
Electrical Services Policy

EM&I C002

Version 1.0

15th May 2015



UCL Estates Electrical Services Policy

Version Control

Version	Date	Nature of Revision	Author	Approved By	Signed
V 1.0	15/05/2015	First draft	L D Markwell	<i>M. F. [Signature]</i>	<i>LM</i>

Page 2 of 14	Estates, Maintenance & Infrastructure	Electrical Services Policy
	Owner: Senior Programme and Performance Manager	Version 1.0
Doc No:	Author: Leon Markwell	15/05/2015
EM&I C002	12.12 Programmes & Performance\Compliance\Policies and Standards	Uncontrolled when printed

Contents Page

Section	Page
1.0 Introduction	4
2.0 Purpose.....	4
3.0 Scope	4
4.0 Management Responsibilities.....	5
4.1 Roles and responsibilities.....	6
4.1.1 UCL Council – Duty Holder	6
4.1.2 The President and Provost	6
4.1.3 Senior Management Team	6
4.1.4 UCL Safety Services	6
4.1.5 UCL Director of Estates.....	6
4.1.6 Director, Facilities & Infrastructure	7
4.1.7 Head of Engineering – Responsible Person - Electrical Systems and Equipment Safety Governance.....	7
4.1.8 Responsible Person – Electrical Systems and Equipment – Operation	8
4.1.9 Responsible Person – Electrical Systems and Equipment – Review & Change	8
4.1.10 Responsible Person – Authorising Engineer (Electrical).....	9
4.1.11 UCL Estates (Project Managers, University Project Officers and University Service Managers).....	9
4.1.12 Contractors (and managers employing contractors)	10
4.1.13 Heads of Departments (other than UCL Estates), Responsible Person – Electrical Systems and Equipment - Systems Governance.....	10
4.1.14 Appointed Person – Statutory Testing.....	11
4.2 Records.....	12
4.3 Training and competence (See also UCL Authorisation of Technical Competence)	12
4.4 Monitoring & Review.....	13
5.0 References.....	13

1.0 Introduction

The University recognises its statutory obligations under the Health & Safety at Work Act 1974, The Management of Health & Safety at Work Regulations 1999 and The Electricity at Work Regulations 1989 to identify and control the risks to students, staff & visitors from exposure to electrical dangers.

It aims to do this by having procedures in place which provide for the safe design, installation and maintenance and the inspection and testing of electrical systems and equipment to prevent such danger.

This policy outlines systems and procedures to control the risks of electrical fires, burns or electric shock from the university's electrical systems and equipment. For the purposes of this standard "electrical systems and equipment" are defined as anything used, installed to be used or intended to be used to generate, provide, transform, rectify, convert, conduct, distribute, control, store, measure or use electrical energy, and this includes high voltage and low voltage fixed electrical installations and equipment and "portable appliances" or mobile in-service electrical equipment connected to the electrical system. Also, for the purposes of this standard "low voltage" is defined as up to 1 000V ac or 1 500 V dc, and high voltage is anything above this level.

(Note: The terms "Portable Appliance", "Portable Appliance Testing" and "PAT Testing" are deprecated terms and should not be used. The terms "mobile equipment" and "In-service inspection and testing of electrical equipment" are preferred.)

2.0 Purpose

The purpose of this document is to detail the UCL management arrangements to be followed to ensure compliance with its legal duty to control the risk associated with the dangers of electrical fires or electric shock and covers the following:

