

HRP07: Electrical Safety

Section 1 - Purpose and Scope

(1) This Procedure aims to ensure Southern Cross University (SCU) management, employees, students, and others know the risks associated with electrical safety in the workplace and relevant management strategies for the risk mitigation process.

(2) All employees, students, and others must follow this Procedure.

(3) This Procedure applies to all SCU Work Units and sites.

Section 2 - Definitions

Competent Person	For electrical work on energised electrical equipment or energised electrical installations (other than testing referred to in WHS Regulations 150 and 165), a licensed or registered electrician or any other person permitted to carry out electrical work under relevant Commonwealth, state, or territory legislation (for example, electrical engineer, electrical apprentice) (special provisions apply for members of the Australian Defence Force). For any other case, a person who has acquired the knowledge and skills to carry out the task through training, qualification, or experience.
Competent person test and tag ,RCD testing	Non-Electrical Installation Work – Competent Person Requirements Tasks that are not classified as electrical installation work—for example: a. In-service safety inspection and testing of portable appliances in accordance with AS/NZS 3760 b. Residual Current Device (RCD) push-button testing may be performed by a competent person who: a. Has completed the required training, b. Holds appropriate authorisation, and c. Acts strictly within the limits permitted under the applicable legislation and their training. A competent person is defined as an individual who possesses the necessary knowledge, skills, and training to safely and effectively carry out the specific task in accordance with AS/NZS 3760.
Duty holder	Any person who owes a work health and safety duty under the WHS Act including a person conducting a business or undertaking, a designer, manufacturer, importer, supplier, installer of products or plant used at work (upstream), officer or an employee.
De-energised	Separated from all sources of supply but not necessarily isolated, earthed, discharged or out of commission.

Electrical equipment	Any apparatus, appliance, cable, conductor, fitting, insulator, material, meter, or wire that: 1. Is used to control, generate, supply, transform, or transmit electricity at a voltage greater than extra-low voltage. 2. Is operated by electricity at a voltage greater than extra-low voltage. 3. Is part of an electrical installation in an area where the atmosphere presents a risk to health and safety from fire or explosion. 4. Is, or is part of, an active impressed current cathodic protection system within the meaning of AS 2832.1-2015: Cathodic protection of metals – Pipes and cables. 5. Electrical equipment does not include any apparatus, appliance, cable, conductor, fitting, insulator, material, meter, or wire that is part of a motor car or motorcycle if: 1. The equipment is part of a unit of the vehicle that propels the vehicle. 2. The electricity source for the equipment is a unit of the vehicle that provides propulsion for the vehicle.
Electrical installation	A group of items of electrical equipment that are permanently electrically connected together, and can be supplied with electricity from an electricity supply authority's works or a generating source.
Electrical work	Connecting electrical supply wiring to electrical equipment or disconnecting electricity supply wiring from electrical equipment, installing, removing, adding, testing, replacing, repairing, altering, or maintaining electrical equipment or an electrical installation .
Energised (Live)	Connected to a source of electrical supply or subject to hazardous induced or capacitive voltages.
Isolated	Disconnected from all possible sources of electricity supply and thereby rendered incapable of being made energised without premeditated and deliberate action.
Label	Written, printed or graphical information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the container of a hazardous chemical.
Lock out, Tag out	A procedure that involves locking and tagging energy-isolating devices (e.g., a circuit breaker, switch, or valve) to prevent the accidental start-up of machinery or equipment during maintenance or repair, ensuring it remains in a safe state until work is complete.
Residual current device (RCD)	A device intended to isolate supply to protected circuits, socket outlets or electrical equipment in the event of a current flow to earth that exceeds a predetermined value. The RCD may be fixed or portable.
Socket outlet	A device for detachably connecting electrically operated equipment to a power supply. The term 'socket outlet' includes a cord-extension socket attached to a flexible cord that is permanently connected to installation wiring.
Voltage	Extra-low voltage means voltage that does not exceed 50 volts alternating current (50 V a.c.) or 120 volts ripple-free direct current (120 V ripple-free d.c.). Low voltage means voltage that exceeds extra-low voltage and does not exceed 1000 volts alternating current (1000 V a.c.) or 1500 volts direct current (1500 V d.c.). High voltage means voltage that exceeds low voltage.

