

Electrical Management Policy

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Contents

1. Introduction	3
2. Scope.....	3
3. Definitions	3
4. Roles and responsibilities	4
4.1 The Board of Governors	4
4.2 The Vice Chancellor	4
4.4 The Head of Health and Safety	6
4.5 The Director of Estates.....	6
4.6 Deans of School/ Directors of Professional Services Departments	6
4.7 Contractors	6
4.8 Estates Department	7
4.9 Project managers	7
4.10 Staff, Students and Visitors	7
5. Procurement of equipment.....	7
5.1 Disposal.....	8
6. Implementation / Communication Plan	8
7. Training	8
8. Monitoring and reviewing	8
9. Safe working practices.....	9
9.1 Portable appliance testing	9
9.2 Contractor appliances	9
9.3 Personal and custom made appliances	9
9.4 Fixed installation and equipment.....	10
9.5 Hazardous Areas.....	10
10. Legislative Context	10
Appendix A.....	12

1. Introduction

Electricity is used for every aspect of London Metropolitan University activities and will generally be perfectly safe. However, if not maintained; if equipment that is unsafe is plugged into the supply; or systems are overloaded, electricity can be a fire risk and potentially a threat to life.

2. Scope

The Electrical Safety Policy is applicable to everyone using electrical equipment or electrical supply in the London Metropolitan University including contractors, students, venue hirers, and staff. It relevant to every item of electrical equipment used on or in London Metropolitan University managed premises and is written to include all aspects of LMU electrical use.

3. Definitions

- Low Voltage (LV) – Voltages below 1,000 VAC or 1,500 VDC
- Extra Low Voltage (ELV) – Voltages below 50 VAC or 120 VDC.
- Reduced Low Voltage (RLV) – 110 VAC centre tapped to earth (55 VAC to earth).
- Portable Appliance – any portable, transportable, or moveable appliance, machinery, or research equipment plugged in to the electrical distribution system through a socket outlet.

4. Roles and responsibilities

4.1 The Board of Governors

The board of governors has ultimate responsibility for ensuring that all staff, volunteers, students, contractors, and others likely to be affected by our activities, are able to work and study in a safe way in our buildings.

4.2 The Vice Chancellor

Has overall responsibility for ensuring the Electrical Safety Policy is applied and relevant regulations complied with and formally approves these procedures.

4.3 Deputy Vice Chancelor

Deputy VC will ensure that this policy is regularly reviewed and all works and management procedures reflect It (see section 8).

4.4 The Head of Health and Safety

The Head of Health and Safety provides competent support and manages a professional team to lead on all health and safety matters and will provide staff, contractors, and students with electrical safety information as required.

4.5 The Director of Estates

Has responsibility to ensure that the policy and relevant legislation and guidance are complied with, and will in person or through delegated responsibilities:

- Ensure electrical circuitry testing is undertaken on a 5-year cycle
- Ensure remedial actions identified in the survey are responded to in a timely way
- Ensure an across university Portable Appliance Test (PAT) regime is set at intervals to manage risk but ordinarily no more than two years.
- Ensure all contractors working on University premises are able to demonstrate competence to work with electrical devices and that the devices are subject to portable appliance testing or maintenance regimes

4.6 Deans of School/ Directors of Professional Services Departments

Will ensure their staff and students are aware of the risks associated with electricity and take all necessary steps to protect from electrical risk in particular, they will ensure, so far as is reasonably practicable:

- Any activity, which requires the use of electricity, by their contractors, staff or students does not put individuals at risk.
- All devices to be used with the University's electrical supply are fit for purpose, carry current portable appliance check labelling or are visually safe to use.
- All school/department owned electrical items undergo a regular Estates instigated Portable Appliance Test.
- Ensuring training is provided to all staff who require it and those that manage electrical equipment and installations are competent to do so.
- Auditing electrical management data on a regular basis for quality assurance purposes

4.7 Contractors

Will ensure electrical equipment is fit for purpose and carries relevant certification or portable appliance test.

In particular they will ensure:

- All electrical or similar cabling is suitably designed and installed to comply with the latest edition Wiring Regulations BS 7671
- All fire compartmentation and fire stopping are maintained
- On completion of works schematic diagrams will be lodged with the project health and safety file.

4.8 Estates Department

Are responsible for power supplies, distribution, and connection of hard-wired installations including machinery and electrical equipment throughout the University. As well as new electrical installation projects, and operation and maintenance of existing installations and equipment.

4.9 Project managers

Are responsible for ensuring contractors understand what they can do, and must not do, in relation to electrical distribution and electrical equipment and that staff who carry out electrical work are competent to do so.

A Permit to Work is required for any contractor activity that requires isolation or disruption to electrical services.

4.10 Staff, Students and Visitors

The University recognises that students bring their own laptop computers, tablets, and mobile phones chargers onto the campus. There is no objection to sensible use of personal equipment providing it conforms to EU standards and is compatible with the UK 230V, 50Hz electrical supply.

