GRIFFITH UNIVERSITY

Procedure

Electrical Safety

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4.0 Definitions

1.0 Purpose

The purpose of this document is to provide general guidance to students, staff and workers at Griffith University (GU) regarding:

- responsibilities for electrical safety on campus,
- electrical safety and hazards in the workplace, and
- risk management of electrical systems.

This Procedure is part of GU's overall risk management approach to safety and is intended to minimise risk of electrical hazards to all people undertaking University business, so far as is reasonably practicable in accordance with GU's Health, Safety and Wellbeing Policy.

Electricity is inherently dangerous and exposure to it can be the root cause of safety incidents in the workplace. The purpose of this Procedure is to help reduce the risk of electrical hazards to people at GU so far as is reasonably practicable.

2.0 Scope

This Procedure applies to activities on- and off-campus for:

- all University Elements in the conduct of their business operations, and
- workers who, in carrying out work (electrical work or otherwise) for the University, may come into contact with electricity and electrical equipment within the workplace.

This Procedure also applies to other people who may be at risk from contact with electricity and electrical equipment within the University workplace, including tenants of leased premises.

3.0 Procedure

3.1 Responsibilities

GU, as the Person Conducting a Business Undertaking (PCBU) under Queensland's *Work Health and Safety Act 2011*, is ultimately responsible for electrical safety on all campuses.

GU devolves this responsibility as follows, in accordance with this Procedure and GU's Safety Management System Framework.

3.1.1 Staff, students and workers

All staff, students and workers are required to comply with safety regulations and procedures.

GU provides all staff with training and contractors with site specific inductions to this end. It is imperative that all people on all campuses do not disregard their responsibility to themselves and others to be safe.

All staff, students and workers are responsible for reporting of electrical hazards or damaged electrical equipment.

This includes inspecting for, and immediately reporting, any physical damage to electrical cords and equipment. Requests for maintenance can be made via the Maintenance Hotline (Ext 58888) or Facilities Assist.

3.1.2 Elements

Each Element is responsible for electrical safety in their workplaces.

All University Elements are responsible for workplace and electrical safety of staff, students and other persons within their own areas. All University Elements are also responsible for the electrical safety of electrical equipment in their management or control.

Heads of Elements, Directors and Research Centre Directors are responsible for general and electrical safety in their own areas and the workplaces of their academic and professional staff. These responsibilities include but are not limited to:

- implementing the requirements of this procedure,
- maintaining appropriate records,
- ensuring that procedures for the procurement, design, installation, use and maintenance of equipment minimises risk,
- ensuring that electrical work is only done by a person who is authorised and holds an electrical work licence (as issued by the Electrical Safety Office), and
- ensuring that electrical equipment within the Element's control is safe for use, including maintaining a testing and tagging regime.

Academic Heads of School, teaching staff, and all Managers, including Campus Life Facilities Managers, are responsible for the identification, assessment, and control of electrical risk exposure.

External parties leasing University space with non-University electrical appliances and equipment which are brought onto and used within the leased work area are responsible for:

- ensuring the electrical equipment is safe, and
- the testing and tagging of the specified electrical equipment.

University staff are **prohibited** from working on installations or equipment owned by parties other than the University. Any breaches of this prohibition will expose the University to significant consequences under the *Electrical Safety Act 2002* (Qld) as we do not hold an Electrical Contractors licence.

3.1.3 Campus Life

Campus Life is responsible for the safety of the electrical infrastructure on all campuses.

Campus Life is responsible for ensuring that electrical infrastructure – comprising electrical equipment, installations, plant, fittings and fixtures associated with a building or structure or the electrical supply to a building or structure - under its management/control is designed, installed, commissioned, maintained, used and operated to be electrically safe. This includes responsibility for ensuring that the electrical infrastructure is appropriately tested and maintained, and associated records are available as required.

3.1.4 Principal Contractor

The Principal Contractor is responsible for electrical safety on construction sites.

Construction work is generally managed through Campus Life in accordance with the *Facilities Management and Campus Access and Use Policy*. Major Projects and Planning follow similar principles.

3.2 Documentation

It is the responsibility of the Deans, Directors and Heads of Element to maintain records of any electrical testing, tagging of equipment, safety and testing certification, Safe Working Method Statements and/or outcomes of any hazard identification or risk management processes within their operational area.

