act as operating supervisor.

154 Given the size and nature of his project it is quite surprising that matters were not taken in hand by the headquarters of the Operations Department at York. Despite their representations at the monthly progress meetings, deliberations and comments on proposed working practices were scant to say the least. For Mr Briggs, the Regional Chief Signalling Inspector, to declare that he was not familiar with the intended train working arrangements, more than corroborates the point. It is to his credit that, at least, he was moved to raise his disquiet with his chief. In the event, he was not directed to get involved personally, rather his signalling inspector was "to look over it". These are matters of concern.

155 The managing of the project was left, in the main, to discussions at the monthly meetings. Despite there being an obvious need for information from the S & T

Department concerning time scales for their work the senior project manager did not accelerate its provision. Also, considerations of safety were not specifically addressed, it being left to individual departments to meet laid down instructions.

156 It is a matter of disquiet that Mr A Sigsworth held a view of what working within a period of possession meant, that was neither reflected in the minutes of the monthly meeting nor clear in Mr Nicholson's mind.

157 The need for an extended period of handsignalling was due in part to delays in issuing drawings and in obtaining the special connections needed. Delays affecting target dates and manpower planning should be brought immediately and directly to the attention of the Project Manager, not left for the next monthly meeting.

## CONCLUSIONS

158 It is plain that Points 339B (and Points 340) were incorrectly set for the movement of 2K30 from Platform Line 5 to Down Main line, in consequence of which the train ran into IM80 that was standing at Signal HU77.

159 While Driver Howitt marginally exceeded the laid down speed when about to negotiate the crossover, I consider that neither his state of mind nor his ability to see the point setting contributed materially to the accident.

160 Neither signalmen nor handsignalmen strictly observed their company's own rules. Rather they worked to directives issued by the local inspector. I do not consider that such action significantly contributed to the accident.

161 The person assuming control of the train movements at the time was Mr Oates, an unfortunate choice when considering his earlier absence from work, and he readily accepted his failure to check the state of Points 339B, that were crucial to this movement. However, Mr Oates was not solely responsible for what happened. There was a need for more support from both operations and S & T management in preparing the plan for the weekend; the failure to do so led to an inadequately instructed and equipped relief signalman being placed in a position of vital responsibility for safety.

162 The project management was not sufficiently strong to cause things to happen. The different interpretation given by the S & T Department to the meaning of declared Civil Engineering Department possession time scales was not spotted early enough, resulting in the need for extended handsignalling arrangements. If the operating department had received timely and accurate information, instead of having to

resignedly accept the extension, alternative plans might have been devised to minimise the duration, and hence risk, of handsignalling.

163 The Health and Safety at Work etc Act 1974, Sections 2, 3 and 7 applied to the track and signalling renewal work in progress at the time of the accident. I do not consider that enforcement action would be appropriate in this case.

mentioned in paragraph 164 and management must ensure that staff attending are conversant with those parts that are appropriate to their function.

167 While the (hitherto) Eastern Region altered some of its procedures to correspond with parts of my earlier recommendations, I consider that the standards outlined above should be adopted throughout British Railways.

## REMARKS AND RECOMMENDATIONS

164 If Mr Oates had understood better what precisely was required of him, the accident would not have happened. In order to ensure that there are no further misunderstandings of this type I recommend that all of the workforce nominated as having special safety responsibilities attend a local operational meeting a few days before work is due to start. The difficulties of coping with rostered and absent staff must be catered for.

165 If the handworking of points and handsignalling of trains on a large scale is proposed, and unavoidable, then I recommend that the arrangements should ensure that:

- (a) the number of trains to be handsignalled and the duration of handsignalling be reduced to the minimum practicable;
- (b) the minimum number of different routes through the layout should be determined;
- (c) each selected route should be listed and the lie of the points and any other apparatus on the line prescribed;
- (d) signalmen, handsignalmen, pointsmen and supervisors must all be in possession of the route lists; and
- (e) either each route must be marked to confirm the state of the points or, if impracticable, the status of all points must be reported and checked against the list before a train movement is authorised.