All users in the university have a duty to be vigilant and report any wear or damage to plugs, sockets, switches, flexible power cords and equipment which may expose people to danger via ask@londonmet.ac.uk. Staff and students using items of personal equipment on the campus are responsible for ensuring that they comply with European and British Standards and they are in a safe condition to use.

Where, during Portable Appliance Testing, staff owned equipment is found connected/with the potential to be connected to University power; the item will be included in the testing.

Student projects encompassing electrical power will be supervised by Academic Tutors and Laboratory Managers. Projects are normally set at safe extra low voltage levels but any potentially hazardous projects will be subject to risk assessment and if found to be above safe extra low voltage levels or with particular hazards such as exposed parts, stored energy, radiated electromagnetic fields, or emitting laser energy shall be subject to a risk assessment by a competent electrical engineer and/or radiation specialist.

5. Procurement of equipment

Electrical equipment procured by the University for standard use in academic buildings will be CE marked, compatible with the UK supply, and comply with the Electrical Equipment (Safety) Regulations 1994. Specialist equipment for use in explosive atmospheres, radiology and medical purposes, and lifts will be supplied in compliance with their Regulations. Bespoke or innovative equipment for research which falls outside of international or national standards must nonetheless comply with the fundamental safety requirements of the Regulations.

The University in conjunction with suppliers of the equipment must satisfy themselves as to the compliance of the electrical equipment with the Regulations. Second-hand equipment does not necessarily have to be CE marked.

5.1 Disposal

Equipment must be disposed of in accordance with the EU Waste Electrical and Electronic Equipment (WEEE) Directive and where applicable the Hazardous Waste Directive.

6. Implementation / Communication Plan

The policy will be made available on the University intranet and Health and Safety pages. Electrical Safety needs to be communicated and adopted by Estates Services and their partner contractors, as well as all Project Managers and their electrical contractors.

Managers should promote electrical safety among staff and students and encourage them to report any faults which may cause danger. Electrical faults should be communicated by telephone in emergency or via the Accident and Incident reporting procedure. Injuries should be reported to Security or a first aider and emergency services called as required.

7. Training

Those managing electrical installations and appliances must be competent to do so. The Learning and Development Team will facilitate all relevant training and maintain records.

8. Monitoring and reviewing

This policy will be reviewed periodically to ensure that it continues to ensure the safe use of electricity at work. It is the responsibility of the Deputy VC, assisted by Health and Safety Team, to ensure that:

- A review of the on-going suitability, adequacy and effectiveness of the policy is undertaken at least annually. More frequent reviews will be undertaken whenever warranted e.g. whenever there is a significant change to the structure of the organisation, or personnel responsible for its implementation.
- Relevant people are notified where revisions have been undertaken.
- Improvement actions and timescales are agreed at the time of each audit.
- Conclusions of each monitoring and review must be recorded and maintained on file.

9. Safe working practices

9.1 Portable appliance testing

HSG 107 <http://www.hse.gov.uk/pUbns/priced/hsg107.pdf> sets the frequency of testing for electrical equipment. **See table in Appendix A**

Portable appliance testing must be carried out by specialist approved contractors, or staff who have appropriate electrical skills to use a sophisticated instrument that gives readings requiring interpretation. Such a person would need to be competent through technical knowledge or experience related to this type of work.

Any portable appliance that fails either a visual inspection or a formal test must be disconnected, withdrawn from service, marked as 'Unsafe – Not to be used', and either made safe by a competent electrician or disabled and disposed of according to University waste disposal requirements.

Estates complete portable appliance across all aspects of the university every 12 months. An ad-hoc PAT test may be requested via ask@londonmet.ac.uk.

9.2 Contractor appliances

Contractor appliances must carry current testing certification as specified by HSG 107.

The preferred system for use on construction and refurbishment sites around the University is to use cordless battery powered tools, or those that operate from a reduced low voltage supply with automatic disconnection comprising a 110 VAC centre-tapped to earth (CTE) supply transformer so that the maximum voltage to earth does not exceed 55V.

9.3 Personal and custom made appliances

Electrical equipment made, repaired, or modified in the University must comply with the Electrical Equipment (Safety) Regulations 1994 and its design, safety and operation documented and certified safe for use by a competent electrical engineer. Students/staff personal equipment is considered to be within the workplace when used to perform a curriculum or an activity approved by the Dean / Director due to take place on or off campus. The students and staff must ensure that the equipment is PAT tested and labelled as PASS with a valid date well in advance before used. The Staff and event organisers should perform visual inspections as minimum to ensure that all the Equipment used within their area either as part of any activity carried out as part of School curriculum, for any event organised by the University or for any other reasons on behalf of the University is PAT tested and labelled accordingly .