If there are members of staff who hold electrical or restricted licences that can or do undertake work for GU as part of their duties, their details should be held in a register by the Element, including licencing registration and renewal details.

In the event of an investigation arising from an electrical safety incident, it is imperative that these records can be produced in a timely manner to help resolve the incident. Detailed and easily accessible record keeping helps protect everyone and demonstrates a clear understanding of the risks in the workplace.

3.3 Legislation

The requirements for electrical safety are imposed by Queensland's *Electrical Safety Act 2002* and the associated *Electrical Safety Regulations 2013*. These should be read in conjunction with the *Work Health and Safety Act 2011* and associated codes of practice.

All electrical works shall be undertaken in accordance with the *Wiring Rules* (AS 3000), other Australian Standards as relevant and manufacturers' instructions.

If in doubt, seek advice from Campus Life.

3.4 Safety incident

Electrical incidents may involve (but are not limited to):

- electric shocks to people or animals,
- electrical faults causing power outages, damage to infrastructure and equipment and/or explosions, or
- fires arising from faulty electrical equipment.

In the event of an electrical incident:

a. Activate any emergency stop (red button) to isolate power to the equipment or space.

b. Help any affected or injured people if it is safe to do so. If it is unsafe, wait for the Emergency Services.

c. Seek medical attention for any affected or injured people. Dial 000 (112 on mobile) for Emergency Services.

d. Extinguish any fires if it is safe to do so.

e. Restrict access to the space until the hazard has been resolved.

f. Call the Maintenance Hotline (Ext 58888) for assistance to isolate the power.

g. The person involved must report any incident to their line manager and advise the Health and Safety business partner as soon as reasonably possible.

Through these discussions, the line manager and GU Health and Safety team shall agree who will record the incident in GSafe. The Health and Safety team will address and coordinate the response to any GSafe report.

The Health and Safety team is responsible for notifying the Electrical Safety Office (ESO) of any notifiable incidents. Campus Life will provide subject matter assistance as required through the Engineering Services and Facilities Management team. Campus Life will notify those concerned when it is safe to resume using the space or equipment.

Damage caused by receiving an electric shock is not always immediately apparent. Always seek medical attention following a shock.

3.5 Hazards

University activities may expose a person to electrical hazards. These activities may involve the use of electrical equipment, or the performance of work involving contact with, or being near to, exposed electrical parts.

Examples of electrical hazards include:

- Electric shock arising from:
  - contact with exposed live parts of electrical equipment or installations,
  - using faulty or damaged electrical equipment and cables; or
  - using electrical equipment outdoors or in wet surroundings.
- Risk of fire or explosion arising from:
  - inappropriate electrical equipment or installations being a source of ignition in hazardous atmospheres,
  - the overloading of circuits and/or overheating of equipment; or
  - using heating equipment.

Electrical hazards and risks are to be documented on the Element Health and Safety Risk Register by applying the GU's Safety Management System Framework.

3.6 Risk Management

Managers must ensure that actual and potential electrical hazards are identified in conjunction with their employees, relevant workers and students. Managers are to implement and maintain control measures to manage the electrical risks associated with these hazards.

When undertaking an activity with electrical risk or exposure to electrical hazards, perform a risk assessment, recorded in GSafe, to ensure students, staff and the public, are safe.

When managing electrical risks, the risks must be eliminated so far as is reasonably practicable. Where it is not reasonably practicable to eliminate risks, the hierarchy of control measures must be implemented in the establishment of control measures (or combination of the controls) for electrical and workplace safety risks.

To ensure the risk management controls will be implemented, prepare a Safe Work Method Statement (SWMS) detailing how the work will be undertaken where applicable.

Maintain records of these activities.

The direct supervisor of the work activity, and/or other competent persons including other supervisory or safety support personnel, must formally review and agree to the implementation of the control measures pertaining to the work activity prior to the work activity being undertaken.

Note that the requirement for risk management applies to activities on-campus and off-campus.

3.7 Training

In the performance of work - it need not be electrical work specifically - that involves an electrical risk to persons or property, Managers must ensure that employees, students, workers or others involved in or impacted by the work activities are provided with information, training and instruction which is suitable for the task at hand. Records of training and instruction shall be kept by Managers.

