MINISTRY OF TRANSPORT

RAILWAY ACCIDENTS

REPORT ON THE COLLISION which occurred on 17th August 1951 at NEWCASTLE CENTRAL STATION in the NORTH EASTERN REGION BRITISH RAILWAYS

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NORTH EASTERN REGION
BRITISH RAILWAYS

MINISTRY OF TRANSPORT,
Berkeley Square House,
Berkeley Square,
London, W.1.
10*th November*, 1951.

SIR,

I have the honour to report for the information of the Minister of Transport in accordance with the Order dated 17th August 1951, the result of my Inquiry into the fatal collision between two electric passenger trains which occurred at about 10.36 a.m. on that day at the east end of Newcastle Central station in the North Eastern Region, British Railways.

The 10.35 a.m. train from Newcastle to Newcastle via the Wallsend circular route started from No. 2 terminal platform with the signal at danger; after travelling about 36 yards it collided almost head-on at a slip connection with the 9.35 a.m. train from Newcastle to Newcastle via Benton which was entering No. 1 platform under clear signals. The combined speed of the two trains was about 25 m.p.h., and the left hand side of the leading coach of each train was torn away. I regret to state that the Motorman R. H. Heir of the incoming train and a passenger in its leading coach were killed and another passenger died subsequently in hospital. Nineteen passengers were conveyed to hospital, of whom 8 were detained; the motorman and guard of the outgoing train were also injured, but were allowed to go home after hospital treatment. In addition, 20 passengers sustained minor injuries or shock.

In response to calls initiated from the signal box and from the Railway Police headquarters at the station, ambulances and medical staff were quickly on the scene and worked under the direction of the Railway Executive Medical Officer at Newcastle, Dr. H. M. Gray. There was no lack of staff for the rescue work, which was promptly organised, but a lift had to be taken by the breakdown crane before the last of the injured could be extricated. Current was removed from the conductor rails when the substation breakers were opened by the short circuit which resulted from the collision, and they were left open on the receipt of a message from the signal box a few seconds later.

The electric services were dislocated, and it was necessary to terminate the South Tyne service at Felling and the North Tyne service at Manors; the former was restored to normal at 5.0 p.m. when the wreckage was cleared, but the North Tyne trains were not working into Newcastle until the following morning, owing to a minor derailment which occurred during the removal of the damaged vehicles. There was practically no damage to the permanent way or signalling equipment.

The weather was fine and clear and the rails were dry.

DESCRIPTION OF TRAINS AND DAMAGE TO ROLLING STOCK

1. The formation of each train was practically the same, comprising eight coaches in four motor coach-trailer pairs each articulated on three bogies, one of which was motored; the pairs were joined by short screw couplings inserted in "cowhead" type central buffers. In the outgoing train a driving trailer was leading, and there was a motor coach at the head of the incoming train, with its motor bogie in front. The total tare weight of each train was approximately 220 tons, and its total length was 151 yards. The electro-pneumatic and automatic Westinghouse brakes were in operation on all the wheels, acting with a force of approximately 79% of the total weight.

All the coaches were built in 1937, and were of the open saloon type with hand worked sliding doors to the passenger and luggage compartments. The driving compartment of the outgoing train was entered by the end sliding door of the passenger saloon and thence by a central door in the adjacent partition; it had a drop window on each side and the motorman's position (seated) was on the left, with the controller, fitted with a dead man's handle, and the brake valve in front of him. The guard was travelling in the luggage compartment at the extreme rear of the train, from which the brake could be applied by the usual Westinghouse type of cock connected to the train pipe. The coach bodies were strongly constructed of steel with 3/32 inch side panels and 16 gauge roof sheeting, and the body frame members were rivetted to the heavy steel underframes.

2. The left hand front corners of the two leading coaches met at an angle of about 25°, and the underframe of the outgoing coach rode up over the other, with the result that the driving compartment at the front of the incoming train was converted to a mass of crumpled plate work, and the body side was torn out for about 35 feet. The driving compartment of the outgoing leading trailer was also wrecked, but the motorman had a fortunate escape from serious injury; the compartment was not completely crushed on the right hand side to which he had moved just before the collision. The left hand side of this coach was destroyed for a length of about 20 feet and both the underframes were severely damaged at their leading ends; the leading bogie frame of each train was distorted and a laminated bearing spring on each bogie was bent through a right angle without fracture. Four bogies altogether were derailed.

