



***Please Note: This policy is currently under review and is still fit for purpose.***

# Electrical Safety Policy

This procedural document supersedes: CORP/HSFS 27 v.1 - Trust Electrical Safety Policy



## Did you print this document yourself?

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.**

Corporate Sponsor:	Kirsty Edmondson-Jones, Director of Estates & Facilities
Author/reviewer: (this version)	Mathew Gleadall, Head of Operational Estates & Robert Holdridge, Head of Operational Estates BDGH
Date written/revised:	April 2019
Approved by:	Trust Health & Safety Committee
Date of approval:	14 May 2019
Date issued:	31 May 2019
Next review date:	April 2022 – <b>Extended until October 2022</b>
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 2	31 May 2019	<ul style="list-style-type: none"> <li>• Updated to reflect the Trusts status as a Teaching Hospital</li> <li>• Change in the post holder acting as Designated Person</li> <li>• Addition of guidance on basic condition checks of personal electrical equipment and charging devices</li> </ul>	M Gleadall & R Holdridge
Version 1 <i>(not issued)</i>	08 January 2016	<p><b>Minor changes</b></p> <ul style="list-style-type: none"> <li>• Updated to reflect managerial changes and IUS contract.</li> </ul>	R Holdridge
Version 1	21 August 2014	Initial document – please read in full	R Holdridge

## Contents

		<b>Page No.</b>
1.	INTRODUCTION .....	4
2.	PURPOSE .....	4
3.	DUTIES AND RESPONSIBILITIES .....	5
4.	PROCEDURE.....	8
	4.1 Fixed Electrical Systems .....	8
	4.2 Portable Electrical Equipment .....	9
5.	TRAINING/ SUPPORT .....	10
6.	MONITORING COMPLIANCE WITH THE PROCEDURAL DOCUMENT.....	10
7.	DEFINITIONS.....	11
8.	EQUALITY IMPACT ASSESSMENT .....	12
9.	ASSOCIATED TRUST PROCEDURAL DOCUMENTS .....	12
10.	REFERENCES .....	12
	APPENDIX 1 – GUIDANCE ON PERSONAL ELECTRICAL EQUIPMENT CHECKS.....	13
	APPENDIX 2 - EQUALITY IMPACT ASSESSMENT PART 1 INITIAL SCREENING .....	14

## 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 & 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 & 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 out routine safety testing.
- 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 & Bassetlaw 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 & 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 & 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

#### ***Chief Executive***

The chief executive has overall responsibility for the Trusts health and safety and the implementation of this policy. This responsibility is delegated to the Director of Estates & Facilities

#### ***Designated Person, 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.

#### ***Authorising Engineer***

The Authorising Engineer HV and LV is an external consultant responsible for implementing and monitoring the application of HTM 06-02 and HTM06-03.

They shall assess, recommend and appoint in writing sufficient Authorised Persons HV & LV to provide the necessary cover for all systems over which the Trust has Management Responsibility.

Define the exact extent of the systems and installations for which each authorised person HV and/or LV is responsible.

If necessary, recommend the suspension or cancellation of the appointment of an Authorised Person HV and or LV and withdraw the certification.

Maintain a register of all Authorised Persons HV and LV and make it available to the Designated Person. This record is kept with the Designated Person and updated regularly.

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 of each system, installation and type of equipment for which authorisation is sought
- Have satisfied the Authorising Engineer HV and LV as to their competence and ability.

#### ***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 Management is in control of danger and for which the Authorised person HV and/or LV has been appointed.

The duties of the Authorised Person include the following:

- Appoint in writing competent persons 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.

### ***Competent Persons***

The Competent person HV and or LV shall comply with this safety policy and operation of guidance HTM06-02 and HTM06-03.

### ***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 appointed personnel 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 and handover of the project.

### ***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 Person. This will be conducted as per section 4 of the HTM06 – 02 and HTM06 – 03 appointment of contractors' competent person.

The Trust holds a service and maintenance agreement with Integrated Utility Services (IUS), a High Voltage 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.

Where a specialist contractor has been appointed under contract by the Trust Management, the contractor shall be required to comply with:

- The requirements of the Trust's Safety Policies and this Electrical Safety Policy.
- Any instruction issued by the Trust's Authorised Person/s in accordance with the Trusts Electrical Safety Rules for High or Low Voltage Systems.

***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 effected.
- 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.

***Duty of 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, before using it, personally check that the equipment, including the flexible cable and plug top, is free from mechanical damage

For details of visual checks on portable equipment refer to the Procedures in section 4 of this document.

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 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 A 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

Detailed guidance on the procedures associated with Trust's Electrical Safety Policy is contained within the Doncaster & Bassetlaw Teaching Hospitals NHS Foundation Trust Electrical Safety Procedure Manual which is available from the Estates Department on request.

### 4.1 Fixed Electrical Systems

#### ***Periodic testing of LV systems***

All fixed LV electrical systems owned by the Trust shall be periodically inspected and tested 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 by securely attached and prominent asset labels. Each distribution board shall have an on-site circuit chart which allows accurate and easy identification of all circuits connected to the switch board.

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 and updated as necessary.

#### ***New works or additions or temporary works***

All new LV work including temporary work and minor additions shall be carried out in accordance with BS7671: (current edition).

