Rail Accident Investigation Branch

Near miss at Kyle Beck near Tollerton, North Yorkshire, 3 August 2016

1. Important safety messages

This incident demonstrates the importance of:

- Signallers and drivers repeating back messages so as to reach a clear understanding when communicating safety critical information.
- Drivers remaining in their cab, when preparing to examine their train, until they have received positive confirmation that the adjacent line(s) have been blocked to traffic.
- Drivers reporting near miss incidents involving people (themselves or others) on or near the line.

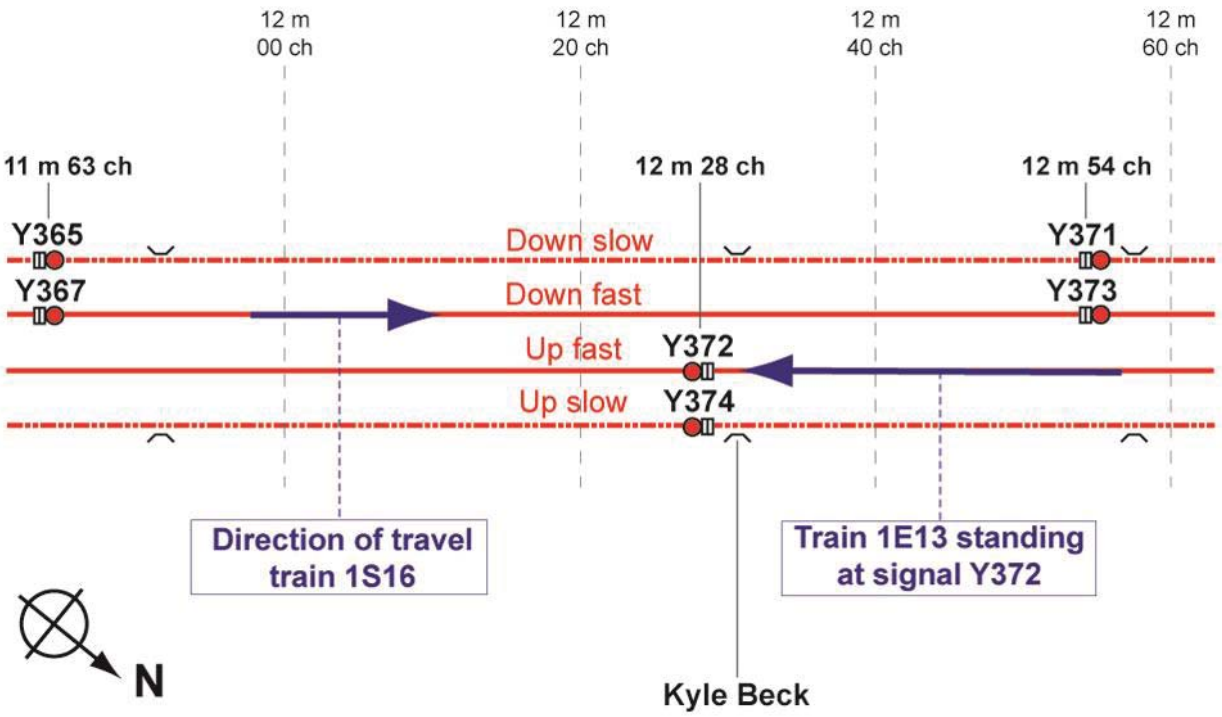
2. Summary of the incident

At 14:04 hrs on Wednesday 3 August 2016, the driver of train reporting number 1E13, the 07:55 hrs Inverness – London King's Cross passenger service operated by Virgin Trains East Coast (VTEC), had to lie down next to his train to avoid being struck by a train that was passing on the adjacent line at approximately 105 mph (169 km/h). The driver was unhurt.

3. Cause of the incident

The driver had experienced a loss of power and a permanent indication of wheelslip with the leading power car of the train, an InterCity 125 (HST). He stopped the train at signal Y372 at approximately 13:48 hrs on the up fast line at Kyle Beck, 12¼ miles (19.7 km) north of York station. He advised the signaller of this as required by section 41 of the railway Rule Book (GE/RT8000) module TW1 'Preparation and movement of trains', using the GSM-R (Global System for Mobile Communications – Railway) cab radio.

