Electricity

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1. Electricity

1.2 Purpose

To protect the health, safety and welfare of staff, students and visitors to the University from potential hazards associated with the use of electricity whether on or away from University premises and to comply with the requirements of the Electricity at Work Regulations 1989 (as amended).

1.3 Objectives

To ensure that all relevant people are aware of:
- the responsibilities of the University and the steps it will take in relation to electrical safety
- the responsibilities of staff and students in relation to electrical safety
- the frequency and types of testing and inspection of electrical systems undertaken

2 Policy Statement

Electrical accidents are often serious and almost always avoidable. The University of Dundee will comply with relevant legislation on electricity, train staff and students in the risks of electricity and safe working procedures and ensure that contractors comply with both national standards and local safety rules.

2.1 Responsibilities

Anyone, employee or contractor, who works on a fixed electrical installation must be competent to carry out that work safely and be authorised by the Director of Campus Services. Such competence includes special training as necessary; for example for High Voltage work.

Anyone, employee or contractor, who works on portable electrical equipment must be competent to carry out that work safely and be authorised by their Dean/Director.

Staff and students must not interfere with or attempt to repair or adjust any electrical installation or equipment unless they are competent and authorised to do so.

All electrical work will be carried out on dead systems with adequate precautions taken to ensure that the system cannot become live, except when the following conditions have all been fulfilled:

1. it is unreasonable for the work to be done dead, and
2. the risks of working on or near live conductors have been identified, assessed and the methods for controlling those risks have been identified, and
3. it is reasonable to work live, and
4. suitable precautions can be taken to prevent injury.
A high voltage electrical permit-to-work must be used for work on fixed electrical systems that have been made dead. Where the degree of danger of live working has been assessed as significant, written safe systems of work will be followed.

All fixed electrical installations and portable electrical equipment will be identified, documented and regularly inspected, tested and maintained to prevent serious and fatal injuries arising from electrical shock and burns, thermal and chemical burns, fires and explosions by Schools/Support Services. Director of Campus Services will ensure fixed electrical installations are maintained and inspected: Deans/Directors will ensure portable electrical equipment connected to a source of electrical energy (e.g. fixed installation, generator or inverter) are maintained and inspected in accordance with Guidance given below.

Staff who wish to use their own electrical equipment at work must arrange for it to be inspected by a competent person before it is used in University of Dundee premises. Contractors bringing their own electrical equipment on site must be able to evidence that is safe.

Further information and advice on electrical safety can be obtained from Safety Services on Ext. 84104.

3 Further information

3.1 Competency

HSR25 (the HSE guide to The Electricity at Work Regulations 1989) provides explanation of Regulation 16 (Persons to be competent to prevent danger and injury). HSR25 states that people engaged in work with electrical equipment must possess sufficient technical knowledge or experience to ensure that injury and/or danger is prevented. Technical knowledge or experience is further defined and HSR25 states that it should include:

a) adequate knowledge of electricity
b) adequate experience of the electrical work being carried out
c) adequate understanding of the system to be worked on and practical experience of that class of system
d) understanding of the hazards which may arise during the work and the precautions which need to be taken
e) the ability to recognise at all times whether it is safe for work to continue

The University does not stipulate a particular qualification or experience level, since the required degree of competency will vary according to the work being done. As noted above, senior managers must authorise people to undertake electrical work and this will involve ensuring a person’s appropriate level of competency for the type of work being undertaken. As a guide, for simple portable appliance testing, passing a recognised PAT course would be sufficient (for small teams of people working in defined areas and PAT testing similar types of equipment it would be adequate for one team member to have passed a recognised PAT course and for the other team members to be
formally instructed by this person). For repair work on electrical equipment or the installation of fixed wiring, a recognised professional qualification and suitable experience would be required.

3.2 Guidance on maintenance of portable electrical equipment

The Electricity at Work Regulations 1989 (as amended) require that any electrical equipment which has the potential to cause injury is maintained in a safe condition. However, the Regulations do not specify what needs to be done, by whom or how frequently (i.e. there is no legal requirement for an annual inspection/test of all portable appliances).

The most important measure to ensure electrical equipment is maintained and used in a safe manner is for staff and post-graduate students to follow the guidance given on electrical safety in the staff H&S handbook. It is especially important all staff and post-graduate students report faults, damage, breakages, missing parts/cover on electrical equipment and take action to prevent such equipment from being used until it is repaired.

For large items of equipment under a maintenance contract no additional maintenance is required.

Electrical equipment used in a clinical context must be maintained by NHS Tayside, or to an equivalent standard.

Detailed advice on inspection regimes for electrical equipment of varying ages used in different environments is given below. Contact Safety Services for advice if the guidance does not cover the equipment or environment found in your School/Support Service.

The University has a contract with an external company for the testing of portable equipment. The provider has been appointed following a Procurement process and the use of this provider is encouraged since it removes the need for Schools and Directorates to appoint and train staff and to procure/maintain or rent testing equipment.

Records must be kept and available for inspection by Insurers and Enforcing Authorities to evidence a maintenance system is in place. A record will include identifying details of the item, date purchased and dates and results of inspection. Usually these records will form part of a School/Support Services asset register.

3.2.1 New equipment

Equipment purchased from a reputable supplier, CE marked with a plug to BS1363 should be visually checked for damage before first use. Any other equipment new to the School/Support Service should be inspected by a competent electrical engineer before use.