Damage to the remainder of each train was comparatively slight, but the nature and extent of the wreckage of the two heavily constructed leading coaches suggested that their combined speed at the moment

of the impact was about 25 m.p.h. It was estimated that, with a normal start, the outgoing train would have attained a speed of about 12 m.p.h. in the distance of 36 yards to the point of impact. The usual speed of incoming trains at that point is about 15 m.p.h.

Description of Site and Signalling

3. Newcastle Central is a large through station situated on a curve and lying roughly east and west. All northbound traffic leaves from the eastern end, and at the north east of the station there are seven terminal platforms, six of which are used by the Tyneside electric services. As will be seen from the inset on the attached track and signalling diagram, the electric trains serving the area north of the River Tyne, as were the two trains in question, all have to pass in both directions through Manors station, about ½ mile from Newcastle Central. The four tracks from Newcastle to Manors are carried on a viaduct and curve sharply to the left after leaving the platforms. The South Tyne services cross the High Level bridge, by the junction which diverges to the right.

4. The platforms concerned were Nos. 1, 2 and 3, all of which are straight. The outgoing train had been standing in No. 2 platform in the approximate position shown by the diagram, and Nos. 1 and 3 were unoccupied. The outgoing signal from No. 2 platform, No. 226, is an upper quadrant semaphore carried on a short post which is the furthest to the left of several on a long signal bridge ; it leads only one way, to the Down North Main line with points 238 and 236 normal and points 235 and 240 reversed. There is a good view of No. 226 signal from the driving compartment of an eight-coach train standing in No. 2 platform in the position shown ; owing, however, to the metal blackout screens which have been retained on the front driving windows of these trains at the request of the men to shield their eyes from glare and the danger of stone throwing, it is necessary for a motorman to lean forward a little in his seat to see the signal. It can also be seen easily by looking out from the left of the guard's compartment at the back of the train.

Similarly, there is an unobstructed view backward along the platform from the driving cab, but it is sometimes difficult for a motorman to see the guard's starting signal in the gloom under the station roof, and push buttons have been fixed to a roof pillar at the back end of the platform by which the guard can sound a starting bell and illuminate an indicator fixed to a lamp post near the platform ramp (*see* diagram). It will also be seen from the diagram that somewhat similar push buttons are fixed to the next pillar ahead which are used by the station staff to sound a bell and drop a platform indicating shutter in the signal box, and so inform the signalman that a train is ready to start.

5. The incoming train had travelled from Manors, where it had made a booked stop, via the Up North Main Line, which is signalled for working in both directions. It was routed to No. 1 platform with Nos. 241, 242 and 237 points reversed and No. 233 points normal, and the relevant signals were Nos. 256, 254 and 247 ; No. 256 is a lower quadrant and Nos. 254 and 247 are upper quadrant semaphores, and No. 254 has a platform route indicator alongside it to the left. There is an excellent view of all three signals from the driving compartment of an incoming electric train. The back of No. 247 signal can also be seen clearly from the driving compartment of an outgoing train standing in No. 2 platform, but the view of one train from the other was partly obstructed by an engine and two vans which were standing in the siding in the approximate position shown by the diagram.

6. It will be seen from the diagram that there are subsidiary ("calling on") arms below the main arms of signals 226 and 247. In accordance with the practice of the former North Eastern Railway, the subsidiary as well as the main arm is cleared for an unrestricted movement. The subsidiary arms, however, were not concerned in this accident, nor their method of operation from the box.

7. The No. 1 signal box is situated in the position shown and is carried above the lines on a portal structure. It was installed in 1909 and contains a frame of 198 working and 62 spare miniature levers which operate the points and semaphore signals electro-pneumatically ; there are also some colour light signals. During the two day shifts the box is normally worked by four signalmen at the frame, and one signalman at the block instruments and bells ; there is also an inspector to regulate the traffic, and the booking is done by two lads. The points and signals concerned in this case are worked from the eastern end of the frame, from which there is a good view of the ends of Nos. 1, 2 and 3 platforms and of the four tracks towards Manors. Although all four lines to Manors are continuously track circuited, incoming trains are signalled on the block in the ordinary way ; outgoing trains are signalled by bell description only.

