Doncaster and Bassetlaw Teaching Hospitals
NHS Foundation Trust

# Electrical Safety Policy

**This procedural document supersedes: CORP/HSFS 27 v.2 - Electrical Safety Policy**

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The Trust discourages the retention of hard copies of policies and can only guarantee that the policy on the Trust website is the most up-to-date version. **If, for exceptional reasons, you need to print a policy off, it is only valid for 24 hours.**

| | |
|---|---|
| Executive Sponsor(s): | Kirsty Edmondson-Jones<br>Director of Innovation & Infrastructure |
| Author/reviewer: (this version) | Mathew Gleadall<br>Acting Deputy Director of Estates & Facilities |
| Date written/revised: | April 2023 |
| Approved by: | Trust Health & Safety Committee |
| Date of approval: | 11 May 2023 |
| Date issued: | July 2023 |
| Next review date: | 11 May 2026 |
| Target audience: | All staff Trust wide |

# Amendment Form

Please record brief details of the changes made alongside the next version number. If the procedural document has been reviewed **without change**, this information will still need to be recorded although the version number will remain the same.

| Version | Date Issued | Brief Summary of Changes | Author |
|---|---|---|---|
| Version 3 | 6 July 2023 | • Updated to reflect new APD format.<br>• Addition of structure chart.<br>• Expansion of responsibilities for Project Managers and Project Officers.<br>• Addition of photographic examples of electrical equipment defects in appendix 1.<br>• Further minor alterations to wording that do not fundamentally affect the requirements of the policy. | M Gleadall |
| Version 2 | 31 May 2019 | • Updated to reflect the Trusts status as a Teaching Hospital.<br>• Change in the post holder acting as Designated Person.<br>• Addition of guidance on basic. condition checks of personal electrical equipment and charging devices. | M Gleadall<br>R Holdridge |
| Version 1<br>*(not issued)* | 8 January 2016 | • Minor changes - Updated to reflect managerial changes and IUS contract. | R Holdridge |
| Version 1 | 21 August 2014 | • This is a new procedural document, please read in full | R Holdridge |

# Contents

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# 1 INTRODUCTION

The use of electricity makes it essential that all electrical systems are managed without giving rise to danger. Inadequate control and/or improper use of electricity are a danger to life and property. Chief Executives, owners, occupiers, general managers and those responsible for electrical services as 'duty holders' are accountable for ensuring control. They are also responsible for ensuring that the management, design, installation, operation, and maintenance of the electrical systems are carried out safely.