166 Any deviation from the company's own rules and regulations should be authorised at a senior level of management. Such information could form part of a 'local' health and safety policy statement that I recommend be issued for major engineering schemes like Huddersfield. It would act as a reference document and should contain a proper written plan of work, identification of the risks present, identification of the precautions necessary and show who is responsible for ensuring that the precautions are properly carried out. This document to be at the heart of the meeting

**APPENDIX 1 Planned general manning arrangements**

|                             |   |
|-----------------------------|---|
| <i>Signal box</i>           | 2 Signalmen 06.00 - 14.00; 14.00 - 22.00<br>1 Signalman 22.00 - 06.00   |
| <i>Operating Supervisor</i> | 1 Person 06.00 - 14.00; 14.00 - 22.00 and 22.00 - 06.00   |
| <i>Handsignalman</i>        | 1 Person 07.00 - 19.00 at Signal HU77,<br>1 Person 07.00 - 19.00 at Signal HU644,<br>1 Person 07.00 - 19.00 at Signal HU69 (until 19.00 Monday)<br>and 1 person 07.00 - 19.00 covering Signals HU95/97/99/101 |
| <i>Pointsman</i>            | 1 Person 07.00 - 19.00 covering Points 339A and 340 and 1 with operating supervisor<br><br>The handsignalman at Signal HU77 was responsible for Points 339A and 340 from 19.00 - 07.00                        |
| <i>Tail Lampman</i>         | 2 at West end of station.   |

**APPENDIX 2 Extracts from British Railways Rule Book**

SECTION B, PART II  
DUTIES OF EMPLOYEES APPOINTED TO ACT AS  
HANDSIGNALMEN OR POINTS OPERATORS

8 DUTIES OF HANDSIGNALMEN

8.1 Competence

An employee appointed to act as Handsignalman must have been passed as competent by the Operations or Civil Engineering Departments.

8.2 Equipment

The Handsignalman must have with him:

- (a) a red, a yellow and a green flag
- (b) a handlamp capable of showing a red light, a yellow light and a green light
- (c) sufficient detonators
- (d) clips and scotches
- (e) a signal post replacement key if necessary

8.3 Positioning of Handsignalman

8.3.1 The Handsignalman must position himself as directed by the person shown below:

| <i>Circumstances of appointment</i> | <i>Persons positioning Handsignalman</i> |
|-------------------------------------|--|
| Defective or disconnected signal    | Signalman                                |

8.5 Duties when appointed in connection with a defective or disconnected signal

8.5.1 The Handsignalman must position himself at the signal at which he is appointed or at the place it normally occupies.

8.5.2 When appointed at a stop signal, the Handsignalman must exhibit a hand Danger signal to the Driver of each approaching train until the train has stopped and maintain one detonator on the line to which the signal applies. He must ensure that the route over which a train is to pass is correctly set and that the points specified by the Signalman are secured. He must give an assurance to the Signalman when this has been done.

After the Signalman's permission has been obtained for the train to proceed, the Handsignalman must:

- (a) give the Driver the necessary instructions
- (b) remove the detonator from the rail
- (c) exhibit a yellow handsignal

If, however, the Signalman gives permission for the train to proceed before it approaches the Handsignalman **and** the Signalman confirms that the necessary instructions have **already** been given to the Driver, the train need not be stopped. The Handsignalman must remove the detonator from the rail and exhibit a yellow handsignal.

8.5.4 When employees are appointed to assist the Handsignalman with the clipping of points, he must instruct them to act only on his instructions. The Handsignalman remains responsible for carrying out the Signalman's instructions and for all communication with him.

9. DUTIES OF POINTS OPERATORS

9.1 Competence

An employee appointed to manually operate defective power operated points must have been passed as competent to operate the type of points concerned. If qualified, he may also act as Handsignalman.

9.2 General Duties

9.2.1 The person concerned must:

- (a) obtain and subsequently return the necessary point handle/key.
- (b) report to the Signalman his arrival at the points.

