

Near miss with a track worker, Littlehempston, Devon, 13 March 2024

Important safety messages

This incident demonstrates the importance of:

- controllers of site safety correctly setting up and maintaining safe systems of work, including ensuring that they have effective communication with signallers
- those involved in specifying work ensuring that known hazards are accounted for and that planned safe systems of work are appropriate
- not assuming that infrastructure features will always act as a reliable guide for setting the 2-metres distance required for a separated safe system of work
- staff recognising that the person in charge and site warden are separate roles which cannot be undertaken by the same person at the same time.

Summary of the incident

At around 10:44 hrs on 13 March 2024, a passenger train travelling at approximately 54 mph (87 km/h) was involved in a near miss with a track worker on the London Paddington to Penzance Main line near Littlehempston, Devon, around 1.5 miles (2.4 km) north of Totnes station. At the time of the incident, the train was travelling on the up line, towards London.

The track worker involved was the controller of site safety (COSS) for a group working on signal troughing nearby. The group had been working using a 'separated' system of work, which requires staff to remain at least 2 metres away from any open line. The near miss occurred after the COSS left the group and moved close to a line which was still open to rail traffic, placing them at risk of being struck.

As the train approached, the COSS moved to the cess (the space alongside the line outside the ballast shoulder) and out of the path of the approaching train. The COSS moved clear around 2 seconds before the train passed.



Forward-facing CCTV showing the COSS in the up line cess as the train approaches (courtesy of Great Western Railway).

Cause of the incident

This incident occurred because the COSS moved out of the safe area that had been established as part of the separated system of work and moved close to the cess rail of the adjacent line, which was open to traffic. This put them at risk of being struck by passing trains. The COSS stated to their employer that they moved towards the adjacent line to investigate whether the cess immediately south of their group was wide enough to allow work to be undertaken safely, using a separated system of work.

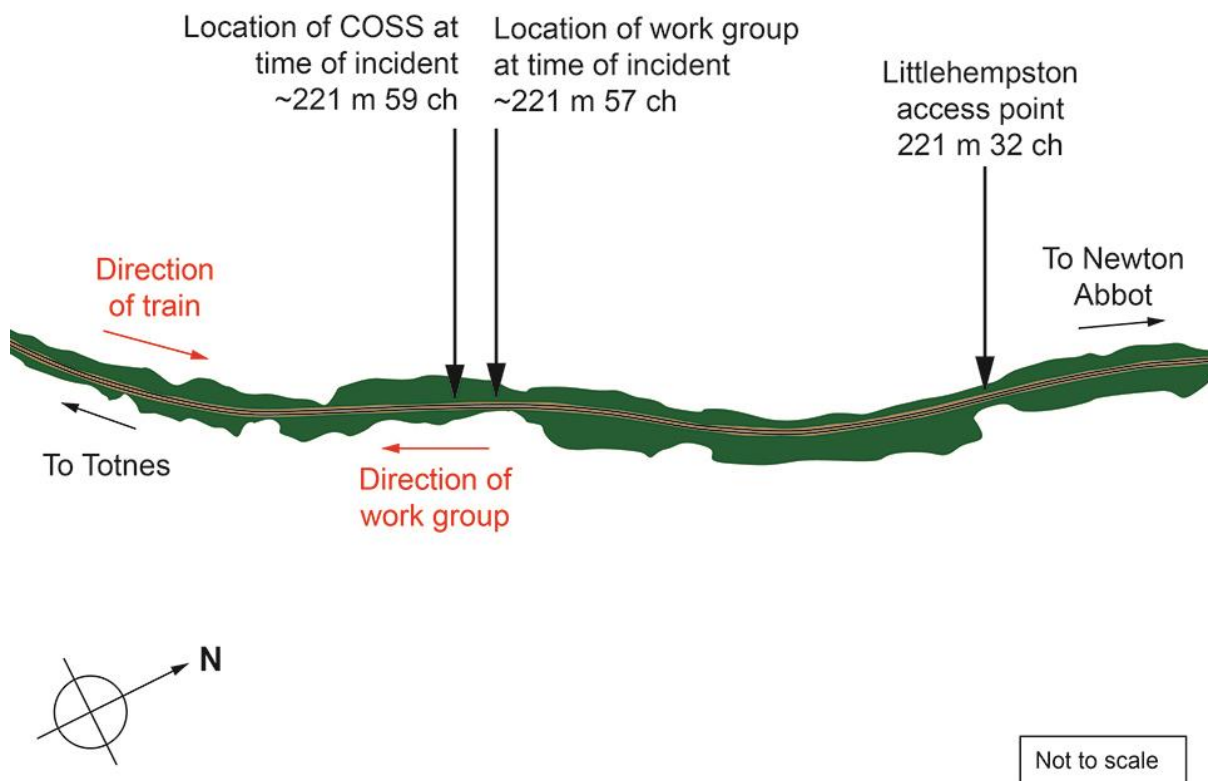
The group involved in the incident consisted of the COSS and five track operatives, all of whom had been provided by PACE Infrastructure Solutions to Colas Rail. The COSS was also the person in charge (PIC) for the work being undertaken. A PIC is responsible for all aspects of safety while the team is on the track.

