

Safety Bulletin

A Serious Incident has taken place



Issued to: Southern Region
Reference: Electric Shock Accident
Date of Issue: 19/05/2020
Location: Isington Substation, Wessex Route
Contact: Roy Gardner E&PME (INNER DU)



Overview

On Monday 11 May 2020 the Team Leader from the Inner DU D&P team, who was attending a Rectifier fault at Isington Substation, suffered an electric shock after coming into contact with a live DC circuit breaker control circuit. The injured party (IP) was touching the metal frame of the compartment whilst testing the bottom half of the breaker, when his other hand slipped and made contact with a live conductor.

As part of fault finding the team racked out (isolated) the circuit breaker but when the IP carried out a re-test, the bottom half of the breaker was still live.

The IP was taken to hospital where he was thoroughly checked out and his ECG results came back clear. On medical advice he took the following day off to rest and fully recover.

Two days of testing were carried out and initial findings suggest that due to the way the system is connected, it created voltage on some of the control circuits of the breaker. Subject matter experts completed a Technical Overview Briefing that is primarily intended for staff who maintain DC traction system and can be found on the link below:

[Link to the Technical Overview Briefing](#)

Discussion Points and Lessons Learnt

- The fault at Isington Substation is unique but illustrates dangers, that locations with the same type of circuit breakers whose control circuits operate at 750V DC and / or locations with older style track alive relays (TLMs), present if the negative connection becomes disconnected / broken.
- Before attempting to undertake any work on DC equipment when the negative connection has been broken, all sources of supply must be isolated, including track feeder cables. Please refer to the Technical Overview Briefing for more details.
- Rubber gauntlets or Class 00 Electrician gloves must be worn when testing on Substations and TP Huts, where RJR530DC circuit breakers are situated, especially where equipment is housed in the lower shelf compartments.

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