



MINISTRY OF TRANSPORT & CIVIL AVIATION

RAILWAY ACCIDENTS

REPORT ON THE COLLISION

which occurred on

15th April 1957

at

PORTSMOUTH

and

SOUTHSEA STATION

in the

SOUTHERN REGION

BRITISH RAILWAYS

LONDON: HER MAJESTY'S STATIONERY OFFICE

1957

THREE SHILLINGS NET

12th September, 1957.

SIR,

I have the honour to report for the information of the Minister of Transport and Civil Aviation, in accordance with the Order dated 17th April 1957, the result of my Inquiry into the collision between a passenger train and a set of empty coaches at about 4.47 p.m. on 15th April 1957, at Portsmouth and Southsea station in the Southern Region, British Railways.

A set of empty coaches was wrongly propelled from the shunting neck towards the station into the path of the 4.45 p.m. steam passenger train from Portsmouth to Salisbury which had left No. 2 platform under clear signals. The trap points on the shunting line were correctly set to protect the outgoing route but the propelling movement was not halted by the derailment of the leading coach before it collided at an acute angle with the side of the passenger train and became wedged between it and the high boundary wall. The front half of the third coach of the passenger train was ripped open and four passengers were seriously injured; three others suffered minor injury and shock. Ambulances arrived within 10 minutes and there was no avoidable delay in removing the injured to hospital.

One of the conductor rails of the outgoing electrified line was short circuited by the derailment and the resultant arc set fire to the protective boarding and to a boarded walkway, but the fire was put out by the railway staff with hand extinguishers before the arrival of the Fire Brigade which reached the scene at the same time as the ambulances. The circuit breakers at the Fratton substation were tripped when the accident occurred but they were re-closed at once in accordance with the rules and remained closed until they were opened by hand about half a minute later at the request of the signaller. Current was restored on certain of the lines at 6.04 p.m. and emergency train arrangements, augmented by bus services, were then put into operation. There was some delay in the clearance of the wreckage owing to the failure of the breakdown crane as it was travelling to the site, but normal working was resumed at 10.50 a.m. on the following morning.

The weather was fine.

DESCRIPTION

The trains

1. The 4.45 p.m. passenger train comprised five corridor coaches behind a 4-wheeled van, weighing in all 175 tons, drawn by a standard Class 4 tender engine with 2-6-0 wheel arrangement weighing 102 tons. The driver's position was on the left. The length of the train over buffers was 401 ft. and the combined brake power of the engine and coaches was 70% of the total weight of 277 tons. All the coaches were built with steel body panels on hardwood framing carried on steel underframes. Buckeye couplings were in use between coaches, but there were screw couplings between the first coach and the van and between it and the engine.

2. The empty stock set consisted of eight bogie vehicles weighing 241 tons which, at the time of the accident, were being propelled towards the station by a 0-4-4 type tank engine weighing 60 tons. The engine was facing the station and the driver's position was on the left. The length of the set and engine over buffers was 525 ft. and the combined brake power was 62% of the total weight of 301 tons. The end vehicle (leading in the propelling direction) was a passenger brake van built with a wood body on a steel underframe with wooden head stocks, the next was of all steel construction, and the others were of similar construction to those of the outgoing passenger train. All the vehicles were screw coupled.

The site

3. With reference to the plan, there are five terminal platforms (Nos. 1 to 5) at Portsmouth and Southsea station, and the Up and Down through lines to Portsmouth Harbour are served by a high level island platform. The running signals are semaphores except on the high level lines where colour light signals have been installed, and the shunt signals are of the disc type.

4. The route followed by the passenger train from No. 2 platform is marked by arrows on the plan and the approximate position of this train and of the set of empty coaches at the moment of impact has been shown. "B" siding, in which the empty stock set had been standing before it was drawn forward over No. 5 siding into No. 4 siding and towards the shunting neck, is between Nos. 2 and 3 platform lines.

5. The shunting neck is in prolongation of No. 4 siding but is offset from the alignment of it towards the Up Main line on account of the high brick boundary wall on the north side. As a consequence of this kink in the alignment of the shunting neck, Nos. 50 and 70 shunt signals, which are provided on Nos. 4 and 5 sidings respectively to control shunting movements towards the station, cannot be seen from the north side of an engine standing in the neck at the head of a set of vehicles, and the shunter cannot be seen from the other side of the engine unless he stands away from the siding and on or near the Up Main line. The trap points on No. 5 siding, on which the leading coaches of the shunting movement became derailed, are immediately ahead of No. 70 shunt signal.

