

## SAFed TC 3 — Electrical Installation Periodic Inspection and Testing

Issue 01 Dated 21 Oct 2013

# GUIDELINES ON ELECTRICAL INSTALLATION PERIODIC INSPECTION AND TESTING

*The Safety Assessment Federation (SAFed) is concerned over the hazards associated with the risks of the deterioration of all electrical installations.*

### Situation

All electrical installations deteriorate with time, exposing employees, contractors, members of the public and property to risk. Fires in commercial buildings cause millions of pounds in damages and injure hundreds of people each year and electrical faults are a major cause of fires. The electrical systems in many commercial facilities are increasingly at risk, with greater potential for fires, property damage and threat to human lives. Here's why:

- The UK's electrical infrastructure – including transformers and the electrical distribution systems within commercial structures is aging
- Recent business downsizings and restructuring often result in the reduction or elimination of maintenance personnel, and key maintenance tasks fall by the wayside
- Building electrical loads have increased, in some cases beyond electrical system capacity

Inspection and testing of an electrical installation can significantly reduce the risk of fire and electric shock.

### Regulations

The Health and Safety at Work Act 1974 is an Enabling Act which allows the Secretary of State to make further laws (known as regulations) without the need to pass another Act of Parliament. **Employers** and the **self-employed** are duty bound by the requirements of the Electricity at Work Regulations 1989 (EAW). The EAW Regulations require all electrical systems and apparatus to be maintained and require evidence of the steps taken to achieve this objective. Installations which conform with *BS7671: Requirements for Electrical Installations* are regarded by the Health & Safety Executive as likely to achieve conformity with the relevant aspects of the EAW Regulations. If a planned preventative maintenance system is not in place, this includes a requirement for periodic inspection.

### Electrical Inspection Provider

Using a SAFed member company ensures that consumers can have confidence in the provision of an inspection service. SAFed member companies are accredited by UKAS to the international standard for inspection bodies (ISO/IEC 17020) or are members of the NICEIC certification scheme. There is the risk of purchasing an inadequate electrical inspection service if the company selected is not a member of a suitable quality assurance scheme. SAFed members operate independently of installation and maintenance parties and therefore provide an impartial report with no incentive to over or under report on installation defects.

To find a member company click here: <http://safed.co.uk/member-services/find-a-member/>

### Periodic Inspection

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The installation is defined as the electrical system between the incoming supply point(s) and the final circuits. It does not include fixed appliances and associated supply cables or portable appliances although these inspection services can also be provided by a SAFed member company.

A visual inspection of the complete installation is carried out to verify the integrity of the installation, to identify any damage and to check that the system has been correctly selected and erected. The inspection also includes a number of tests to determine the condition of the installation and to ensure that essential protective devices will operate correctly. Some of this work will require isolation of the supply but the inspection company will work with you to minimise disruption.

#### Periodicity of Inspection

The frequency of periodic inspection is dependent on the type and use of the installation, the quality and frequency of maintenance and any external influences which the installation may be subject to. BS7671 provides guidance that the maximum period between inspection and testing is usually 3 or 5 years, but this could be more or less frequent depending on the type of installation. SAFed member companies can provide guidance directly to their clients or brokers. The Engineer Surveyor completing the inspection and testing is a 'Competent Person' under BS7671 and will recommend the next inspection date upon completion of the first inspection.

#### Electrical Installation Condition Report

A Condition Report to comply with BS7671 will be provided as evidence of the inspection and testing. Within agreed limitations, the inspection report will include observations and recommendations, schedules of test results and give an assessment of the condition of the installation. Dangerous defects will be notified in writing to the client whilst the Engineer Surveyor is still on site.

A survey with a thermal imaging camera is a very useful supplement to the installation inspection but it only covers limited aspects so it therefore cannot be a replacement for periodic inspection and testing.

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