

Monash University Procedure

Procedure Title	Electrical Safety: Installation and Removal of Electrical Equipment Procedures (Australia only)
Parent Policy	Electrical Safety Policy (Australia only)
Date Effective	24-November-2014
Review Date	24-November-2017
Procedure Owner	Maintenance and Minor Works Manager, Buildings and Property Division
Category	Operational
Version Number	1.0
Content Enquiries	F-SPolicy@monash.edu
Scope	<p>Applies to:</p> <ul style="list-style-type: none"> • All electrical equipment and installations on the Australian campuses, residences and on and off-campus residential facilities of Monash University. • All electrical equipment and installations of Monash College Pty Ltd business units on the university's Australian campuses and off-campus sites. • University-sanctioned activities by staff and students of Monash University, contractors, visitors, hire companies or any other person or agency associated with university activities.
Purpose	Sets out a framework for the management and use of Electrical Installations and equipment at Monash University in compliance with the Occupational Health and Safety Act 2004 and the Electrical Safety Act 1998
PROCEDURE STATEMENT	

1. Installation and removal of electrical equipment

No Electrical Equipment may be installed on Monash University owned or leased property unless the work is undertaken by an appropriately licensed electrical installation worker engaged by the university's Buildings and Property Division.

The changing of light globes and lamps have been known to result in electric shock and falls from heights. This work must be completed by a licenced electrician or an appropriately trained staff member or contractor, using a relevant Safe Work Method Statement (SWMS) or [Job Safety Analysis \(JSA\)](#).

To engage an appropriately licensed electrical installation worker, a [BEIMS request](#) must be lodged by an authorised BEIMS user from the faculty, division or other area of the university where the work is to be undertaken.

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Responsibility

Any faculty, division or other area of the university wishing to have electrical equipment installed or removed

2. Managing electrical risks in the workplace

2.1. Risk management

Before any installation and/or removal of electrical equipment takes place, hazards associated with the work must be identified and appropriate actions taken to eliminate or minimise them as far as is practicable.

A SWMS or [JSA](#) should accompany any work proposal. The SWMS or JSA should be signed by all members of the work party before work commences on the project.

Responsibility

University Buildings and Property Division staff member responsible for the works.

2.2. Unsafe electrical equipment at the workplace

The manager/supervisor of a workplace that has control of electrical installation/s must ensure that any unsafe Electrical Equipment is disconnected (or isolated) from its electricity supply and, once disconnected, is not reconnected until it is repaired or tested and found to be safe or is replaced or permanently removed from use.

To ensure that unsafe Electrical Equipment is not used inadvertently before it can be tested, repaired or replaced, it should immediately be labelled to indicate that it has been taken out of service for safety reasons pending testing and possible repair and to warn against further use.

Reporting arrangements must be put in place to ensure as far as is reasonably practicable that supervisors or line managers are advised if a worker reasonably believes that Electrical Equipment in the workplace is electrically unsafe or that unexpected conditions, for example flooding, render unsafe the use of Electrical Equipment in a workplace area.

A [Hazard and Incident Report](#) should be lodged when the hazard is discovered and include all details of the incident to enable accurate investigation.

To arrange for the repair of unsafe Electrical Equipment a [BEIMS request](#) should be submitted to Facilities and Services Division.

Responsibility

All managers/supervisors of other staff, students, contractors or visitors using Electrical Equipment on Monash University property

2.3. Residual Current Devices (RCDs)

The greatest risk of electric shock often results from people making contact with unprotected energised parts of Electrical Equipment and earth. Contact with energised parts may occur by

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touching bare conductors, internal parts of Electrical Equipment, or external parts of Electrical Equipment that have become energised because of an internal fault.

Workplace fatalities can be prevented by the use of properly installed and maintained Residual Current Devices (RCDs), commonly referred to as 'safety switches'. An RCD is an electrical safety device designed to immediately switch off the supply of electricity when electricity 'leaking' to earth is detected at harmful levels. RCDs offer high levels of personal protection from electric shock.

RCDs also reduce the risk of fire by detecting electrical leakage to earth in electrical wiring and Electrical Equipment. This protection is particularly important for older electrical installations.

For new electrical installations the Minimum Level Design and Construction Specifications require that when an RCD is installed it is to be installed in the switchboard by a licensed Electrical Installation worker.

Responsibility

All managers / supervisors within areas where electrical devices are to be used on Monash University property

2.4. High Voltage Installations

Staff, students, contractors and visitors to the university should be aware that many areas of the university and pieces of university equipment are connected to High Voltage supply. As a result, there are significantly higher risks to safety if appropriate procedures are not followed and if work is undertaken by anyone other than appropriately licensed electrical workers.

Special licences are required for electricians to be authorised to undertake High Voltage work. This work should only be undertaken by High Voltage Operators that are approved by the campus High Voltage Responsible Officer.

Responsibility

Buildings and Property Division
Contractors and visitors to Monash University

2.5. Managing incidences of electric shock

2.5.1. Hazards and Injuries

All hazards and injuries relating to electrical safety must be reported **immediately**, directly to the supervisor, local safety officer and Occupational Health and Safety. A [Hazard and Incident Report Form](#) should be completed within 24 hours. Information on the reporting process is available from the Occupational Health and Safety [website](#).