- Roles and responsibilities
- Records
- Training
- Monitoring & review

3.0 Scope

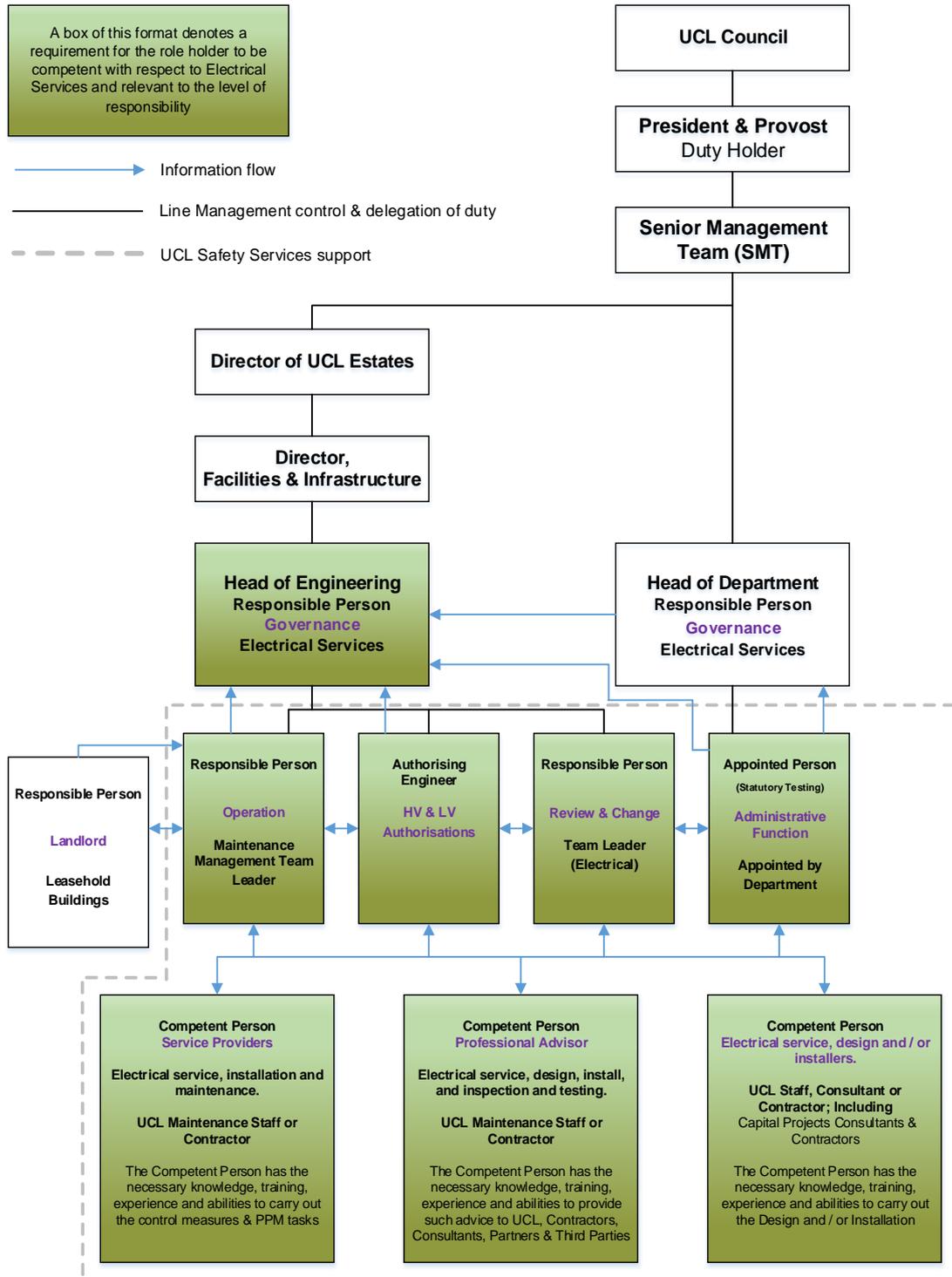
This document details how UCL will address the issue of the safety of electrical systems and equipment. The University has a duty of care to all Students, Staff and Visitors across its entire Estate and as such, this Estates Policy shall be applicable to all UCL UK buildings, as listed on the UCL Building Register.

The only exception to this is with regards to leasehold buildings, where UCL does not hold the maintenance or repair obligations. In such areas, the UCL Responsible Person – Electrical Systems and Equipment Safety Governance shall ensure that the Landlord is carrying out such tasks to the same level of conformity and diligence.

Page 4 of 14	Estates, Maintenance & Infrastructure	Electrical Services Policy
	Owner: Senior Programme and Performance Manager	Version 1.0
Doc No:	Author: Leon Markwell	15/05/2015
EM&I C002	12.12 Programmes & Performance\Compliance\Policies and Standards	Uncontrolled when printed

Where UCL has members of staff and students using these buildings there is a duty of care to ensure that the duty holder in those buildings has adequate risk assessments and management in place for controlling electrical safety risks, or that UCL completes an assessment for the area under our control.

4.0 Management Responsibilities



4.1 Roles and responsibilities

The principal responsibilities for the management of health and safety are stated in the UCL Safety Policy. Specific responsibilities relating to the management of electrical systems and equipment are stated below.

