



Pierced Traction Cables

Issued to: **All Network Rail line managers, safety professionals and accredited contractors**

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Location: Gillingham & Gravesend, Kent

Route, Southern Region

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Overview - Incident 1

On 4th May 2023, EK2033B points at Gillingham pierced a live traction cable that had become caught in the point machine. The incident punctured the insulation of the cable causing a short circuit and damage to the point machine. The short circuit meant that the lock/detection blades became live and could have caused injury to any operator using the manual winding mechanism.

The section of cable which was pierced was due to be replaced as part of planned project work that night. The coiled-up section had been delivered to site for this replacement work. This cable was propped up against the wall and subsequently slipped down, pushing the live cable section towards the point machine. Subsequent operations of the points led to the machine blade ends coming into contact with the cable and ultimately pierce / puncture its insulation layers, exposing the live conductor cable. Following a point movement, the lock / detection blades came into contact with the live conductor causing a short circuit.

Overview - Incident 2

On 19th June 2023, NK2251B points at Gravesend pierced a live traction cable that was near the machine. During operation of the points, the movement of the lock and detection blades (with threaded ends) punctured the insulation of the cable. 2L31 then passed over the points and this additional pressure created a catastrophic short circuit that destroying the point machine, 4 traction cables, sole plate & stretcher bar insulations as well as track circuit equipment. It also damaged a train that was stopped over the crossing.

The Route has commenced a specific check on all point machines on the area and already identified two further point ends where action is required to remove the risk.



Discussion points

- Are you and your team fully checking for the proximity of traction cables during points maintenance?
- Are you and your team storing and securing materials in a safe way, thinking about how it might move and what might happen if it did?
- Are you compliant to the cable separation standard (NR/L3/ELP/27250/CRE805)? Remember, no traction cable should be within 500mm of a point machine.

Are you and your team:

- Fully checking the proximity of traction cables points machines during CRE inspections?
- Installing additional mechanical cable protection where required e.g., Yellow Split ducting or troughing?
- Re-routing cables where it is identified clearance is insufficient from other assets?