



MINISTRY OF TRANSPORT & CIVIL AVIATION

RAILWAY ACCIDENTS

REPORT ON THE COLLISION

which occurred on

17th November 1954 at

BETLEY ROAD between

STAFFORD and CREWE

in the

LONDON MIDLAND REGION

BRITISH RAILWAYS

Not for publication, broadcast or use

on Club tapes before.....00.30 hrs.....on

Thursday 7th April 1955

LONDON: HER MAJESTY'S STATIONERY OFFICE

1955

SIXPENCE NET

MINISTRY OF TRANSPORT AND CIVIL AVIATION,
Berkeley Square House,
London, W.1.

7th February, 1955.

SIR,

I have the honour to report for the information of the Minister of Transport and Civil Aviation, in accordance with the Order of 23rd November, 1954, the result of my Inquiry into the accident which occurred at about 6.34 a.m. on 17th November, 1954, near Betley Road on the four track main line between Stafford and Crewe in the London Midland Region, British Railways.

A class "D" freight train travelling on the Down Slow line at about 35 m.p.h. ran past a colour light signal at Red at the entrance to a block section and collided with the rear of another freight train. The engine of the class "D" train was overturned and I regret to report that its driver, G. R. K. Speed, was fatally injured. The fireman, and the guard of the leading train also received injuries and were removed to hospital without delay.

The class "D" was the 12.45 a.m. Camden to Carlisle train and it consisted of 25 wagons and a brake van hauled by a 4-6-0 type class 6 P locomotive with left hand drive. The nine leading wagons were fitted with the vacuum brake which was connected to the engine. The brake power available was 41% of the total weight of the engine and train which was 390 tons. The engine sustained considerable superficial damage and the leading wagon was derailed and smashed.

The other freight train was the 3.0 a.m. class "E" from Nuneaton to Crewe and it consisted of 58 wagons and a brake van hauled by two engines. It had been stopped at the Betley Road home signal and had just started to move as the collision occurred. The brake van and three wagons were derailed; the wagon next to the brake van was demolished and the other three vehicles were heavily damaged.

Both the Slow lines and the Down Fast line were blocked. Steam cranes were summoned from Crewe and Rugby and the lines were re-opened for traffic the same evening, after the engine and derailed wagons had been removed and the necessary repairs carried out to the track.

It was cold and dark, and there was a thick fog.

DESCRIPTION

The lines between Stafford and Crewe run approximately North West and South East and they are, in order from East to West, the Up Fast, Down Fast, Up Slow and Down Slow. In the Down direction the signal boxes are—

	<i>Approx. Distance between boxes</i>
Whitmore signal box	2½ miles
Madeley signal box	2 miles
Wrinehill signal box	1 mile
Betley Road signal box	3 miles
Basford Hall Junction signal box	1½ miles
Crewe Station	

Just beyond Whitmore there are water troughs and from there the Down lines fall continuously on gradients of 1 in 177 to 1 in 348 to Crewe. From Madeley the lines are on long easy curves to within ½ mile of Wrinehill signal box, and up to that point they are in cutting, part of which is deep. From Whitmore onwards there are a number of prominent physical features on the line such as road overbridges, two of which are about 200 yards and 700 yards on the approach side of the Wrinehill distant signal; also, near Madeley there is a line side reservoir and about half way between that box and Wrinehill there is a pumping station close to the Down Slow line.

Whitmore and Madeley boxes are equipped with colour light distant and semaphore stop signals on the Down Fast and Slow lines. Wrinehill box, however, has colour light distant and home signals on both the Down lines, 1,650 yards apart. They are situated on gantries and are on the left hand side of the line to which they apply, 13' 8" and 14' 6" respectively above rail level. The home signals are the section signals and are 30 yards beyond the box; they have three aspects as they also act as the Betley Road distant and are

1,760 yards from the home signals for that box. On a clear day, the Wrinehill Down Slow distant comes into view just after passing through the bridge 700 yards from it.

The Down Slow line between Madeley and Betley Road is worked on the absolute block system. From the latter box to Basford Hall Junction permissive working is in force for freight trains.

There are 200 yard long berth track circuits on the approach side of the Wrinehill and Betley Road Down Slow home signals and these two boxes are equipped with the standard Class "C" controls. Briefly, these ensure that "Line Clear" cannot be given by the signalman at Wrinehill for a Down train unless the home signal is at Red and the distant at Yellow, and that the home signal cannot be cleared for a train to proceed to Betley Road until "Line Clear" has been received from that box. The occupation of the berth track circuits at Wrinehill and Betley Road controls the block instruments at "Train on Line" and also operates an annunciator in the box concerned when the home signal lever is normal; in addition, at Wrinehill, it restores the distant signal to Yellow.

