

Electrical Low Voltage Management Policy Including Staff Guidance for Portable Electrical Appliance Safety

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REVIEW DATES AND DETAILS OF CHANGES MADE DURING THE REVIEW

V2 – review of V1 April 2016, the policy has been reformatted into the Trust style for policies. Technical guidance has been removed, and the policy has been adapted to be more accessible to staff as a management and arrangements document

V1 – approved by Policy and Guideline Committee on 10th July 2006

KEY WORDS

Voltage, electrical equipment, PAT testing, portable appliance testing.

1 INTRODUCTION

- 1.1 The University Hospitals of Leicester NHS Trust (UHL) are responsible for ensuring the health, safety and welfare of its employees, patients and all other individuals who use, or are affected by the electrical systems within its buildings.
- 1.2 UHL recognises its duty under the Health and Safety at Work Act 1974 and the Electricity at Work Regulations 1989, The Provision and Use of Work Equipment Regulations 1989 and associated Approved Codes of Practices, and is committed to the effective management of its Low Voltage (LV) Electrical systems.
- 1.3 UHL recognises its responsibilities to contractors and others involved in building and maintenance activities and through the Construction (Design and Management) Regulations (CDM) 2017. The Trust fulfils the 'Duty Holder' role for UHL owned buildings, as defined by the Electricity at Work Regulations 1989.
- 1.4 UHL is responsible for the management of all electrical systems within the buildings and for implementing operational arrangements in conjunction with trust policy and associated procedures and safe systems of work.
- 1.5 This Low Voltage (LV) Electrical Safety Policy sets out arrangements to ensure that the risk from LV Electrical Systems within UHL owned or controlled buildings is adequately managed.
- 1.6 This policy outlines the roles and responsibilities of UHL managers and employees, contractors and regular building users.

2 POLICY AIMS

- 2.1 The prime purpose of this document is to assist UHL in achieving and maintaining safety in all its electrical activities in compliance with its legal and statutory obligations.
- 2.2 This document uses the *Health Technical Memorandum HTM06-01 Electrical Services Supply & Distribution*, *HTM06-02 Electrical Safety Guidance for Low Voltage systems* as best practice advice for the health care sector as a reference for compliance with legislation and to maintain Care Quality Commission Outcome 10: Safety and suitability of premises.

3 POLICY SCOPE

- 3.1 This policy is issued under the authority of the University Hospitals of Leicester NHS Trust (UHL) and will apply to all UHL electrical activities.
- 3.2 This policy applies to all persons who maybe affected by any electrical activity arising from works (including use or contact with equipment) carried out on UHL property. It also applies to all electrical activities undertaken by employees and / or contractors when working at any Trust location.
- 3.3 This policy applies to portable electrical equipment (electrical equipment that is fitted with a plug, has a lead / cable and which is normally moved around, or can be moved around from place to place) please see Appendix One for more details)

- 3.4 This policy applies to the UHL Electrical LV infrastructure, up to and including the point of use / local isolation from the LV system building services plant and non-medical equipment connected to the LV system.
- 3.5 The policy and procedures cover work on, or in the vicinity of the LV systems in UHL premises or on premises where UHL have responsibility for the operation and maintenance of the LV systems.
- 3.6 The policy and procedures also form the basis for electrical safety for all UHL staff working in premises owned or operated by others, though they may be enhanced but not diminished by local arrangements.

4 DEFINITIONS

- 4.1 The term '**Low voltage system**' refers to all cables, switch gear, transformers and equipment associated with the electrical installations on premises owned or managed by UHL. This is defined in Health Technical Memorandum (HTM) 06/02 'a potential not exceeding 1000Vac or 1500Vdc between conductors or 600Vac or 900dc between a conductor and earth.
- 4.2 The term '**employees**' and 'regular building users' refers to all direct employees, agency staff, long term contracted suppliers and those employed by UHL.
- 4.3 The term '**contractors**' refer to all parties who undertake work for, or on behalf of UHL. This includes tradespersons brought in for a specific task or time period but not those who have an on-going supply agreement with the Trust.