Managers must ensure, so far as is reasonably practicable, that the information, training and instruction is provided in a way that is readily understandable by any person to whom it is provided.

3.8 Equipment

3.8.1 Unsafe electrical equipment

If any electrical hazards or damaged electrical equipment are found, a report must be placed within Facilities Assist or via the Maintenance Hotline (Ext 58888) on all campuses. Ensure that you note the urgency of the situation relative to the hazard. Cease using the equipment and/or remove yourself and others from the hazard until the Facilities Management team can respond.

If the equipment results in a safety incident that is serious, or is an immediate risk to staff, students and other works, or results in a near miss of a serious incident (refer Safety incident), raise a report in GSafe. A serious incident may involve someone receiving a shock for which medical attention is required, ignition of a fire, damage to buildings or infrastructure, unsafe or unlicenced electrical work or the placing into service of equipment lacking in regulatory approval markings.

The GSafe process is not to be used to resolve hazards that do not pose an immediate risk to staff, students and other workers that otherwise can be resolved by a Facilities Assist.

3.8.2 Procurement

The University may import, purchase or be gifted electrical equipment (e.g. to fit out laboratories, clinics and workshops). In most cases the group or element will retain possession and therefore take control of the equipment.

3.8.2.1 New Equipment

When the equipment is new and constructed in Australia or to Australian standards (if the equipment has a Regulatory Compliance Mark (RCM)), the supplier is deemed responsible for its initial electrical safety. New equipment need not be tested but shall be examined for obvious damage. Where deemed compliant, the owner or responsible person shall ensure it is tagged "new to service" in accordance with 2.5.2.1 of *AS/NZS 3760:2022.* Refer to Section *3.8.5 Testing and Tagging*.

3.8.2.2 Imported or Second-Hand Equipment

Much imported or second-hand equipment will not come with a RCM, a Certificate of Approval, certificate of conformity or other certificate stating compliance with relevant legislation or Australian Standard pertaining to the type of equipment.

When acquiring imported or second-hand equipment, the group or element must ensure:

- the equipment is tested and examined by an approved testing entity, or a suitably qualified person, to ensure it is electrically safe and complies with relevant legislation and Australian Standards pertaining to the type of electrical equipment or appliance, and
- that sufficient documentation is supplied or produced in relation to:
  - testing and examination (test report),
  - documented and/or registered design,
  - instructions for the safe installation, operation and use.

Note: Before placement in service and if sourced second-hand, to ensure the equipment is safe, *AS/NZS 5761-2011* shall apply.

Where plant or electrical equipment is imported for use by a group or element, as a minimum the obligations required of importers of plant (*Work Health and Safety Act s24*) and importers of electrical equipment (*Electrical Safety Act s33*) will apply. For imported in-scope electrical equipment without a RCM, the equipment must not be sold, hired or lent, or accessible to the public.

3.8.2.3 Hiring or borrowing equipment

A hire situation is created when the hirer provides electrical equipment to a person or entity external to the hirer's organization, which passes out of the control of the hirer. This excludes equipment that is being lent to GU students or staff. The onus is on the hirer to provide an electrically safe product prior to renting or allowing the equipment to be borrowed. Request safety documentation and certification from the hirer. Only use the equipment in a manner consistent with the hirer's and/or manufacturer's instructions.

Refer to Section *3.8.5 Testing and Tagging*

3.8.3 Installation

A Group or Element proposing to install electrical equipment must ensure the equipment is installed, constructed and commissioned safely.

Groups may install and operate low risk portable, moveable and standing (plug and play) electrical equipment that does not overload the power circuit.

The Element responsible for installing electrical equipment must ensure:

- that the way the electrical equipment or installation is installed is electrically safe,
- appropriate installation processes are followed ensure that, when installed, it will be electrically safe, and
- it is tested and/or as a minimum examined after installation to ensure it is electrically safe.

Seek input from Campus Life if reviews of, or modifications to, existing electrical infrastructure are required.