Section 3 - General Principles

(4) SCU will follow the risk management process outlined in [WHSMPO2: Hazard Identification, Risk and Opportunity Management Procedure](#). This process includes:

- a. Hazard identification.
- b. Risk assessment.
- c. Risk control.
- d. Review of control measures.

(5) Consultation is critical for effective risk management and is outlined in [WHSMP07: Consultation, Communication and Participation](#).

(6) SCU minimises the risks of exposure to electricity or electrical equipment for employees, students, and visitors to workplaces by ensuring that:

- a. Outsourced Electrical Work
 - i. All outsourced electrical work is performed by a competent person who has received recognised training and holds the required licence for the jurisdiction in which the work is carried out.
 - ii. Contractors must be certified and authorised to undertake electrical work in the relevant state or territory
 - iii. All work must comply with the applicable Electrical Safety Act, associated Regulations, and the requirements of the relevant state regulator.
- b. Contractor Consultation and Coordination
 - i. SCU must consult, cooperate and coordinate with all contractors performing electrical work in accordance with WHS Act sections 46–48. This includes:
 - Exchanging and reviewing risk assessments, permits, and SWMS.
 - Recording consultation outcomes in site safety documentation.
 - Confirming agreement on responsibilities for control measures.
- c. Internal Electrical Tradespeople
 - i. SCU provides and maintains appropriate training, authorisation, and competency records for all internal electrical tradespeople.
 - ii. Records of licences, training, and competency are maintained in accordance with SCU's compliance and recordkeeping requirements.

Part A - Hazard Identification

General Safety Principles

(7) Workers must follow the manufacturer's instructions and safe work procedures when using electrical equipment.

Electrical Risks

(8) Electrical risks include but are not limited to death, shock, or other injury caused directly or indirectly by electricity. The most common electrical risks and causes of injury are:

- a. Electric shock may be received by direct or indirect contact, tracking through or across a medium, or by arcing. For example, an electric shock may result from indirect contact where a conductive part that is not normally energised (such as a metal toaster body or a fence) becomes energised due to a fault.
- b. Fire (such as fire resulting from an electrical fault), arcing, or explosion causing burns. These injuries are often suffered because arcing or explosion or both occur when high fault currents are present.
- c. Electric shock from 'step-and-touch' potentials, i.e. the phenomenon that explains how you could be electrocuted or suffer an electric shock injury from a downed power line, even if you do not touch it, and
- d. Toxic gases causing illness or death. Burning and arcing associated with electrical equipment may release various gases and contaminants.

(9) Electric shocks may also lead to other injuries, including falls from ladders, scaffolds, or other elevated work platforms. Other injuries or illnesses may include muscle spasms, palpitations, nausea, vomiting, collapse, and unconsciousness.

(10) Faulty electrical equipment and poor electrical installations can lead to fires that may also cause death or injury to others.

(11) Electrical cords must be secured safely so they are not a trip hazard and cannot be accidentally damaged.

Unsafe Electrical Equipment

(12) Any unsafe electrical equipment at the workplace must be disconnected or isolated from its electricity supply. It is not to be reconnected until it is repaired or tested by a competent person and found safe, replaced or permanently removed from use.

Hazardous Environments

(13) Electrical equipment must be regularly inspected and tested if used in environments that expose it to moisture, heat, vibration, mechanical damage, corrosive chemicals or dust.

Workplace Classification

(14) Lower risk workplaces: equipment tested at least every 12 months.

(15) Higher risk workplaces: equipment tested at least every six months

(16) All tested equipment must be tagged with compliant labels in accordance with WHS legislation and AS3760.

Specific Hazardous Practices

Power Points

(17) Power points must be switched off before an electrical plug is removed from the socket to reduce the risk of electric shock or fire. Plugs must not be removed by pulling the cord.

