

Operational incident following signal passed at danger, Bethnal Green, 8 April 2018

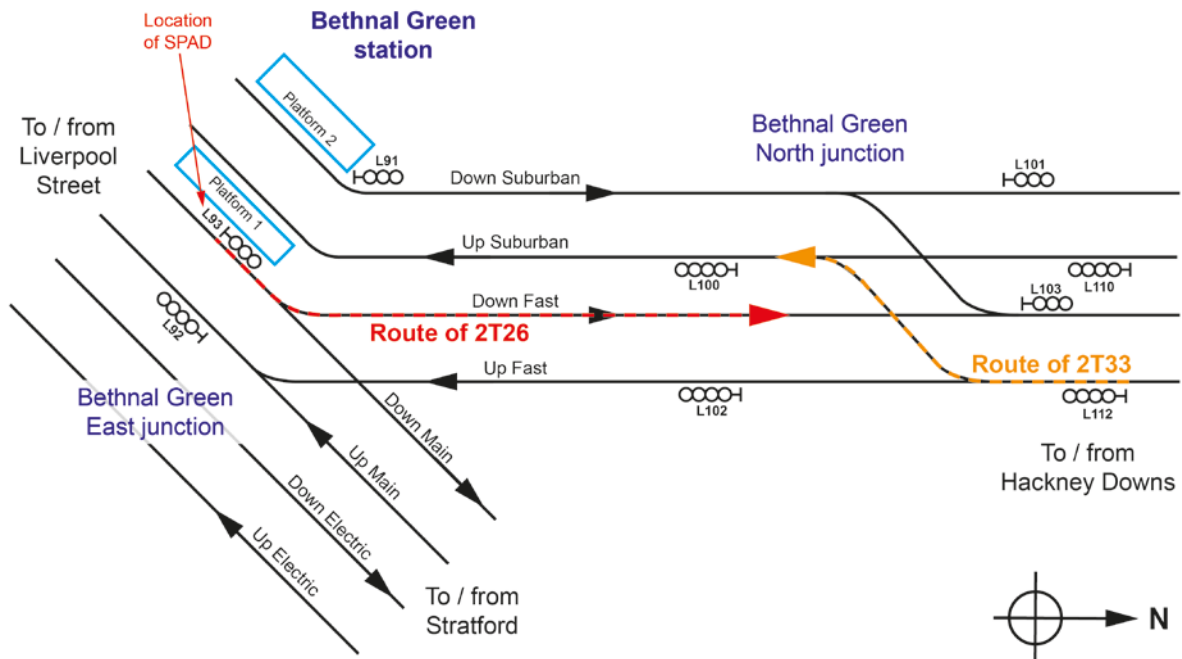
Important safety messages

This incident demonstrates the importance of:

- drivers and train operating company (TOC) control staff remembering that only a signaller, hand signaller or pilotman can authorise train movements, in accordance with the railway rule book – instructions from any other person should never be interpreted as an authority to move
- signallers and TOC control staff being aware that drivers who have been stopped out of course for whatever reason may be subject to high levels of stress, and that special care should be taken to ensure that drivers correctly understand what is required of them in such circumstances

Summary of the incident

At 21:52 hrs on 8 April 2018, train 2T26, the 21:48 Arriva Rail London (ARL) service from London Liverpool Street to Chingford, passed signal L93 on the Down Main line at Bethnal Green, which was displaying a red aspect, by an estimated two metres. The train's data recorder indicates that the driver applied the emergency brake while the train was travelling at 18 mph (29 km/h), three seconds before an automatic brake application was triggered by the train protection and warning system (TPWS), associated with the red signal.



Simplified schematic layout of Bethnal Green East and North junctions

At 21:57 hrs the signaller contacted the driver, because he had received an indication that signal L93 had been passed at danger (an event known as a 'SPAD'). The driver said that he had passed the signal at danger. The signaller proceeded to obtain information from the driver to enable him to complete form RT3189 ('Signal passed at danger (SPAD)'); this call lasted nearly nine minutes. The signaller ended the call by telling the driver to stay where he was and that he would be contacted again.