8. The mechanical interlocking is such that with the route set from the Up North Main to No. 1 platform with No. 237 points reversed, No. 235 points lever is held normal and so prevents the reversal of No. 226 signal lever ; reversal of No. 247 signal lever also holds No. 235 points normal. It is, however, possible to send a train into No. 3 platform from the Up North Main line without interfering with an outgoing movement from No. 2 platform to the Down North Main.

The track circuits are indicated by an illuminated diagram. There is indication check locking on the point levers, and the signal lever check locks prove that the arm has returned properly to danger before the lever can be restored to the full normal position to release the mechanical interlocking. The check locks on the signal levers are also used to "hold the road" in conjunction with the track circuiting. After No. 226 signal lever has been pulled with track circuit No. 81 occupied, it cannot be replaced to the full normal position, and so free the point levers for an alteration of route, until track circuits Nos. 83 and 79 have been occupied and cleared. Similarly, No. 254 signal lever cannot be restored beyond the normal check lock position after track circuit No. 4 has been occupied until track circuits Nos. 5 and 5A have been occupied and cleared (the incoming train was still occupying Nos. 5 and 5A track circuits after the collision).

Unlike more modern installations, where it is usual for signal lever back locks to be released by a time element relay or switch to enable the signalmen to change the route after a train has stopped at the signal, no back lock releases are provided in Newcastle No. 1 box for use by the signalmen, and if it is desired to re-direct a train after it has been stopped at the signal, the lineman has to be sent for to unlock and open a section of the casing behind the levers and lift the latch of the signal lever back lock by hand. The relevant instructions are given in the Appendix to this Report.

9. The signal arms are moved to the clear position by the admission of compressed air to a cylinder when the controlling valve is opened by an electro-magnet carried on the cylinder casting which is energised when the circuit is completed by the pulling of the signal lever, provided that the necessary detection and track circuit conditions are fulfilled ; de-energisation of the magnet closes the air feed and opens the cylinder to exhaust, when the signal arm goes to danger by gravity. Electro-pneumatic signal mechanisms of this design have been extensively used on the British railways (including the London Transport lines) for many years and have proved very reliable.

The circuit to the signal is broken and the arm replaced to danger by the dropping of a stick relay when any of the controlling track circuits ahead are occupied, and this relay is not picked up again to close its contacts in the operating circuit until the track circuits are clear and the lever is restored to normal. All the controlling relay contacts are in the circuit between the main feed and the contacts operated by the signal lever, so that it would be impossible for the external circuit to be energised by a false feed to the internal signal box wiring if the lever was normal in the frame.

10. The following is a summary of approximate distances with reference to the point of collision :—

Buffer stops of No. 2 Platform, Newcastle	190 yards	West
Guard's compartment of outgoing train before starting	184 „	„
Front of outgoing train before starting	36 „	„
No. 226 starting signal	19 „	„
Point of Collision		
No. 247 signal (incoming)	2 yards	East
No. 254 „ „	133 „	„
No. 256 „ „	223 „	„
West end of Manors station	600 „	„

Evidence

11. Shortly before the accident, the 10.35 a.m. outgoing train was standing in No. 2 platform in accordance with the scheduled working. The incoming train was due to arrive in No. 1 platform at 10.28 a.m., but it was running 7 or 8 minutes late.

Signalman W. D. Blackburn, who has 29 years experience of Newcastle No. 1 box, was working the eastern end of the frame. He stated that the incoming train was accepted from Manors at 10.35 a.m. and that "Train Entering Section" was given at the same time. He then signalled the 10.35 a.m. outgoing train on the bell to Manors as he knew it was due to start, although it had not been "rung out" to him from the platform by means of the bell described in Paragraph 4 above. He said that at that moment he was undecided which of the two conflicting movements he would carry out first, i.e. send the 10.35 a.m. train out of No. 2 platform to the Down North Main line, or let the incoming train into No. 1 platform from the Up North Main. A few seconds later he saw that track circuit No. 3 was occupied by the incoming train, so he set the route for it to No. 1 platform by reversing point levers Nos. 240, 241, 242 and 237 ; he then cleared signals 247, 254 and 256. He said that he could have taken the incoming train into No. 3 platform which was unoccupied, and so avoided its crossing the path of the movement out of No. 2 platform ; he felt, however, that it was wrong to disturb the scheduled platform working which would require the re-direction of passengers, in which he was supported by the District Operating Superintendent.