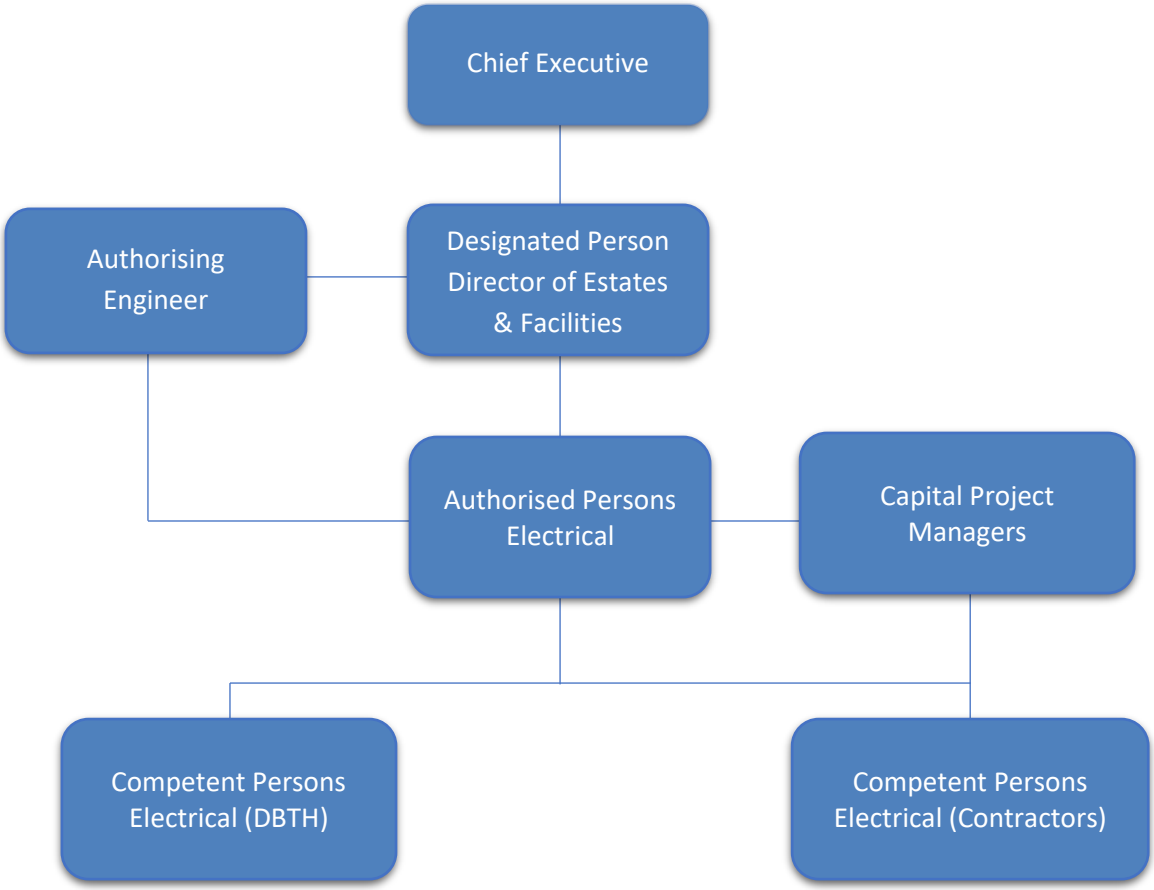
# 2 PURPOSE

Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust, as duty holders, will take all reasonable steps to secure the safety of employees, third parties, patients, and visitors etc. who use, operate, or maintain electrical equipment and/or systems on their premises. The Electricity at Work Regulations 1989 imposes duties on 'employers' to comply with these in so far as they relate to matters which are within their control. These duties are in addition to those imposed by the Health and Safety at Work Act 1974.

To satisfy these requirements Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust will:

- Ensure that electrical systems and equipment are installed in accordance with the Institution of Electrical Engineers Wiring Regulations BS 7671 (current edition) and DoH Health Technical Memorandums.
- Maintain the fixed installation in a safe condition by carrying our routine electrical installation condition reports (EICR's).
- Inspect and test portable and transportable equipment as required.
- Promote and implement a safe system of work, maintenance, inspection, and testing.
- Forbid live working, unless absolutely necessary, in which case HTM 06-02 will be the governing document used to manage the work.
- Exchange safety information with contactors, ensuring that they are fully aware of (and are prepared to abide by) Doncaster and Bassetlaw Hospitals Teaching Hospitals NHS Foundation Trust health and safety arrangements.
- Ensure that employees and contractors who carry out electrical work activities on electrical systems or equipment are competent to do so.
- Ensure a system of monitoring of the policy is being effectively pursued within Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust.
- Promote a programme of training to ensure the awareness of all staff and contractors on the use of electricity and general electrical safety within Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust.
- Ensure appropriate training for relevant professional and technical staff.
- Employ an Authorising Engineer, who is an independent from Trust management to audit effective management of HTM 06-02 and HTM 06-03.

# 3 DUTIES AND RESPONSIBILITIES




## 3.1 Chief Executive

The Chief Executive has overall responsibility for the Trust's health and safety and the implementation of this policy. This responsibility is delegated to the Designated Person (Director of Estates & Facilities).

## 3.2 Designated Person (DP), Director of Estates & Facilities

The Director of Estates & Facilities is appointed in writing as the Designated Person for Low Voltage (LV) and High Voltage (HV) as defined by HTM 06-02 and HTM 06-03.