3.8.4 Inspection

Regular visual inspection can identify obvious damage, wear or other conditions which might make electrical equipment unsafe. Many electrical defects are detectable by visual inspection (e.g. damaged cords). The nature and frequency of these inspections will vary depending on the nature of the work carried out in the workplace.

All electrical equipment should be in good working order with no frayed or defective cords or leads or plugs.

Electrical cords/leads and plugs must be located where it is not likely to suffer damage and protected from damage, including damage by liquids.

3.8.5 Testing & Tagging

Regular testing can detect electrical faults and deterioration that cannot be detected by visual inspection. Testing is to be undertaken by a suitably qualified and licenced contractor or employee (see 3.8.13), who will verify the electrical safety of the equipment. If the equipment passes the tests, it is provided with an indelible tag on the power cord to confirm this. If the equipment fails the tests, it will need to be removed from service (turn off the equipment, disconnect from the power supply and ensure the equipment is not turned back on) until it is repaired. Testing needs to be undertaken at regular intervals, which is determined by the nature and application of the equipment.

Testing and tagging of electrical equipment is a mandatory safety measure to protect users where the cords, leads, portable outlet devices and electrical equipment are prone to damage or electrical faults due to its movement or portability, or use in hostile operating environments. The responsible manager of the electrical equipment is required to ensure the testing and tagging of electrical equipment is undertaken in all cases.

Testing and tagging of electrical equipment shall be undertaken in accordance with *AS/NZS 3760, In-service safety inspection and testing of electrical equipment*. This includes low voltage equipment connected to the electrical supply by a flexible cord and plug, and that:

- is new equipment placed into service for the first time,
- is already in-service, and

- is available for hire.

3.8.5.1 Personal Equipment

Where staff or students bring personal electrical equipment, including domestic or other, appliances into the workplace, (whether or not it is for University purposes) the relevant manager must ensure it is tested and tagged prior to use at the workplace.

It is at the discretion of the responsible manager as to whether the personal electrical equipment is approved for use in the workplace (including residential accommodation), due to either the cost of testing and tagging the personal electrical equipment, or other reasonable operational or safety factors. In all cases, if the equipment does not carry a RCM, the equipment is not authorised to be used in the University workplace.

3.8.5.2 Documentation

It is the responsibility of the Deans, Directors and Heads of Element to maintain records of any electrical testing, tagging of equipment, safety and testing certification, Safe Working Method Statements and/or outcomes of any hazard identification or risk management processes within their operational area.

3.8.5.3 Delineation

Meeting room equipment that belongs to Schools or Elements are their responsibility. The testing and tagging of equipment owned by Digital Solutions (e.g. Audio Visual) or Campus Life (e.g. dehumidifiers) and allocated for use by an Element in teaching and research laboratories, is also the responsibility of the Element to which the equipment has been allocated.

3.8.5.4 Specified electrical equipment

Specified electrical equipment must be electrically tested and tagged by a competent person in accordance with the Electrical Safety Regulations and at prescribed intervals specified in the *AS/NZS 3760 In-service safety inspection and testing of electrical equipment.*

As a general guide, specified electrical equipment is (other than a portable safety switch), electrical equipment that has a current of not more than 20 amps and comprises:

- any cord extension set (e.g. extension lead) or portable outlet device (e.g. power board),
- any plug-in electrical equipment used for Amusement work, Construction work, Rural Industry work or Manufacturing work, or
- any plug-in electrical equipment used for Service work or Office work which is moved during its normal use for the purpose of its use.

Inspection and testing of electrical equipment by a competent person must be undertaken at the required interval – refer to *3.8.9 Different types of Work.*

At the completion of any tests, any specified electrical equipment must have an indelible tag attached at the time of inspection and testing, showing the date by which the equipment is to be re-inspected and re-tested.

3.8.5.5 Fixed equipment

AS/NZS 3760 does not apply to fixed equipment or stationary equipment connected to wiring that forms part of the electrical installation. Typically, this equipment is connected to the power supply via an isolator, rather than a general purpose outlet (GPO).

3.8.5.6 Hostile environments

A ‘hostile operating environment’ is a term used to describe an environment where electrical equipment is exposed to operating conditions that are likely to result in damage to the equipment or a reduction in its expected life span. This includes, but is not limited to, mechanical damage, exposure to moisture, heat, vibration, corrosive chemicals, and dust. At GU, this would be typically experienced in laboratories, plant rooms, some teaching facilities and other spaces.