Blackburn went on to say that the incoming train received a slight check at signal 256, and that just as it was passing signal 254 at clear he saw the outgoing train begin to move out of No. 2 platform with signal No. 226 at danger. He at once put all the signals to danger against the incoming train with their levers against the normal check locks and blew several blasts on his whistle from the open signal box door. He saw the collision take place ; he thought the incoming train was travelling at 10–15 m.p.h., but he could not be sure whether the outgoing train was actually moving at the moment of the impact.

Blackburn was emphatic that he never at any time pulled No. 226 lever for the outgoing train and that he saw the arm at danger as the train began to move out of the platform. He was also quite sure that the bell from the platform did not ring for the 10.35 a.m. train, and that the No. 2 platform indicating shutter did not drop, nor did he hear any sound from the train whistle ; he said that the bell circuit failed occasionally, but that it had been working properly that morning, so far as he could recollect. Blackburn also said that he had never known No. 226 signal move to clear with the lever normal in the frame.

12. Inspector J. R. Richardson was regulating the traffic and was at the eastern end of the box at the time. He stated that about 10.37 a.m. he heard Blackburn give "a very alarming whistle". He realised something was seriously wrong and on looking out saw signals Nos. 226, 227 and 229 at danger. Almost simultaneously he looked at the diagram and saw No. 83 track circuit become occupied ; he was sure No. 226 signal had not been put to danger by occupation of the track circuit, or he would have seen the arm move. He then ran along to the eastern end of the box and saw Blackburn whistling at the door at

the same time as two of the other signalmen were running to the window and shouting. Mr. Richardson thought that the collision took place 5 or 6 seconds later. He did not actually see it, but he was sure that the incoming train had passed signal No. 254 when the outgoing train struck track circuit No. 83. He confirmed that Blackburn had put signals No. 254 and 247 to danger directly he saw a collision was imminent, and he found the levers of these two signals against the normal check locks.

Mr. Richardson had not given any instructions to Blackburn on the order in which he should deal with the two trains as this was a matter of routine; he thought that the latter had acted rightly in keeping to the scheduled platform working. He did not hear the bell ring from the platform, nor any whistles from the outgoing train.

13. The guard of the incoming train saw none of the signals between Manors and Newcastle and could not recollect that the train was checked at any of them before the collision. A retired railway clerk, Mr. G. R. Brown, who was a passenger in this train, was looking through a right hand side window across the inside of the curve and saw signal No. 247 in the "off" position, with the arm pointing upward, as the train approached it. He remembered distinctly that the train was checked, but not stopped, at some point on the viaduct after leaving Manors.

14. The motorman of the outgoing train was R. Kindness, who had been a steam driver and motorman from 1939 to 1945, after which he had worked almost exclusively on the electric trains. He booked on duty at 4.27 a.m. on the morning of the accident, having been off duty since 12.27 p.m. the day before. His first working was the 4.55 a.m. empty train from Gosforth car sheds to Newcastle, after which he worked three circular trips with passenger trains, the last of which returned to Newcastle at 9.20 a.m. His next outward trip was with the 10.35 a.m. train concerned in the accident.

According to his statement, he spent most of the intervening time in the motorman's room at the rear end of the platforms, and he left it at about 10.30 a.m. After visiting the lavatory nearby, he walked on to the platform; he made some remark to the guard as he passed him and then noted that the train sets had been "crossed" and that, contrary to his expectation, the set was not one which he had previously worked that morning. He therefore had to record the coach numbers afresh on his driver's sheet. As he walked along he noted the numbers of the motor units of the twin sets; he recorded 162–133–123, and explained that he did not record 112, the motor unit of the leading twin set, as he could have done this later.

