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## **ELECTRICAL LOW VOLTAGE POLICY**

<b>Executive Sponsor &amp; Function</b>	Executive Director of Strategic Transformation, Planning and Digital
<b>Document Author:</b>	Environmental Officer
<b>Approved by:</b>	Quality, Safety and Performance Committee
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## **1. Policy Statement**

The organisation recognises and accepts its responsibilities and legal obligations in accordance with current legislation and is committed to protecting the rights of its patients, visitors and staff in respect of the operation of electrical systems.

Velindre University NHS Trust, will ensure that all electrical systems, are installed, inspected, serviced and maintained in accordance with all Statutory Instruments, NHS Guidelines, Health Technical Memoranda or similar, to ensure that such equipment does not pose a health or operational risk to either, staff, patients or members of the public.

## **2. Scope of Policy**

This policy applies to all persons (staff, contractors, patients and members of the public) who may be affected by any electrical activity arising from works (including use or contact with equipment) carried out on Trust premises or leased property. It also applies to all electrical activities undertaken by employees and/or contractors when working at other locations.

## **3. Aims and Objectives**

This document will detail the Trust's policy to achieve safety in all its electrical activities in compliance with its legal and statutory obligations and to ensure that all electrical equipment and systems are maintained in a safe condition and that only competent persons are permitted to work with, repair or maintain electrical systems or apparatus.

## **4. Responsibilities**

The Trust has a management responsibility to ensure inspection, service and maintenance activities are carried out safely without hazard to staff, patients or members of the public.

### **4.1 The Chief Executive**

The Chief Executive has overall responsibility for ensuring that sufficient and suitable procedures are in place to manage and maintain the Trust's electrical

systems. In particular, he/she must ensure that suitably qualified personnel are employed to implement, manage and review this activity.

#### **4.2 Executive Director of Strategic Transformation, Planning and Digital**

The Executive Director will be charged with being the Designated Person, under HTM 06-02. He/she is responsible for delivering the policy aims and aspirations. Has overall authority and responsibility for the low voltage systems within the Trust and who has a duty under the Health & Safety at Work Act, Subsidiary Regulations and HTM's.

He/she should:

- Set out the standards and quality of service to be provided.
- Ensure that sufficient and competent staff and resources are applied to investment, design, maintenance and performance monitoring of systems covered by this policy.
- Appoint an Authorising Engineer for Low Voltage Electricity (AE(LV)).

#### **4.3 Estates Manager**

The Estates Manager is responsible for ensuring that all electrical systems are inspected, serviced, verified, maintained and tested in a safe manner without hazard to staff, patients or members of the public.

The Estates Manager shall ensure that:

- All systems are identified and subjected to testing by an Authorised person.
- Maintain a register of Authorised Persons.
- Ensure that appropriate reactive and planned preventative maintenance arrangements are put in place to deliver to the aims of this policy.
- Have in place a procedure for assessing Competent Persons.
- Ensure that only individuals assessed as being competent and included on the register are used by sub-contractors. i.e. it is the individual not the contractor that needs to be assessed.
- Ensure that competent persons undertake regular maintenance on electrical systems and equipment.
- Ensure that the policy and procedures are implemented by a range of in-house or contracted services.
- Audit the effectiveness of the arrangements and arrange corrective action.
- Report any deficiencies which cannot be addressed within delegated limits of resource and authority.
- Ensure that electrical systems are independently verified annually in accordance with H.T.M 06-02 Electrical Safety Guidance for Low Voltage Systems.
- Arrange for any adverse incident to be investigated by the Authorising Engineer and for the dissemination of related advice.

#### **4.4 Project Managers**

Have the responsibilities to ensure that:

- All new installations meet the latest legal and technical standards.
- A suitably qualified person is involved in the design of all new installations and that commissioning and performance checks are undertaken and documented.
- All new installations are accessible and maintainable without resort to specialist access equipment or the need for removal of finishes/infrastructure.
- That maintenance teams have comprehensive operations and maintenance manuals (O&M), handed over on completion of schemes.
- That appropriate training and familiarisation is provided to in house and contract teams.
- That all new designs or major modification to existing systems are checked by the Authorising Engineer prior to the commencement of work.
- That all new installations are independently validated prior to contract completion.
- That all variations from the standards set out within H.T.M 06-02 Electrical Safety Guidance for Low Voltage Systems, are listed and agreed in writing by the Authorising Engineer / Estates Manager, prior to implementation.

