LONDON MIDLAND AND SCOTTISH RAILWAY.

Ministry of Transport,

26th August, 1924.

Sir,

I have the honour to report, for the information of the Minister of Transport, in accordance with the Order of the 31st July, the result of my Inquiry into the circumstances of a collision which occurred at 7.15 p.m. on July 25th, at Lime Street, Liverpool, on the London Midland and Scottish Railway.

The collision was between the 2.40 p.m. excursion train from Euston to Liverpool and a light engine standing near the east end of No. 7 platform road at this terminal station.

As a result, 18 passengers in the excursion train were injured or suffered from shock, none of the injuries fortunately being of a serious nature.

The damage to the stock was comparatively slight, and was confined to the second, fifth, sixth, and seventh coaches of the excursion train.

Both leading buffers of the light engine were broken and the main frames of the excursion train engine were badly bent.

The excursion train consisted of 11 bogie coaches drawn by engine No. 2616, 2-6-0 type, with 6-wheeled tender. The train was fitted with the vacuum brake operating blocks on all wheels of the coaching stock, the percentage of brake power on the train being 81, with 20 inches of vacuum. The engine was fitted with vacuum controlled steam brake operating blocks on the coupled engine and tender wheels. The weight of the engine in working order was 100 tons and that of the train 308 tons. The light engine, which was standing on the platform road, was No. 502, 4-4-0 type, with 6-wheeled tender, weighing in working order 99 tons.

The weather at the time was clear.

Description.

No. 7 road is immediately north of No. 7 and 8 island platform, and runs in an easterly direction from the terminal buffer stops. The platform itself lies on a curve northward which reverses near the east end, the alignment thereafter as far as the incoming down home signals being on an easy curve southward. The signal box is immediately north of this running line outside the east end of the station. There are a number of connections and crossings in the neighbourhood of this signal box, none of which, however, is directly concerned with this case.

Measured from the centre of the signal box, which is 85 feet long, the approximate distances to the various points concerned are as follows:

- Point of collision ...... 108 yards west.
- Foot of No. 7 platform ramp ...... 83 yards west.
- No. 7 platform starting signal ...... 58 yards west.
- Down home signals, carried on a bridge over the running lines with platform indicators ...... 172 yards east.

Report.

Prior to the arrival of the excursion train involved in this collision No. 7 platform road had been occupied by the 2.35 p.m. regular passenger train from Euston, which arrived, about ten minutes late, at 6.46 p.m. This train was drawn by two engines, and after the passengers had detrained and the leading engine had been uncoupled, the empty coaches were worked to Edge Hill sidings with the train engine assisting in rear. The pilot engine then followed up behind the train and came to a stand at a point some yards west of the end of the platform. This engine did not draw up to the platform starting signal, as would have been the usual course, owing to the fact that the driver had been stopped by the platform inspector, who took this action for the protection of a number of men engaged in moving mail bags, which, owing to the length of the train, had been unloaded from the 2.35 train on the timbering outside the east end of the platform. The engine was standing in the position described when the collision with the incoming excursion train took place.

The direct cause of the accident was the fact that the presence of the light engine on No. 7 road was not realised by the staff responsible for the movements when the incoming excursion was admitted into the platform.

Under the Company's special instructions for the working of this station, issued in the Appendix to the Regulations, the duty of superintending the movements of light engines within station limits is placed upon an inspector in charge of the working near the mouth of the tunnel east of the signal box. The instruction in question reads as follows:—

1. The Inspector or Foreman in charge at the Tunnel Mouth is responsible for seeing that proper instructions are given to all Engine Drivers working into Lime Street as to their movements whilst at the Station, and acquainting the Signalman of such movements.

The following further clauses of the same instructions are relevant to this case:

2. Engine Drivers working Trains into Lime Street must have their Engines detached as soon as they come to a stand, unless otherwise instructed. Engine Drivers must, when the Train they have worked in leaves, or is taken out, follow it at a safe distance to the Platform Starting Signal, but must not pass that Signal until it has been placed at Danger and taken off again. They will then proceed as far as the Signal Box, where they will be instructed by the Inspector or Foreman as to their future movements.

5. In cases where Drivers are required either to back their Trains out or to "bank" a Train to Edge Hill or Wavertree, they must be so instructed.

6. In no case must a Train be "banked" to Edge Hill or Wavertree by more than one Engine.

9. In cases where a Train is worked into Lime Street with two Engines, such Engines must remain coupled together until cleared out of the Platform Lines, unless the Drivers are otherwise instructed.