The railway at this location consists of two lines. The more westerly line is the Up Main line from Totnes to Newton Abbot. This has a line speed of 60 mph (97 km/h) which reduces to 55 mph (88 km/h) just past the site of the incident. The more easterly line is the Down Main line from Newton Abbot to Totnes. Both lines were open to traffic at the time of the incident.

The group was working to correct minor faults on a section of troughing route which had been laid in the cess adjacent to the Up Main line. In September 2023, Colas had identified that these works should be completed using possessions or during line blockages (both being periods when no trains are running). However, as Colas had previously been unable to obtain mid-week possessions in this area, the works were planned to be delivered using separated systems of work, while both railway lines remained open to traffic. The plan also included a system of work in which the COSS would obtain line blockages of a short duration to allow for the passing of structures with limited clearance (where the distance to the nearest open line is insufficient to provide a position of safety for staff).

The COSS was issued with two different safe work packs (SWPs), one for working with a separated system of work and another for taking prebooked line blockages of the Up Main line, to allow limited clearance structures to be passed. Colas managers stated that they expected the COSS to use the separated system of work to complete the work. If the group was required to move within 2 metres of the nearest open line, then Colas stated that they would have expected the COSS to stop work immediately. These areas would then be marked, and the remaining work undertaken during later possessions.

The site location given in the SWPs covered multiple access and egress points and a linear distance of around 5 miles (8 km). It did not specifically define the limits of the site of work.



Simplified diagram showing approximate location of the incident.

The rules governing separated systems of work are given in the Rule Book GERT8000 Handbook 7 'General duties of a controller of site safety (COSS)', issue 8 dated September 2021. This requires staff to be separated from the nearest running rail of any open line by at least 2 metres. No person is allowed to enter any area closer than this limit, and a site warden is appointed to ensure the limit is observed. However, if the COSS can make certain that no staff will enter the area within 3 metres of any open line, then the work can take place without a site warden. Network Rail standard NR/L2/OHS/019 'Safety of people at work on or near the line', issue 12 dated June 2023 states that a person acting as a PIC cannot also act as site warden.

On 13 March 2024, the group started to arrive at the Littlehempston access point at around 09:35 hrs. Witness and documentary evidence shows that the COSS gave a site briefing which included a description of the separated safe system of work and identified the troughing as the boundary of the safe area. This troughing was located around 2.6 metres from the nearest open line and the group was instructed to not stray beyond it, to maintain the required 2-metres separation. The COSS appointed themselves as the site warden.