At Wrinehill there are detonator placers operated from the box on the two Fast and Up Slow lines, but not on the Down Slow line which is adjacent to the box.

The following are relevant approximate distances with reference to the site of the collision:-

Camden	152 miles South
Stafford	19 " "
Whitmore signal box	5 " "
Whitmore water troughs	4½ " "
Madeley signal box	2¾ " "
Wrinehill Down Slow distant signal	1 mile 1,188 yards South
Wrinehill signal box	1,328 yards South
Wrinehill Down Slow home signal (also Betley Road distant)	1,298 " "
Site of collision	- - -
Betley Road Down Slow home signal	462 yards North
Betley Road signal box	600 " "
Crewe	5 miles "

REPORT

The 3.0 a.m. Class "E" train from Nuneaton was stopped at the Wrinehill Down Slow home signal for about three minutes. When the signalman at Wrinehill was given "Line Clear" for it he pulled the home signal lever and the light changed to Yellow. The train proceeded but it was again stopped at the Betley Road home signal. That signal was then lowered and the train had just started to move forward when the collision occurred. The driver of the train engine estimated the view of colour light signals was about 20 yards in the fog.

The 12.45 a.m. class "D" train left Camden 15 minutes late and passed through Stafford at 6.01 a.m., 95 minutes late, as a result of numerous signal checks. It was on the Down Slow line and according to the signal box timings it ran through Whitmore at 6.24 a.m., Madeley at 6.29 a.m. and Wrinehill at 6.32 a.m.

Signalman C. McCormick was on duty in the box at Wrinehill and on account of the fog lengthman J. J. Allman was on tail lamp duty. Allman was also "fog signalling" the Betley Road Down Slow distant signal (Wrinehill home) although the Rules do not require detonators to be used at colour light signals. McCormick was using the detonator placers to "fog" the other lines.

McCormick gave Line Clear for the Class "D" train at 6.27 a.m. as soon as the Nuneaton train had passed about ¼ mile beyond the home signal and the latter had been put back to Red; he received "Train entering Section" at 6.30 a.m. He told Allman about the train but the latter had been on the further side of the lines in connection with an Up Fast line train which passed at 6.29 a.m. and did not have time to place a detonator on the Down Slow. McCormick said that the Class "D" train arrived in a very short time and passed his box at express speed, he thought about 50 m.p.h., immediately after the annunciator sounded. He sent "Train running away on Right Line" to Betley Road at 6.32 a.m. followed by "Train out of Section" to Madeley. He did not see the enginemen and did not think the train brakes were being applied. The fog prevented him seeing the Down Slow home signal clearly but from the glow of the light he knew that it was at Red. He said also that after replacing the home signal to normal behind the Nuneaton train he saw from the repeater that it had gone to Red. McCormick said that he had not cleared the Down Slow distant at all after he came on duty at 6.10 a.m. He had noticed then from the repeater that it was showing

Yellow but he did not look at it again. The last train on the Down Fast line passed the box at 5.45 a.m. and McCormick had seen that the signals on that line were at Red.

Allman said that he was at the bottom of the signal box steps when the Class "D" train passed. He thought it was travelling as fast as an express, about 60 m.p.h., and said it was not being braked. He saw the home signal at Red as the train passed it.

Fireman F. A. Lawrence, aged 27, joined the railway service in June, 1948 and became a fireman within three months. He had worked for about ten weeks with Driver Speed who was in charge of the Class "D" train engine. He had travelled frequently on the Euston to Crewe main line and knew most of the signals. He came on duty at 10.45 p.m. on 16th November.

Lawrence said that the engine was running well and he had no difficulty in maintaining full steam pressure. The train ran into thick fog at Rugby and from Stafford onwards it was really dense. He could not estimate the visibility but said "We were almost on top of the distants before we saw them". There was little if any wind and the smoke was not beating down on either side of the engine. At Stafford the train was put on to the Slow line on which except for two slight signal checks it had a clear run until the collision occurred. Lawrence saw the Whitmore signals were Clear. On account of the fog he nearly missed the water troughs and only got the scoop down in time to pick up a little water. After that he started to clean up the footplate in preparation to leaving the engine at Crewe and he did not see the Madeley or Wrinehill signals.

Lawrence stated that after passing Whitmore water troughs Driver Speed closed the regulator and applied the brake gently on the long descent to Crewe. He said they were "going at a good speed but I don't think we were going the speed we normally come down the bank". After cleaning the footplate Lawrence looked up and saw through the fog the rear lights of a brake van immediately ahead of the engine. He thought the driver must have seen them at the same time because he put the brakes full on. The collision occurred almost simultaneously.

