

Transferable Lessons from Serious Operational Incidents / Investigations

**Issue No: NR/OPS/054****Date Issued: 03/05/2019**

Accidental contact with DC Electrified 3rd Rail



Summary of Incident:

On 3rd April 2019 a MOM attended a report of a burning cable from a member of public. Upon arrival at site the MOM took a line blockage from the Signaller to protect them from trains. The MOM then used a hook switch pole whilst in the 4 foot to scrape ballast back to see if they could identify where the smoking was coming from. When the MOM scraped back the ballast, this exposed a piece of metal which sprung forward and met the 3rd rail, causing a short circuit and arcing. Fortunately, the MOM was not injured in this incident and was not looking at the DC line when it arced over.

Learning points:

- When attending a report involving DC lines always take 5 and make sure you have considered all potential risks on site including hidden dangers.
- IF IN DOUBT ISOLATE. DC Temporary Isolation or if the situation warrants it an Emergency Switch Off, both of which are there for your protection when attending a report that involves the DC line.
- A conductor rail shroud would have prevented this from happening please see Risk Level 3 in the diagram below.

Points to consider and further actions and precautions:

RISKS LEVELS AND RISK CONTROLS

Risk Levels	Description	Risk Controls
Risk Level 1	The risk of a person, any tool, plant or equipment making contact with the conductor rail(s) cannot be reduced to a tolerable level	Isolation and the issue of a conductor rail permit is mandatory
Risk Level 2	Work that could encroach within 300mm either side of the conductor rail(s) or any space above or below the conductor rail shall be considered as working live	Fit conductor rail shields to prevent accidental contact with the live conductor rail
Risk Level 3	Work not as close as 300mm of the conductor rail(s)	Conductor rail shields are not required. However, if a risk remains that a person, any tool, plant or equipment could encroach within 300mm either side of the conductor rail, then the risk control for Level 2 shall be applied



- If you are called to an incident involving the 3rd rail then always take a conductor rail shroud, with you as well as a hook switch pole and insulated gloves, they may be cumbersome, but they will prevent contact with the live rail. It is better to over protect than under protect.
- When completing your IRP take 5 to ensure that it is fit for the task which you have been mobilised. Consider all potential hidden risks.

Briefed out to:

South East Route Operations Teams