4.1.1 UCL Council – Duty Holder

UCL Council, as the employer, has the ultimate responsibility for health and safety and is the duty holder for UCL.

UCL Council has delegated the duty of the day-to-day running of UCL, which includes the management of health and safety, to the President and Provost.

4.1.2 The President and Provost

The President and Provost is the duty holder responsible to UCL Council for the day-to-day duty holder responsibilities of UCL in all of its activities, including the safe management of electrical systems and equipment.

The role takes overall responsibility to ensure that the standard for the management of electrical systems and equipment is implemented and that appropriate funding is made available to carry out works.

The Council has constituted the Health & Safety Committee (HSC) to determine a policy framework for health and safety and the executive arrangements therein, which includes the management of electrical systems and equipment.

4.1.3 Senior Management Team

The SMT are responsible to the Council for the planning, consultation and dissemination of the arrangements made within this Estates Policy and shall maintain details of appointees with responsibilities for the management of electrical systems and equipment and the reporting of relevant information to UCL Estates.

4.1.4 UCL Safety Services

UCL Safety Services are responsible for the provision of independent competent safety advice and for reviewing departmental organisation and arrangements.

4.1.5 UCL Director of Estates

The UCL Director of Estates has responsibility for the strategy and budget allocation for the management of the safety of electrical systems and equipment

Page 6 of 14	Estates, Maintenance & Infrastructure	Electrical Services Policy
	Owner: Senior Programme and Performance Manager	Version 1.0
Doc No:	Author: Leon Markwell	15/05/2015
EM&I C002	12.12 Programmes & Performance\Compliance\Policies and Standards	Uncontrolled when printed

at UCL.

The UCL Director of Estates through the Director of Engineering and Faculty Directors is responsible for day-to-day management control of electrical systems and equipment with the technical support from Safety Services.

4.1.6 Director, Facilities & Infrastructure

The Director, Facilities & Infrastructure is responsible for the allocation of finances and resources for the assets under the Directors control which are subject to potential dangers from electrical systems and equipment.

The Director allocates resources to ensure training and competency is sufficient for the responsible persons to undertake their duties.

4.1.7 Head of Engineering – Responsible Person - Electrical Systems and Equipment Safety Governance

In all instances the term ‘Responsible Person’, and the associated duties, apply equally to any nominated Deputy formally appointed to act on all occasions when the nominated Responsible Person is unavailable.

The Head of Engineering has managerial responsibility for the governance of electrical systems and equipment risk compliance and providing supervision for implementation of the precautions throughout the UCL estate through:

- Managerial responsibility for the UCL Estates Policy and SOP for the management of UCL’s, electrical systems and equipment risks.
- Appointing, in writing, ‘Responsible Persons’ to be responsible for the day-to-day management of UCL’s electrical systems and equipment risks and compliance with statutory regulations, current standards and requirements, UCL Policy and Standard Operating Procedure.
- Ensuring that the Responsible Persons are aware of their roles and responsibilities and that they are competent to carry them out.

The full details, expectations and requirements of this role are contained within the UCL Electrical Systems and Equipment Standard Operating Procedure, which is controlled by UCL Engineering, Maintenance and Infrastructure. The Standard Operating Procedure forms part of this policy.

Page 7 of 14	Estates, Maintenance & Infrastructure	Electrical Services Policy
	Owner: Senior Programme and Performance Manager	Version 1.0
Doc No:	Author: Leon Markwell	15/05/2015
EM&I C002	12.12 Programmes & Performance\Compliance\Policies and Standards	Uncontrolled when printed

4.1.8 Responsible Person – Electrical Systems and Equipment – Operation

In all instances the term ‘Responsible Person’, and the associated duties, apply equally to any nominated Deputy formally appointed to act on all occasions when the nominated Responsible Person is unavailable.

The Responsible Person – Electrical Systems and Equipment - is a duty holder and has been delegated the primary role to act as administrator in the management of electrical systems and equipment in accordance with the UCL Standards and has managerial responsibility for supervising the implementation of this UCL Estates Policy, the Standard Operating Procedure, and the management of the electrical systems and equipment under the control of UCL Estates.

The full details, expectations and requirements of this role are contained within the UCL Electrical Systems and Equipment Standard Operating Procedure, which is controlled by UCL Engineering, Maintenance and Infrastructure. The Standard Operating Procedure forms part of this policy.

