

Electrical Safety Policy and Procedure

Section 1 - Purpose

(1) This document sets out the policy and procedure for ensuring the safe and reliable supply and use of electricity within Charles Sturt University (the University), including all electrical infrastructure and appliances which are connected to this infrastructure. It also sets out responsibilities in relation electrical safety at the University.

(2) The University has a duty to manage the risks to health and safety associated with electrical risks as prescribed under Work Health and Safety legislation. These include the electrical risks associated with the design, construction, installation, protection, maintenance and testing of electrical equipment and electrical installations.

Scope

(3) This Policy and Procedure is applicable to all persons who connect to, use or carry out work on the Electrical Installation at the University.

(4) This Policy and Procedure is applicable to Electrical Installations and equipment that operate on:

- a. mains voltage of 240 volt (alternating current); or
- b. 415 volt 3 phase supply; or
- c. other voltages produced from equipment that may cause harm; or
- d. University owned High Voltage supply lines; and
- e. Solar Photovoltaic systems.

Section 2 - Glossary

(5) For the purpose of this Policy and Procedure:

- a. Approved Person - means a person approved to undertake explicit Electrical Work as listed below:
 - i. a licensed electrician approved to work on the Electrical Installation and Electrical Equipment;
 - ii. an electronics technician approved to work on Electrical Equipment connected to or capable of being connected to the Electrical Installation; or
 - iii. a tradesperson holding a restricted electrical licence (air conditioning mechanic, plumber, mechanical fitter, electrical fitter) approved to work on restricted Electrical Equipment and their connection to the Electrical Installation according to the specific conditions of their licence; or
 - iv. such other competent person approved to work on Electrical Equipment by way of demonstration that their knowledge and experience is sufficient for them to do so safely; or
 - v. such other competent person approved to undertake in-service testing of Electrical Equipment previously judged to comply with the relevant Australian Standards and supplied with a two or three pin plug for connection to a general purpose outlet, and who has successfully completed the appropriate training competencies and ongoing training for their required task including:
 - the relevant Australian Standards including AS3760;

- requirements of this Policy and Procedure; and
 - methods of rescue and resuscitation of persons suffering electric shock.
- b. Electrical Equipment - means an electricity consuming device or apparatus (including the cable) that is connected to, or capable of being connected to the Electrical Installation. Electrical Equipment can be coded into one of the following categories:
- i. Hand-Held Portable - equipment which is hand-held while in operation or can be moved easily while connected to the supply. Examples include: floor polisher, vacuum cleaner, power tools (portable drill, grinder, soldering iron), jug, toaster, desk lamp, laboratory stirrer/heater, heat gun, heating mantle;
 - ii. Extension lead, non-fixed Electric Portable Outlet Device (EPOD);
 - iii. Field Work/Outdoor/Wet Use - examples of wet use include water bath and ultrasonic bath;
 - iv. Movable - equipment that can be moved readily from one place to another by unplugging from a general purpose outlet, but that is not moved during operation. Examples include: cathode ray oscilloscope, electronic balance, personal computer, and printer;
 - v. Fixed/Stationary - equipment which in normal use is fastened to a support or otherwise secured in a specific position or is of such size or function as to be difficult or unlikely to be moved from one place to another. Examples include: large workshop machinery, such as a lathe, band saw, microwave oven, or refrigerator.
- c. Electrical Installation - means the electricity equipment connected together that can be supplied with electricity from a supply authority or generating source. It can include the main switchboard, distribution boards, and all fixed wiring to isolation switches or general purpose outlets.
- d. Electrical Work - means:
- i. any work undertaken on the Electrical Installation;
 - ii. any work undertaken on Electrical Equipment; and
 - iii. any work undertaken on the University's electrical supply.
- e. Electric Portable Outlet Device (EPOD) - means a device also commonly known as a multiple outlet portable power board.
- f. Hostile Environment - means as per the requirements as detailed in the Work Health and Safety Regulations, 'an environment in which the normal use of electrical equipment exposes the equipment to operating conditions that are likely to result in damage to the equipment or a reduction in its expected life span, including conditions that involve exposure to moisture, heat, vibration, mechanical damage, corrosive chemicals or dust.'
- g. Organisational Unit - refers to a Budget Centre, including Faculty, School, Division, Office, Centre or Enterprise, as the custodian for the space they occupy.
- h. Residual Current Device (RCD) - RCDs or Safety Switches are a switching device intended to isolate the circuit when the current imbalance attains the rated operating leakage current value of the device. The purpose of RCD devices is to help protect users from electrocution. These devices may be either portable or fixed.

Section 3 - Policy

Responsibilities

(6) The Division of Facilities Management has governance of the Electrical Installation in all buildings, including the provision, maintenance, repair, alterations and additions to the Electrical Installation.

(7) No alterations or additions to the Electrical Installation including hardwired systems shall proceed without prior approval of the Division of Facilities Management.