15. Banking Empty Coach Trains to Edge Hill.—Engines are allowed to bank Empty Carriage Trains from Lime Street to Wavertree Junction, or Edge Hill No. 5 Box, as the case may be, when necessary.

2. The duties of acting inspector in charge of the movements were on the evening in question in the hands of foreman W. E. Davies, who was at the time of the arrival of the 2.35 p.m. train from Euston on the ground near the east side of the box. Davies did not, however, see the train arrive, and was therefore not aware that it had two engines; a somewhat exceptional feature in the case of this train. In accordance with the regular practice, it was routed into No. 7 platform by the signalman without any specific instructions to this effect from the acting inspector. On its arrival, Davies gave no orders—not to his knowledge did anyone else—to the enginemen as to their future movements, as it is "understood by all concerned" that this train is banked to Edge Hill by the engine which brings it in. The engine detailed to work the train out was backed on at about 7 p.m. and ten minutes later Davies gave the signalman instructions for the despatch of the empty coaches, which he saw leave the station assisted by the banking engine. As soon as the train had gone Davies instructed the signalman to move an engine and van out of G siding (which forms a short bay in the east end of No. 7 and 8 island platform) into No. 6 road, which is north of island platform No. 6. Meantime, the 2.40 excursion train from Euston had come to a stand on the fast line at the down home signal, and Davies told the signalman to hold it there till he had decided whether to put it into No. 7 or No. 10 road. After seeing the length of the train he decided to use the former platform, and gave the necessary instruction to the signalman. Davies did not ascertain that the road was clear before giving this order, and not having been told or observed himself that the preceding train had been drawn by two engines, it did not occur to him after seeing the empty coaches leave with the bank engine in rear that the line could still be occupied.

Signalman F. F. Veacock, on duty at Lime Street box, said that the 2.35 train arrived at No. 7 platform at 6.46 p.m. He only observed the rear part of this train
as it passed his box, and was unaware that it was being drawn by two engines. The movement of the empty carriages out of the station with a bank engine in rear was made at 7.13 p.m., and as soon as it was clear he made the shunt movement referred to by foreman Davies. Meantime the excursion train had come to a stand at his home signal, and on Davies' instructions he signalled it into No. 7 road. Veacock said that before doing so he looked out of the window at the east end and on the south side of his box to observe No. 7 road, but saw nothing there. He added that if the engine had then been standing at the point where the collision subsequently took place he could not have failed to see it. He expected in fact, as Davies did, that the road was clear, having seen the empty train leave with a banking engine in rear and not being aware that it had run in double-headed.

The evidence of the drivers of the two engines of the 2.35 p.m. train shows that they did not receive any instructions on their arrival in regard to their future movements. Charles Smith, the driver of the train engine, is one of eight men whose regular work includes the driving of this train from Crewe to Lime Street. He said that he did not uncouple his engine from the train as he was well aware that it was required as a banker to Edge Hill, in accordance with the invariable practice in the case of this train. It appears from his evidence to have been a well understood thing with the drivers in his line that the incoming engine is to be used to bank the empties to Edge Hill, the order to do so being therefore assumed.

Driver Price of the pilot engine said that on the arrival of the train he uncoupled his engine, knowing that the train engine was to be used for banking, and that, in accordance with Clause 6 of the instructions, only one engine was allowed for this purpose. No order was given to him in the matter. When the train left Price started "about 40 yards behind," and was stopped, as already mentioned, some little way short of the end of the platform by platform inspector Jump, who was in charge of the men moving the mail bags from the timbering south of No. 7 road on to the platform. Price said that when he came to a stand the 2.35 train was out of sight. A short time afterwards Price saw the excursion approaching, but had no time, after realising that it was on his road, to reverse the engine before the collision occurred.

Driver Freeman of the excursion train said that after standing a few minutes at the down home signal it was lowered for him to proceed to No. 7 platform, and he did not realise that the light engine was standing on this line until he was within about 30 yards. He made an immediate and full application of the vacuum brake but was unable to stop short, and the collision occurred at an estimated speed of three to four miles an hour.

**Conclusion.**

The primary cause of the accident was the fact that neither of the men immediately concerned, that is foreman Davies and signalman Veacock, knew that the 2.35 train was double-headed, and therefore had no suspicion that after its departure No. 7 road could still be occupied.

