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ixed Wire Testing

The law says that all employers must safeguard the health and safety of all people affected by their undertaking and, in the UK, it is a criminal offence to fail in this duty of care. Facility Managers need to assess the risks associated with their facility and to manage those risks at a tolerably low level.

For fixed wiring, the specific regulations are the Electricity at Work Regulations, 1989 (EAW). In spelling-out the requirements of the EAW regulations, the HSE makes it clear that fixed wiring shall be maintained so as to prevent danger (so far as is reasonably practicable) and that regular in-service inspection is an 'essential' part of preventative maintenance.

The principal hazard associated with fixed wiring is electric shock. However, other hazards should be considered, including burns, arcing (which can damage the eyes) and ignition – setting fires or creating explosions if flammable/explosive materials are present. What is at stake, of course, is the health and safety of people and significant financial and business losses.

A balance always has to be struck between inspection and maintenance. Too little inspection/repair, and the risk will be too great; too much inspection/repair and the cost will be too great. The more preventative the maintenance, the lower the reliance on in-service inspection and repair to control risks in the first place.

Another important consideration is whether to use the same inspectors for maintenance or to perform maintenance independently. Also whether to subcontract or go in-house, the depth and frequency of the inspection (and maintenance); and the degree of detail in the inspection reports. Some FMs simply add electrical inspection to whatever in-service inspection arrangements they have for other items, such as lifting equipment.

Deciding on the depth and frequency of inspection, and the detail of reports, may be more difficult. The decision needs to be based on a potentially complex interaction between inspection activities, maintenance activities, production requirements, and stakeholder expectations.

It is considered good practice to make use of risk-based inspection (RBI) techniques to determine the approach to be taken for the in-service inspection and maintenance of fixed wiring. The rigour applied to the RBI assessment should be commensurate with the scale of the electrical risk at each premises. Generally, the benefits of RBI outweigh the cost. RBI delivers a specification for an inspection and maintenance regime that is suitable and sufficient and optimises the risk-control-per-unit cost.

The HSE has issued a very useful document, which is freely available to download from their website, www.hse.gov.uk entitled 'Memorandum of Guidance on the Electricity at Work Regulations, 1989.'