9.2.2 Where, however, a Handsignalman is also appointed, he will give the Signalman's instructions to the Points Operator; the Handsignalman is also responsible for all communication with the Signalman.

SECTION D. PASSING SIGNALS AT DANGER AND/OR MAKING MOVEMENTS IN THE WRONG DIRECTION

1. PRINCIPLE

When a signal is passed at Danger or a wrong direction movement is made for which a signal is not provided, the security normally provided by the signalling system is not available. Safety then depends on:

- (a) the Signalman observing the appropriate instructions before authorising the movement
- (b) the Signalman and Driver reaching a clear understanding as to what is required
- (c) the Driver observing the appropriate instructions **throughout the movement.**

2. AUTHORITY FOR MOVEMENTS

2.1 Circumstances in which signals may be passed at Danger

The Signalman must not authorise a signal to be passed at Danger nor must the Driver pass a signal at Danger except in accordance with the appropriate Rules and instructions when;

- (i) the signal is defective or disconnected

In such circumstances, the provisions of this Section D must be observed.

### 3. DUTIES OF SIGNALMEN

#### 3.1 Before authorising a movement to pass a signal at Danger

##### 3.1.1 The Signalman must ensure that:

- (a) the portion of line concerned is clear and safe for the movement in accordance with the Regulations for Train Signalling.

3.1.2 If any points cannot be operated and (where required) locked from the signal box, or the proper indications cannot be obtained, or a 'Normal' indication cannot be obtained from a ground frame release, the Signalman must arrange for the points concerned to be checked to ensure that they are in the proper position and, in the case of points which become facing, they must be secured.

##### 3.1.3 When a Handsignalman is on duty, the Signalman must tell him:

- (a) which train is to proceed
- (b) which points must be set and in which position
- (c) which points must be secured.

He must obtain an assurance from the Handsignalman that these instructions have been observed and that the required route is correctly set and secured before authorising each movement.

#### 3.3 When authorising the movement

3.3.1 When authorising a movement to pass a signal at Danger or a wrong direction movement for which a signal is not provided, the Signalman must tell the Driver what is required and how far the movement may proceed.

3.3.3 When a Handsignalman or Pilotman is on duty or another person (who is expressly permitted in the appropriate Rules and instructions) is to give the necessary instructions to the Driver, the Signalman must ensure that this person clearly understands what the Driver must be told.

## 4. DUTIES OF DRIVERS

### 4.1 Before the movement starts

4.1.1 Before passing a signal at Danger or making a wrong direction movement for which a signal is not provided, the Driver must speak with and obtain the personal authority of the Signalman or, when acting on the Signalman's instructions, the Pilotman or Handsignalman or, where expressly permitted in the appropriate Rules and instructions, another person.

### 4.2 During the movement

4.2.1 When starting, the Driver must give one long blast on the horn. During the movement, he must:

- (a) observe the instructions given by the person authorising the movement
- (b) approach cautiously ANY POINTS WHICH ARE FACING TO THE MOVEMENT and any switch diamonds or swing nose crossings and where practicable ensure that they are in the correct position; speed over such points or crossings must not exceed 15 mph.
- (d) proceed at such reduced speed throughout the section of line concerned as will ensure that he can stop safely and well clear of any train or obstruction on the line ahead. In determining the safe speed at which the train may proceed, the Driver must be guided by the braking capability of his train and the distance ahead which he can see to be clear. He must take account of darkness, fog or falling snow, curvature of the line or any other feature affecting his view of the line ahead. **THE DRIVER MUST ALWAYS BE ABLE TO STOP WITHIN THE DISTANCE HE CAN SEE THE LINE TO BE CLEAR.**

During .... Emergency Block Working, clause (d) does not apply unless ....

*Note* "Emergency Block Working" means block working between strategic locations during an extensive failure or extensive disconnections of signalling equipment of other exceptional circumstances; it applies only on a Track Circuit Block line.