The Designated Person will appoint, in writing, an Authorising Engineer (AE) HV and LV for the electrical systems and installation under the Trusts control.

## 3.3 Authorising Engineer (AE)

The Authorising Engineer (AE) is an independent advisor with responsibility for monitoring and auditing the application of HTM 06-02 and HTM06-03 guidance. The AE will recommend in writing sufficient Authorised Persons to provide the necessary cover for all systems and installations for which management has responsibility.

The Authorising Engineer defines the exact extent of the systems and installations for which each authorised person HV and/or LV is responsible.

When necessary, the AE may recommend the suspension or cancellation of the appointment of an Authorised Person HV and or LV and withdraw their certification.

In conjunction with management, the AE will maintain a register of all Authorised Persons HV and LV, and ensure that candidates for appointment as Authorised persons HV and LV:

- Satisfy the qualification requirements.
- Satisfy the training and familiarisation requirements.
- Can demonstrate adequate knowledge and familiarisation of each system, installation, and type of equipment for which the authorisation is sought.
- Have satisfied the Authorising Engineer HV and LV as to their competence and ability.

## 3.4 Authorised Persons (APs)

The Authorised Person HV and LV will be responsible for the practical implementation and operation of guidance HTM06-02 and HTM06-03 and the systems and installations for which the Authorised person HV and/or LV has been appointed and, for which Management is in control of the danger.

The duties of the Authorised Person include the following:

- Appoint in writing sufficient competent persons (CP) HV and LV. Maintain and make available to the Designated Person a register of all appointments. Records will be kept by the Authorised Person and will be audited on an annual basis.
- Co-operate with the Authorising Engineer HV and or LV in matters of policy concerning HV and or LV systems.

## 3.5 Competent Persons

Competent Persons HV/LV shall comply with this safety policy and operation of guidance HTM 06-02 and HTM 06-03.

## 3.6 Project Managers and Project Officers

Project Managers and Project Officers will ensure that all new works shall comply with this safety policy and all current legislation.

They shall also provide adequate information to the Authorised Persons of contracts which require the appointment of suitably competent contractors, who will be required to carry out work on electrical installations.

Project personnel shall also ensure that the Authorised Persons are consulted on all matters relating to electrical installations that are under their contractual control so that the new installations can be accessed and approved for connection into the system to which they are responsible.

Commissioning certificates and handover documentation will be handed to the Estates Manager/Authorised Person LV/HV on completion of the project, prior to handover to the Trust.

## 3.7 Contractors

Only approved contractors and sub-contractors with a suitable level of competence are to be used. All contractors must ensure that their employees who work on Trust managed properties possess the appropriate level of technical knowledge and experience to enable them to discharge their duties.

Approval of electrical contractors to undertake work for the Trust shall be by Estates Department Authorised Persons. This will be conducted as per HTM06 – 02 and HTM06 – 03 appointment of contractors' competent persons.

The Trust holds a service and maintenance agreement with Integrated Utility Services (IUS), a High Voltage (HV) service provider. Under the terms of this agreement IUS are in control of the operation and maintenance of Trust HV equipment. This includes the provision of HV Authorised Persons, and the completion of any switching operations carried out on Trust HV equipment. Control of access to HV substations is retained by the Trust.

Specialist contractors appointed under a Control Operation and Maintenance Agreement (COMA) by the Trust Management shall be required to comply with the following requirements:

- The Trust's Safety Policies this Electrical Safety Policy
- HTM 06-03 and HTM06-02 Guidance or their own policy and procedures which shall be no less safe than the HTM guidance.
- Any instruction issued by the Trust's Authorised Person/s in accordance with the Trusts Electrical Safety Rules for High or Low Voltage Systems.

