

## POLICY DOCUMENT

Policy Title:	Electrical Safety Policy
Policy Group:	Maintenance
Policy Owner:	Director of Operations
Issue Date:	December 2023
Review Period:	24 months
Next Review Due	December 2025
Author:	Joanna Speed
Cross References:	Maintenance Policy
Evidence:	<i>HTM 06-02 Electrical Safety Guidance for low voltage systems</i> <i>HTM 06-01 Electrical services supply and distribution Part A(design considerations) and Part B (operational Management)</i> <i>BS 7671-18<sup>th</sup> Edition</i> <i>HSG 85 Safe Working practices</i> <i>HSG 107 Maintaining transportable and portable appliances</i> <i>HSG 230 keeping electrical switch gear safe</i> <i>HTM 08 -02 Lifts</i> <i>HTM 08-03 Bedhead services</i>
How implementation will be monitored:	Routine supervision of maintenance work by CEO and Director of Operations
Sanctions to apply for breach:	Retraining increased supervision or disciplinary action
Computer File Ref.	O:/newpolicybook/maintenance
Policy Accepted by MT	14 <sup>th</sup> December 2023

Sign-off by CEO

### Purpose of Policy:

This policy sets out the commitment of Holy Cross Hospital to provide a safe environment for patients, visitors and staff in respect of electrical installations and equipment. The Policy details the procedure in place to minimise the risk of death or personal injury resulting from the use of electricity for work activities.

### Policy Statement:

The Electricity at Work regulations require that all electrical systems shall be designed, installed and maintained in such a manner as to prevent risk of injury and danger. It also requires that every work activity, which includes operation, use or maintenance of electrical equipment, shall be carried out, as far as is reasonably practical, without risk of injury. Holy Cross Hospital plans to operate in full compliance of these Regulations and to make staff,

visitors and patients aware of hazards and their responsibilities in respect of personal safety and that of others.

## Introduction

- Holy Cross Hospital is committed to ensuring the health, safety and welfare of its employees and others affected by its activities.
- This policy ensures all employees are aware of both the hospitals and their own responsibilities under the HSAWA 1974 with particular respect to the Electricity at work regulations 1989 (EAWR).
- The Hospital is committed to operating and maintaining its electrical systems, plant and equipment to a suitable level in order to minimise risks, accidents and injury from these activities or systems.
- In addition, the EWAR has strict controls on “live working” which is supported by the Department of health in the form of HTM 06-02. Live working on mains electrical services will only be permitted with written authorisation from the CEO, after all other solutions have been considered
- All persons working on the hospital’s electrical systems must be competent to carry out the duties required.

## Relevant Legislation

*Health and Safety at work act 1974*

*Electricity at Work Regulations 1989*

*Management of Health and Safety at work regulations 1999*

*Corporate Manslaughter and Corporate Homicide act 2007*

*Provision and use of work equipment regulations 1998*

*Construction Design and Management (CDM) regulations 2015*

## Responsibilities of the Chief Executive:

To ensure that there are sufficient resources available to manage risks to people within the premises arising from electricity & electrical appliances, and to meet the statutory requirements.

## Responsibilities of the Director of Operations

- To engage suitably qualified electrical contractors to enact this policy. Following the completion of work, certificates are issued. No new work, installation or alteration to electrical systems may take place without permission from the Director of Operations who will ensure that a “supervising electrician” has been appointed and that this policy has been brought to his/her attention.
- To ensure that fixed electrical wiring systems are checked and a report made by a competent electrician every 5 years, that faults are repaired and that plans are kept and updated.
- As part of pre-planned maintenance a qualified electrical contractor will be engaged to inspect and test the following:
  - Ensure that emergency lighting is tested annually at 1 month intervals
- The in house maintenance team will carry out the following as part of their Planned Preventative maintenance programme.