Lawrence said that Driver Speed stood when he drove the engine and looked forward through the windshield. He was a quiet man and spoke very little on the footplate; almost all he had said during the run was that he was very cold and he had once mentioned he was tired. The last occasion on which they spoke was in connection with taking water at the Whitmore troughs. He never spoke about his private affairs. They had had breakfast of sandwiches and tea at Rugby and nothing thereafter. Lawrence said that Speed was a fit looking man and that he was surprised to learn that he was 60 years of age; he appeared to be in his usual state of health that morning.

After the accident Lawrence who was injured and badly shaken ran back to the brake van. He gave his evidence in a commendably straightforward way.

Goods Guard T. Gaffney who was in charge of the Camden train, generally confirmed Lawrence's description of the weather and the running of the train, and thought that from Stafford onwards it was maintaining its scheduled point to point timings. He did not see the Whitmore or Madeley signals but saw the Wrinehill distant at Yellow and home signal at Red as his van passed them and he remarked on this to two men travelling with him. He said that he had applied the van brake gently after passing Whitmore but he did not think of putting it hard on until it was too late. He said also that he did not think that it would assist. It did not appear to him that the speed of the train slackened before the collision and he thought that the couplings between the wagons remained tight. He saw and spoke to Driver Speed at Rugby and said he appeared quite normal.

Goods Guard P. J. Lucas and Foreman E. Spann were also travelling in the brake van of the Camden train, having joined it at Stafford. They said that Gaffney remarked on the Wrinehill signals and they both saw the distant at Yellow and the home at Red. Lucas realised that the driver had passed the latter at Danger but Spann thought it had gone back to Red automatically. According to both of them, the brakes were being applied by the driver after passing Wrinehill signal box and Spann thought the train was being brought under control to make a normal stop at Betley Road; he remembered that the wagons started to "buffer up." Spann estimated that visibility was about 15 yards and that the train was travelling at about 35 m.p.h. when passing Wrinehill.

Evidence was given that the signalling equipment and the electrical controls were tested after the accident and found in good working order.

CONCLUSIONS AND REMARKS

I have no doubt whatever that this accident was the result of the Class "D" Camden train running past the Wrinchill home signal at Red after it had passed the distant at Yellow.

The scheduled timing for the train on the 24 mile run between Stafford and Crewe is 39 minutes, and the average booked speed is therefore 37 m.p.h. Between Stafford and the site of the accident, a distance of 19 miles, the train took 33 minutes and its average speed was therefore about 35 m.p.h. Signal box timings are unreliable for calculating speed between adjacent boxes and according to them the train was travelling at 32 m.p.h. between Whitmore and Wrinchill. Taking all the evidence into account and having regard to the comparatively small amount of damage to rolling stock, I think that the train was travelling at about 35 m.p.h. when the collision occurred.

The Wrinchill Down Slow home and distant signals are well sited colour lights but at the time the visibility was such that they could be seen from a distance of not more than about 20 yards. The driver of a train travelling at 35 m.p.h. would therefore have them in view for only a fraction over one second.

I do not think that Driver Speed could have lost his bearings for he knew the line well and as mentioned earlier there are many physical features to help him. Also, he could not have mistaken the signals on the Down Fast line as applying to his train because they had not been cleared.

Driving in fog can be tiring but the fog had only become dense at Stafford and although Speed had mentioned to his fireman that he was tired I do not think that he should have been unduly strained; he had come on duty at 10.45 p.m. the previous evening after nearly 23 hours rest. He was standing up on the footplate as he was driving the engine which indicates that he had been alert. While it is not possible to account for his serious lapse I can only assume that he must have allowed his attention to be diverted at the critical time when he was approaching the signals or allowed his eyes to close momentarily.

Speed was a widower with a grown up family and there is no evidence that he had any personal worries. He was in good health and his eyes had recently been tested. He had a good record.

I am sure that Guard Gaffney realised that the driver had passed the distant signal at Caution without reducing speed and the home signal at Danger, and I find it difficult to account for his failure to apply the van brake sharply. If he had done so he might have attracted the attention of the driver or the fireman to the dangerous situation.

Accidents of this nature should be prevented by Automatic Train Control of the warning type. As is known, apparatus of improved design is under trial on the Down Main line of the East Coast route between New Barnet and Huntingdon. The trials are soon to be extended to both the Up and Down Main lines between King's Cross and Grantham.

I have the honour to be,

Sir,

Your obedient Servant,

D. McMULLEN,
Colonel.