5 ROLES AND RESPONSIBILITIES

The following personnel are appointed in writing for LV duties as defined by HTM00, HTM06-02

5.1 Executive Lead:

The Executive Lead for this Policy is the Director of Estates and Facilities and is known as the **Designated Person (DP)**

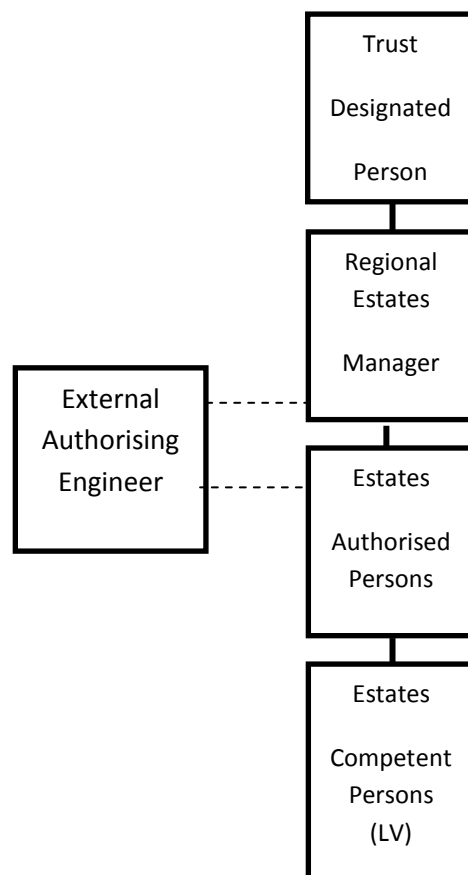
The DP is an individual appointed by a healthcare organisation (a board member or a person with responsibilities to the board) who has overall management authority and responsibility for the electricity system within the premises..

- 5.2 **Authorising Engineer (AE)** is a Chartered Electrical Engineer, appointed in writing by the Director of Estates and Facilities, with the appropriate experience and necessary independence from local management. The role of the AE is to assess the suitability and appointment of an Authorised Person for a period not exceeding three years. They will assist in the review of the policy and operational procedures including any incident involving UHL LV systems. This role is fulfilled by an external contracted chartered electrical engineer.
- 5.3 **Regional Estates Manager** has the Line Management responsibility for ensuring that suitable arrangements are in place and resourced, to maintain a safe site.

5.4 Authorised Persons (AP) are individuals who possess proficient technical knowledge, have received training and appointed in writing by the Director of Estates and Facilities on the recommendation of the Authorising Engineer. Authorised Persons are responsible for the implementation of the electrical safety policy and ensuring that the electrical services are operating safely and efficiently. They will normally be a UHL Employed member of Estates and Facilities, an Estates Technical Officer or Supervisor.

5.5 Competent Persons (CP) are individuals recognised by the Authorised Persons as having sufficient technical knowledge and experience to prevent danger and work on the LV system. They will normally be a UHL Employed member of Estates and Facilities, an Electrician appointed by the Authorised Person (LV).

5.6 LV Electrical Management Flow Chart



5.7 All Staff are responsible for using electrical equipment responsibly and taking immediate action if they suspect a piece of equipment is faulty and adhering to the additional guidance provided in Appendix One in relation to portable electrical equipment.

6 POLICY STATEMENTS

6.1 Electrical contractors or other electrical persons shall work safely and not put themselves or others at risk. Failure to do so may involve disciplinary procedures for UHL Estates and Facilities staff. Contractors whose work is considered to be unsatisfactory or unsafe will be instructed to cease work and their name removed from the approved contractors' list.

6.2 When any person receives instruction regarding the operation of or work upon the Trusts electrical system and associated plant and apparatus, he shall report any objections on safety grounds to the carrying out of such instructions to the persons issuing them who shall have the matter investigated and, if necessary, refer to the Authorising Engineer for a decision before proceeding.