- A visual inspection, of basic components: lighting, switches, sockets and fuse boards. (some components are visually checked as part of departmental user checks and any issues are brought to the attention of the Caretakers using the Maintenance Task Logging system)
  - Regular Testing of residual current devices (RCD's)
- To ensure that wherever possible, work is not carried out on 'live' circuits and that a 'permit to work system' is used where risks are identified. Any such work must be discussed with the supervising electrician and the permit to work signed by all parties.
  - To ensure that residual current devices (RCD's) are used where there is a significant risk of electrocution.
  - To ensure that all portable appliances are tested by a suitably qualified company on an annual basis (apart from IT equipment which is tested 3 yearly)
  - To arrange that a waste management contractor disposes of all electrical or electronic equipment and other electrical waste separately, as required under the Waste Electrical and Electronic Equipment Regulations 2005.
  - To arrange for reports to be given to Management Team on any untoward incidents or accidents involving electricity, electrical installations or equipment and to draw attention to any work arising from inspections by electrical contractors.

#### **Departmental Manager's and Team Leaders Responsibilities:**

- To ensure that all new equipment, whether purchased, on trial or bought on site by staff, patients or consultants, is visually inspected / tested by a qualified person before it is used.
- To ensure that all equipment is logged on the Equipment Database
- To ensure that all electrical equipment is within test date, as shown by the test label on the equipment before use. Equipment that is out of test date should not be used until a Caretaker has tested it.
- To supervise the correct disposal of all electrical equipment
- To be accountable for any damage that occurs to electrical equipment and fixtures and fittings in their area of responsibility

#### **Employee's Responsibilities:**

1. All employees are responsible for their own safety and the safety of others arising from their actions or inactions with respect to health and safety law.
2. To inspect all electrical appliances for faults before use, including checking that the PAT test label is within date. If you are unsure of anything or unable to check yourself please ask a colleague to assist you.

3. If equipment is damaged in the course of its use it must be taken out of service, labelled and the Support Services Department informed
4. If equipment is found to be faulty, it must be labelled, taken out of use, and reported to the Caretaker Staff in writing via reception using the maintenance task logging system.
5. Work in safe manner making proper use of any control measures provided
6. Ensure electrical items brought onto the site, including the staff accommodation, have been visually inspected and PAT tested by caretaking staff prior to being used in the hospital (this includes mobile phone chargers etc.)

**Support Services Department Responsibilities:**

1. To respond to work requests from staff where electrical equipment is not working correctly. To ensure that correct manufacturer's instructions have been followed to use the equipment. To report to the Director of Operations any equipment which needs to be repaired or condemned. To undertake all work with due care in respect to electrical hazards affecting them and others.
2. To attend training and thereafter work in a competent manner to undertake portable appliance testing.
3. To inspect portable appliances on receipt. Each appliance will be assessed as to how often it should be PAT tested dependent on its risk status. Once tested an appliance would then carry a test label stating a 'test before date'. Any item that fails a test must be removed from service and clearly marked until it is repaired by a competent electrician and passes its safety test. Records of testing will be kept by the Caretaking Department. Some electrical equipment will be on a service contract which will include PAT testing this includes medical devices which need to pass more detailed testing.
4. Caretakers are not permitted to repair electrical wiring or circuiting of any equipment. Minor works within their competence may be carried out and these will be checked and signed off by the Electrical Engineer at the next visit. It is the Caretakers responsibility to ensure all minor works are signed off.
5. The Chief Executive, Director of Operations, Information Services Manager and Caretakers are the only staff permitted to open locked rooms and cupboards where there are specific electrical hazards. Such rooms include the Electrical Intake, Electrical Services Room and distribution board cupboards. They are responsible for ensuring they are locked after use and for reporting any breaches of this policy.
6. Security: All mains electrical distribution equipment and the generator will be secured at all times. The Generator control panel must be kept locked down at all times and the fuel tank should also be padlocked to prevent unauthorised use.
7. Records: The Director of Operations is responsible for maintaining records of the electrical installation including drawings, specifications and other documents relating to new work, alterations or repairs.
8. To respond to power outages whether planned or unplanned. All power outages must be documented and the status of the generator recorded on the checklist in the electrical intake room. (see below for procedure)

## **Equality and Diversity**

This policy has been reviewed for adverse impact on people with protected characteristics within the meaning of the Equality Act 2010 and no such impact was found.

