

Contact with temporary works in a tunnel

Issued to: Tunnel Engineers (Route, Works Delivery and IP)

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Location: Meir Tunnel, LNE&EM

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Overview

On the 27th February 2016, a Network Rail test train came into contact with temporary works that had been installed to the sidewall/lower haunch of Meir Tunnel, at approximately 34m (metres) beyond the Longton tunnel portal.

The collision occurred during operational hours with passenger trains passing both before and after the incident.

The temporary works comprised of mild steel sweeps, tees, timber laggings and wedges.

During the course of the works a further section of the brickwork became loose and parted from the tunnel lining.

The decision was taken to remove the additional loose brickwork, however due to the time taken to remove it, there was no time left to undertake the re-casing activity leading to an extended area of formwork being required.

Underlying causes

A check was required to ascertain whether the Standard Detail and Design (SDD) was applicable to the specific areas of the tunnel, once the decision was made to expand the area of temporary works a further check should have been made. This was not carried out resulting in the formwork being installed foul of gauge requirements.

In addition to this the planned temporary works had not been adequately gauge checked at the end of the shift, ultimately resulting in it being struck by a passing train.

It is also apparent that the SDD itself was not applied correctly during this work. The SDD that was chosen specified the use of proprietary anchors to hold the formwork to the intrados of the tunnel. It does not specify the use of tees which were used on this job. There was also a limit on the area of brickwork that can be removed using the SDD. Due to the removal of the additional brickwork the area being remediated exceeded this limit.

Key message

- Ensure the correct SDD is selected for the work being carried out and ensure the SDD is applied correctly. Specific SDDs have been developed for applications within Tunnels.
- Where SDDs are to be used, adequate consideration has to be given to the application of the SDD to that particular site in line with the requirements of NR/L3/CIV/151; and then any modifications to, or variation from, the SDDs must have the appropriate level of check as defined in NR/L2/CIV/003.
- When carrying out work within a tunnel, ensure that gauge information is obtained prior to starting design works and that the gauge is checked before the line is opened to operational traffic.

Copies of Shared Learning documents are available on [Safety Central](#)