6. The track is of 95 lbs. bull head material on wood sleepers and the main and platform lines are electrified on the third rail system. The gradients out of the terminal platforms are negligible. A footbridge across the tracks on the London side of the signal box obstructs the view from the elevated working platform of the box unless the signaller stoops in order to see under it.

The collision

7. The combined speed of the trains at the moment of the collision was about 20 m.p.h., with the passenger train travelling at 10-15 m.p.h. and the empty stock set at 5-8 m.p.h. The propelling movement continued for about 20 yards after the leading coach became derailed to the right at the trap points before the collision took place, and then for another 10 yards before the set stopped with the leading vehicle wedged between the boundary wall on the right, and the passenger train on the left. The edge of the leading vehicle scraped the second vehicle of the oncoming passenger train and then cut away the side of the third for half its length; four of the seven compartments in this coach were wrecked. The leading edge which caused the damage was crumpled by the first impact, and the damage to the remaining coaches of the passenger train was much less severe. Some windows were broken but there was little internal structural damage.

8. The passenger train stopped about 70 yards beyond the point of impact with the middle of the last coach opposite to the leading end of the empty stock set; the trailing bogie of the last coach but one had been derailed by the side thrust of the wedged vehicle, and one axle of the leading bogie of the last coach also was off the rails. These two coaches were in side to side contact with the wedged vehicle. The remaining wheels of the passenger train were on the rails. Fortunately the derailed vehicles were not foul of the Down line on which the 2.27 p.m. electric passenger train from London stopped alongside the Salisbury train as the current was cut off about half a minute later. This train must have passed the home signal which is nearly $\frac{1}{4}$ mile from the signal box, before the accident occurred.

REPORT

9. The set of empty coaches was being shunted from "B" siding to No. 2 platform line to form the stock of the 5.45 p.m. passenger train to Cardiff, and it was to be placed on that line as soon as possible after the 4.45 p.m. passenger train to Salisbury had left. This daily shunting movement is made by drawing forward through No. 5 siding to No. 4 siding and the shunting neck before setting back to No. 2 platform. It is sometimes begun after the departure of the 4.45 p.m. train but, if the shunting engine is available, the set may be drawn forward beforehand so that it can be placed with less delay thereafter at the platform, thus allowing more time for passengers to join the well patronised Cardiff train.

10. On this occasion Head Shunter L. G. Allen, who conducted the shunting movement, had sent a telephone message to the signal box from "B" siding asking that the shunting engine should be sent from the neck into "B" siding before the departure of the Salisbury train, so that a new crew could take it over, allowing the driver and fireman who were being relieved to catch that train. This was arranged by the two signallers in the box as soon as the previous train which left another platform at 4.41 p.m., had travelled clear; the shunting engine moved promptly on to the set of empty coaches, the change of crew was made without delay, and Head Shunter Allen coupled the engine at once. The signallers saw that the empty set was ready to leave the siding and considered that there was time for it to move to the shunting neck before the Salisbury train was required to start at 4.45 p.m. The shunting signal leading from "B" siding was therefore cleared, and when the coaches had been drawn clear of the running lines the route was set and the signals cleared for the Salisbury train to leave. There was no fault in the interlocking, and the trap points which protect the path followed by the outgoing train had been properly set in the open position and shunt signals Nos. 50 and 70 were at danger before the starting signal was cleared.

11. Driver C. A. Strange of the Salisbury train said that he had been waiting for the signal, which was given a minute or two late, and that he started briskly. His speed was about 10 m.p.h. by the time he reached the footbridge 150 yards ahead, and he was looking for the advanced starting signal, which is beyond the end of the shunting neck, when he noticed that the empty coaches to his left were moving towards his train. He applied the brake, and, as his train was coming to a stand, he saw Head Shunter Allen fall as he was trying to get into one of the coaches of the empty train. Some minutes after the accident Allen said to him "Why did you leave?" and he told him not to talk nonsense. This conversation was confirmed by his fireman though his recollection was that Allen had shouted the words from the ground as they were stopping. Driver Strange did not discuss the accident with Passed Fireman A. Waller who was in charge of the shunting engine, though he spoke to him about the protection of the adjacent line.

