

Safety Bulletin

A serious incident has taken place



Electrical fire - staff injury

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

Ref: NRB 19/01 (linked to 20/21)

Date of issue: 23/01/2019

Location: Godinton Substation (South East Route)

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Overview

While E&P (Electrical and Plant) staff were responding to a fault at Godinton substation on the evening of 20th December there was a release of electrical energy (a flashover) when a member of staff attempted to replace a 2A fuse in a control circuit for the 750V dc traction power system.

The flashover caused severe burns to a technician. He is being treated for his injuries at a specialist burns hospital.

The substation and other parts of the traction power system nearby were substantially damaged by the fire that resulted.

A formal investigation into the accident has begun and inspectors from the Office of Rail and Road (ORR) are also investigating.

The initial investigation has identified a potential link to water ingress in to the building before the incident.

Several technical bulletins have since been issued in SE Route.

The initial investigation has identified that Arc Flash PPE was not being worn. Further safety advice on minimum Arc Flash PPE is being issued which will supersede the previously issued safety advice NRB 17/09 – Arc Flash PPE. Locally, Routes or contractors may choose to require a higher standard.

Action required

The following advice shall be followed nationally:

- In the event of a fault in a Whipp & Bourne MM74 dc circuit breaker with 50V operating equipment, staff shall not enter the breaker cell to undertake any work without de-energising its incoming 650V / 750V dc traction supply.
- If steam is present when accessing any traction or non-traction, high voltage (HV) distribution location, staff should vacate the location and contact the ECO to arrange for the dc equipment (and relevant in-feeds) to be de-energised. Any HV ac equipment (this includes 25kV switchgear) may remain energised but no switching operations shall occur with anyone in the building. A safe method of working shall be established before starting any intrusive work on the equipment affected.
- Where significant damp or condensation is identified in any traction or non-traction HV distribution location, a safe method of working shall be established before starting any intrusive work on the equipment affected.

The safe method of working shall be agreed by the E&P Maintenance Engineer, or Designated Project Engineer in the case of project work.

Water ingress to any traction or non-traction HV distribution location must be reported and corrected promptly. Buildings/E&P must always consider applying temporary protection to stop water ingress and protect the equipment.

Discussion Points

What should you look for when entering a location containing power distribution equipment?

How would you check that any electrical equipment has been safely isolated (where required) before undertaking any maintenance, fault finding or renewal activities?

How would you report condensation or rain water entering an electrical building, and what immediate action should you take?

How can you check you are using the right PPE for work in electrical switch rooms, including Arc Flash protective clothing?

If at anytime the work cannot be undertaken safely, STOP and speak with your supervisor or manager.

Check Life Saving Rule compliance with your staff