### 3.8 Directors, General Managers and Heads of Departments

Individual Directors, General Managers and Heads of Departments have responsibility for complying with the requirements of the policy. So that staff and contractors may discharge their duties under this policy they must ensure that the following is carried out within their area of responsibility:

- Users undertake checks of equipment before use and that the reporting of circuits or equipment in need of repair is undertaken.
- Make available electrical systems or equipment to enable repairs to be completed.
- Provide access to systems for the purpose of routine testing and inspection.
- Provide access to portable electrical equipment for testing and inspecting at mutually convenient times.
- Any electrical equipment delivered to and used in the Trust has been tested and cleared for use by the Estates Department.
- Condemned equipment is not used and is correctly identified as condemned prior to disposal.

### 3.9 Employees

The primary responsibility for the day-to-day safety of portable equipment when in service lies with the staff, whether being used by a member of staff, patient, or visitor.

Any staff member using, or allowing patients to use, portable electrical equipment shall personally check that the equipment (including the flexible cable and plug top) is free from mechanical damage before use.

For details of visual checks on portable equipment refer to Appendix 1.

Any defective equipment must not be used. A warning label shall be fitted, and the estates department informed.

All portable equipment shall be maintained in a safe condition in accordance with the requirements of the Electricity at Work Regulations 1989 and the Provision and Use of Workplace Equipment Regulations (PUWER) 1989.

All new portable electrical equipment delivered to stores, or direct to the user, shall not be used until it has been PAT (Portable Appliance Test) tested by the Estates Department or Medical Technical Services (MTS) department.

Personal electrical equipment shall only be used in Trust premises with permission from the local manager with responsibility for the area. Managers are to ensure that a basic condition check is carried out by departmental staff on all electrical charging devices that are brought to site for patient use (phone, tablet, or laptop chargers). Guidance can be found in Appendix 1 of this policy on the required checks. For all other electrical devices brought to site for patient use advice should be sought from the Estates department before granting permission.

# 4 PROCEDURE

## 4.1 Fixed Electrical Systems

**Electrical Installation Condition Reports (EICR's)**
All fixed LV electrical systems owned by the Trust shall be periodically inspected and tested and an electrical installation condition report generated in accordance with BS 7671: (current edition).

Inspection and Test records are stored on the Trusts data systems and securely on off-site servers. Records should be updated regularly to reflect any additions or changes to the electrical installation.

**Circuit identification**
All switchgear and distribution boards owned by DBTH shall be uniquely identified in accordance with BS 7671 and have securely attached and prominent asset labels.

All new electrical switch panels, switchboards and distribution boards shall have up to date circuit charts, allowing accurate and easy identification of all circuits connected to the boards/panels. Existing equipment must also meet this criterion where practicable.

Final circuit outlets shall also be labelled to reference them to their controlling switch/fuse and distribution board.

Schematic diagrams showing the Trust's electrical system layout and circuit/switch gear identification references shall be provided as required under HTM guidance and updated as necessary throughout the lifecycle of the installation.

**New works or additions or temporary works**

Any electrical work including new installations, temporary work and minor additions and modifications to circuits shall be carried out in accordance with BS7671: and the HTM guidance.

Any certification produced as a result shall be uploaded to the Trust electrical records system.

All new works certification will be reviewed by the Authorised Person LV/HV and uploaded to the Trusts records.

**LV fixed equipment maintenance**
All LV electrical equipment shall be regularly inspected, serviced, and tested to ensure that it is maintained in a safe and serviceable condition. Maintenance periods shall be determined by the Estates Department considering the guidance in BS 7671 (current edition) and risk assessment. Records containing brief details of all inspections, routine servicing, repair, and modifications will be maintained by the Estates Department.

**LV switchgear/HV switchgear and wiring**
All LV switchgear and installations shall be maintained to ensure safety and operational capability is assured. Maintenance intervals should not exceed the following periods:

- Manufacturers recommended intervals.
- 5 years for visual inspections and testing of fixed wiring (LV).

All HV switchgear and installations shall be maintained in accordance with manufacturer's recommendations and HTM 06-03.

**Medical Device Equipment**

Electrical medical devices are maintained by the Medical Technical Services department. All mains power electrical medical devices are subject to an annual safety inspection and test.