6.3 Advice and Information

- a) Authorised Persons and the Authorising Engineer provide advice where required, on the implementation of this policy on LV design and electrical safety issues.
- b) Advice may also be provided by specialist contractors or consultants through the Authorising Engineer or Authorised Persons.
- c) HTM06-01 Electrical Services Supply & Distribution, HTM06-02 Electrical Safety Guidance for LV systems and NHS model electrical specifications represent the minimum standard to be used when working with or designing LV systems.
- d) In addition other relevant UHL documentation, Health and Safety Executive (HSE) publications and British Standards provide guidance on various aspects of electrical safety and installation. Advice on these may be obtained through the Authorised Persons.
- e) Guidance for all staff on the use of portable electrical equipment and advice on the management of electrical equipment brought into the Trust by patients can be found in appendix 1

6.4 Legislation and Guidance

6.4.1 The Health and Safety at Work etc Act 1974 (HASAWA)

The HASAWA is very general and requires all those concerned with and undertaking to do all that is reasonable to ensure the health and safety of all those who may be affected by work undertaken by a business. It imposes duties on employers and employees:-

- a) Employers Duties to Provide:-
 - A safe system of work
 - All necessary tools and equipment
 - Training and adequate supervision
 - A safety policy statement
 - Ensure the health, safety and welfare of all those affected by their business.
- b) Employees Responsibilities:-
 - Work in accordance with UHL's policy
 - Use equipment provided
 - Be responsible for their acts and omissions
 - Co-operate with employer to achieve safety

6.4.2 The Electricity at Work Regulations 1989 (EAW)

- a) The EAW Regulations are concerned with the complete life of an electrical system i.e. design, construction, operation, maintenance, modification, records, dismantling and disposal.
- b) The regulations apply to all electrical systems of any voltage and are designed to prevent injury. If any person is injured due to an electrical cause (shock, fire, burns) then those involved both directly and managerially must show that they exercised all due diligence and took all reasonable precautions (defence regulation No 29) to prevent prosecution for breach of the Regulations.

6.4.3 Health Technical Memorandum HTM 06-02 (Low Voltage)

- a) The HTM provides guidance and best practice advice for the health care sector for all electrical services, installation and maintenance:
- b) The recommendations of the Department of Health's (DOH) publication "HTM 06-02 Electrical Safety Guidance for Low Voltage Electrical Systems have been considered and the associated Electrical Safety Rules for Low Voltage Systems" (ISBN 011 3218521) are adopted by the University Hospitals of Leicester (UHL) as the method of achieving the legal requirements for electrical safety systems.
- c) Copies of the University Hospitals of Leicester (UHL) Electrical Safety Rules for low voltage systems are available for inspection from the Estates. Each UHL electrical employee shall have access to a copy of the UHL Electrical Safety Operational Policy, together with the Electrical Safety Rules (LV) and related documents appropriate to their duties.

7 EDUCATION AND TRAINING REQUIREMENTS

- 7.1 No person should work on electrical systems or equipment without formal training and qualification and experience in the category of electrical work being undertaken. Records of training and competence are held with Estates and Facilities.
- 7.2 In addition to formal electrical qualifications, the standards in Health Technical Memorandum 06-02 – 'Electrical safety guidance for low voltage systems' should be applied, including electric shock resuscitation training. All UHL staff are required to undertake mandatory resuscitation training, all Estates and Facilities Electricians are required to undertake first aid training, records of training are held with HR and Estates and Facilities. Contractor training records are required as part of control of contractors information.

8 PROCESS FOR MONITORING COMPLIANCE

Element to be monitored	Lead	Method	Frequency	Reporting arrangements
Standards listed in HTM 06	Independent Authorised Engineer	Audit of Standards	Annual	Report presented to Estates and Facilities Statutory Compliance Team who will review any actions required.

9 EQUALITY IMPACT ASSESSMENT

- 10.1 The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.
- 10.2 Project work can have an adverse effect on disabled access and therefore, projects should be developed to incorporate the requirements of the Equality Act 2010 and part M of the Building Regulations.

10 LEGAL LIABILITY

The Trust will generally assume vicarious liability for the acts of its staff, including those on honorary contract. However, it is incumbent on staff to ensure that they:

- Have undergone any suitable training identified as necessary under the terms of this policy or otherwise.
- Have been fully authorised by their line manager and their CBU to undertake the activity.
- Fully comply with the terms of any relevant Trust policies and/or procedures at all times.
- Only depart from any relevant Trust guidelines providing always that such departure is confined to the specific needs of individual circumstances. In healthcare delivery such departure shall only be undertaken where, in the judgement of the responsible clinician it is fully appropriate and justifiable - such decision to be fully recorded in the patient's notes.