## SECTION E. FAILURE, REPAIR, RENEWAL AND MAINTENANCE OF SIGNALLING EQUIPMENT

### 3.5 Responsibility for safe working

3.5.1 The Signalman remains responsible for the safe working of trains. He must record in the Train Register details of any disconnection for which he gives permission or which is made in an emergency.

3.6 Provisions of Handsignalmen and Points Operators

3.6.1 If trains are required to pass during a failure or during work affecting the normal operation of signalling equipment, the Signalman must arrange for the appointment of any necessary Handsignalmen or Points Operators according to the arrangements to permit trains to pass as shown in clause 4 or 5.

3.6.2 Handsignalmen and Points Operators will work solely to the Signalman's instructions but where a Handsignalman **and** a Points Operator are appointed, the Signalman's instructions to the Points Operator must be given via the Handsignalman.

**6 DUTIES OF TECHNICIANS AND SIGNALMEN - REPAIRS, RENEWALS, ALTERATIONS AND MAINTENANCE OF SIGNALLING EQUIPMENT**

6.3.1 The Signalman must observe the provision of Section D before authorising a Driver to pass a stop signal which has been disconnected or is temporarily not showing any aspect or indication.

**APPENDIX 3 Extract from British Railways Track Circuit Block Regulations**

**11. FAILURE OF SIGNALLING EQUIPMENT**

**11.7 Extensive failure of the signalling equipment**

**Complete failure of signalling apparatus**

In the event of complete failure of the signalling apparatus due, for example, to the loss of the normal and emergency power supply, trains may be allowed to pass through the area affected under the following arrangement:-

- (A) (i) Handsignalman must be appointed at signals at strategic locations throughout the area affected and Emergency Block Working must be introduced between them.
- (ii) The Signalman may authorise movements to proceed from one handsignalman to the next provided:-
  - (a) he is satisfied that the line is clear
  - (b) he has received an assurance that all points over which the movement will travel have been secured in accordance with the provisions of Rule Book, Section D, clause 3.1 and, additionally, trailing points are secured by clip or scotch.

**APPENDIX 4 Directive (undated) by Area Inspector D Nicholson**

To: Signalman Huddersfield From: D Nicholson Area Inspector

*DOUBLE MANNING OF SIGNALBOX INSTRUCTIONS TO SIGNALMEN (HUDDERSFIELD)*

DURING THE TIME OF POINTS AND SIGNAL DISCONNECTIONS 0800 SATURDAY 4TH TO 0600 TUESDAY 7TH NOVEMBER ONLY THE SIGNALMAN IN CHARGE OF THE SIGNAL BOX MUST GIVE INSTRUCTIONS FOR REQUIRED ROUTES TO BE SET AND AUTHORISE ANY SIGNALS TO BE PASSED AT DANGER OR ANY TRAIN MOVEMENTS.

NO OTHER PERSON IN THE SIGNALBOX (ASSISTING SIGNALMAN OR ANY OTHER) MUST USE THE TWO WAY RADIO.

THE ASSISTING SIGNALMAN TO WORK AS DIRECTED BY THE SIGNALMAN IN CHARGE.

THE RESIDENT SIGNALMAN WILL BE THE SIGNALMAN IN CHARGE AT ALL TIMES.

**APPENDIX 5 Directive (undated) by Area Inspector D Nicholson**

To: Signalmen Huddersfield From: D Nicholson Area Inspector

*WEEKLY OPERATING NOTICE NS 33, ITEM 108 USE OF TWO WAY RADIO INSTRUCTIONS TO SIGNALMEN*

A TWO WAY RADIO WILL BE ISSUED TO THE SIGNALMEN IN HUDDERSFIELD BOX AND ALSO TO THE HAND-SIGNALMEN LOCATED AT THE FOLLOWING SIGNALS

HU 644, HU 77, HU99/95/91/101 AND HU 169

THE PURPOSE OF THESE RADIOS IS TO ENABLE THE SIGNALMAN TO CONTACT THE HAND-SIGNALMAN AT ANY OF THE SIGNALS LISTED ABOVE SHOULD HE BE REQUIRED TO CONTACT THE SIGNALBOX FOR INSTRUCTION. ON NO ACCOUNT MUST THESE RADIOS BE USED TO GIVE AUTHORITY FOR ANY SIGNALS TO BE PASSED AT DANGER OR FOR ANY TRAIN MOVEMENT. THESE INSTRUCTIONS MUST ONLY BE GIVEN BY TELEPHONE TO THE HAND-SIGNALMAN CONCERNED.