4.1.9 Responsible Person – Electrical Systems and Equipment – Review & Change

In all instances the term ‘Responsible Person’, and the associated duties, apply equally to any nominated Deputy formally appointed to act on all occasions when the nominated Responsible Person is unavailable.

The Responsible Person – Electrical Systems and Equipment – Review & Change is a duty holder and has been delegated the managerial responsibility for reviewing the compliance and performance against this UCL Estates Policy.

The Responsible Person - Electrical Systems and Equipment – Review & Change produces and develops the estates policy and standard operating procedures for the management of electrical systems and equipment risks on behalf of the Head of Engineering, and periodically audits their implementation.

The Responsible Person – Electrical Systems and Equipment – Review & Change has also been delegated the managerial responsibility for supervising the implementation of this policy and the policy management of any changes, additions to, or replacements of existing fixed electrical systems, or any new installations of fixed electrical systems and equipment under the control of UCL Estates.

The full details, expectations and requirements of this role are contained within the UCL Electrical Systems and Equipment Standard Operating Procedure, which is controlled by UCL Engineering, Maintenance and Infrastructure. The Standard Operating Procedure forms part of this policy.

Page 8 of 14	Estates, Maintenance & Infrastructure	Electrical Services Policy
	Owner: Senior Programme and Performance Manager	Version 1.0
Doc No:	Author: Leon Markwell	15/05/2015
EM&I C002	12.12 Programmes & Performance\Compliance\Policies and Standards	Uncontrolled when printed

4.1.10 Responsible Person – Authorising Engineer (Electrical)

In all instances the term ‘Responsible Person’, and the associated duties, apply equally to any nominated Deputy formally appointed to act on all occasions when the nominated Responsible Person is unavailable.

The Authorising Engineer (Electrical) is a duty holder appointed in accordance with the requirements of the UCL Authorisation of Technical Competence document to select and appoint electrical “Authorised Persons” and “Competent Persons” to specific duties once they are deemed competent for these duties by the Authorising Engineer (Electrical).

The Authorising Engineer (Electrical) is to appoint sufficient persons as the Engineer considers necessary to fulfil the required duties, and maintain a register of their qualifications, training and experience and periodically audit their operations.

The Authorising Engineer (Electrical) is also to maintain an electrical equipment “Operational Restrictions” register to ensure the operational integrity of electrical equipment. The Engineer shall also maintain a register of UCL electrical test equipment and ensure its regular safety inspections and calibration as required.

The engineer shall also witness the handover of all contractors’ electrical works to UCL along with all UCL operatives training and maintenance documentation.

4.1.11 UCL Estates (Project Managers, University Project Officers and University Service Managers)

Project Managers, University Project Officers and University Service Managers and the consultants they appoint are responsible for ensuring that fixed electrical systems and equipment are designed and installed in compliance with the documents contained in the Reference section to this UCL Policy, and the requirements of this UCL Policy and Standard Operating Procedure.

The Responsible Person – Electrical Systems and Equipment – Review & Change is to approve each stage of the design and acceptance.

The Project Managers, University Project Officers and University Service Managers will be responsible for ensuring that electrical plant and services are capable of meeting the required increased demand where a fixed electrical system is designed to be extended, and for the provision of operation and maintenance documentation and as-fitted drawings at the time of handover, together with all commissioning data.

No system will be accepted unless the Responsible Person – Electrical Systems and Equipment – Review & Change has given the final written approval.

Page 9 of 14	Estates, Maintenance & Infrastructure	Electrical Services Policy
	Owner: Senior Programme and Performance Manager	Version 1.0
Doc No:	Author: Leon Markwell	15/05/2015
EM&I C002	12.12 Programmes & Performance\Compliance\Policies and Standards	Uncontrolled when printed

4.1.12 Contractors (and managers employing contractors)

Those who employ contractors to work on fixed low voltage electrical systems and equipment shall be responsible for ensuring the work complies with the requirements of this policy and that the works comply with relevant statutory regulations and the requirements of BS 7671.

For contractors working on the estates high voltage system the employing manager shall be responsible for ensuring the work complies with relevant statutory regulations and the high voltage requirements of this UCL estates policy and standard operating procedure.