12. Head Shunter Allen said that he had told Passed Fireman Waller about the shunting movement before he left "B" siding, though his evidence on what he had said was not at all clear. He said that he travelled on the step of the leading coach of the set and alighted on the signal box side beyond the footbridge; he gave the hand signal to stop by raising both arms in the air, and the coaches came to a stand with the rearmost one between No. 70 and No. 50 signals. He did not make any other hand signal to the driver before he turned and walked under the footbridge to talk to the signalmen about subsequent shunting moves, taking off his heavy plastic gloves as he did so and putting them under his arm. While talking he was standing opposite the box on a board walk in the angle between No. 5 siding and the outgoing line from Nos. 1 to 4 platforms. The signalmen warned him to stand clear for the Salisbury train to pass, and he turned and stepped towards the footbridge; as he did so he saw that the empty coaches were moving towards him and he ran to try to stop them. He could not move fast as he had to avoid a conductor rail, and he stumbled on one occasion as he ran. He could not see the shunting driver owing to the alignment, and he was trying to get into the guard's compartment which was in the third vehicle from the end, when the collision occurred.

13. Allen remembered that he had spoken to Driver Strange a few minutes after the accident but denied that he had asked him why he had started from the platform. He also saw Waller a short time after the accident but did not challenge him as to why he had started the movement towards the station.

14. Passed Fireman A. Waller had worked on shunting duties at this station intermittently for a number of years and was therefore familiar with the work and with the layout of the station yard. He had just begun duty and he was positive that he had not been told anything about the work to be done before the direction "Pull Up" which Allen gave while standing on the engine step beside him in "B" siding immediately after he had joined the engine; he knew, however, that the subsequent propelling movement would be into one of the platform lines across the route taken by outgoing trains. It was apparent that he was in no way concerned about this lack of information which was not unusual; he would in any case carry out each movement as directed at the time by the shunter. He was sure that Allen travelled on the step outside the engine, and he said that as the set proceeded towards the shunting neck after Allen had alighted he had to lean out of the cab to see the hand signal to stop which Allen made a few moments later. As soon as the set had stopped and he had released the brake he looked out again and saw Allen in the same place as he had been when he gave the stop signal. Waller said that Allen then gave the signal to "come back" by swinging his arm upward and towards the station. This is not the Rule Book signal but he said that it was often used, and he was quite satisfied as to its meaning.

15. Waller again turned to his controls to start the propelling movement and when he looked out once more he could not see the shunter, but he then saw the engine of the Salisbury train appear beneath the footbridge and realised that the route could not be set for the shunting movement. He applied the brake promptly but the collision must have occurred almost immediately. He had no inkling that the leading coach had become derailed at the trap points a few seconds earlier. He verified that shunt signal No. 50, which had come into the view of the fireman as he was applying the brake, was at danger.

16. Waller saw Allen after the collision but did not talk to him about the reason for the accident and he said that Allen did not attempt to speak to him. He added that he knew the times of the passenger train movements into and out of the station fairly well, and he had a good idea of the time although he was not carrying a watch. He knew that the Salisbury train was due to leave at 4.45 p.m. but did not think of it when he received the "come back" hand signal. He confirmed that it was not possible to see the fixed shunt signals when beginning the propelling movement from the shunting neck, and he was therefore working solely on hand signals from the shunter in accordance with the habitual practice here for this movement.

17. Passed Cleaner B. Wittcomb, who was the fireman on the shunting engine, confirmed that the only instruction he had heard from Allen was "Pull Up", and that Allen was standing on the engine step on the driver's side during the movement towards the shunting neck. He said that they had propelled the set for about two coach lengths when his driver applied the brake and shouted to him to look for the signal. Waller had not made any comment when he began the propelling movement.

18. The evidence of the two signalmen was to the effect that the shunting movement from "B" siding had been properly signalled and that the shunt signals for the subsequent propelling movement were at danger. Though they were talking to Allen from the box immediately before the accident he had been hidden from their view by the footbridge when Passed Fireman Waller claimed to have been given the "come back" signal. The signalmen said that Allen with whom they had worked for a number of years at this station, spoke normally during their conversation and did not appear surprised or concerned when they warned him to step clear of the outgoing line for the Salisbury train to pass.

19. After the accident the signalmen acted promptly in restoring the signals to danger and in arranging for the traction current to be cut off. They both failed, however, to send the "Obstruction Danger" message to the boxes on either side. They excused themselves for this omission by saying that the site of the accident was fully protected by signals, which was correct, but nevertheless this message should have been sent by them. It is probable that their concern for Allen, whom they thought to have been trapped and killed between the trains, helped to distract their attention from this duty.