THE HAND-SIGNALMAN MUST NOT USE THE RADIOS TO CONTACT THE SIGNALMAN EXCEPT IN CASE OF EMERGENCY. WHEN THE SIGNALMAN WISHES TO CONTACT A HAND-SIGNALMAN, HE MUST USE THE SIGNAL NUMBER NOT THE MAN'S NAME.

(IE) SIGNALMAN TO HAND-SIGNALMAN AT - 77 SIGNAL. ALL MESSAGES MUST BE REPEATED BY THE HAND-SIGNALMAN TO ENSURE THAT THE MESSAGE IS RECEIVED BY THE CORRECT PERSON THE MESSAGE IS INTENDED FOR.

THE OPERATING SUPERVISOR WILL ALSO HAVE A RADIO AND ALL REQUESTS FOR ROUTES THAT ARE REQUIRED MUST BE MADE TO THIS PERSON AND NO OTHER, WHEN THE REQUIRED ROUTE IS SET AND SAFE FOR THE PASSAGE OF TRAINS THE OPERATING SUPERVISOR WILL CONFIRM THIS AND UNTIL THIS INFORMATION IS RECEIVED NO SIGNALS MUST BE AUTHORISED TO BE PASSED AT DANGER.

**APPENDIX 6 Extract of letter dated 7 December 1989**

From: Area Manager  
LEEDS  
Date: 7 December 1989

**MANUAL OPERATION OF POWER WORKED POINTS DURING FAILURE/DISCONNECTION**

I have received the following guidelines from the Regional Operations Manager in respect of pre-planned work involving signal and point disconnections:-

- (1) the train plan and all detailed train working arrangements be approved by the A.O.M. or his deputy.
- (2) That the person in charge on the ground shall be a competent Operating Department Supervisor, who shall have received full and proper briefing of what is required before taking charge.
- (3) Should it be necessary to utilise a Signaller to act as O.D.S. he shall hold a certificate of Competency for such work, approved by the A.O.M. or his deputy, and his appointment to each such job shall be subject to the approval of the A.O.M. or deputy. Again such individual should be fully and properly briefed before he takes charge.
- (4) When routes are to be set under verbal instructions, route-setting charts (where available) must be used and individual point numbers must be quoted and acknowledged together with their required positions (ie 'Normal' or 'Reverse'). The O.D.S. must know what is 'Normal' and 'Reverse' for each set of points.

Additionally, the geographic route shall be described (eg platform 4 to the Up Main) and the O.D.S. shall check that the route is fully set throughout by walking it, prior to giving final route confirmation to the Signaller.

Attention is drawn to the Rule Book Section 'D' Clause 3.1.3. (for 'handsignaller' in this clause read 'O.D.S.').

- (5) The O.D.S. must ensure that all Handsignalmen and point operators are fully briefed and act in accordance with the Rules laid down.

A similar course of action must be taken in respect of a failure of signalling equipment producing similar situations, but as in that case, the train plan cannot be agreed beforehand, the Second-line on call Officer should be called, to assess if train service alterations are necessary to ensure maximum safety and practicability.

When such failures first occur, it is inevitable that staff on the ground will be limited and it is essential that when in this position you do not try to achieve too much too soon. Go through the above procedure slowly and methodically and ensure each route is fully set and secured before authorising the Signaller to allow any movement.