Reasonable enquiries are to be made to confirm the competency and training of contractors in the area of work, before entering into contracts for the installation of new fixed electrical systems or equipment or the replacement, extension, repair, maintenance or inspection and testing of existing fixed electrical systems and equipment.

Contractors are to be made fully aware of the duties and responsibilities assigned to them, and are to be familiar with the UCL Standards and this estates policy.

Only UCL Approved Contractors are permitted to work on UCL electrical systems. Contractors are to have completed the necessary UCL Safety Questionnaires and their responses have been accepted.

<http://www.ucl.ac.uk/estates/procedures/new-project-management/forms/>

Contractors are to comply with the UCL Safety Policy 'Safety Rules for Contractors employed on UCL Premises', and sign the document accordingly.

Contractors must also be registered on Construction line.

4.1.13 Heads of Departments (other than UCL Estates), Responsible Person – Electrical Systems and Equipment - Systems Governance

Heads of Departments are responsible for identifying, assessing and controlling the risks from any departmental electrical systems or moveable departmental electrical equipment supplied from the fixed electrical installations installed within their department that could present risk of electrical danger. Fixed electrical equipment such as chillers, walk-in cold rooms etc. are the responsibility of UCL Estates.

In addition, subject to agreement by the Responsible Person (Operation), UCL Estates may be responsible for certain identified items of department

Page 10 of 14	Estates, Maintenance & Infrastructure	Electrical Services Policy
	Owner: Senior Programme and Performance Manager	Version 1.0
Doc No:	Author: Leon Markwell	15/05/2015
EM&I C002	12.12 Programmes & Performance\Compliance\Policies and Standards	Uncontrolled when printed

equipment, upon acknowledged receipt of a UCL Estates Data Collection Sheet (Asset Register request).

17/09/15. David Stevens;
Typographical error.
Responsible Person (Inspection & Testing)
Should read
Appointed Person (Statutory Testing)

Where departmental equipment is not managed by Estates, a local inventory of both specific items and types of equipment that could present a risk of danger should be maintained by the ~~Responsible Person (Inspection and Testing)~~ **Appointed Person (Statutory Testing)** to ensure that all equipment is assessed and subject to appropriate controls.

Departments are responsible for reporting to the Facilities Customer Services Help Desk when any permanent or temporary electrical systems (i.e. experimental rigs) are installed that may give rise to danger, or when there is any change of use of any existing fixed low voltage electrical system or equipment (e.g. the change of use of a room from a store to an office) or any existing fixed low voltage electrical system or equipment is taken out of use or disposed of. The UCL Estates Responsible Person (Operation) will be responsible for arranging the removal of fixed low voltage electrical systems or equipment within any areas that are no longer required. The identification of low voltage electrical system or equipment within common areas e.g. entrance areas, toilets will remain the responsibility of UCL Estates Facilities & Infrastructure department.

The estate fixed high voltage (HV) distribution system is outside the scope of this clause and is managed by UCL Engineering, Maintenance and Infrastructure HV Authorised Persons. However Heads of Departments are responsible for identifying, assessing and controlling the risks from any self-contained HV electrical system or equipment installed within their departments for teaching or research. (HV is defined as any voltage above the low voltage limits as defined in the introduction to this document).

UCL Estates will be responsible for amending the schematic drawings and any other records as appropriate.

4.1.14 Appointed Person – Statutory Testing

Where departmental equipment or installations are managed by the department and not by UCL Estates, a local inventory of both specific items and types of departmental equipment or departmental installations that could present a risk of danger, as well as the provision of safety equipment, should be maintained by the Appointed Person (Statutory Testing) to ensure that the installations and equipment are regularly assessed for safety.

The estate fixed high voltage distribution system and equipment is outside the scope of this clause and is managed by UCL Engineering, Maintenance and Infrastructure HV Authorised Persons.

Page 11 of 14	Estates, Maintenance & Infrastructure	Electrical Services Policy
	Owner: Senior Programme and Performance Manager	Version 1.0
Doc No:	Author: Leon Markwell	15/05/2015
EM&I C002	12.12 Programmes & Performance\Compliance\Policies and Standards	Uncontrolled when printed

4.2 Records

Records must be kept to confirm compliance with the statutory regulations, the requirements of BS 7671 and this standard, and retained for the periods stated.