#### **4.5 Authorising Engineer (Low Voltage) (AE(LV))**

Is defined as a person designated by management to provide independent auditing and advice on Low Voltage electrical systems and to review and witness documentation on validation/verification.

He/she shall:

- Provide a service in accordance with H.T.M 00 Policies and Principles of Healthcare Engineering.
- Advise on technical compliance with H.T.M 06-02 Electrical Safety guidance for Low Voltage Systems.
- Advise on interpretation of H.T.M 06-02 Electrical Safety guidance for Low Voltage Systems.
- Assess and make recommendations for the appointment of Authorised Persons.
- Monitor the performance of the service and undertake an annual audit.
- To investigate any adverse incident and report on any findings.
- Advise on the consequences of any proposed variation from the standards given within H.T.M 06-02 Electrical Safety guidance for Low Voltage Systems.

#### **4.6 Authorised Person (Low Voltage) (AP(LV))**

Will be an individual possessing adequate technical knowledge and having received appropriate training, appointed in writing (following advice from the AE (LV)), who is responsible for the implementation and operation of Management's safety policy and procedures relating to the engineering aspects of Low Voltage Electrical systems in accordance with current HTMG guidance

#### **4.7 Competent Person (Low Voltage) (CP(LV))**

Is a person with adequate knowledge and training and practical skills to undertake work on systems as designed by engineering managers. In particular:

- Carry out planned preventative maintenance (PPM) routines and repairs as instructed by the Estates Manager and provide feedback on performance and maintenance issues.
- To ensure all health and safety, COSHH, Trust policies and procedures and risk assessments are adhered to at all times.
- To leave work areas clean and tidy.
- To report any maintenance defects or required changes to PPM routines or asset data.
- Record work carried out on individual Low Voltage Electrical systems, in system log books.
- Ensure that appropriate records are kept for maintenance, testing and validation work, in a format readily retrievable for audit purposes.

4.7b Skilled Person (Low Voltage) A person who possesses, as appropriate to the electrical work to be undertaken, adequate education, training and practical skills, and who is able to prevent danger, or where appropriate, injury, and has been assessed to be competent by the Authorised Person (LV) for a specific electrical task and is aware of specific requirements from HTM06-02 with regard to the task but has not been formally appointed in writing as a Competent Person (LV).

#### **4.8 Accompanying Safety Person**

An accompanying Safety Person is a person not directly involved with the work or test, who has received training in emergency first aid for electric shock and who has adequate knowledge, experience and the ability to avoid danger, keep watch, prevent interruption, apply first-aid and summon help. The person should be familiar with the system or installation being worked on or testes and should have been instructed on the action to be taken to safely rescue a person in the event of an accident.

## 4.9 User

The person responsible for the management of the unit in which the electrical system is installed, for example, head of department, operating theatre manager, head of laboratory, production pharmacist, head of research or any other responsible person.

### Definitions

## 4.10 Limitation-of-access

This is a safety document, which is a form of declaration, signed and issued by an Authorised Person (LV) to a person in charge of work to be carried out in an area or location which is under the control of an Authorised Person (LV) and for which a permit-to-work, LW1,LW2 or certificate of authorization for live working areisnot appropriate.

## 4.11 Permit-to-work (electrical LV)

This is a safety document, which is a form of declaration, signed and issued by an Authorised Person (LV) to a Competent Person (LV) or skilled person (LV) in charge of work to be carried out. It defines the scope of the work to be undertaken and makes known exactly what equipment is dead, isolated from all live circuit conductors and safe to work on.

## 4.12 Safety signs

- **Caution sign** is a temporary, non-metallic sign bearing the words “caution – persons working on equipment” and “do not touch” which is to be used at a point-of-isolation.
- **Danger sign** is a temporary, non-metallic sign bearing the words “danger live equipment” and “do not touch” which is to be used where there is adjacent live equipment at the place of work.
- **Switchroom sign** is a permanent, no-metallic sign bearing the words, “electrical Switchroom” and “no unauthorised access”

## 4.13 Voltage range

- **Extra low voltage**, a potential not exceeding 50V ac or 120 V ripple- free dc whether between conductors or to earth.
- **Low voltage (LV)**, a potential not exceeding 1000V ac or 1500 V dc between conductors, or 600V ac or 900V dc between a conductor and earth.
- **High voltage (HV)**, a potential normally exceeding low voltage.