## Scheme of Management for Electrical Equipment

### 1. Fixed Installations

1. All the wiring, sockets and switches and lighting are fixed installations and must be adequately tested and maintained to ensure they are safe
2. Only approved contractors or sub-contractors with a suitable level of competence are permitted to work on electrical installations within the hospital. The Hospital engages the services of suitably qualified electrical engineers to carry out Planned Preventative maintenance and inspections on the systems within the hospital. This contractor would also carry out any remedial work as identified by Caretakers. In addition to this planned preventative maintenance the hospital engages the services of a specialist contractor to carry out a Five Yearly inspection of the entire Fixed Installation.

### 2. Miniature Circuit Breakers

MCBs cover all electrical supplies for example all patients rooms have three separate MCBs for power, lighting and hoist. A competent electrical engineer makes periodic checks of all MCBs

### Residual Current Devices

All electrical outlets that are in areas of high humidity (hydrotherapy Pool) are fitted with RCDs.

### 3. Standby emergency generator

Installed on 4/11/15 Model 6BTAA5.9G2 145kVa Generator supplied and fitted by GMI power. The Generator powers the Hospital Buildings (Hospital, Physiotherapy Department, St Margaret's, St Hugh's, and St Joseph's)

In the event of a power failure it is required to start within 30 seconds. On starting it automatically powers the main hospital building and then sequentially other buildings on the site. The on board tank contains fuel for approximately 8 hours continuous running by which time Caretakers will have attended site and can pump additional fuel from the on board tank which contains a minimum of 400 litres of fuel which could power the site for in excess of 24 hours. The Slab tank has a capacity of 1200 litres which when full would power the site for 48 hours if required. The Generator uses approximately 33litres of fuel per hour running at full load. To reduce the load and extend the independent running time non-essential services such as the pool plant will be left off. The Slab tank will be refilled when it reaches 50% empty

- The Emergency generator shall be maintained, tested and fuelled to ensure its correct use in the event of mains failure. In the event of a power failure the duty caretaker will record the load % that the generator is powering (information shown on LCD screen on unit)
- The generator will be inspected, levels check and recorded weekly on a Monday morning by Caretakers. The generator is run on-load on the first Wednesday of each month. The Caretakers will ensure all checks are recorded on their PPM database. Caretakers will ensure that they are wearing hearing protection when the generator is running as noise levels above 82 dBA have been recorded next to the generator panel. Record is kept O:\Maintenance\UTILITIES\ENERGY-ELECTRICAL-

POWER\Electrical Failure Sheet 1\Template for updated sheet (including locations of switchboards and order of priority for checks).

- The Fuel in the storage tank for the generator shall provide for a minimum of 24 hours running time at the full rating of the generator. Fuel Levels will be checked and recorded weekly and before and after all on-load tests
- The Generator is serviced twice annually by a competent contractor who will carry out a test on-load during their service visit.

#### **4. Uninterruptable Power Systems**

Some equipment in the hospital is protected by Uninterruptable Power Supplies. The UPS protects the equipment from electrical spikes which could be damaging. In event of power failure the UPS keeps the equipment running until the generator takes over or power is restored. The battery indicator lights on the UPSs will be checked during routine plant room checks and any problems will be reported to the Director of Operations so remedial action can be taken.

#### **Definitions**

- **Portable appliance** – Not part of the fixed installation but connected by means of a flexible cable and either a socket and plug or spur box or similar means. It may be hand held or hand operated while connected to the supply or is intended or likely to be moved whilst connected to the supply. Auxiliary equipment such as extension leads used with portable tools is also classed as portable equipment. The term 'portable' meaning both portable and transportable.
- **Portable appliance testing** (PAT testing) Portable appliance testing (PAT) is the term used to describe the examination of electrical appliances and equipment to ensure they are safe to use. Most electrical safety defects can be found by visual examination but some types of defect can only be found by testing. However, it is essential to understand that visual examination is an essential part of the process because some types of electrical safety defect can't be detected by testing alone. A relatively brief user check (based upon simple training and perhaps assisted by the use of a brief checklist) can be a very useful part of any electrical maintenance regime. However, more formal visual inspection and testing by a competent person may also be required at appropriate intervals, depending upon the type of equipment and the environment in which it is used

#### **Assessment of Risk**

Under the Management of Health and Safety Regulations 1992 the hospital is required to carry out suitable and sufficient risk assessments. The hazard presented by electricity must be carefully considered and managed.