3.2.2 Office equipment less than 10 years old used exclusively by staff and post-graduate students

Items of equipment which are rarely moved (desktop computers, table lamps, fax machines, printers) and their leads should be visually checked when they are moved.
Small portable items of equipment and their leads (e.g. laptops and projectors) which are moved frequently should be visually checked before use.

Small portable heaters should be visually checked before use and have a combined inspection and test every two years.

Extension leads should be purchased from a reputable supplier and have a moulded plug and non-rewirable block. They should be visually checked before use and have a combined inspection and test every two years.

3.2.3 Office equipment less than 10 years old used by undergraduate students

Items of equipment in constant use throughout term time should be visually inspected by staff weekly.

Items of equipment which are used periodically should be visually inspected before and after use.

Extension leads should be purchased from a reputable supplier and have a moulded plug and non-rewirable block. They should be visually checked weekly and have a combined inspection and test every two years.

3.2.4 Office equipment more than 10 years old

In addition to visual checks equipment should have a combined inspection and test when they are ten years old, and there-after be tested annually.

3.2.5 Kitchen equipment in staff kitchen areas

Fridges and freezers should be visually checked when they are moved until they are replaced: usually within 15 years.

Microwave ovens should be visually checked when they are moved until they are replaced: usually within 10 years. Note that a leakage test is no longer part of the standard for PAT, since it does not reflect electrical safety. Microwave ovens should be cleaned regularly, including around the door seal, and any damage to the case or faults with safety interlocks repaired immediately by a competent person or the microwave oven replaced.

Small kitchen appliances (e.g. kettle, toasters, sandwich makers, blenders) should be visually inspection before use and replaced within 2 years (heavy use) or 4 years (light use), or have a combined inspection and test annually thereafter. Note that cooking equipment should only be located in appropriately specified kitchen areas.

3.2.6 Laboratory equipment used by staff and post-graduate students

Large items of equipment which are rarely moved and are unlikely to suffer either physical or chemical (from spills) damage (e.g. fridges and freezers) should be visually checked for damage when


they are moved until they are replaced: usually within 15 years.

Items of equipment which are rarely moved and unlikely to be damaged in routine use should be visually checked before use, and should have a combined inspection and test every five years until they are ten years old when they should have a combined inspection and test by a competent person every two years.

Items of equipment which are moved frequently or are likely to be damaged in routine use (e.g. spills, used in cold or hot rooms, or a damp, humid or corrosive environment, or likely to be misused) should be visually checked before use, and should have a combined inspection and test by a competent person every two years.

Hand held equipment should be visually checked for damage before and after use. They should have a combined inspection and test by a competent person annually.

3.2.7 Laboratory equipment provided for use by under-graduate students in practical classes

Items of equipment in constant use throughout term time should be visually inspected by staff weekly.

Items of equipment which are used periodically should be visually inspected before and after use.

These items of equipment should have a combined inspection and test by a competent person every two years.

Hand held equipment should be visually checked for damage before and after use. They should have a combined inspection and test by a competent person annually.

3.2.8 Workshop equipment used by staff and post-graduate students

Items of equipment which are rarely moved and unlikely to be damaged in routine use should be visually checked before use, and should have a combined inspection and test every five years until they are ten years old when they should have a combined inspection and test by a competent person every two years.

Items of equipment which are moved frequently or are likely to be damaged in routine use (e.g. spills, used in damp, corrosive or humid environment, likely to be misused) should be visually checked before use, and should have a combined inspection and test by a competent person every two years.

Hand held equipment should be visually checked for damage before and after use. They should have a combined inspection and test by a competent person annually.

3.2.9 Workshop equipment provided for use by under-graduate students in practical classes

Items of equipment in constant use throughout term time should be visually inspected by staff
weekly.

Items of equipment which are used periodically should be visually inspected before and after use. These items of equipment should have a combined inspection and test by a competent person every two years.

Hand held equipment should be visually checked for damage before and after use. They should have a combined inspection and test by a competent person annually.

3.2.10 Hand held equipment used by cleaning and maintenance staff

Staff should visually check for damage before and after use. They should have a combined inspection and test by a competent person annually.

3.2.11 Equipment owned and used by under-graduate students

In rooms where students plug in laptops or other electrical devices teaching and support staff should check that leads are routed safely and the equipment has a BS 1363 plug, or a Euro-converter plug. They should ask students to unplug any equipment they consider to be unsafe and advise the student concerned to have it repaired or replaced.

3.2.12 Other equipment, environment or activity not detailed above

Contact Safety Services for advice.

3.3 Calibration of PAT testing equipment owned by Schools & Directorates

Industry guidance recommends that PAT testing equipment is calibrated and safety checked (PAT tested itself if mains operated) once a year. This should be undertaken by a suitably qualified person, which usually means sending the unit back to the manufacturer or to a third party calibration service provider. Records of this maintenance should be kept.

3.4 Related Policies, Procedures, Guidelines and Local Protocols

Related guidance can be found in the staff and student health and safety handbooks.

3.5 Definitions & Abbreviations

“PAT” means Portable Appliance Test
4 Document Information

4.1 Equality Impact Assessment

This policy has undergone screening for impact on protected characteristics covered under the Equality Act 2010 and no impact has been identified.

4.2. Approvals & Renewals

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