**Standby Emergency Generators**

Fixed standby emergency generators shall be tested on a regular basis as defined in the Estates planned maintenance system. This includes an on-load test once per month.

Generators shall be mechanically and electrically maintained to manufacture's recommendations so as to ensure their correct operation when required.

**Lightning conductors**

All lightning protection systems shall be inspected and tested every 11 months.

**Handheld Portable Tools**

All handheld portable electrical tools shall be battery operated or 110V centre-tapped earthed supply operated. Where valid technical reasons exist for why this condition may not be met then this should be discussed with the Authorised Person prior to proceeding so that approval may be given.

Any use of 230V handheld tools that are deemed necessary shall require approval of the Authorised Person and shall be RCD protected when in use.

## 5 TRAINING/SUPPORT

Each electrical craftsperson shall be issued with a copy of the Trust's Electrical Safety Policy, together with a copy of the HTM 06-02 Electrical Safety Handbook and related documents appropriate to their duties.

All persons concerned with work to which the Electrical Safety Policy applies, shall be given instruction training and assessment and shall ensure that they are conversant with the requirements of the rules. Ignorance of their requirements shall not be accepted as an excuse for neglect of duty.

Employees and other persons issued with HTM 06-02 Electrical Safety Handbook shall sign a receipt for their copy of the document (and any amendments there to) and the Trust's Electrical Safety Policy and shall keep them in good condition and have them available for reference as necessary.

All persons who are employed by the Trust for work on its electrical system shall be trained in and regularly re-trained in basic life support including the treatment for electric shock and resuscitation.

## 6 MONITORING COMPLIANCE WITH THE PROCEDURAL DOCUMENT

The effectiveness of this Electrical Safety Policy shall be monitored by the Estates Authorised Persons, Department Officers, Managers, and the Authorising Engineer. Any suggestion for modification to its content shall be made to the author of the policy.

| What is being Monitored | Who will carry out the Monitoring | How often | How Reviewed/ Where reported to |
|---|---|---|---|
| High Voltage Switch room inspections | Authorised Persons (APs) High Voltage (HV) | Quarterly | APs HV site logbook entries |
| High Voltage | Authorising Engineer (AE) and AP's HV | Annual | APs HV/ Audit to DP |
| Competent Persons | Authorised person | On Appointment and annually thereafter | Test initially and inspection and audit in accordance with HTM |
| Documentation and Switch rooms | AE and APs Low Voltage (LV) | Annual | APs LV /Audit to DP |
| Electrical systems | PPM schedules | As required | System and AP |

## 7 DEFINITIONS

**Authorising Engineer (Low Voltage and High Voltage (HV&LV)**
A Chartered or Incorporated Engineer with appropriate experience and who possesses the necessary degree of independence from local management and is appointed in writing by management to implement, administer and monitor the safety arrangements for the low voltage and High Voltage electrical supply and distribution systems of the organisation to ensure compliance with the Electricity at Work Regulations 1989 and to assess the suitability and appointment of candidates, in writing, to be Authorised Persons.

**Authorised Person**
An individual appointed in writing by management who, in the opinion of an Authorising Engineer, has sufficient technical knowledge and experience required to prevent danger while carrying out work on defined electrical systems.

**Competent Person**
An individual appointed in writing who, in the opinion of an Authorised Person, has sufficient technical knowledge and experience required to prevent danger while carrying out work on a defined electrical system.

**Designated Person**
An individual who has overall authority and responsibility for the low voltage electricity system within the premises and who has a duty under the HSW Act 1974 to prepare and issue a general policy statement on health and safety at work, including the organisation and arrangements for carrying out the policy. A person who sits on or reports into the Trust Executive Board. This person should not be the Authorising Engineer.

**High Voltage (HV)**
The existence of a potential difference normally exceeding 1000 volts ac between circuit conductors or 600 volts between circuit conductors and earth.

**Low Voltage (LV)**
The existence of a potential difference not exceeding 1000 volts ac 1500 volts dc between circuit conductors or 600 volts ac or 900 volts dc between circuit conductors and earth.