- Job specific H&S risk assessments and method statements must be completed to conform to statutory requirements and design requirements for both the electrical system and equipment and for any maintenance, inspection or testing works upon it. The documents will categorise the level of risk of the building, the systems and equipment and the appropriate management control necessary for the risks in that building, especially if “live working” is considered to be necessary. Any significant findings and action points of the risk assessment must be prioritised and actioned accordingly, and “designed out” where possible in new installations by modifications to the proposed design.
- The person or persons responsible for conducting the low voltage fixed electrical systems or equipment management must provide sufficient information and documentation to comply with the requirements of the users for safe operation, user training and maintenance in accordance with the documents listed in the reference section of this policy. Users must be properly trained for the equipment they are to use and all training must be recorded.
- All powered equipment and equipment systems must be inspected and tested and maintained regularly as necessary to keep it in a safe condition so far as is reasonably practicable, and the maintenance recorded. Deviations of test readings outside required values, or the identification of any damage, deterioration or dangerous conditions which are likely to lead to non-compliance is to be reported directly to a Responsible Person for management action.
- Staff and contractors training and competence records must be maintained.

These records must be retained throughout the period for which they remain current and for at least two years after that period. The results of any monitoring, inspection, test or check carried out, and the dates should include details of the state of operation of the system i.e. in use/not in use. All maintenance, inspections and testing must be recorded on the appropriate forms on a UCL records system and the data should be reviewed periodically to assess trends.

4.3 Training and competence (See also UCL Authorisation of Technical Competence)

Electrical safety awareness training will be provided at 3 levels to suit the different roles of staff:

Page 12 of 14	Estates, Maintenance & Infrastructure	Electrical Services Policy
	Owner: Senior Programme and Performance Manager	Version 1.0
Doc No:	Author: Leon Markwell	15/05/2015
EM&I C002	12.12 Programmes & Performance\Compliance\Policies and Standards	Uncontrolled when printed

- Management – for supervision of electrical systems and equipment and operational staff, including the Authorising Engineer (Electrical)
- Technical / maintenance staff – for new installations, maintenance, repairs or inspection and testing.
- Operator / user training – including Authorised Persons and Competent Persons as required for the fixed installations and equipment installed.

The training for maintenance and operations staff shall ensure that they are aware of the correct operation of the system or equipment and its maintenance requirements and ensure that they obtain the prescribed qualifications; training experience and competence required, and are made aware of any operational and record keeping requirements.

Records of training and competence as noted in 4.2 shall be maintained on a UCL records system.

Training records/evidence of competence must be provided by contractors and confirmation that they hold the prescribed qualifications and training required for the work they are required to carry out. Records of training and competence as noted in 4.2 shall be maintained on a UCL records system.

4.4 Monitoring & Review

The Estates Standard Operating Procedure(s) and Risk Assessments detail the procedures for preventing, monitoring and controlling risk. These documents along with this standard shall be annually reviewed to ensure they remain up to date.

5.0 References

- Health & Safety at Work etc. Act 1974.
- The Electricity at Work Regulations 1989.
- Management of Health and Safety at Work Regulations 1999.
- Electromagnetic Compatibility (EMC) Regulations 2006.
- HSE Electricity at Work – Safe Working Practices (HSG85) 2013
- HSE Five Steps to Risk Assessment (INDG163) 2011.
- HSE Construction (Design and Management) Regulations 2015.

Page 13 of 14	Estates, Maintenance & Infrastructure	Electrical Services Policy
	Owner: Senior Programme and Performance Manager	Version 1.0
Doc No:	Author: Leon Markwell	15/05/2015
EM&I C002	12.12 Programmes & Performance\Compliance\Policies and Standards	Uncontrolled when printed

- Control of Substances Hazardous to Health Regulations 2002 (COSHH).
- UCL Design Brief for Mechanical, Electrical & Vertical Transport Services.
- BS 7671 IEE Wiring Regulations 17th edition.
- IET Code of Practice for In-service Inspection and Testing of Electrical Equipment (4th Edition).
- IET Guidance Note 3 on Inspection and Testing.
- IET Electrical Maintenance Guide (2nd edition).
- CIBSE Guide M on Maintenance.
- CIBSE Guide K on Electrical Installations.
- Guide to Ownership, Operation and Maintenance of Building Services – CIBSE.
- Application Guide 1/87.1 Operating and Maintenance Manuals for Building Services Installations - BSRIA

Safety Services References

Author(s)	
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