Kindness said that he arrived at the front driving cab at about the booked starting time, i.e. 10.35 a.m., and noted that signal No. 226 was at danger. While he was still on the platform, he heard the guard's starting bell ring, but he did not see the stencil indication, and on looking back he saw the guard walking away from the bell push with the green flag in his hand. He then got into the driving compartment and sounded two short blasts of the whistle and opened the brake isolating cock. He stated that, after that, he dropped the left hand side window, first looked forward and made sure that No. 226 signal was "off" and then backward to see if the guard had got in; he could not see the guard, so he started the train. He noted that the time was just after 10.35 a.m. by the East end station clock, and he thought that about 30 seconds had elapsed between his hearing the starting bell and the actual start.

Immediately after the train began to move, he heard whistling and shouting which gave him the impression that it had hit some obstruction on the barrow crossing at the end of the platform, so he applied the brake at once, and was sure that the train was at a standstill when he caught sight of the incoming train clear of the engine and vans standing in the siding.

15. Owing to his injuries, I was unable to interview the guard, F. W. Plenty, until 1st October, more than six weeks after the accident. Plenty has long experience in working the Tyneside electric services, and stated that he arrived at Newcastle with a train from Tynemouth at 9.17 a.m., had his breakfast in the guard's room and came on to the platform "at about 10.31 a.m." to work out the 10.35 a.m. train; he thought that he was on the platform about one minute before Motorman Kindness, and he saw the latter walking along the platform about two or three minutes before the starting time.

His account of the starting of the train differed materially from that of Kindness, in that he denied having used the starting bell, and stated that he had given the signal to start by waving his green flag in the ordinary way after Kindness had entered the driving compartment. He also stated that he had walked forward about 1½ coach lengths to give Kindness a better view, and that the latter had acknowledged the signal by a wave of his hand through the side window of the driving compartment. According to Plenty's account, No. 226 signal was at danger when he waved the green flag, so he sounded the bell to the signal box to indicate that the train was ready to start; he was sure that he had not mistaken one bell for the other. (The guard's signal to start signifies only that the platform duties are complete, and responsibility is placed by Rule 143 on the driver alone to observe the fixed signal before setting the train in motion—*see* Appendix).

Plenty thought that after he had waved the flag about one minute elapsed before the train started, during which two passengers shouted to him to let them through the closed barrier. He was replying to them that this was not his business, when the train began to move, so he jumped into his van without noticing the aspect of No. 226 signal. The collision occurred almost at once, and he was thrown against the bench which broke several of his ribs. He heard no sound from the train whistle before the start.

16. Station Foreman G. S. Armstrong was on duty on Nos. 1 and 2 platforms. At about 10.35 a.m. he was attending to an enquiry from a passenger, but he said that he saw Guard Plenty press the bell push to the signal box, i.e. the one on the further pillar from the barrier, and then get into his van, just as the train was moving away. He did not think that he could have been mistaken and that Plenty had used the

starting bell on the nearer pillar, but he could not be perfectly sure. He did not hear any train whistle, nor did he notice the aspect of the starting signal.

17. Carriage and Wagon Foreman R. C. Caisley was travelling in the outgoing train. He said that he was short of time and that as he hurried through the barrier, he saw the motorman walking along in front of him. As he got into the second coach from the front, he noticed that the motorman had not yet reached his cab, and on looking back he saw the guard with his flag in his hand, apparently waiting to give the signal to start. The train moved off, he thought slightly late, two or three seconds after he had reached his seat in the centre of the coach; he heard the whistles from the signal box directly afterwards, and he felt no brake application before the collision.

18. Motorman Kindness was interviewed again after Guard Plenty had given his evidence, but he still maintained that the signal to start was given by the bell before he entered the driving compartment and that he never saw Plenty wave his green flag. He also persisted that signal No. 226 was in the clear position when he started the train. On the other hand, he retracted his previous very definite statement that his train was at a standstill when the collision occurred, and admitted that it might still have been moving. He could offer no satisfactory explanation for his arrival on the platform at the last minute after more than an hour with nothing to do.