In the case of general electrical equipment, other than specified equipment used in hostile environments, in addition to general care and undertaking testing following maintenance, the risk of electrical damage should be assessed in deciding whether to test and tag. Where there is sufficient risk of damage, implement a test and tag regime for the equipment.

3.8.5.7 Different types of work

Legislation identifies six types of electrical work associated with specified electrical equipment. The types of work include:

- **Office work**
- **Amusement work** - Work, other than work performed by a non-profit organisation, to assemble, operate or disassemble amusement devices, or amusement rides, or things to provide amusement activities, or entertainment or advertising activities associated with shows, fairs or carnivals, on the site on which it is used, intended to be used or has been used.
- **Manufacturing work** - Assembly, disassembly, fabrication, installation, maintenance, manufacturing, refurbishment or repair work.
- **Rural industry work** - Includes work in the cultivation of any agricultural crop or product whether or not grown for food; or in the rearing and management of farm animals, or work that is aquaculture, or work at clearing, fencing, trenching, draining or otherwise preparing land for these activities.
- **Construction work** - Within the meaning of the WHS Regulation, section 289, other than amusement work or rural industry work.
- **Service work** - Any work, which is not Amusement Work, Construction Work, Manufacturing Work, Office Work, or Rural Industry Work (e.g. teaching, research, theatre performance, cleaning & catering services, childcare).

Typical applications relevant to GU are shown in the table overleaf:

	WORK TYPE					
	Construction	**Manufacturing**	**Rural Industry**	**Service**	**Office**	**Amusement**
Typical locations	Room renovation Demolition New construction work	Workshops Some activities in research/laboratory spaces	Farms Some activities in research/laboratory spaces	Kitchens Student refectories Teaching spaces Concert halls Student libraries Some activities in research/laboratory spaces Dental clinics	Office areas (not including staff kitchens)	Careers fair
Typical specified electrical equipment	Portable electric hand tools (grinders, drills, engraving tools, etc) Extension cords Lead lights Portable vacuum cleaner, etc	Portable electric hand tools (grinders, drills, engraving tools, etc) Extension cords Lead lights Portable vacuum cleaner, etc	Portable electric hand tools (grinders, drills, engraving tools, etc) Extension cords Lead lights Portable vacuum cleaner, etc	Portable vacuum cleaner Hand held electrical tools Kitchen & refectory mobile appliances (kettle, sandwich press, etc) Laptops and chargers Common use student printers Electric hold-punches, electric staplers, etc in public library space	Multi-outlet power boards for desktop equipment	Extension cords Power boards for outdoor gazebos Portable plug-in lighting for outdoor gazebos
Equipment that is NOT specified electrical equipment in each work type	Fixed equipment	Fixed equipment such as floor-mounted drill presses Lathes and mills	Fixed equipment	Fixed equipment such as fridges and freezers, microwaves	Fixed equipment Desktop computers Fixed-location printers, photocopiers, faxes in staff areas	Fixed equipment

Legislation does not cover residential or accommodation uses which are covered by *AS/NZS 3760*.

3.8.5.8 Testing intervals

Intervals for testing and tagging of specific electrical equipment shall be as described in the following table:

Type of location or work	Regularity of testing	Notes
Workshops	6 months	
Office	5 years	All new equipment should be tagged as 'new to service' and will only require testing after 5 years have elapsed
All other spaces	12 months	This includes residential parts of accommodation buildings

Note that RCD, or safety switch, testing is undertaken by Campus Life via its maintenance providers.

3.8.5.9 New equipment ("New to Service Tag")

In Australia, when the equipment is new, the supplier is deemed responsible for its initial electrical safety. New equipment need not be tested but shall be examined for obvious damage.