It is recommended that staff have Professional Indemnity Insurance cover in place for their own protection in respect of those circumstances where the Trust does not automatically assume vicarious liability and where Trust support is not generally available. Such circumstances will include Samaritan acts and criminal investigations against the staff member concerned.

Suitable Professional Indemnity Insurance Cover is generally available from the various Royal Colleges and Professional Institutions and Bodies. For further advice contact: Head of Legal Services on 0116 258 8960.

11 SUPPORTING REFERENCES, EVIDENCE BASE AND RELATED POLICIES

- 11.1 The Health and Safety at Work etc Act 1974
- 11.2 Electricity at Work Regulations 1989

12 PROCESS FOR VERSION CONTROL, DOCUMENT ARCHIVING AND REVIEW

- 12.1 This document will be uploaded onto SharePoint and available for access by Staff through INsite. It will be stored and archived through this system.
- 12.2 This document will be reviewed every three years, or sooner in response to updated legislation, reported risks or incidences

1. Definition for Portable Electrical Equipment

Electrical equipment that is fitted with a plug, has a lead (cable), and which is normally moved around, or can be moved around from place to place, e.g. vacuum cleaners, kettles, heaters, fans, televisions, desk lamp and extends to electrical equipment that could be moved, e.g. photocopiers, computers, extension leads, radios and portable medical equipment.

2. Generic Risks

These are generally low in office and healthcare environments, but risks are increased if portable electrical equipment is not subject to an appropriate schedule of testing and/or inspection by a suitably competent person, or if equipment is not correctly used.

3. Risk Factors

Leads, plugs or the equipment itself can become damaged. This may result in electric shock or fire hazards, both of which can have fatal consequences. In addition, misuse of portable electrical equipment may also present a significant risk. Risk may also be higher where portable electrical equipment is used in hazardous environments (e.g. wet, damp, or potentially explosive atmospheres).

Faulty portable electrical equipment can cause damage or interruption to the fixed electrical distribution system, which may in turn result in loss or interruption to the electrical supply thus affecting medical equipment, IT equipment, and other key electrical equipment.

4. Management Responsibilities

The owner/user Department is responsible for ensuring that arrangements are in place for a risk-based approach for the maintenance, use and test or inspection of all portable electrical appliances under their control. Portable Electrical Medical Equipment and Electrical Medical Devices are to be referred to the Medical Physics Department for guidance on maintenance and testing regimes.

5. Users of Portable Electrical Equipment

Users should be encouraged to look critically at the portable electrical equipment they use, by visually checking for damage to the outside of the equipment, the plug and the lead for obvious defects. If a defect is suspected, the equipment should not be used and the supervisor should be informed.

6. Patient Electrical Equipment (Personal Electrical Equipment)

Portable electrical equipment brought onto Trust premises for use by the patient should be approved for use in the clinical environment by the Nurse in charge of the ward, subject to the equipment (and any associated leads) being visually checked for electrical safety by an Estates Electrician/Trained Person.

The Nurse in charge of the ward should ensure that the patient is made aware of any restrictions relating to the use of the equipment (e.g. where it can be plugged in, not to leave trailing leads, to switch off equipment after use, and any local rules for use, etc). The Nurse in charge of the ward should consult with the medical physics department to identify any potential interference to medical equipment from personal portable electrical equipment used on-site by the patient. Infection Prevention may also be required to provide approval, in cases referred by Clinical staff.

7. Staff Electrical Equipment (Personal Electrical Equipment)

As above, for Patient Electrical Equipment, but substitute 'Nurse in charge of ward' with 'Line Manager.'

8. Risk Reduction

Local mains electrical supply and those who come into contact with the equipment can be protected by the use of an RCD (Residual Current Device), or 110v transformer. The UHL Estates Team or the H&S Team can advise, on request