## 8 EQUALITY IMPACT ASSESSMENT

The Trust aims to design and implement services, policies and measures that meet the diverse needs of our service, population, and workforce, ensuring that none are disadvantaged over others. Our objectives and responsibilities relating to equality and diversity are outlined within our equality schemes. When considering the needs and assessing the impact of a procedural document any discriminatory factors must be identified.

An Equality Impact Assessment (EIA) has been conducted on this procedural document in line with the principles of the Equality Analysis Policy (CORP/EMP 27) and the Fair Treatment for All Policy (CORP/EMP 4).

The purpose of the EIA is to minimise and if possible, remove any disproportionate impact on employees on the grounds of race, sex, disability, age, sexual orientation, or religious belief. No detriment was identified. (See Appendix 2)

## 9 ASSOCIATED TRUST PROCEDURAL DOCUMENTS

N/A

## 10 DATA PROTECTION

Any personal data processing associated with this policy will be carried out under 'Current data protection legislation' as in the Data Protection Act 2018 and the General Data Protection Regulation (GDPR) 2016).

For further information on data processing carried out by the trust, please refer to our Privacy Notices and other information which you can find on the trust website: https://www.dbth.nhs.uk/about-us/our-publications/uk-data-protection-legislation-eu-general-data-protection-regulation-gdpr/

## 11 REFERENCES

BS 7671: (2018) IET Wiring Regulations
Electricity at Work Regulations 1989
Health and Safety at Work Act 1974
Provision and Use of Work Equipment Regulations (PUWER) 1998
Health Technical Memorandum 06-01 Electrical Services Supply & Distribution
Health Technical Memorandum 06-02 Electrical Safety Guidance for Low Voltage Systems
Health Technical Memorandum 06-03 Electrical Safety Guidance for High Voltage Systems

# APPENDIX 1– GUIDANCE ON PERSONAL ELECTRICAL EQUIPMENT CHECKS

It is essential that where personal electrical equipment is permitted for use in Trust premises that it is used and charged in a safe manner. Staff should be aware of the risk of fire and electric shock as a result of faulty rechargeable devices (particularly those with lithium batteries) and faulty chargers.

Personal rechargeable electronic equipment belonging to staff, patients or others should not be used in healthcare premises unless: -

- Permission has been granted by the responsible manager for the area.
- It displays the CE mark of conformity.
- The charger is the correct charger for the device (no mixing of chargers/devices)
- It has been visually inspected prior to use and found to be free from defects, cracks, damaged cables, burn marks etc.

Electrical equipment must only be charged in a safe, controlled environment. Consideration should be given to the provision of designated charging locations where possible. Where a designated charging location is not provided, alternative charging locations need to be risk assessed complete with documentation and their use only authorised if risks are deemed acceptable by the manager responsible for the area.

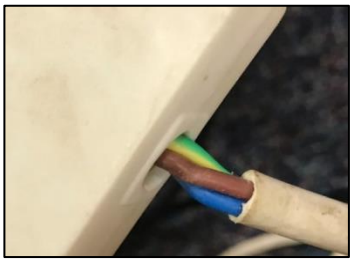
**Staff Awareness**

All staff members are responsible for ensuring their own safety and that of others in the workplace. This involves identifying and taking the appropriate action to remove or minimise hazards. The following list outlines common causes of electrical hazards which staff should be aware of and, if encountered, they should take action themselves wherever possible or report the matter to the responsible person:

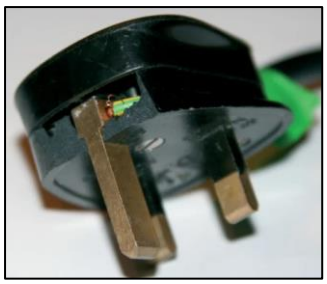
- Charger or battery/device overheating.
- Damage to the lead including fraying, cuts, or heavy scuffing, e.g., from floor box covers.
- Damage to the plug, e.g., to the cover or bent pins.
- Signs of overheating, such as burn marks or staining on the plug, lead, or the electrical equipment.
- Tape applied to join leads together.
- Wires visible where the leads join the plug (the cable is not being gripped where it enters the plug).
- Damage to the outer cover of the equipment itself, including loose parts or screws.
- If any of the above are discovered whilst an appliance is in use, it should immediately be switched off at the mains and its use discontinued.