#### **Control Measures**

The Control measures for the prevention of injury or death from electrical services will be dependent on the potential level of risk to employees, patients or visitors. Where the risk is high or unacceptable, control measures will be implemented to ensure that a safe environment is maintained

Control measures will include

- Periodic inspection, testing and maintenance of electrical systems and equipment by competent person

- Compliance with manufacturers recommended procedures and instructions
- Equipment suitable for the environment in which it will be used
- Restricting access and securing areas to Authorised Persons only where there is a risk from Electricity (e.g. Electrical Services Room, distribution cupboards, Generator House)
- Developing adequate and robust reporting procedures for faulty and dangerous equipment
- Ensuring all portable appliances are tested before use and on a regular basis thereafter.

### **Procedure in the event of a power failure to site**

On responding to a power failure the first step is to ascertain whether the hospital is on generator or emergency lighting.

If generator is running all circuit breaker sites listed below have to be checked and any tripped MCB's should be reset. (Upon power being restored and generator, shutting down these sites have to be rechecked)

If generator is not running and we are not running on emergency lighting, it is reasonable to assume that power has been restored. All circuit breaker locations should be checked to ensure that the power failure has not tripped any MCBs

### **Location of Circuit breakers**

1. Electrical Intake room
2. Main kitchen
3. Equipment Store (kitchen for fridge and freezer)
4. Laundry
5. TV intake Room
6. SAF outside bathroom 1
7. SAF outside bathroom 2
8. Opposite passenger lift (1<sup>st</sup> Floor)
9. Outpatients Gym Storeroom
10. Opposite passenger lift next to kitchenette
11. Passenger lift Motor room (ground floor)
12. SMF outside bathroom 1
13. SMF outside bathroom 2
14. Bed Lift Motor room
15. Hydrotherapy plant room (Four cabinets) See also hydrotherapy maintenance policy
16. St Margaret's (outside Kitchenette)
17. St. Hugh's – workshop
18. SJC- Ground floor ( West end of bedroom corridor)
19. SJC lift lobby (check and call out engineers)
20. SJC First Floor West End of Corridor
21. SJC First Floor East end of Corridor
22. MTH Entrance Lobby ground floor
23. MTH First Floor east end of bedroom corridor



24. MTH second Floor east end of bedroom corridor
25. Third floor lift motor room
26. Chapel power In MTH high up outside lift on second floor
27. Ground Floor Shottermill hall adjacent to kitchen

There is a checklist located in the electrical intake room, which should be completed in the event of any power outages by the attending caretaker (appendix III)

The load % of the generator must be recorded and the Director of Operations must be informed if it reaches 95% See appendix IV

#### **Fire Panel Battery back up**

The fire panels have internal batteries that should last for 24 hours as a minimum that will work in the event of the generator not providing power. In the event of the generator, failing all fire panels will need to be fitted with external supplementary battery packs as a precaution, Southern Fire Alarms would supply

#### **Procedure before a planned power shut down**

In order to protect the sensitivity of the electronic components of plant and equipment they should be shutdown prior to any planned power outages for maintenance purposes (this does not include the on load test as this is designed to test an unplanned power failure) In the event of in the event of a power outage being planned to last in excess of three hours Southern Fire Alarms should be contacted to provide an external battery backup for all fire panels

The following locations should be shut down prior to the power being turned off

- Shottermill Hall Plant room – Boilers
- Marie Therese House Plant room – Boilers
- St Joseph's – Boilers and Wi-Fi Hub
- Main Hospital Plant room- boilers, pool plant and equipment.
- Soiled Holding (both Wards) –bed pan washers
- Print Room- Hospital telephone system & Photocopier
- The hospital Server and all IT equipment (this will be coordinated by the ISM)

Appendix 1 (Audit Tool)