19. Inspector J. M. Reid, of the Signal and Telecommunications Department, who has long experience of maintaining this installation, stated that he arrived at the box within a few minutes of the accident. He made sure that no maintenance work was being carried out there, and that the casings behind the levers were securely locked; he then checked on the ground that the points were correctly set from the Up North Main line to No. 1 platform, i.e. Nos. 241, 242 and 237 points reversed and No. 233 normal. On returning to the box he found that the levers of these points were in correspondence, and that the levers of signals 247 and 254 were held fast against the normal check locks; he did not notice No. 256 signal lever.

He then turned his attention to Nos. 226 and 229 outgoing signals, and he found their levers fully normal in the frame; he also noted that the stick relay of Nos. 226 and 229 signals was "up", which proved that neither of their levers had been pulled. After that he made a test of the relevant mechanical interlocking and found it correct; he also found the track circuit controls in order when he tested them in the afternoon after the site had been cleared.

Renewal of this signalling installation has been retarded by the late war, and there have been occasional instances in the last few years where semaphore signal arms have moved wrongly to clear, owing to a cross feed between the cables in a run where the insulation had deteriorated (a case in point was a false clear indication by signal No. 84 in July 1949, which led to a minor derailment). A scheme is now under preparation for the complete renewal of the signalling at Newcastle in modern form, and Mr. J. H. Fraser, the Regional Signal and Telecommunications Engineer, gave assurance that in the meantime the cables were regularly tested and renewed as necessary. Immediately after the accident, Inspector Reid made a special examination and test of the cables leading to Nos. 226 and 229 signals; he stated that he found them "in perfect condition" and dry, and that he had obtained infinity readings by an insulation test with a megger. He also said that he had not known of any failures in the electrically operated air valves of the signals.

Inspector Reid's evidence on the position of the levers in the frame after the accident was confirmed by Mr. R. Ord, the Newcastle Area Assistant of the Signal and Telecommunications Department, under whose supervision all the subsequent tests were made.

Conclusion

20. Much of the evidence in this case was conflicting, but the statements of Motorman Kindness and Guard Plenty did not inspire much confidence, and Station Foreman Armstrong was not a good witness. In any event, the way in which Plenty gave the signal to start or whether he sounded the bell to the signal box are not very material, and the main point concerns the signal indications which were displayed to the two trains.

On the other hand, I have no hesitation in accepting the evidence of Inspector Reid of the Signal Department on the position of the points on the ground and of the levers in the frame after the accident, and there is no doubt that Signalman Blackburn had set the road into No. 1 platform for the incoming train and cleared the corresponding signals. Furthermore, the fact that No. 226 signal lever was found in the full normal position, with the stick relay "up", proved that Blackburn had not at any time cleared this signal for the outgoing train. If he had first of all set the road for the outgoing train and cleared No. 226 signal, and then changed his mind to give preference to the incoming train, he could not have put the lever beyond the normal check lock, and would have been prevented by the interlocking from setting the conflicting route for the incoming train, even if there had been time to do so; in addition, the stick relay of No. 226 signal would have been dropped when the outgoing train struck No. 83 track circuit. Blackburn's statement that he actually saw No. 226 signal at danger as the outgoing train was starting was confirmed by Inspector Richardson, and I also accept the evidence of the Signal and Telecommunications staff that the locking and controls were in order, and that there was no fault in the cables leading to Nos. 226 and 229 signals.

21. In all the circumstances, therefore, I am satisfied that no false clear signal indication was given on this occasion, and the only possible conclusion is that Motorman Kindness started the outgoing train against the signal at danger. His own statement that he had not entered the driving cab when the train was due to start was confirmed by the evidence of Carriage and Wagon Foreman Caisley, and I have little doubt that he was in a state of some confusion arising from his failure to arrive on the platform in good time to perform his necessary duties without haste, and that he was led in this way to start the train on the

guard's signal, however it was given, without satisfying himself that the fixed signal was clear. I also think it is unlikely that his brake application was immediate when he heard the whistles from the signal box, and that the train may still have been moving at an appreciable speed, perhaps 8–10 m.p.h., when the collision took place. Kindness is 52 years of age with 36 years railway service, and he has a fairly good record.