Figure 1 Location plan

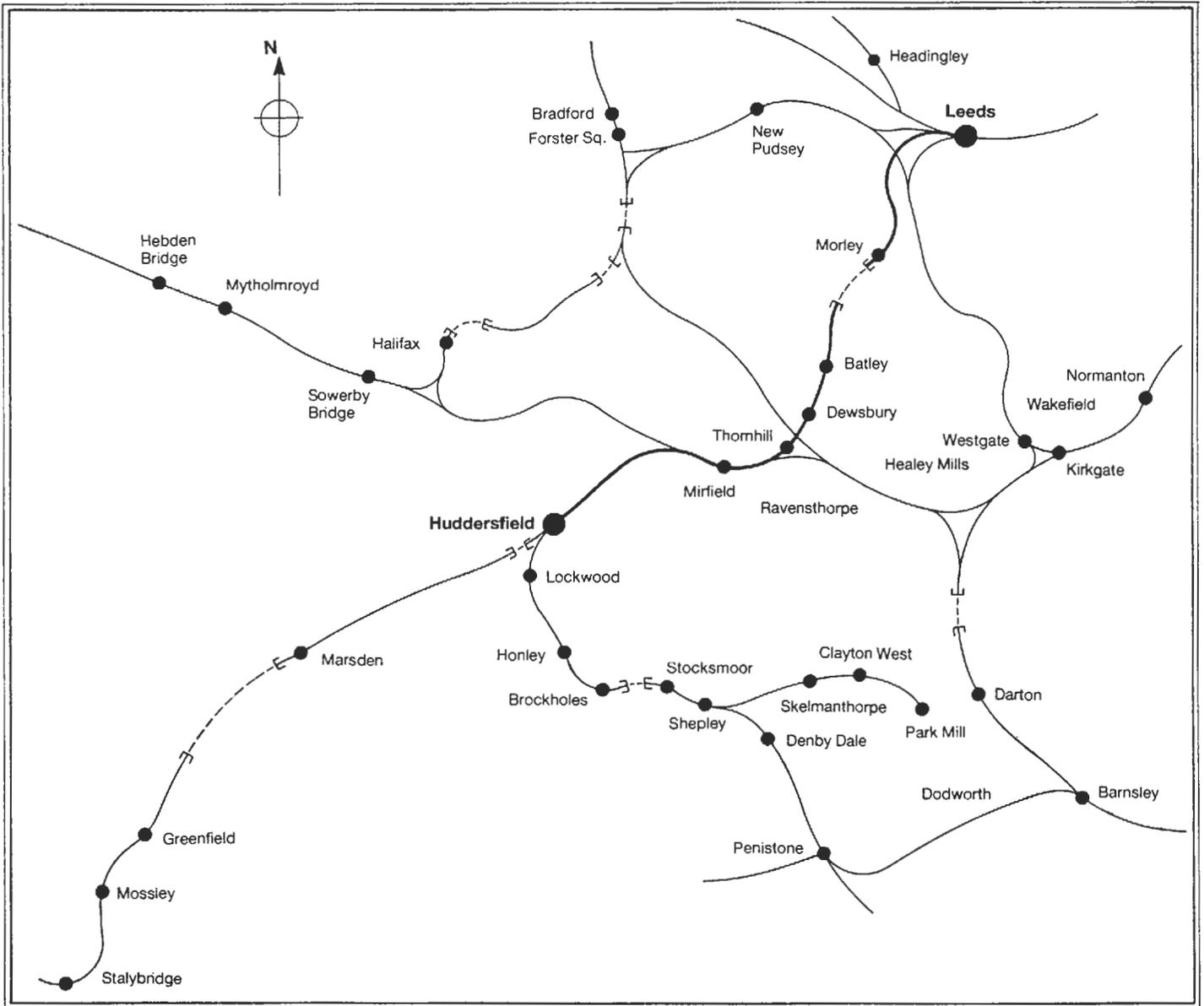


Figure 2 Site plan

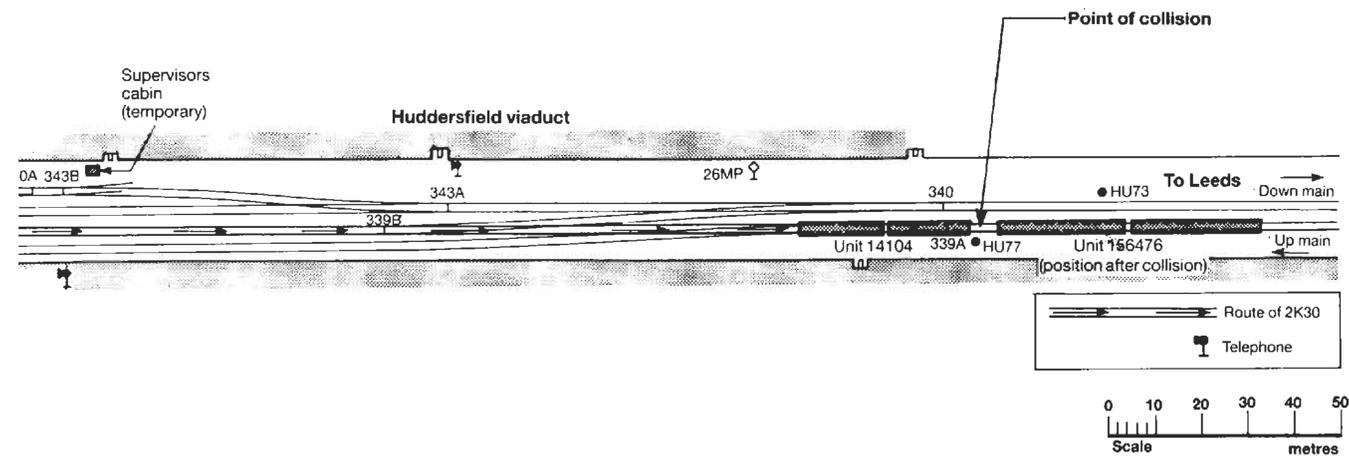