20. The short circuit which gave rise to the fire was caused when the derailed wheels of the leading vehicle of the empty set made contact with the conductor rail. The protective boarding for this rail and the boarded walkway between it and the boundary wall caught fire and there was some scorching of the paint work on the leading empty vehicle, but the fire then lost its hold and was put out without difficulty with hand appliances. As already mentioned the circuit breakers at Fratton substation were tripped when the short circuit occurred; since the breakers did not open again after being closed it is probable that the short circuit was only momentary.

CONCLUSION AND REMARKS

21. It is difficult to reconcile the discrepancies between the evidence of Head Shunter Allen and of Passed Fireman Waller. I cannot believe that Waller began to propel the empty stock set towards the station without seeing some arm movement by Allen which he took to be the calling back signal. It is, however, also difficult to believe that Allen momentarily forgot the outgoing Salisbury train and that he intentionally gave a hand signal to Waller to move towards the station.

22. Waller's evidence was clearly given, and I see no reason to doubt his statement that the overhead swing of the arm is commonly used at Portsmouth as a hand signal to move towards the shunter instead of the precise and artificial movement of the forearm towards the chest from a horizontal extended position of the arm with the shunter facing the driver, as laid down in the Rule Book. Allen's evidence was not clear and it differed on certain points from that of the driver and fireman of the passenger train engine as well as from Waller's evidence. I formed the impression that his statements of what happened were not altogether reliable, due in some measure perhaps to the fact that he had been on duty for 10½ hours, as owing to sickness his turn had been extended beyond the normal 8 hours to 12 hours. I am unable also to accept that his hand signals were always strictly in accordance with the Rule Book, as he suggested.

23. Allen may perhaps, at the critical moment, have swung his arm to loosen his shoulders without realising what he was doing, or have made some exaggerated gesture in removing his gloves which misled Waller, though he said that he was out of sight of Waller when he took them off. I can but conclude, therefore, that the accident was due primarily to a misunderstanding between the two men which might not have arisen if hand signals in accordance with the Rule Book had been habitually used at this station.

24. The accident might also have been prevented at the last moment if Allen had moved quickly to a position where Waller could have seen his hand signal to stop. Instead of running towards the empty stock set he might have moved across the electrified lines towards the signal box until he came into Waller's view, but this would have meant stepping across the Up line on which the Salisbury train was leaving, on to the Down line on which the 2.27 p.m. electric passenger train from London was due. Furthermore, if Allen had stepped across the Up line and the shunting engine driver had not seen his signal to stop at once, the outgoing train would have prevented him getting back to the empty set to attempt any other action to stop it.

25. The unnatural character of the proper hand signal to move towards the shunter described above makes it all the more unmistakable, though I understand that it cannot be seen so well at a distance as the overarm swing which is sometimes substituted for it for this reason. It may be appropriate to draw the attention of the staff to the importance of making this and other hand signals strictly as laid down.

26. There would have been no room for the misunderstanding if the driver could have seen the shunting signal before he began to propel. Every such movement past No. 50 shunt signal crosses the outgoing route from platforms 1 to 4, and many of the movements cross the incoming main line as well, and I am sure that the driver would not have begun to propel if he had seen the ground signal at danger. As already mentioned the view of this signal when propelling is very short indeed owing to the track alignment, and there is no doubt that the risk of a collision of this kind would be very much less if a better site could be found for the signal where it could always be seen from the shunting neck, or if this is not possible, a repeater were to be provided.

27. The trap points were too close to the outgoing line to prevent the collision. When they were originally laid it was necessary to have as much siding accommodation as possible in the very restricted yard where the engine turntable is situated, but I understand that with the advent of electrification the reduction in accommodation which would be entailed if the points were moved can be accepted.

28. In spite of the difficult conditions under which the frequent shunting movements are controlled here, I am informed that no accident has occurred on this account for a great many years. In view, however, of the circumstances which were brought to notice on this occasion, it is intended to abolish No. 5 siding and to resite the catch points where they will be effective. The shunting signal is also to be moved to a better position, and a repeater will be added if it is found to be necessary.

I have the honour to be,

Sir,

Your obedient Servant,

The Secretary,
Ministry of Transport and Civil Aviation.

W. P. REED,
Colonel.

COLLISION AT PORTSMOUTH AND SOUTHSEA, 15TH APRIL 1957

