

A new edition of one of the IET's Codes of Practice aims to stem unacceptable practice in PAT testing, and in this article we look at the changes. By Richard Townsend



CHANGES TO THE IET'S CODE OF PRACTICE FOR IN-SERVICE INSPECTION AND TESTING OF ELECTRICAL EQUIPMENT

ON 28 NOVEMBER 2011, the Lofstedt report was published, highlighting a significant level of legislative over-compliance by industry. One key issue identified in the report was confusion over PAT testing – widely misunderstood as a requirement to carry out inspection and testing annually, regardless of equipment type, usage or environment.

In fact, inspecting or testing annually has never been a requirement, and the new Code of Practice has been updated to emphasise and expand on this. ➤



RISK ASSESSMENT

█ The fourth edition of the Code of Practice for In-Service Inspection and Testing of Electrical Equipment has been written to emphasise the need to 'risk assess' the requirement for any inspections and tests. Risk assessments are vital to understanding what can affect any electrical equipment in use, and to be sure of its continued safe use.

Any risk assessment process must be carried out by the duty holder, because he or she is solely responsible for the safety and maintenance of equipment in his or her care. A duty holder may use an outside consultant to advise on the type and frequency of any inspections or tests; however, the duty holder is responsible in all cases, regardless of any consultant's advice.

In the past PAT testing has, in the majority of cases, been conducted by external contractors. These contractors have then, quite wrongly, set the frequency of the subsequent inspections and tests without consultation or input from the duty holder, and without an adequate – if any – risk assessment.

In many cases, Table 7.1 in the Code of Practice was used or misinterpreted as a definitive frequency chart. This is unnecessarily costing UK businesses a great deal of money each year. It has always been stressed that Table 7.1 is only intended to provide guidance on initial frequencies, and should only be used as a starting point where previous inspection and testing records and risk assessments are not available. Ongoing frequencies should be determined from a risk assessment.

IN THE OFFICE

Interestingly, there is a common misperception that general office areas are high-risk environments. In fact, office areas in general present very low levels of

risk, and subsequent risk assessments and frequencies should reflect this. The HSE publication INDG236: 'Maintaining portable electrical equipment in low-risk environments', gives further guidance and information on these types of environments. Risk levels are, in practice, also generally low for large server rooms in data storage, handling and call centres, etc, where, owing to the sensitive and critical nature of the information held, access is limited to persons directly responsible for upkeep and repair.

EXTERNAL CONTRACTORS

When external contractors are used to carry out PAT testing they should, in the first instance, be contracted to carry out inspections and testing only on equipment identified by the duty holder based on a risk assessment.

Duty holders can be the only persons with a knowledge of the factors that affect the equipment in their care, and not the contractor. If duty holders opt to use any information they receive from contractors to aid them with their risk assessment, they are clearly free to do so. However, the liability of responsibility will still remain with them, regardless of marketing claims made by any external contractors to the contrary. Duty holders need to be aware that in some instances equipment frequencies should be increased if evidence of significant deterioration of equipment or appliances is present.

There is a myth that PAT testing must be carried out by an external contractor.

This is not the case. If duty holders consider that suitably trained and competent persons exist within their organisations, they can, if they wish, take advantage of these resources in order to meet their obligations to adequately maintain equipment.

It is also possible that in-house competent persons could carry out less complex parts of the PAT procedure, such as inspections, even if their skill levels do not extend to complex testing. This could help to further reduce costs by only requiring more skilled and competent persons, possibly outside contractors, to carry out testing that falls outside of the competency of in-house staff.

Many duty holders believe that their insurance policy requires appliances to be inspected and tested annually; this is not the case. This was made clear by the Association of British Insurers (ABI) in the HSE press release, issued on 2 May 2012. Copies of this press release can be downloaded from the HSE website: www.hse.gov.uk/press/2012/hse-pattesting.htm.

The change in emphasis, from the wrongly perceived need for automatic annual inspection and testing, to inspection and testing schedules based on risk assessment, will empower duty holders and building managers to significantly reduce their proactive maintenance costs, and improve their understanding of their environment and the equipment they use in it. The HSE has already taken a large step in this direction, by reviewing the inspection and testing processes

within its own business unit. The same approach is also being applied in the IET's operating centres.

Local authorities are encouraged to adopt these new practices to help reduce their costs in line with government directives.

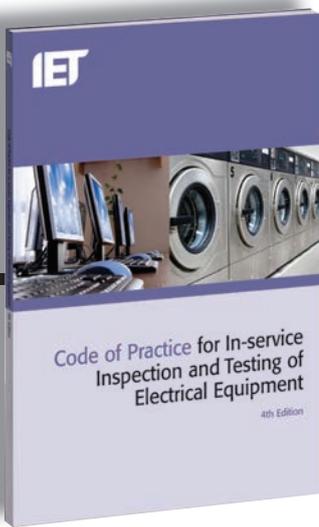
Leicester City Council is adopting the new risk-based approach to PAT testing when tendering for building services contractors. It is looking to halve its annual PAT testing costs in the short term, and aiming to develop its PAT testing processes to further reduce costs.

The importance of the new approach to local authorities is clear in the following statement from Anthony Carter, interim director of property for Leicester City Council: "If adopted by all local authorities this more risk-based approach will lead to significant reductions in the unnecessary spending of tax payers' money. This money can then be put to better use elsewhere."