**Examples of Personal Electrical Equipment Defects**

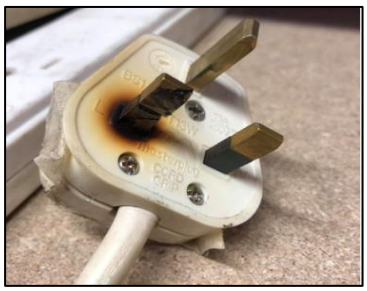
*Damaged charger cable / signs of overheating*



*Exposed bare wires*



*Damaged 13A plug top*



*Plug top showing signs of overheating*

*Damaged cable repaired with tape*

*Loose / damaged equipment covers*

**Hazard Reduction**

- Personal electrical devices should not be charged where water or other liquid spills are likely.
- Chargers should be unplugged when the battery is fully charged.
- Personal rechargeable electronic equipment should be visually inspected prior to use and found to be free from defects, cracks, damaged cables, burn marks.
- Cables should not be trapped under furniture or in floor boxes.
- Devices must not be charged in an oxygen rich environment.

# APPENDIX 2 - EQUALITY IMPACT ASSESSMENT PART 1 INITIAL SCREENING

| ~~Service/Function~~/Policy/~~Project/Strategy~~ | Division | Assessor (s) | New or Existing Service or Policy? | Date of Assessment |
|---|---|---|---|---|
| Electrical Safety Policy | Estates and Facilities | M Gleadall | Existing | 12/04/2023 |

**1) Who is responsible for this policy?** Name of Division/Directorate: **Estates and Facilities**

**2) Describe the purpose of the service / function / policy / project/ strategy?** Who is it intended to benefit? What are the intended outcomes? **Trust wide staff. To ensure compliance in the electrical safety on Trust premises.**

**3) Are there any associated objectives?** Legislation, targets national expectation, standards: **Electrical at Work Regulations, HTM 06-01, 06-02, 06-03 and BS 7671 IET Wiring Regulations.**

**4) What factors contribute or detract from achieving intended outcomes?** – **Awareness of Procedures and Management and Maintenance of Systems.**

**5) Does the policy have an impact in terms of age, race, disability, gender, gender reassignment, sexual orientation, marriage/civil partnership, maternity/pregnancy and religion/belief?** Details: [see Equality Impact Assessment Guidance] - **No**

- **If yes, please describe current or planned activities to address the impact** [e.g., Monitoring, consultation] – **N/A**

**6) Is there any scope for new measures which would promote equality?** [any actions to be taken] - **N/A**

**7) Are any of the following groups adversely affected by the policy? N/A**

| Protected Characteristics | Affected? | Impact |
|---|---|---|
| a) Age | **No** | |
| b) Disability | **No** | |
| c) Gender | **No** | |
| d) Gender Reassignment | **No** | |
| e) Marriage/Civil Partnership | **No** | |
| f) Maternity/Pregnancy | **No** | |
| g) Race | **No** | |
| h) Religion/Belief | **No** | |
| i) Sexual Orientation | **No** | |

**8) Provide the Equality Rating of the service / function /policy / project / strategy –** tick (✓) outcome box

| Outcome 1 ✓ | Outcome 2 | Outcome 3 | Outcome 4 |
|---|---|---|---|

**If you have rated the policy as having an outcome of 2, 3 or 4, it is necessary to carry out a detailed assessment and complete a* **Detailed Equality Analysis form – see CORP/EMP 27.**

**Date for next review: April 2026**

**Checked by: Howard Timms** **Date: 12/04/2023**