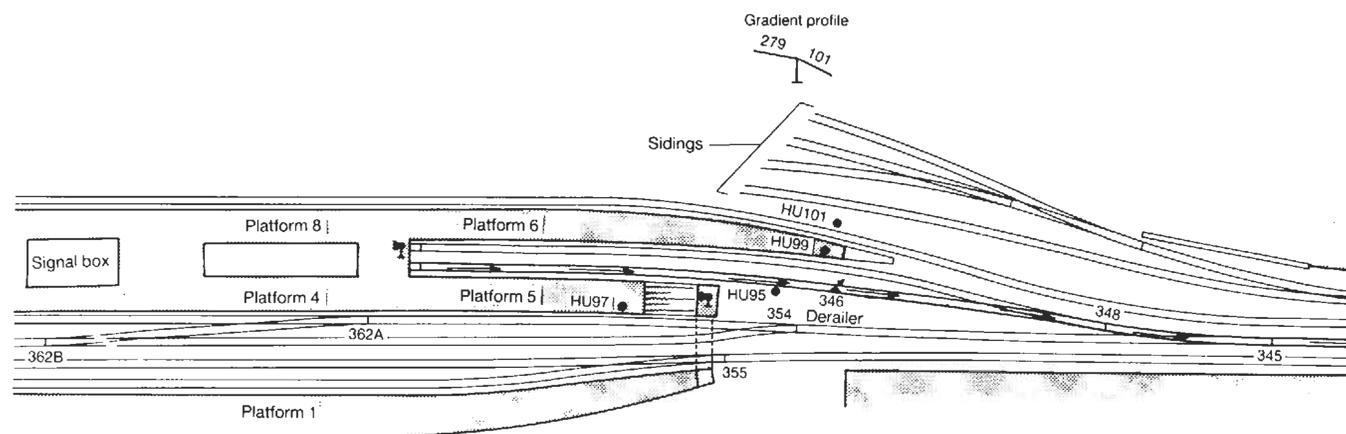


Figure 2 General Site Layout.





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