(8) The Division of Facilities Management is also responsible for:

- a. ensuring that only Approved Persons are engaged to work on the University's Electrical Installation;
- b. the statutory testing of safety switch Residual Current Devices (RCDs) on the University electrical supply or those under the University's control;
- c. assessing new installations for the risk to personnel at every opportunity including during the construction of new buildings, renovations, and minor upgrades and includes protective RCD's as appropriate to counter any identified potential risk;
- d. ensuring the maintenance of the Electrical Installation, including assessments of the installation to ensure any changes to the function or requirements of an area meet Australian Standards; and
- e. ensuring that all general purpose outlets provided in all public areas are protected by RCD/ Safety switches.

(9) Where facilities or workplaces have no nominal person in charge, such as shared teaching spaces and lecture rooms, then the relevant Campus Services Manager, Division of Facilities Management shall be the person in charge for the purpose of this Policy and Procedure.

(10) Organisational Units are responsible for ensuring that Electrical Equipment used in their areas are safe for the tasks in the area of use.

(11) The Organisational Unit is responsible for:

- a. the safety of all Electrical Equipment under their control within any space for which they are responsible;
- b. undertaking all Electrical Work required on the Organisational Unit's Electrical Equipment by means of Approved Persons, and/or arrangements with the Division of Facilities Management;
- c. ensuring equipment to be inspected, is used and maintained in a safe manner; and
- d. if required to be inspected, is tested and tagged in accordance with Work Health and Safety Legislation, Australian Standard AS3760: In-service Safety Inspection and Testing of Electrical Equipment, and this Policy and Procedure.

(12) It is the responsibility of the Head of the Organisational Unit:

- a. to ensure that Approved Persons organised by them to work on portable/plug in appliances under their control, have appropriate qualifications and experience for the nominated tasks;
- b. to inform users of Electrical Equipment within their Organisational Unit of their responsibilities; and
- c. to approve the use of privately owned Electrical Equipment in accordance with this Policy and ensure such equipment is assessed as safe and electrically tested and tagged if required.

(13) Where facilities are occupied by different work units (shared facilities), the managers of staff residing in the area are required to formally develop a shared and agreed understanding for the manner in which the safe and reliable supply and use of electricity in the workplace will be used, inspected and recorded in accordance with this Policy and Procedure.

(14) Only Approved Persons are authorised to:

- a. electrically inspect, repair, test and tag Electrical Equipment including extension cord sets and Electrical Portable Outlet Devices; and
- b. conduct risk assessments for establishing electrical testing intervals or exemption of items from a testing and tagging regime in accordance with this Policy and Procedure.

(15) All users of Electrical Equipment have a responsibility to:

- a. visually inspect equipment for signs of damage prior to use;

- b. use the correct equipment for the task;
- c. report any electrical defects to a person in authority, and ensure that the item is tagged 'danger - unsafe, do not use', until the item is tested or repaired;
- d. not remove a flexible lead plug from the wall socket, by pulling the lead;
- e. always completely unroll an extension lead before using and never use an extension lead while it is coiled or wound around a drum;
- f. check that portable Electrical Equipment that has been electrically tested and tagged is still within the approved period;
- g. ensure that Electrical Equipment is set up correctly and used safely and in accordance with any relevant instructions accompanying the equipment and this Policy and Procedure;
- h. not interfere with the marker label on Electrical Equipment or with the tagging procedure used as a safety control by approved persons, (such interference constitutes a very serious offence which will lead to disciplinary action);
- i. notify their supervisor or an Approved Person when the due for inspection/retest date shown on the marker label of Electrical Equipment is approaching and must not use equipment if the due for inspection/retest date has passed; and
- j. be aware that a marker label attached to an item of Electrical Equipment indicates that the equipment conformed to the appropriate standards at the date of testing. If there is any doubt as to the current validity of a marker label on an item of Electrical Equipment the user should notify their supervisor or an Approved Person immediately.

(16) If a user becomes aware that equipment or associated wiring may be in a dangerous condition, the equipment should be switched off and unplugged, providing it is safe to do so, and the Organisational Unit management notified immediately. The item must be clearly labelled 'Danger: Do Not Use' and include the person's name, date and contact details.

(17) Users are not permitted to repair, modify, or interfere with Electrical Equipment in any way.

(18) Approved Persons are responsible for:

- a. undertaking work in safe manner so as not to expose themselves or others to risk;
- b. informing their Site Supervisor of any electrical hazards found in the workplace; and
- c. refusing to undertake Electrical Work outside their area of expertise. If the task is outside their area of practical experience, it is the responsibility of the Approved Person to seek guidance before undertaking the task.

Electrical Work

(19) All Electrical Work, whether undertaken by the Division of Facilities Management or by the Organisational Unit, shall comply with the rules and codes of the Local Supply Authority, Standards Australia and Work, Health and Safety legislation.

(20) Any Electrical Work that alters an electrical circuit must be documented on the relevant switchboard legend by the approved person performing the works at the earliest appropriate time.