Responsibility

Any person who becomes aware of a hazard or injury relating to electrical safety.

2.5.2. Notifiable Incidents

Most electrical shocks constitute a notifiable incident and are required to be brought to the attention of Worksafe and EnergySafe (penalties apply for non-compliance).

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Responsibility

Occupational Health and Safety

2.6. Certificates of electrical safety

On completion of any electrical installation work undertaken on Monash University owned or leased properties, a certificate of electrical safety must be issued by the electrical contractor who undertook the work. No electrical installation work should be commenced unless the contractor concerned is authorised and willing to issue such a certificate.

Testing shall include mandatory and optional tests as applicable to the required works.

Responsibility

Electrical contractors undertaking installation of Electrical Equipment

2.7. Inspection and testing

In some instances electrical installation work must be inspected by a licensed electrical safety inspector before the certificate of electrical safety can be finalised. The electrical contractor undertaking the installation work will be able to advise if an inspection is required and arrange for an inspector to undertake it.

An electrical installation, or any part thereof, that has been constructed, altered, added to or repaired must not be put into service until:

- the certificate of electrical safety has been issued and the installation inspected if required; and
- the installation has been tested and the electrical contractor has verified that the alteration, addition or repair is compliant with AS3000 (Electrical installations) and does not impair the safety and integrity of any existing electrical installation

For major construction works all parts of the electrical installation shall be inspected and certified by an independent and qualified electrical inspector. Self-certification by the installation contractor is not acceptable.

Responsibility

Manager of the workplace in which it is proposed electrical work be undertaken
Buildings and Property Division

2.8. Inspecting and testing of RCDs

A person with control of a workplace must take all reasonable steps to ensure that Residual Current Devices used at the workplace are tested regularly by a competent person to ensure the devices are working effectively. This requirement applies to all RCDs, including non-portable RCDs, used in all operating environments.

If an RCD is tested and found to be faulty, arrangements must be made for its immediate replacement by submitting a BEIMS request to Buildings and Property Division.

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A record of testing (other than daily testing) must be kept until the device is next tested or disposed of.

Responsibility

All managers/supervisors in control of a workplace where electrical devices are used on Monash University property

2.9. Operation and Maintenance Manuals

For all new installations and equipment the contractor is to provide Operating and Maintenance Manuals in line with the Minimum Level Design and Construction Specifications.

Responsibility

Electrical contractors engaged in installation or provision of new Electrical Equipment

2.10. As-built Drawings

Refer to the Minimum Level Design and Construction Specifications for the As-Built drawing requirements.

Responsibility

Electrical contractors engaged in installation or provision of new Electrical Equipment

Responsibility for implementation	Executive Director, Buildings and Property Division
Status	New
Approval Body	Name: Chief Operating Officer and Senior Vice-President (Administration) Date: 28-November-2014
Definitions	<p>BEIMS (Building Engineering Information Management System): the online system used throughout Monash University for the logging and tracking of maintenance and minor works requests.</p> <p>Electrical Equipment: any apparatus, appliance, cable, conductor, fitting, insulator, material, meter or wire that: a) • is used for controlling, generating, supplying, transforming or transmitting electricity at a voltage greater than extra-low voltage; b) • is operated by electricity at a voltage greater than extra-low voltage; c) • is part of an electrical installation located in an area in which the atmosphere presents a risk to health and safety from fire or explosion; or d) • is, or is part of, an active impressed current cathodic protection system.</p> <p>Electrical Installation: a group of items of electrical equipment that are permanently electrically connected together and can be supplied with electricity from the works of an electricity supply authority or from a generating source.</p> <p>Residual Current Device (RCD): a device, often referred to as a 'safety switch', intended to isolate supply to protected circuits, socket outlets or electrical equipment in the event of a current flow to earth that exceeds a</p>

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	<p>predetermined value. The RCD may be fixed or portable.</p> <p>Socket Outlet: a device that enables a detachable electrical connection of equipment to an electrical power supply.</p> <p>Voltage - Extra-low Voltage: voltage that does not exceed 50 volts alternating current or 120 volts ripple-free direct current.</p> <p>Voltage - Low Voltage: voltage that exceeds extra-low voltage and does not exceed 1000 volts alternating current or 1500 volts direct current.</p> <p>Voltage - High Voltage: voltage that exceeds low voltage.</p>
Legislation Mandating Compliance	<p>Occupational Health and Safety Act 2004</p> <p>Electricity Safety Act 1998</p>
Related Policies	<p>Occupational Health and Safety Policy</p>
Related Documents	<p>AS/NZS 3000:2007: Electrical installations</p> <p>AS/NZS 3008.1.1:2009 : Electrical installations - Selection of cables</p> <p>AS/NZS 3017:2007 : Electrical installations - Verification guidelines</p> <p>AS/NZS 3760:2010 : In-service safety inspection and testing of electrical equipment</p> <p>AS/NZS 4024.1:2006 - Safety of Machinery</p> <p>Safe Work Australia - Managing Electrical Risks at the Workplace</p>