22. The late Motorman R. H. Heir of the incoming train was running under clear signals, and he had no opportunity to avoid the collision. Nor can any fault be found with Signalman Blackburn's operation of the traffic ; he was thoroughly alert and it is unfortunate that he did not succeed in his prompt endeavour to save the situation. If Guard Plenty had looked forward from his van as the train started, in accordance with Rule 148 (*see* Appendix), he might have seen the signal at danger and braked in time, but it is possible that his attention was momentarily distracted by the passengers shouting to him to let them through the barrier ; it must also be remembered that if the signal had been "off", it would have been replaced to danger by track circuit No. 83 after the train had travelled 17 yards, or about the length of a coach.

Remarks

23. At terminals such as this, where trains have to run into and out of the platforms on the same lines, it is seldom practicable to arrange the interlocking so that a collision may be prevented by the lie of the points if a signal is passed at danger, and the safety of operation must depend solely on obedience to signals at all times..

The possible psychological effect of the guard's signal to start has not been overlooked, and it has been considered more than once whether provision should be made in the Rules that the guard should satisfy himself that the fixed signal is clear before giving the signal to start. This, however, would imply some division of the driver's fundamental responsibility to observe and obey fixed signals, which is clearly and concisely expressed by Rule 143 in relation to the particular conditions of starting from a platform, and I am in full agreement with the Railway authorities that no change should be made.

Discipline generally in the obedience to signals is very good, but I would mention that it has been necessary to hold Inquiry on seven occasions during the last three years into accidents caused by passenger trains starting from platforms against well displayed signals in clear weather. This is not a good record when it is considered that the observation of signals under these conditions presents no difficulty whatsoever and requires nothing more than ordinary attention to duty.

I have the honour to be,
Sir,
Your obedient Servant,
G. R. S. WILSON,
Lieutenant-Colonel.

The Secretary,
Ministry of Transport.

Appendix

EXTRACT FROM SPECIAL INSTRUCTIONS AT NEWCASTLE No. 1 BOX

When it is necessary for an electric lock to be lifted this must only be done by the lineman on the instructions of the man in charge of the signal box ; and a suitable entry must be made in the Occurrence Book and signed by both men.

If practicable, when it is necessary to alter the order of movements, a driver of a train or engine stopped at a signal which has been replaced to danger must be informed what is being done, and instructed not to move until he receives a definite verbal intimation. After a driver has been so instructed, a conflicting or alternative movement may be made.

If it is not practicable to advise a driver, no conflicting or alternative movement must be made until the man in charge of the signal box has assured himself that it is safe to do so.

EXTRACT FROM RULES

143. When a train is about to leave a station, siding or ticket platform, the signal to start given by the Guard only indicates that the station duty or the collection of tickets is completed ; and, before starting the train, the Driver must satisfy himself by observation that the line is clear, and the necessary fixed signal, where provided, is lowered. When starting, the Fireman must look back to see that the whole of the train is following in a safe and proper manner, and to observe any signal that may be given by the station staff or Guard.

Driver not to leave station, siding or ticket platform without proper signals.

* * * * *

148. (*a*) When passenger trains are approaching important junctions, terminal stations, and stations at which they are booked to stop, the Guards must carefully watch the running of the trains and take any action that may be necessary. They must also keep a good look-out when leaving stations, and, as far as practicable, on other parts of the journey.

Passenger trains approaching important junctions, terminal stations, etc.

(*b*) The Guard of a train must keep a good look-out and should he see any reason to apprehend danger, he must make every effort to attract the attention of the Driver or signalman.

If there is any danger to a train, on an adjoining line, the Guard must, should his train pass a signal box, exhibit to the Signalman a red hand signal waved slowly from side to side, and the Signalman must, on receiving this signal, act in accordance with Block Regulation 17.

Guard of a train to keep a good look-out.

(*c*) When a train is fitted with the continuous brake, the Guard must, in case of emergency, apply it in order to stop the train . . . . . .

Means to be adopted by Guard to attract Driver's attention.

12104 Wt. 4667/— K4 4/52

NORTH EASTERN REGION

COLLISION AT NEWCASTLE CENTRAL STATION. 17th. AUGUST 1951.

TRACK AND SIGNALLING DIAGRAM