

LONDON MIDLAND AND SCOTTISH RAILWAY.

Ministry of Transport,
4, Whitehall Gardens,
London, S.W.1.
19th June, 1933.

SIR,

I have the honour to report, for the information of the Minister of Transport, in accordance with the Order of 4th May, 1933, the result of my Inquiry into the collision which occurred at about 5.27 p.m. on 2nd May near Sandhills No. 1 box on the Liverpool-Ormskirk line of the London Midland and Scottish Railway.

The 5.20 p.m. passenger train, Liverpool (Exchange) to Kirkby, running on the up fast line, stopped in the usual way at the up fast platform of Sandhills Station. On completion of station duties the guard gave the right away signal, and the driver started his train against the up fast inner home signal which was at danger. The train engine collided with a light engine which was running tender first over the crossover from the down slow to the down fast line.

As a result of the collision 41 passengers complained of shock or minor injuries, but none were detained in hospital.

The passenger train was drawn by 2-4-2 type tank engine No. 10695, running chimney first, and weighing in working order about 56 tons. The engine was fitted with the automatic vacuum brake on the coupled wheels only, and had left-hand drive. The train consisted of three 8-wheel bogie coaches, fitted with the automatic vacuum brake on all wheels. The total weight of the train including the engine was about 135 tons, and its overall length about 210 ft.

The light engine was No. 12859, an 0-8-0 type goods engine with 8-wheeled tender, weighing in working order about 108 tons, and about 59 ft. long over all.

As a result of the collision the front buffers of the tank engine were damaged and the front buffer beam was bent. The main framing was also bent at the left front end, and minor damage was done to the brake pipe and other fittings at the front of the engine.

The trailing bogie of the leading coach was displaced under the main frame to the extent of about 5 ins. and its steel headstocks were bent. The middle coach had a bogie centre casting broken, headstocks bent, and buffers damaged. The rear coach had a bent headstock and damage to buffers. There was also a certain amount of glass broken in the two leading coaches.

Engine No. 12859 had the intermediate buffer plate and footplate framing bent; the intermediate drawbar was also bent. Its tender was derailed, and the tender framing was badly bent, particularly at the left hand rear corner, where the heavy main frame plate of the tender was bent almost into S shape immediately behind the broken buffer. There was also considerable damage to axle boxes, buffers, and to the right trailing hornplate; vacuum brake fittings, water pick-up gear; other smaller parts were bent or broken.

The damage to permanent way was trifling.

The weather was fine and dry.

Description.

At the site of the accident the Company's (former L. & Y.) line from Liverpool Exchange to Southport and Kirkdale runs nearly due north, this being the up direction. The four tracks are arranged as follows from West to East: up slow, down slow, up fast, down fast. The line through Sandhills Station is on a curve of about 48 chains radius, right-handed for an up train, and the gradient is about 1 in 210 rising in the up direction.

Sandhills No. 1 signal box, almost opposite which the collision occurred, is situated near mile post 35 (from Manchester) on the east side of the line. Just south of it is Sandhills Station, which has a central (island) platform between the down slow and up fast lines, and two more platforms outside the up slow and down fast lines respectively.

The island platform has a roof over its middle portion, with a partition running down the centre of the platform.

There is a double crossover junction connecting the fast and slow lines immediately north of the platforms, with facing points in the down slow line. The site of the collision is at the diamond where the down slow to down fast crossover intersects the up fast line. Both ends of the down slow to down fast crossover are worked by lever No. 44 in Sandhills No. 1 box, and the locking bar in the down slow by No. 45. The two ends of the up fast to up slow crossover are worked by lever No. 41 in the same box; the facing points are also fitted with a bar worked by a separate lever.

The signals concerned are (a) Sandhills No. 1 box up fast outer home (No. 2), situated immediately south of the island platform on the left of the up fast line; there is a slotted distant arm for No. 2 box below it on the same post.

(b) Sandhills No. 1 box up inner homes situated at the north end of the island platform. This is a bracketed signal with three dolls, the signal on the left hand of which leads through the crossover from up fast to up slow; the one on the centre doll (No. 3) leads along the up fast and has a distant for Sandhills No. 2 box below and slotted by it; the third doll (on the right) carries a splitting distant signal for the junction ahead of No. 2 box.

(c) a gantry immediately north of Sandhills No. 1 box on which the arm on the outer doll on the east side (lever No. 72) controls movements through the crossover from the down slow to the down fast; the signals on the remainder of the seven dolls on this gantry are irrelevant to this Inquiry. The locking prevents lever No. 72 being drawn until the crossover road has been set, and until a preceding train on the down fast line has cleared the bars at the starting signal near the south end of the platform.

(d) the up fast home signals of Sandhills No. 2 box, bracketed out from a post on the east side of the down fast line immediately south of Sandhills No. 2 box. These dolls carry the distants for the next box ahead below the home signals, with which they are slotted in the usual way.

The locking is so arranged that when No. 41 point lever is normal, the reversal of No. 44 point lever locks the up outer home signal, No. 2. The locking also ensures that the up inner home signal (No. 3) is held at danger by the drawing of No. 44 point lever. It follows therefore that the crossover from down slow to down fast could not have been set unless both these signals were at danger. The points of the two crossover junctions can be worked independently in accordance with the common practice in such cases, i.e., lever No. 44 does not require lever No. 41 to precede it.

