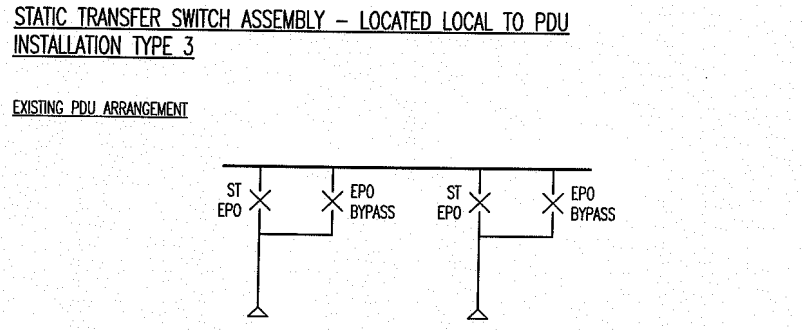
Improving Maintainability of Power Distribution Units

The Problem / Challenge

A data centre project required improved resilience to the electrical system. The static uninterruptable power supply (UPS) systems were to be replaced (with diesel rotary UPS). Static transfer switches were to also to be installed onto the supplies to the power distribution units.

The Risks

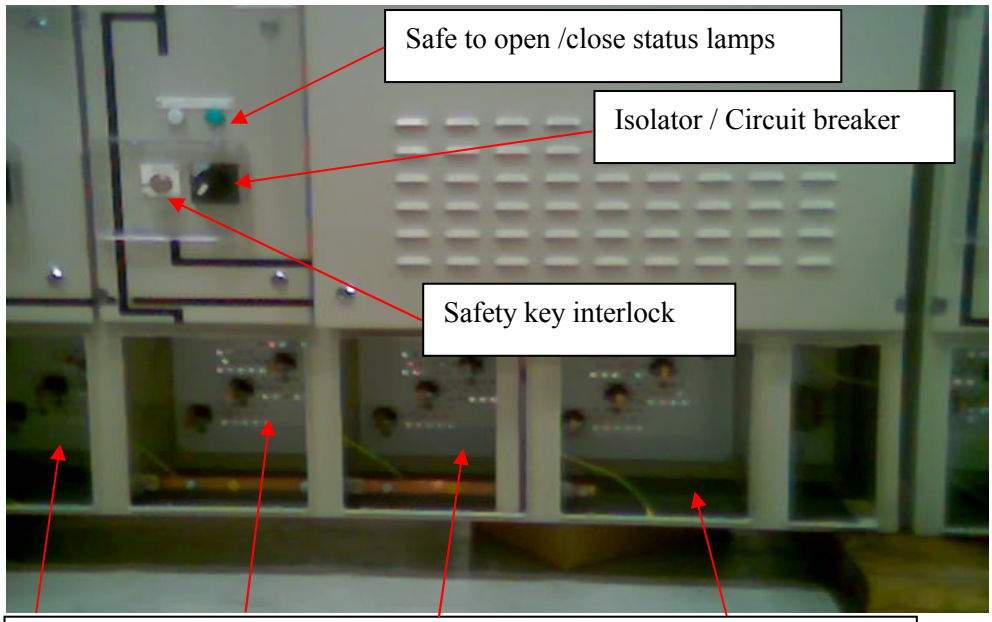
Electrocution or burns due to Electricians working on live electrical equipment.



Pre-existing PDU arrangement

The Solution

The designers held early discussion with the facilities managers to understand the configuration of the electrical supplies to the PDUs and the methods used to ensure continuity of supply to the server racks.
Static switches were designed to incorporate additional isolation devices. These were installed into the system without the need for a complete power down of the PDU as each PDU had dual redundant incoming supplies, which allowed one supply to be de-energised to allow connections to be made safely, whilst maintaining the supply to the PDU.



Static Transfer System

The Benefits

Communication between designers and end users enabled the business critical system to be maintained safely. This helped to manage the implementation of the new system and improved the safety and security of maintaining the static transfer switch in the future.

Key points

- Early discussions with the end user highlighted the need for extra switchgear to be installed for future maintenance.
- The solution adopted largely eliminates the need for electricians to work on live equipment.