All new works certification will be passed to an 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. Test periods shall be determined by the Estates Department and records maintained which will contain brief details of all inspections, routine servicing, repair and modifications.

#### ***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.

### ***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 manufacturer'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.

## **4.2 Portable Electrical Equipment**

All portable electrical equipment shall be tested and inspected on an annual basis, except where the recommended inspection frequency for a particular type of equipment in the IET's Approved Code of Practice for In Service Inspection and Testing states a period exceeding 12 months, in which case the recommended inspection period stated in that document shall apply.

Any equipment failing inspection and testing which cannot be repaired immediately is to be fitted with a warning label and made secure to prevent use.

Extension leads are portable electrical equipment and shall be tested as detailed above.

The use of extension leads should be avoided where possible. Where extension leads are deemed an operational requirement then the responsible manager for the area in which the extension lead is in use must ensure that an adequate risk assessment is completed. Estates should also be consulted prior to using an extension lead so that alternative solutions may be considered. In all cases an extension lead shall not be plugged into another extension lead. Extension leads should also not exceed 5m in length unless agreed with Estates. Any extension lead in use on site must be of suitable construction for the environment in which it is being used and approved by the BSI. Any extension lead approved by the BSI should display a 'Kitemark' and a Kitemark number. To ensure that only extension leads of the required quality are used on site they must only be purchased via the Procurement department or Estates.

Where extension leads are being considered for use with medical equipment prior approval must be sought from Medical Technical Services.

On completion of inspections and tests a label is to be fixed to the appliance indicating when the equipment was tested and when the next test date is due.

**Hand held Portable Tools**

All hand held 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 a member of the Estates department management team (Estates Officer / Manager) prior to proceeding so that approval may be given.

Any 230V supply operated hand held tools that are deemed necessary 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 Electrical Safety Rules and related documents appropriate to their duties.

All persons concerned with work to which the Electrical Safety Rules apply, 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 the Electrical Safety Rules shall sign a receipt for their copy of the rules (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 Department Officers, Managers and Authorising Engineer. Any suggestion for modification to its content shall be made to the author of the policy.

<b>Audits</b>	<b>Frequency</b>	<b>Auditors</b>	<b>Actions by</b>
High Voltage Switch room inspections	Quarterly	Authorised Persons (APs) High Voltage (HV)	APs HV
High Voltage Documentation and Switch rooms	Annual	Authorising Engineer (AE) and AP's HV	APs HV
Low Voltage documentation and Switch rooms	Annual	AE and APs Low Voltage (LV)	APs LV

Records shall be maintained by the relevant maintenance provider for the following:

- Staff training and authorisation
- Test/work associated with HV and LV systems
- Commissioning, maintenance, inspection, testing and repair of fixed and portable electrical equipment, wiring, switchgear and plant
- DBTH electrical distribution systems

The Authorising Engineers shall submit an annual audit report to the Designated Person for Trust compliance to HTM 06-02 and HTM 06-03.

The Authorised Persons will create an action plan to complete any issues raised from the audit report.

## 7. DEFINITIONS

### ***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. This person should not be the Authorising Engineer.

### ***Authorising Engineer (Low Voltage and High Voltage)***

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 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.

### ***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**

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**

Trust Electrical Safety Procedure, March 2014 – Copies of this document are available from the Estates Department.

CORP/EMP 4 – Fair Treatment for All policy

CORP/EMP 27 – Equality Analysis policy.

**10. REFERENCES**

BS 7671: (2018) IET Wiring Regulations

Electricity at Work Regulations 1989

Health and Safety at Work Act 1974

Health Technical Memorandum 06-02-02 Electrical safety guidance for low voltage systems

Health Technical Memorandum 06-02-03 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 was supplied with the device (no mixing of chargers/devices) and;
- 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 fully 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 joins 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.

### 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	R Holdridge	Existing (review)	17 April 2019
<b>1) Who is responsible for this policy?</b> Name of Division – Estates				
<b>2) Describe the purpose of the service / function / policy / project/ strategy?</b> Who is it intended to benefit? What are the intended outcomes? – Trust wide staff. To ensure compliance in the electrical safety on Trust premises.				
<b>3) Are there any associated objectives?</b> Legislation, targets national expectation, standards – <b>Electrical at Work Regulations, HTM 06-01, 06-02, 06-03 and BS 7671 IET Wiring Regulations</b>				
<b>4) What factors contribute or detract from achieving intended outcomes?</b> – Awareness of Procedures and Management and Maintenance of Systems.				
<b>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?</b> Details: [see Equality Impact Assessment Guidance] – <b>No.</b>				
<b>6) Is there any scope for new measures which would promote equality?</b> [any actions to be taken] – <b>N/A.</b>				
<b>7) Are any of the following groups adversely affected by the policy?</b> – <b>N/A.</b>				
<b>Protected Characteristics</b>	<b>Affected?</b>	<b>Impact</b>		
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			
<b>8) Provide the Equality Rating of the service / function / policy / project / strategy</b> – tick outcome box				
<b>Outcome 1</b>	<b>Outcome 2</b>	<b>Outcome 3</b>	<b>Outcome 4</b>	
✓				
<i>*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 <b>Detailed Equality Analysis</b></i>				
<b>Date for next review: April 2022</b>				
<b>Checked by: M Gleadall</b>			<b>Date: 17 April 2019</b>	