There were several occasions on which the presence of the second engine might have been discovered. In the first instance both Davies and Veacock had the opportunity of seeing the two engines as the train ran in. Veacock's reason for not having done so was that after pulling the signal he was engaged in shunting operation on the other side of the yard, and by the time he realised the train was passing, the front portion had gone out of his sight. Davies was also occupied with other matters at the time and did not see the train at all, though he admitted he could have done so if he thought it important. Davies missed two further opportunities of finding out that he had two engines to deal with, firstly, by not taking or sending orders in regard to banking to the engine men of the incoming train, and secondly, by failing to assure himself that the line was clear before he gave the signalman instructions to admit the excursion train. Lastly, had the drivers of the 2.35 train, in default of a definite order to the contrary, acted in accordance with the first sentence of Clause 2 and with Clause 9 of the instructions, both engines would have been uncoupled, with the result that when the train left the absence of a banking engine would no doubt have been observed and the accident avoided.

It must be admitted that the drivers' action on this occasion was not strictly in accordance with the printed instructions, with which they were well acquainted. At the same time, if definite orders had been given to them they would certainly have required them to act as they did. Moreover, the evidence not only of the drivers
but also of foreman Davies and platform inspector Jump definitely suggests that
it is and has been for some time an understood thing that the engine of this and one
other regular express train from Euston always banks the empty train out of Lime
Street without specific instructions being given to this effect on each occasion. It
would not, therefore, I think be fair that the drivers should be criticised for acting
in accordance with what seems to have been an understood practice, nor to ascribe
to them in consequence any responsibility for the subsequent accident.

Of the other two men concerned, the major responsibility rests upon foreman
Davies, one of whose most important duties it is to prevent accidents of the kind
by ensuring that engines working trains into the station are properly disposed of.
In order to carry out his instructions it is clearly necessary for him to find out how
many engines he has to deal with and where they are; whether he does so before
or after the incoming trains have arrived being a matter for him to decide.

In regard to signalman Veacock, I am satisfied that if he observed No. 7 road,
as he said he did, he must have seen the engine had it then been standing or even
closely approaching the site of the subsequent collision. The question of its position
at the time when Veacock, according to his evidence, looked out of the signal box
window turns mainly upon the time which elapsed between the light engine coming
to a stand and the collision. Platform inspector Jump estimates the interval
between the time when the end of the 2.35 train cleared the platform and the approach
of the excursion train at about a minute and a half. He saw nothing of the shunt
between G siding and No. 5 road—which would cross the path of both the outgoing
and incoming trains—and did not in fact think that there would have been time for
this shunt to be made.

Price, the driver of the light engine, thought he had been standing about three
minutes before the collision took place, but his fireman, Bootwright, said that after
coming to a stand he "had a word or two's conversation with his mate and wiped
down the side of the footplate," the collision taking place immediately afterwards.
He saw nothing of any shunt from G siding, nor did the driver, Price, see the signal-
man leaning out of his window.

On the whole, the evidence in my opinion suggests that the time which elapsed
between the arrival of the light engine near the end of the platform and the collision
was very short. At the same time if Veacock observed the road, as he said he did,
immediately before pulling off the signal for the incoming excursion train, it is
difficult to suppose that the light engine had not come sufficiently far down the plat-
form to be visible, though it is possible that it had not yet reached the position in
which it stood. I think therefore that Veacock's examination of the road cannot
have been very searching, and though he should have the benefit of the possibility
that the engine may not have been plainly in view, a more careful scrutiny of the
line might have resulted in its discovery. Veacock cannot therefore be entirely
freed from responsibility for the collision.

Remarks.

This accident was due to a variety of circumstances, in which divided
responsibility, anticipation of orders well understood though never actually given,
ignorance of the fact that a regular train was running double instead of single-
headed, and, finally, failure to make sure that a road assumed to be unoccupied
was so in fact, were all involved. There is one simple and well understood safeguard
against accidents of the kind; that is to say track circuiting. Lime Street
Station is certainly one which should, as soon as opportunity offers, be so equipped,
and the question will no doubt be fully considered in connection with alterations
which are, I understand, contemplated at this station. Meantime, the circumstances
of this case suggest that further precautions and possibly more precise instructions
in regard to double-headed trains are necessary, in order to avoid the possibility
of the leading engine being overlooked when the train leaves.

I have the honour to be, Sir,
Your obedient Servant,
G. L. HALL,
Major.
The Secretary,
Ministry of Transport.