

No: IGS 242

## Infrastructure Group Safety Bulletin

# The application of Short Circuit Straps in DC locations

### For the attention of:

All line managers of, and all PICOP's, Engineering Supervisors, COSS's and staff who hold the competence for the application of short circuit straps (SCS), (LB 3<sup>rd</sup> – R St – i Level B Strapping).

### Background

A recent incident occurred in Kent during the application of a short circuit strap in support of a B2 Isolation. This resulted in three members of staff attending hospital following a conductor rail flashover; fortunately they were released shortly after. The incident is the subject of a full investigation. However, it is evident that the SCS made contact with the underside of a running rail and a live conductor rail.



The burn marks to the running rail resulting from the flashover

### Action

1. Line Managers must brief the contents of this Safety Bulletin to all staff identified above.
2. All staff involved in the application of SCS are reminded they must follow;
  - The instructions given during any training courses and
  - The information detailed below in '**Short Circuit Strap Application and Removal**'  
(A GUIDE TO THE FITTING AND REMOVAL OF SCS).

Issued on behalf of Justin.Page@networkrail.co.uk. Head of Infrastructure Maintenance Safety and Compliance.

# SHORT CIRCUIT STRAP APPLICATION AND REMOVAL

A Guide to fitting and removal of Short Circuit Straps (SCS).

Once permission has been granted to fit short circuit strap(s) the following steps shall be taken:-



**1.** Clean the running rails with a wire brush at the position where it is intended to fit SCS. The top & underside inside foot of relevant running rails only, need to be cleaned.

**2.** Prove test lamps on known live source. Apply test lamp set to relevant conductor rail to prove the conductor rail to be strapped is "Dead". Leave in position.



**DO NOT 'LAV' THE SCS OUT ACROSS THE 4FT OR UNDER/NEAR THE CONDUCTOR RAIL OR ATTEMPT TO ATTACH THE CLAMPS TO ANY RAIL BEFORE THE ISOLATION HAS BEEN CONFIRMED**



**3.** Attach clamps of SCS to running rails. Clamps will be secured as tightly as possible - this is critical to ensure that straps remain in position to protect workforce. Leave 3rd clamp in 4 ft. Note: If clamps are not fitted securely this may cause them to fall off during re-energisation.

**4.** When conductor rail has been proved "DEAD" apply short circuit bar to the conductor rail. Leave in position while connecting SCS



**DO NOT APPLY SHORT CIRCUIT BARS AT LOCATIONS WHERE THERE ARE DOUBLE GUARD BOARDS; SINGLE BOARDS NEAREST THE ADJACENT RUNNING RAIL; WHERE THE RUNNING RAIL INSIDE WEB IS PAINTED YELLOW OR AT LOCATIONS WITH YELLOW OR GREEN SHROUDS.**



**5.** Wear insulated rubber gauntlets to clean with the wire brush the position on conductor rail where SCS clamp is to be fitted, the top and underside of foot. (Side furthest from relevant running rails)

**6.** Apply remaining SCS clamp to conductor rail. Pass the clamp under the running rail and conductor rail. Secure clamp as tightly as possible to outer edge of conductor rail foot. This is critical to ensure that straps remain in position to protect workforce.



**7.** Remove short circuit bar and test lamp set.

## 8. REMOVAL OF SHORT CIRCUIT STRAPS.

- Only begin activity after you have been instructed to do so.
  - Short circuit bar will be applied to conductor rail where SCS are to be removed and left in position during removal operation.
  - Whilst wearing Insulated Gloves remove relevant short circuit straps.
  - Only when the removal of SCS is complete should you remove short circuit bar.
- Note: Short circuit bar is to be applied to each individual conductor rail where short circuit straps fitted are to be removed.

**Failure to follow the correct procedure could cause the individual carrying out these tasks serious or fatal injuries.**

Issue 3. 02/2010