Where deemed compliant, the owner or responsible person shall ensure it is tagged (e.g. attach a 'NEW To SERVICE' tag). A new to service tag shall be applied that includes the following information (as required by *AS/NZS 3760 section 2.4.2.1 (c)*):

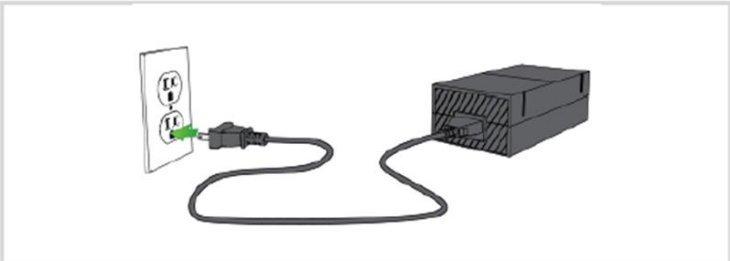
- wording, "New to Service",
- date of entry to service,
- date when next test is due, and a
- statement, "This appliance has not been tested in accordance with… *AS/NZS 3760*".

3.8.5.10 Equipment supplied from cord sets

Requirements stated in *AS/NZS 3760:2010 Section 2*: *"For equipment that is supplied by cord set, both the cord set and equipment need to be tested and tagged separately."*

To avoid ambiguity:

a. For electrical equipment that is supplied by cord set (that can be unplugged from each other) - both the cord set and equipment need to be tested and tagged separately.



Example of electrical equipment supplied by a cord set which can be detached

b. For equipment that has a power supply device (e.g. AC Adaptor) and cord set (that can be unplugged from each other) - both the power supply and the cord set need to be tested and tagged separately.

Example of a power supply device

Example of a cord set

3.8.5.11 Arranging for testing and tagging

Elements must arrange for testing and tagging of their electrical equipment. In general, Elements will engage a suitably qualified external contractor to undertake testing and tagging in their area.

Certain elements have specific arrangements for staff to conduct testing and tagging, as follows:

- Accommodation – where residents' appliances are checked frequently, specific staff with the testing and tagging qualification have been approved by Director, Campus Life to perform testing and tagging.
- Elements where staff maintain electrical licences (either full or restricted) as part of their role and have undertaken the required nationally accredited training, are permitted to carry out testing and tagging. These elements include primarily the Science workshops and some members of the Conservatorium technical staff. The Head of Element is responsible for maintaining records of electrical workers (refer section *3.1.2*).

For contractors or GU staff to undertake testing and tagging work at GU, the person doing the testing and tagging must:

- be competent in testing and tagging with a nationally recognised qualification (UEENEEP026A), and
- undertake the GU Contractor Safety Induction.

3.8.5.12 Outcomes

If equipment passes the testing, it shall be fitted with an indelible, non-reusable, non-metallic tag and may be colour coded to identify the period in which the test was performed, and shall include the following information as a minimum:

- the name of the person or company who performed the test,
- the test or inspection date,
- a retest date, and
- reference to *AS/NZS 3760.*

If equipment fails the testing, it shall be withdrawn from service. This will include isolation from its electricity supply and applying a tag reading "OUT OF SERVICE". The equipment will not be placed back into service until it is repaired, retested and passes retesting, or it can be removed from site and disposed.

3.8.5.13 Specific requirements

- **Portable safety switches** - Portable safety switches are not covered by the University's maintenance of RCDs. Portable safety switches should be tested by using the in-built test button every three months and inspected and tested by a competent person every two years.
- **Entertainment/Theatrical/Stage equipment** - All electrical equipment exceeding 20 amps, as used in theatres and cinemas, must be tested and tagged by a licensed electrician every six months.
- **Medical equipment** - A higher standard of testing applies for medical equipment under *AS/NZS 3551:2012 management programs for medical devices*. Accordingly, a person who test and tags this equipment must show competence in *AS/NZS 3551*.
- **Common teaching spaces** - Digital Solutions (DS) is responsible for the testing and tagging of equipment that they own in common teaching spaces. This includes audio visual equipment, computers and the like. Campus Life is responsible for testing and tagging of any other specified equipment located in common teaching spaces.

3.8.6 Maintenance

A Group or Element with management control of electrical equipment or an electrical installation must ensure appropriate repairs or services ('maintenance') are undertaken on the equipment to ensure it is electrically safe.

Maintenance shall be undertaken in accordance with relevant legislation, Australian Standards and manufacturer's instructions.

The responsible manager must ensure the maintenance work is undertaken by competent persons authorised to undertake the work. Keep records of equipment maintenance.