The approximate distances from the centre of Sandhills No. 1 box are as follows:—

Up fast outer home signal (No. 2)	...	...	...	299 yards South.
North end of roof of island platform	...	...	...	132 " "
Site of collision	...	...	...	48 " "
Crossover facing points in down slow line	...	...	...	15 " North.
Signal gantry carrying No. 72 signal	...	...	...	18 " "
Up fast home signal for No. 2 box	...	...	...	195 " "
Sandhills No. 2 box	...	...	...	224 " "

Report and evidence.

Driver J. Coligan, who was in charge of the passenger train, said that he ran into Sandhills Station under clear signals and stopped as usual at the platform. The distant arm under the up fast outer home signal was then at caution. He estimated that his engine stopped three to four bogie lengths (say 50 to 60 yards) short of the up fast inner home signal. As the view back along the train is obstructed by the curvature, his fireman, J. E. Pilling, got down on to the platform in accordance with their regular procedure, and repeated the guard's right-away signal to him. Coligan said that he then opened the regulator and started the train. He admitted that before doing so he did not look at the inner home signal. He said that he saw this signal at danger just before he reached it, and immediately made a full application of the brake, but was unable to stop before colliding with the light engine.

The driver's view of the up inner home signal is quite clear, from the position where Coligan stopped and all the way up to it.

Coligan attributed his failure to momentary forgetfulness, and to the fact that he could see that the home and distant signals for Sandhills, Nos. 2 and 3 boxes, were already off for his train.

Coligan's evidence was confirmed by his fireman who said that the collision occurred at walking speed, and that he could quite easily have jumped off the engine.

The guard of the train, W. Gibbons, said that he got into his van at the extreme rear end of the train after giving the right-away signal. He could not see the up inner home signal when he did so, owing to the curvature and the platform roof.

Porter W. J. Read said that he saw the train start against the up inner home signal at danger, and that he shouted to try and attract Gibbons' attention but without success.

The driver of the light engine, J. Ormerod, said that he was travelling tender first from Aintree to Liverpool, and was brought to a stand at the down slow home signal of Sandhills No. 1 box, which was at danger. After he had stood there for about 2 minutes he stated that the signalman called from the cabin to the effect that "You are travelling from slow to fast, pass the signal at danger, and stand beyond the points"; the relevant signal was not lowered. Ormerod said that he therefore proceeded over the crossover, but when he saw the passenger train coming he tried to get back. He saw the passenger train standing at the platform and that the up inner home signal was against it. Ormerod also noticed that the up fast home signal for No. 2 box and the distant for No. 3 were off for the passenger train at the time. He said that the impact was fairly severe. Ormerod's evidence was confirmed by his fireman, F. Moore.

There were two signalmen on duty at the time in Sandhills No. 1 box, H. Griffiths being the man at the Southport end. Griffiths said that after the Kirkby train had been accepted he and his mate agreed to cross the light engine over on to the down fast line, as soon as the train had arrived. He explained that, as there was still a down electric train holding the clearance bars at the down fast starter, he could not lower the signal (No. 72) for the crossing movement, and he therefore gave the driver of the light engine verbal orders to cross over. His reason for making the movement in this unusual manner was to avoid delay to another passenger train, which was following the light engine on the up slow line. Griffiths said that the up fast inner home signal was not lowered for the Kirkby train.

The signalman at the Liverpool end of the frame, J. Kneill, confirmed Griffiths' evidence. He said that the up fast outer home signal was only lowered as the Kirkby train approached it, and the up inner home signal was not lowered for this train. Kneill saw the driver of the Kirkby train start against the inner home signal, but as he had the signals off for the 5.20 p.m. Liverpool-Aintree passenger train on the up slow line, he was unable to divert the Kirkby train by pulling over the facing points (No. 41) in the up fast line to save the collision. Kneill said that the Kirkby train had been accepted by Sandhills No. 2 box before it arrived at the station, and that he saw that the signals of that box had been lowered for it.

Conclusion and Remarks.

This collision was entirely due, as he himself frankly stated in his evidence, to the failure of driver Coligan to observe and obey the up fast inner home signal of Sandhills No. 1 box, which had not been lowered for his train. I examined the view of this signal from a similar engine travelling along the up fast line for the whole length of the platform at which Coligan stopped, and found that it is quite clear. I have no doubt from the evidence that he was at the same time able to see that the signals of the next two boxes ahead had already been lowered for his train. He is a man of 33 years' service with 14 years' driving experience and a good knowledge of this road.

No blame can be attached to driver Ormerod of the light engine, who moved under the verbal orders of signalman Kneill.

Sandhills is a very busy junction, where trains pass about every minute during the rush hours when this accident occurred, and it is easy to understand the difficulty which signalman Kneill had, in such circumstances, in arranging a crossing movement like the one in question. But it would seem all the more desirable to ensure that these movements are only made under the control of the signal provided for the purpose, and not by verbal order. Having regard to the control provided by the locking already described, I think that, if the signal (No. 72) controlling the crossing movement had been used, it is possible that the passenger train, starting against signals, might have cleared the point of collision, before the light engine reached it. I therefore think that the Company might be asked to consider the desirability of some amendment to the instructions *in force* at this box in this respect.

The junction crossover locking is in accordance with normal practice, and I therefore make no recommendation regarding it.

The collision is one which would possibly have been prevented by any system of Automatic Train control, which gives a brake application on passing a stop signal at danger.

I have the honour to be,

Sir,

Your obedient Servant.

E. P. ANDERSON.

Lieutenant-Colonel.

The Secretary.

Ministry of Transport.