(21) Where practicable, main switchboards shall be locked, with the Division of Facilities Management controlling access, to prevent unauthorised access.

(22) Connection of Electrical Equipment to the Electrical Installation of the building shall be by an approved socket outlet or isolation switch.

(23) A Residual Current Device (RCD) shall be used on a circuit supplying wet use equipment, if practicable. Electric

Portable Outlet Devices (EPODs), if an integral part of Electrical Equipment or rack, shall be fixed by the use of secure fittings in such a way that the EPOD is mounted with its face in the vertical plane in a location that is not susceptible to mechanical or water damage.

(24) The use of privately-owned Electrical Equipment in the workplace is discouraged, but any permitted items must be in good condition and safe. The Head of the Organisational Unit has the right to instruct the staff member not to connect the appliance to an electrical outlet and remove the item from the workplace.

(25) Electrical Portable Outlet Devices (EPODs) must only be used only if they are Australian Standards approved and have overload protection.

(26) Double adaptors are not approved for use within the University and should be removed and replaced with Electrical Portable Outlet Devices (EPODs) with overload protection fitted.

Interference with Electrical Safety

(27) Any person who interferes with Electrical Installations, Electrical Equipment or electrical safety systems, such as electrical tags or danger tags, is committing a serious breach of safety and will be dealt with under the University's breach of discipline provisions.

(28) All such breaches must be reported immediately to the supervisor, manager, Head of the Organisational unit, Health and Safety Representative or Manager, Work Health and Safety.

Section 4 - Procedures

(29) In-service inspection and testing of Electrical Equipment compliant with the relevant Australian Standards and supplied with a two or three pin plug for connection to a general purpose outlet shall be carried out by a 'competent person' as prescribed under AS3760.

(30) All electrically tested appliances must be tagged with a compliant and legible label, as per the Work Health and Safety legislation and Australian Standard AS3760.

Electrical Equipment required to be inspected tested and tagged

(31) Electrical Equipment shall be regularly inspected and tested by a competent person if the electrical equipment:

- a. is supplied with electricity through an electrical socket outlet ('plug in' equipment); and
- b. used in an environment in which its normal use exposes the equipment to operating conditions that are likely to result in damage to the equipment or a reduction in its expected life span, eg conditions such as exposure to moisture, heat, vibration, mechanical damage, corrosive chemicals or dust.

(32) The Organisational Unit, by means of a documented safety risk assessment, may determine additional electrical equipment that require electrical inspection, testing and tagging.

Test Frequency

(33) The Organisational Unit shall test Electrical Equipment as per Australian Standard AS 3760, after repair, and shall retest according to the requirements of the Work Health and Safety legislation, risk assessment and AS3760.

New Electrical Equipment

(34) New Electrical Equipment meeting relevant Australian Standards should not require testing and tagging, but requires:

- a. a visual inspection to ensure there is no damage;
- b. to be installed with any provided electrical leads; and
- c. to be marked with in-service date.

(35) Second-hand or pre-used equipment is not considered new equipment and must be inspected, tested and tagged prior to being put into service.

Electrical Equipment returning from repair

(36) All Electrical Equipment shall be inspected, tested and tagged prior to return to service after repair for an electrical problem or fault.

Hiring of Electrical Equipment

(37) Organisational Units hiring electrical equipment must ensure it is inspected and tested at the commencement of each hire and tested every three months.

(38) For extended hires the Organisational Unit must ensure it is inspected and tested at the intervals applicable to the type of workplace where the equipment is being used.

Electrical Inspection and Testing Records

(39) Electrical testing and tagging records must be maintained by the Organisational Unit and include a description of the item, the date of testing, the test result, the date for re-test and details of the electrical tester.

(40) A current listing of authorised external contractors that can be engaged by Organisational Units to perform electrical testing and tagging of equipment is maintained by the Division of Facilities Management.

Electrical Safety Inspections and Audits

(41) The responsibility for electrical safety rests with Head of the Organisational Unit where the Electrical Equipment resides.

(42) Workplace Inspections for electrical safety procedures and practices shall be undertaken in accordance with the [Workplace Inspections and Reports Procedure](#) by the Organisational Unit.

Section 5 - Guidelines

Recommended Use of Residual Current Devices (RCDs)

(43) It is recommended that RCDs be installed to protect power outlets in areas defined as high risk and any hostile environments.

(44) Note: The requirements for the installation of RCD safety switches as required by relevant legislation (Codes and Standards) is mandatory for new installations.

(45) The use of portable RCDs must be employed in all situations where the use of portable equipment is used as part of the workplace in a number of locations. Examples include portable vacuum cleaners, maintenance equipment or laboratory equipment in some experimental applications.

(46) The Division of Facilities Management maintains electrical details for all buildings across the University. These records include which circuits are protected by RCDs safety switches.

Status and Details

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Unit Head	Stephen Butt Executive Director, Division of Facilities Management
Author	Ken Simpson
Enquiries Contact	Stacey Jenkins Executive Director, Safety, Security and Wellbeing