9.4 Fixed installation and equipment

- Fixed electrical equipment on University premises will be maintained in accordance with a planned preventative maintenance routine.
- Fixed wiring installations must only be worked on by qualified electricians and engineers.
- Fixed wiring is maintained by the university's contractor partner and must only be controlled by them or their sub-contractors. LMU contractors must be issued with a permit to work on the electrical supplies.
- Fixed wiring will be designed, installed, and maintained in accordance with the statutory Regulations, British Standards, the Wiring Regulations, and established practice of the UK electrical industry.

9.5 Hazardous Areas

Electrical equipment in Hazardous Areas Hazardous areas (where an explosive atmosphere may occur due to flammable gases or volatile liquid vapours) are classified according to BS EN 60079.

Electrical equipment for installation or use in hazardous areas must conform to the necessary standards:

- Ex i (intrinsically safe)
- Ex d (flameproof)
- Ex n (low temperature non-sparking)
- According to the area classification Zone 0, Zone 1 or Zone 2.
- Hazardous area installations must be approved by a competent electrical engineer.

10. Legislative Context

The **Electricity at Work Regulations 1989** impose duties in respect of all electrical systems, equipment, and conductors. These regulations require all electrical equipment and systems to be designed, installed, and maintained to prevent danger "so far as is reasonably practicable". It covers all electrical apparatus whether portable or fixed, and of any voltage or current.

The **Provision and Use of Workplace Equipment 1998** also places a requirement to regularly check and maintain equipment.

The **Regulatory Fire Order 2005** requires us to assess and manage the risk of fire.

Wiring Regulations BS 7671:2008 Incorporating Amendment 3:2015 and 2018, 'The Wiring Regulations', published by the IET and currently in progression to the 18th edition. These regulations set out requirements for design, testing and inspection of new LV installations, alterations and extensions, and periodic inspection and testing in maintenance.

The Code of Practice for In-service Inspection and Testing of Electrical Equipment published by the IET, currently 4th Edition (2012) applies to the fixed wiring installation in buildings.

Portable Appliance Testing HSG 107 provide guidance for managers, electricians, and users for maintaining and inspection and test of portable, movable, or transportable electrical equipment to prevent danger. Examples include power tools, office and IT equipment, cleaner's equipment, domestic appliances, and similar equipment used in laboratory, teaching, faculty, and construction environments. The IET Code of Practice for In-service Inspection & Testing of Electrical Equipment provides further practice guidance.

Guidance on the Electricity at Work Regulations – 2015. HSR 25 sets out the Regulations and gives technical and legal guidance on them to highlight the nature of the precautions in general terms and help duty holders achieve high standards of electrical safety in compliance with the duties imposed.

Electrical Equipment (Safety) Regulations 1994 applies to manufacture of electrical equipment designed or adapted for use in the workplace between 50- and 1,000-volts ac, or 75- and 1,500-volts dc. This would apply for example to apparatus made in- house for laboratory use in research, testing or teaching. Separate regulations apply for equipment for use in an explosive atmospheres and equipment for radiology and medical purposes.

Hazardous Areas Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 1996 apply to all equipment intended for use in explosive atmospheres, and certification ensures that the equipment or protective system is fit for its intended purpose.

The **Control of Electromagnetic Fields at Work Regulations 2016** sets out minimum requirements for exposure of workers to risks from electromagnetic fields.

Appendix A

Type of Business		User Checks	Formal Visual Inspection	Combined inspection and Test
Equipment hire		N/A	Before issue/after return	Before issue
Battery operated equipment (less than 40 V)		No	No	No
Extra low voltage (less than 50 V ac), telephone equipment, low voltage desk lights		No	No	No
Construction	110V equipment	Yes, Weekly	Yes, Monthly	Yes, before first use on site Then 3 monthly
	250V equipment	Yes, Daily/every shift	Yes, Weekly	Yes, before first use on site Then monthly
	Fixed RCDs	Yes, Daily/every shift	Yes, Weekly	Yes, before first use on site Then 3 monthly (Portable RCDs monthly)
	Equipment site offices	Yes, Monthly	Yes, 6 monthly	Yes, before first use on site Then yearly
Heavy industrial/high risk of equipment damage (not construction)		Yes, Daily	Yes, Weekly	Yes 6-12 months
Light Industrial		Yes	Yes, before initial use then 6 monthly	Yes 6 -12 months
Office information technology rarely moved (i.e.) desktop computers, photocopiers, fax machines		No	Yes 2- 4 years	No if double insulated otherwise up to 5 years
Double insulated (Class II) equipment moved occasionally (not hand-held) (i.e.) Fans, table lamps		No	2 – 4 years	No
Hand-held double insulated (Class II) equipment (i.e.) some floor cleaners, some kitchen equipment		Yes	Yes 6 months – 1 year	No
Earthed (Class II) equipment (i.e.) electric kettles, some floor cleaners		Yes	Yes 6 months – 1 year	Yes 1- 2 years
Cables, leads and plugs connected to Class I equipment, extension leads and battery charging equipment		Yes	Yes 6 months – 4 years depending on type of equipment it is connected to	Yes 1- 5 years depending on the equipment it is connected to