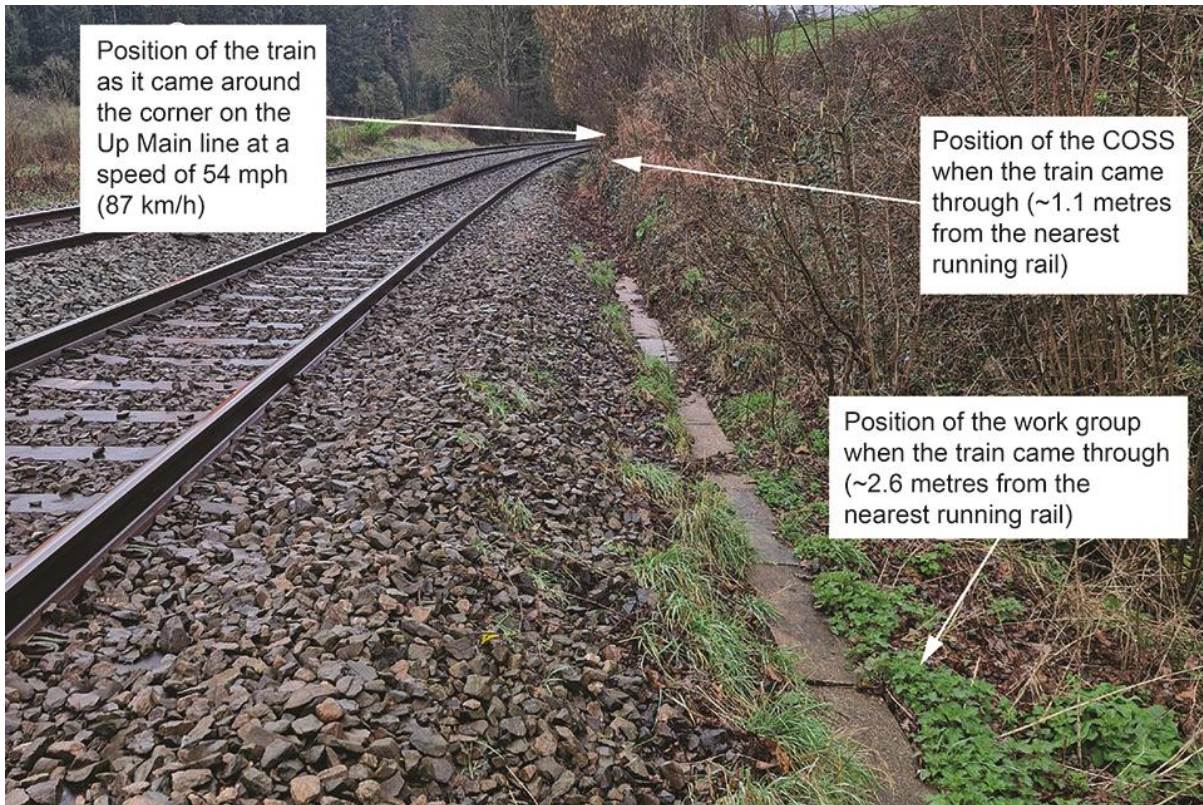
Signal box communications records show that the COSS contacted the signaller at 09:49 hrs to take a line blockage to access the infrastructure and to pass through a structure with limited clearance. This was granted at 10:14 hrs and the line was handed back at 10:17 hrs.

The group reached the site and work then started as planned, with the group checking and replacing any loose troughing lids on the cable route. The group worked along the troughing, moving from north to south.

The COSS stated that, as the work progressed, they noticed that the distance between the troughing and the nearest running rail was becoming smaller. The COSS instructed the group to stand down in an area that had a greater than 2-metres separation from the nearest running rail, and then went ahead, further south, to check if the group could continue to work under a separated system of work.

Despite the separation distance narrowing, the COSS continued along the cess as they moved south. This moved them close to the cess rail of the Up Main line to the point that they eventually became at risk of being hit by a passing train. As the COSS was now remote from the group, there was no one present to challenge or warn the COSS that they were now too close to the open line. Measurements undertaken after the incident by Network Rail and Colas showed that the distance between the troughing and nearest rail at the incident location is less than 2 metres.