3.8.7 Certificates of Testing

As soon as any electrical works are complete, obtain a Certificate of Testing and Compliance or a Certificate of Testing and Safety, as applicable for electrical installation work or electrical work on equipment respectively, from the electrical contractor. Refer to the Worksafe Queensland website for further information.

Maintain documentation for testing, inspections, maintenance and certificates in accordance with the Documentation section.

3.8.8 Specific requirements

- Portable heaters are not permitted.
- Fridges, freezers, ovens, microwaves:
    - Only use equipment in good, working condition.
    - Install in accordance with manufacturer's recommendations.
    - Plug directly into power outlet (i.e., no power boards or adapters) with uncoiled cabling.
- Medical equipment:
    - Where medical equipment is in use, the electrical installation of the space where the equipment will be used must be installed in accordance with AS3003.
    - Other applicable standards include but are not limited to: AS/NZS 4513 -1995 Medical Electrical Equipment - Fundamental aspects of safety standards and AS/NZS IEC 60601.1:2015 Medical Electrical Equipment - General Requirements for Basic Safety and Essential Performance
- Lasers importation, use and licensing requirements

  Specific regulations apply to lasers over a certain power rating. These lasers are deemed weapons and special approvals under the *Weapons Act* may be required. The Element is responsible for determining the requirements and ensuring all approvals are in place prior to the arrival of the equipment on site. Seek advice from the Office of the General Counsel and Campus Life.
- Entertainment/Theatrical/Stage equipment:
    - The use of double adaptors is prohibited. Piggyback plugs may ONLY be used in conjunction with lighting dimmer panels.

- Re-usable three pin piggyback plugs must not be used. The use of moulded or clear, riveted (not user accessible) piggyback plugs is acceptable only when wired by competent, appropriately trained, certificated and authorised personnel.
- Maximum loads of lighting dimmers shall not be exceeded to avoid overloading and a fire hazard.
- Lighting equipment likely to reach high temperatures must be suitably guarded with a clearance maintained from flexible cords to prevent overheating and melting.
- Lighting designers or persons designing a temporary lighting system require knowledge and understanding for the capacity of the available power supply. In designing a system and the layout of equipment, the capacity of cabling should also be considered. Dimmer and phase loading plus size of lighting equipment should be carefully planned with a load diagram for the system.

- Sensitive equipment:

  The connection of more than one sensitive or critical item of equipment to power outlets supplied from the same circuit must be considered in the risk assessment process. A trip of a circuit supplying power to several items of sensitive or critical equipment could exacerbate losses to the business. The assessment of power outlet requirements should consider:

  - Sensitive analytical, measuring or monitoring equipment may need to be served from a separate power circuit to the space in which they are installed.
  - Sensitive equipment which requires good power quality may need to be supplied with a power quality device such as a Voltage Stabiliser and Surge Protection.
  - Critical equipment may need additional power quality devices such as Uninterrupted Power Supply (UPS) or emergency generator power supply.
  - Any such specific requirements must be discussed and agreed with Campus Life.

- Electrical Test Instruments:
  - Workers shall use only test instruments, safety equipment and PPE which has been tested and is within due test date.
  - Refer to relevant AS. All equipment used for the testing of electrical circuits including voltage, polarity, insulation and earth resistance and other prescribed electrical testing requirements will be calibrated to meet manufacturers and Australian Standards calibration requirements. This equipment will be listed on an Electrical Test Equipment Calibration Register in each Element.
  - The Electrical Test Equipment Calibration Register will be kept for a minimum of five years for historical and internal auditing purposes.

- Multi-outlet power boards

  The preference is to minimise the use of power boards by installing additional fixed general power outlets (sockets) where required to eliminate the risks of overheating and fires due to overloading socket outlets/circuits. Where power boards are used

  - they shall have individual switches for each power point, a maximum rating of 10A and an in-built load limiting switch with a maximum rating of 10A
  - they shall be tested and tagged or carry a dated new to service tag (refer 3.8.5.9)

- power boards must not be used in hostile environments or exposed to wet or moisture laden atmospheres.

Double adaptors and piggyback plugs are not permitted for general use.