## **5. Training and other resource implications for this policy**

Training should be of an appropriate level, depending on roles and responsibilities, and outlined in the Divisions/Hosted Organisations local procedures. Managers have the responsibility to inform relevant employees and contractors of any hazards that may exist when carrying out maintenance work, operation, testing or other repairs to equipment within their department. All staff, whether working for the Trust or as partners who have duties under this policy should receive appropriate training. Tradespersons are to be made aware of the dangers from electrical shock, injury or burns. The information given should include: -

- The nature and type of risks to health where applicable
- Control measures employed
- Working procedures/policies

All records of training are to be maintained by the Estates Directorate.

Arrangements shall be made by the appropriate manager to ensure: -

- i. That all employees concerned with particular work activities are adequately informed as to the systems, plant and apparatus that are affected, and instructed in all safety procedures.
- ii. So far as is reasonably practicable, that other persons who are not employees but may be affected by the work activities also receive adequate information and/or instruction.

## **6. Implementation/Policy Compliance**

The Trust Board expects those tasked with managing aspects of electrical safety to:

- diligently discharge their responsibilities as benefits their position;
- have in place a clearly defined management structure for the delivery, control and monitoring of electrical works;
- have in place a programme for the assessment and review of electrical risks
- develop and implement appropriate protocols, procedures, action plans and control measures to mitigate electrical risks, comply with relevant legislation and, where practicable, codes of practice and guidance;
- develop and disseminate appropriate action plans pertinent to each department/building/area to ensure the safety of occupants, protect the delivery of service and, as far as reasonably practicable, defend the property and environment, in regard to working on and using electrical equipment;
- develop and implement a programme of appropriate electrical safety training for all relevant staff;
- develop and implement monitoring and reporting mechanisms appropriate to the management of electrical safety.



## 7. Equality Impact Assessment Statement

A summary of the outcome of the EIA must be present on the front cover of the document.:

### Either

This policy has been screened for relevance to equality. No potential negative impact has been identified.

### Or

This policy has been subject to a full equality impact assessment and some issues have been identified and highlighted to ensure that due regard and weight is given to them in carrying out this policy.

## 8. Main Relevant Legislation and References

### Statutory

- Confined Spaces Regulations 1997.
- Construction Design and Management Regulations 2015.
- Electricity at Work Regulations 1989.
- Electricity Safety, Quality and Continuity Regulations 2002.
- Health and Safety (Safety Signs and Signals) Regulations 1996.
- Health and Safety at Work etc. Act 1974.
- Management of Health and Safety at Work Regulations 1999.
- Manual Handling Operations Regulations 1992 (as amended 2002).
- Personal Protective Equipment at Work Regulations 1992 (as amended 2002).
- Provision and Use of Work Equipment Regulations 1998.
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013.
- Workplace (Health, Safety and Welfare) Regulations 1992.
- Dangerous Substances and Explosive Atmosphere Regulations 2002.

### Guidance

- The Department of Health:
  - a. Health Technical Memorandum 00 – Policies and Principles.
  - b. Health Technical Memorandum 06-02 – Electrical safety guidance for low voltage systems.
  - c. Health Technical Memorandum 06-03 – Electrical safety code for high voltage systems.

- The Institution of Electrical Engineers:
  - d. Code of practice for in-service inspection and testing of electrical equipment.
  - e. Guidance Note 3 – Inspection and testing.
- The Health & Safety Executive's:
  - f. Avoidance of danger from overhead electric lines GS6.
  - g. Avoiding danger from underground services HSG47.
  - h. Electrical safety on construction sites HSG141.
  - i. Electrical test equipment for use by electricians GS38.
  - j. Electricity at work: safe working practices HSG85.
  - k. Health and Safety (First Aid) Regulations 1981, Approved Code of Practice and Guidance.
  - l. Keeping electrical switchgear safe HSG230.
  - m. Maintaining portable and transportable electrical equipment HSG107.
  - n. Memorandum of guidance on the Electricity at Work Regulations 1989 HSR25.
  - o. Safety in electrical testing at work INDG354.

## **9. Audit and Monitoring**

- The Planning, Performance and Estates Department will review the operation of the policy as necessary and at least every 3 years.

## **10. Policy Conformance / Non Compliance**

- If any Trust employee fails to comply with this policy, the matter may be dealt with in accordance with the Trust's Disciplinary Policy. The action taken will depend on the individual circumstances and will be in accordance with the appropriate disciplinary procedures. Under some circumstances failure to follow this policy could be considered to be gross misconduct.