On-train data recorder evidence and forward-facing CCTV images show that the train approached the COSS at 10:44 hrs. The COSS was obscured from the driver's view until around 5 seconds before the train reached them. This was due to overhanging vegetation and because the train was approaching around a tight curve. Around 1 second later, with the train travelling at 54 mph (87 km/h), the driver sounded the warning horn to warn of the train's approach. CCTV images show that, in response, the COSS moved into the vegetation by the side of the cess and that they were clear of the train's path around 2 seconds before it passed. The train driver immediately reported the near miss to the signaller.



Measurements taken at incident location (courtesy of Colas/Network Rail with RAIB annotations).

The COSS did not consider that there had been a near miss. Following the passage of the train, the COSS rejoined the group and led it southwards along the cess, passing the area where the near miss had just occurred. This was done without a line blockage being put in place. No one in the work group challenged the COSS about moving this close to the open line.

The COSS stated that they only realised they had been involved in a near miss when the driver of a subsequent train, who had been cautioned by the signaller, asked them to contact the signaller using a signal post telephone. The signaller had been unable to contact the COSS directly before this point. This was due to poor mobile phone reception at the site and because the COSS was not carrying the GSM-R (Global System for Mobile communication – Railway) phone that they had been issued with.

The principle of keeping staff an appropriate distance from the open line is critical to ensuring safety when using a separated system of work. This relies in turn on responsible managers and planners being aware of the hazards present at locations and making certain that this type of system of work is only planned for use at suitable locations, and for appropriate tasks. Once on site, the COSS must also correctly set up and maintain the system.

While Network Rail standards require there to be a minimum distance of 3 metres between troughing and the nearest running rail, this requirement can be varied as topographic or other obstructions dictate. This means that, as in this case, the use of

the troughing as the demarcation line may not always meet the requirements of the relevant rules for a separated system of work.

The Rule Book states that a COSS must remain with their group to personally observe and advise them. By leaving their group while they moved along the cess to look at the available clearance, the COSS was no longer able to observe their group's position or actions.

Previous similar occurrences

RAIB has reported on a number of track worker incidents and accidents with staff who were working within a separated system of work.

On 4 December 2012, a passenger train struck and fatally injured a COSS at Saxilby, Lincolnshire ([RAIB Report 21/2013](#)). The group involved had been working at a site under a line blockage with an adjacent line open to traffic. Before the accident (during an initial line blockage), the COSS had implemented a separated safe system of work and appointed themselves as the site warden. During a second line blockage, however, the COSS had not implemented a safe system of work and was struck by a train while working in the space between the two lines.

On 15 November 2022, a passenger train travelling at 125 mph (201 km/h) narrowly missed a COSS on the West Coast Main Line near to Bulkington, Warwickshire ([RAIB safety digest 02/2023](#)). The track worker involved was the COSS for a team that was working nearby on a line which was closed to normal rail traffic, but with an adjacent line still being open. The near miss occurred after the COSS stepped outside of the safe area and moved towards the line on which the train was approaching. The COSS returned to a position of safety around 2 seconds before the train passed them.

On 4 January 2024, a train travelling at 53 mph (85 km/h) had a near miss with a track worker around 3.5 miles (5.5 km) south of Fishguard, Pembrokeshire ([RAIB safety digest 01/2024](#)). The track worker involved was acting as the PIC and COSS for a small team of agency staff undertaking vegetation clearance work for a principal contractor. The team planned to use a separated system of work. As the train approached the team's site of work, the driver saw the PIC on the track and sounded the train's warning horn and applied the emergency brake. The PIC moved off the track and was clear of the train's path around 2 seconds before the train passed them.

RAIB's website also includes a [summary of learning](#) from incidents relating to the protection of track workers from moving trains.