The driver then contacted VTEC's maintenance controller for advice on the action he should take to investigate the train faults, again using the GSM-R cab radio. Following an unsuccessful attempt to rectify the fault, the maintenance controller asked the driver to carry out a rotation test on the leading power car of the train. To carry out a rotation test it is necessary to mark the position of a train's wheels, move the train a short distance, and then check the marked wheels have rotated correctly.



Track diagram showing distance from York (miles and chains)

At 14:00 hrs the driver contacted the signaller, as required by section 46 of Rule Book module TW1, to request that trains on the adjacent lines (the up slow and down fast) should be stopped so that he could carry out the rotation test. At the time train 1S16, the 12:00 hrs London King's Cross – Inverness VTEC service, was 6½ miles (10.4 km) away, approaching Kyle Beck on the down fast line; the nearest train on the up slow was 16 miles (25.7 km) away.

The signaller at York North workstation at the York integrated electronic control centre (IECC) was a trainee working under the supervision of an experienced signaller. The trainee signaller had not previously granted a line blockage to protect a driver needing to examine their train, although he had practised the scenario as part of his training. He had previously granted line blockages to controllers of site safety (COSSs) to protect staff accessing the track to carry out work on the infrastructure, on a number of occasions.

Section 13 of Rule Book module TS1 ‘General signalling regulations’ requires a signaller to record the details of a line blockage on a Signaller’s Line Blockage Form (RT3180). The version of form RT3180 used at York IECC contains a check box labelled ‘tick when communications have been checked’; this is used to record that a signaller has successfully called a COSS back using the mobile phone number provided by the COSS. This check box is absent from the standard version of the form published by RSSB. It is not a requirement for a signaller to call a train driver back before granting a line blockage and a driver would normally expect to wait on the phone until the signaller confirmed the line blockage was in place. Although the driver had previously arranged line blockages with signallers, it is possible that the driver had not experienced waiting to be called back by a signaller before.

Still image from forward facing CCTV of train 1S16 showing the driver of 1E13 lying in the space between the up and down fast lines (image courtesy of Virgin Trains East Coast)

The communications procedure is described at section 5 of Rule Book module G1 'General safety responsibilities and personal track safety for non-track workers'. This requires a signaller to take lead responsibility in a conversation with a driver. It states that all concerned must make sure they properly understand the meaning of all messages, and that a message must be repeated back by the person receiving it so that the other person knows it has been understood. The driver asked the trainee signaller if he had been granted the line blockage. The trainee signaller replied that he would call the driver back, without positively stating that the line blockage had not been granted. The driver did not repeat back the fact that he needed to wait for the signaller to call him back. It is possible that the driver may not have heard what the trainee signaller said or that he had misunderstood what he was being told. As a result, the driver and the trainee signaller did not reach a clear understanding about stopping trains on the adjacent lines, and the driver subsequently alighted from the driving cab of his train, incorrectly believing it was safe to do so.

The driver marked the wheels of the leading power car of train 1E13 and returned to the driving cab without incident. He then moved the train forward a short distance. He alighted from the driving cab for a second time, still believing the adjacent lines were blocked to other train movements. Shortly after alighting from the driving cab for the second time, he became aware of train 1S16 approaching at speed along the down fast line. It is possible that he became aware of this train when the driver sounded its warning horn (a data logging system used by VTEC shows the horn was sounded for approximately six seconds).

The permissible speed on the fast lines in the vicinity of Kyle Beck is 125 mph (201 km/h). Train 1S16 was still accelerating after passing through a 90 mph (145 km/h) temporary speed restriction around three miles earlier; as a result it was travelling at around 105 mph (169 km/h). The forward facing CCTV on train 1S16 shows that the driver of train 1E13 became aware of its approach approximately six seconds before it reached him. He then lay down close to his train in the space between the down fast and up fast lines; he was lying on the ground with three seconds to spare.

Following the incident, the driver of train 1E13 returned to the driving cab of his train and contacted the signaller. He said that he thought the line blockage had already been granted, without stating that a near miss had occurred with train 1S16. The trainee signaller told him that he had not granted the line blockage, and again said that he would call him back; this message was repeated back by the driver. Immediately after this call, the driver of train 1S16 contacted the signaller to advise him that he had just passed someone who had had to lie down next to their train.

4. Previous similar occurrences

The importance of repeating back communications between drivers and signallers was discussed in our Bishop's Stortford investigation (RAIB report 26/2008).