3.9 Electrical work for teaching or research purposes

Where a piece of equipment is designed, modified or constructed for educational purposes and/or is used as part of training students in electrical work under the supervision of teaching staff, the relevant teaching staff must perform a risk assessment (recorded in GSafe) to ensure students, staff and the public, are safe. Apply risk mitigation strategies and the hierarchy of controls to ensure the risk is as low as reasonably practicable. Prepare a SWMS detailing how the work will be undertaken. Maintain records of these activities.

The direct supervisor of the work activity, and/or other competent persons including other supervisory, or safety support personnel must formally review and agree to the implementation of the control measures pertaining to the work activity prior to the work activity being undertaken.

Note that a restricted electrical work licence does not authorise the holder of the licence to carry out electrical installation work. The work undertaken with a restricted electrical work licence is limited to specific electrical work associated with work from another trade e.g., refrigeration equipment.

3.10 Infrastructure

Campus Life manages the electrical infrastructure at all GU campuses and is responsible for the maintenance and electrical safety of lighting, cabling, switchboards, circuit breakers, RCDs and other electrical equipment.

3.10.1 Access and operation

There is generally no need for students or staff to be able to access electrical infrastructure. Should access be required, please raise a Facilities Assist to arrange.

The primary exception is resetting emergency stops in laboratories. This should only be undertaken by appropriately trained staff. Contact Campus Life if further information is required. Raise a Facilities Assist to have issues with how emergency stops operate reviewed.

3.10.2 Installation

Approval for installation and/or connection of some fixed or stationary equipment is required from Campus Life prior to installation where it requires:

- connection to wiring that forms part of the electrical installation and hence falls within the scope of *AS/NZS 3000* (via a hard-wired connection), and/or
- connection in hostile operating environments.

All electrical works shall be carried out by a licenced electrician. All works shall be carried out on de-energised (dead) electrical systems. Electrical work on energised electrical equipment is prohibited unless it is testing or fault-finding work.

All electrical workers at GU shall have undertaken the General Safety Induction for Construction and undertake the GU Induction prior to commencing works on site.

If the works are minor (e.g., additional power outlets, relocating of lighting, etc), please raise a Facilities Assist to arrange. If the works are significant, contact Campus Life for assistance.

3.10.3 Maintenance

Electrical maintenance is arranged by GU as a single contract. Electrical maintenance includes RCD testing, visual inspections and thermal scanning of switchboards and repairs to any identified defects. This will typically result in short power outages every six or twelve months to allow these activities to be carried out safely. Notifications of outages are issued in advance to the appropriate staff.

This maintenance does not include testing and tagging of equipment and does not relieve Elements of their responsibilities to ensure their workplaces are electrically safe.

3.10.4 Lighting

If spaces are over-illuminated or under-illuminated or there are special requirements in the space, please raise a Facilities Assist to have the lighting reviewed by Campus Life.

Emergency lighting and exit signs are installed in accordance with the National Construction Code and maintained in accordance with Australian Standards.

3.10.5 High Voltage

Refer to the *HV Electrical Safety Procedure* for the specific requirements relating to high voltage infrastructure. Access to these areas is by permit approved by FM only.

4.0 Definitions

Definitions of words are as per their usage in the relevant legislation or Australian Standard.

INFORMATION

Printable version (PDF) Downloadable version (Word)

Title	Electrical Safety Procedure
Document number	2023/0001148
Purpose	This Procedure outlines Griffith University's procedure for ensuring electrical safety compliance within the workplace.
Audience	Staff
Category	Operational
Subcategory	Campuses and Facilities Safety
Approval date	17 November 2023
Effective date	20 November 2023
Review date	2028
Policy advisor	Principal Electrical Engineer
Approving authority	Director, Campus Life

RELATED POLICY DOCUMENTS AND SUPPORTING DOCUMENTS

Legislation	Work Health & Safety Act 2011 Work Health & Safety Regulation 2011 Electrical Safety Act 2002 Electrical Safety Regulation 2013
Policy	Health, Safety and Wellbeing Policy Risk and Resilience Management Policy
Procedures	Reporting and Recording Procedures for incidents, injuries, dangerous incidents, hazards and near misses
Local protocols	Refer to Group/Element records
Forms	N/A