At 22:06 hrs ARL's train service controller (TSC) told Network Rail's train running controller (TRC) that he was not able to pass on permission for train 2T26 to be moved as he was waiting to speak to the driver. The TRC then requested the signaller to ask the driver to contact the ARL control office, which the signaller did at 22:07 hrs. The driver immediately contacted ARL, and spoke to the TSC. After asking about the driver's welfare, the TSC said to the driver that he was giving him his authority to continue to Hackney Downs station, detain the passengers and then to call ARL control back.

Meanwhile, at 22:08 hrs, the signaller set the route for train 2T33, the 21:40 Arriva Rail London (ARL) service from Chingford - Liverpool Street, from L112 signal on the Up Fast line to signal L100 on the Up Suburban line. This route involves crossing over the Down Fast line at Bethnal Green North Junction (the route along the Up Fast line from signal L112 to signal L102 was temporarily barred to trains due to a problem with the track). At this time, train 2T26 was still stationary on the Down Main line after passing signal L93 at danger; this was the signal protecting the section of the Down Fast line across which train 2T33 was routed. The signaller was unaware that the TSC was instructing the driver of train 2T26 to proceed to Hackney Downs.

Data from the signalling system indicates that train 2T33 passed signal L112 at 22:08:50 hrs, travelling at approximately 10 mph (16 km/h). The driver was braking the train from 13 mph (21 km/h) because it was approaching signal L100 on the Up Suburban line, which was displaying a red aspect. The rear of train 2T33 cleared the Down Fast line at 22:09:30 hrs.

The driver of train 2T26 understood from his conversation with the TSC that he could now start his train, without the need to contact anyone else, and so train 2T26 started to move towards Hackney Downs at 22:09:15 hrs. The train travelled along the Down Fast line at a maximum speed of 22 mph (35 km/h); it passed the front of train 2T33, which was then on the Up Suburban line, at 22:09:56 hrs.



Aerial view of Bethnal Green North junction

The signaller noticed that train 2T26 was moving on his display screen and used the 'railway emergency group call' feature of the GSM-R radio system to send a "stop" message to the drivers of all trains in the Bethnal Green area. Train 2T26 stopped just short of the crossover at Bethnal Green North Junction at 22:10:16 hrs, and the driver confirmed to the signaller that his train was at a stand. However the driver of train 2T33 did not respond to the signaller during the railway emergency call because his GSM-R train radio had stopped working, possibly due to a known problem with network coverage.

The shift signalling manager then contacted the driver of train 2T26 at 22:14 hrs to confirm his exact location, and to instruct him not to move the train. After the arrival of a Network Rail mobile operations manager, the driver was given permission to move the train to Hackney Downs at 23:12 hrs.

Cause of the incident

Recordings of radio communications following the SPAD suggest that the driver of train 2T26 mistakenly understood that, when the signaller contacted him at 22:07 hrs to request him to contact the ARL control office, *he was to follow their instructions* (although the signaller did not actually state this).

When called by the driver, ARL's train service controller (TSC) judged that he was fit to continue and authorised him to proceed to Hackney Downs station. The driver acted on this instruction without first following the railway rule book requirement to obtain the signaller's permission to move. ARL later held a post-incident interview with the TSC, in which he stated that he had realised his choice of words was open to being misinterpreted, but he had been unsure what to do next. He had previously had a conversation with ARL's on-call manager, and they had agreed that the TSC should instruct the driver to proceed to Hackney Downs. He stated that his instruction to the driver had been given out of concern for the welfare of the passengers and the driver on the stranded train, as well as consideration of the risk of an uncontrolled evacuation.

Although the rule book did not require them to do so, neither the signaller nor the TSC reminded the driver of train 2T26 that he needed the signaller's authorisation before moving the train.