LABEL FORMS

A significant change in the fourth edition of the Code of Practice is the modification of the model 'PASS' label forms. These no longer carry a 'next test due' date. The new labels carry only the equipment ID number, inspector or tester's initials, and the date of the initial test. This is to force duty holders to rely on their equipment registers to assess the next inspection or test date, and to move away from the unacceptable practice of non-duty-holding contractors setting the frequency of inspection and testing.

It is also a popular industry misconception that appliances should be labelled. There is no legal requirement to label appliances; however, it is good practice to do so, in order that records and ongoing maintenance can be demonstrated. Where labels are used they should be █



✓ durable and in an appropriate position on the equipment.

In addition to the changes to the model PASS label form, the 'Equipment register' has now become the 'Equipment formal visual and combined inspection and test record', and has been redesigned to improve usability and reflect industry requirements and practices.

HIRED EQUIPMENT

When equipment is hired for a particular task or contract, it becomes the responsibility of the hirer or duty holder to include it on their equipment register when relevant. Guidance on how this should be dealt with is contained within the Code of Practice. In essence, equipment that is hired for periods of more than one week should be assessed for risk of use and to determine adequate frequencies of inspection and testing. This assessment may be incorporated into the contract, lease or hire agreement provided it is relevant to the equipment, its users and the environment the equipment is to be used in. In all cases it remains the responsibility of the duty holder, or person hiring the equipment, to monitor any ongoing maintenance requirements.

Hired equipment can take the form of a number different equipment types, such as vending machines, water coolers and audio visual equipment. It is important that hired equipment is adequately controlled when used for long periods of time.

RENTING

Equipment supplied with rented accommodation is now covered in the fourth

edition of the Code of Practice, which details the responsibility of landlords to maintain equipment in a usable and safe condition. In the case of rented accommodation, landlords are the duty holders. If a landlord provides any electrical appliances as part of a tenancy, the Electrical Equipment (Safety) Regulations require the landlord to ensure that the appliances are safe when first supplied. Supplied equipment could for example include cookers, fridges, washing machines and kettles.

PRE-USED EQUIPMENT

Second-hand equipment is now defined, and guidance on the requirements for persons passing on second-hand equipment for commercial gain is now covered. This will help to promote the re-use and recycling of equipment that would otherwise either be sold untested, possibly in an unsafe state, or scrapped, even though it was still fit for its intended purpose and safe for continued use.

The new guidance has particular relevance with the increasing popularity of Internet auction sites and the prevalence of second-hand shops beginning or looking to sell pre-used electrical equipment and appliances.

FIXED EQUIPMENT

Fixed equipment has been defined and added as an equipment type, and guidance on the inspection and testing of this type of installed equipment is given. It is important that fixed equipment is dealt with and incorporated on a maintenance schedule, as it is frequently incorrectly inspected and tested, or ignored completely.

The inspection and testing of fixed equipment can be more complex than non-fixed equipment,

given the higher level of competency required when carrying out safe isolation and reconnection; duty holders need to be aware of the increased skill sets required.

EXTENSION LEADS

RCD extension leads and multi-way extension leads have more guidance on safe usage, taking into account current industry trends and providing clearer and more detailed advice on their use in office areas that have changed use from initial design, leaving a deficiency of fixed socket-outlets, etc. There is also a more detailed explanation of the tests required for RCD extension leads. Much of the publication's electrical testing information remains unchanged, with additions for new test types and better explanations for usages of touch testing, etc. The controversial microwave leakage testing section was initially updated, but subsequently removed completely from the Code of Practice. It was felt that microwave leakage testing was not a test of an appliance's electrical safety but was a secondary test that should be separate from the PAT-type electrical safety test. Microwave leakage testing should be carried out separately to PAT testing as it has a plethora of different implications for a very varied industry usage. As microwave leakage testing

is important it should be carried out after a robust risk assessment. This is required to ensure the safe and continued use of equipment based on the environment, its users, its build quality, its frequency of use, etc. The type of equipment used for leakage testing should also be carefully chosen, as many low cost devices may not meet the required standards for leakage testing. The IET is confident that the changes it has made to the Code of Practice for In-service Inspection and Testing of Electrical Equipment, fourth edition, will benefit the whole of industry and contribute to the safe reduction of costs at a time of severe financial constraints. This view is strongly endorsed by Peter Brown, Head of the HSE's Work Environment Division. Commenting on the HSE's support for the changes he said: "We welcome this revised Code of Practice. It complements HSE's guidance on maintaining portable electrical equipment and provides sensible, proportionate advice so that those who create the risks know how to manage them effectively. By emphasising a balanced risk-based approach to determine how frequently equipment should be maintained, it should help reduce the likelihood of businesses wasting money on unnecessary portable appliance testing." ❏

Further guidance on PAT testing can be found in 'INDG236: Maintaining portable electrical equipment in low-risk environments', and the updated HSE publication 'INDG231: Electrical safety and you', both available free from the HSE website: www.hse.gov.uk The Lofstedt report, and 'The Government's Response to The Lofstedt report', can be downloaded free from the Department for Work and Pensions website: www.dwp.gov.uk The Code of Practice for In-service Inspection and Testing of Electrical Equipment, fourth edition is available to pre-order on the IET website, www.theiet.org/cop-inspection, and will be published in early November.