(18) Where a worker identifies any evidence that the cord, plug, or equipment is damaged, they must remove the equipment/isolate the socket and immediately place an Out of Service Tag, report with Riskware hazard report, and submit an Archibus report.

Double Adaptors and Power Boards

(19) Double Adaptors must not be used under any circumstances in SCU facilities.

(20) Power boards are permitted under the following conditions:

- a. they should include or incorporate an RCD.
- b. they must not be used to supply devices with high current consumption.
- c. multiple plug power boards must not be piggy backed (one connected to another) as this can lead to overheating, electrical shocks and fires.
- d. they must not be used in hostile environments or exposed to wet or moisture laden atmospheres.
- e. they must be regularly inspected and tested and tagged.

Extension Leads

(21) Extension leads are permitted under the following conditions:

- a. not be of excessive length for their purpose.
- b. be of adequate current rating.

- c. positioned so that they are protected against damage and do not create a trip hazard.
- d. regularly inspected and tested and tagged.

Safety Switches / Residual Current Devices (RCDs)

- (22) Residual Current Devices (RCDs) must be installed and used in accordance with AS/NZS 3000.
- (23) RCDs must be tested regularly in accordance with AS/NZS 3760 and records of testing maintained.

Concealed Services & Legacy Infrastructure

(24) Besides the above, any work that involves cutting, coring, drilling, penetrating, removing, or resurfacing floors, slabs, walls, or ceilings must follow the Concealed Services Clearance Protocol before work commences.

(25) The Concealed Services Clearance Protocol includes:

- a. Mandatory use of calibrated detection equipment to scan for embedded electrical (and other) services.
- b. Review of infrastructure drawings or asset records. Where no drawings exist or are insufficient, the risk must be escalated to the Property Services department.
- c. On-site verification by a licensed electrician is required where the presence of services cannot be ruled out.
- d. Completion of a Pre-Work Clearance Form confirming all necessary checks have been undertaken.
- e. Escalation pathway where uncertainty remains regarding service presence or condition.
- f. Documentation of findings and communication to all affected personnel.

(26) If concealed or undocumented electrical services are located or suspected, work must not proceed until risk controls are implemented in accordance with HRP22: Lock Out Tag Out, including isolation, tagging, barricading, or removal from service where required, and the risk must be escalated to the Property Services department.

(27) Legacy infrastructure (e.g., abandoned cables, undocumented systems) must be treated as a potential live risk until proven otherwise by a competent person. These findings must be logged into the Site Electrical Register and reported through the appropriate SCU system (e.g., Riskware or Archibus).

Part B - Risk Assessment

Testing and Tagging

- (28) All SCU electrical equipment must be recorded in a register.
- (29) The register must include location, commissioning date, tester's name, test date, outcome, and next test date.
- (30) Equipment must be tagged with tester's details, test date, outcome, and next due test.

Competency of Inspectors/Testers

- (31) Inspection and testing must be carried out by a competent person with the required skills, qualifications, experience, and test instruments.
- (32) Testing requiring dismantling must only be carried out by a licensed electrician.
- (33) Contractors must have all equipment inspected, tested, and tagged before bringing it onsite and provide evidence when requested.

New and Hired Equipment

(34) New equipment must be visually inspected before use and tagged with in-service date.

(35) Hired or leased equipment must be inspected, tested, and tagged prior to supply.

(36) Workers/contractors must visually inspect cords and plugs prior to use, ensure equipment is dry, not touched with wet hands, and within test/tag date.

Part C - Risk Control

Information, Instruction and Training

(37) SCU will provide competency training through an RTO to maintenance employees required to complete electrical works.

(38) All trade workers shall receive training in isolation and lockout procedures.

(39) Contractors and sub-contractors must be trained in lockout procedures and SCU requirements.

(40) Contractors must meet licensing requirements and provide evidence prior to work.

Licence Requirements

(41) Authorised electrical workers and contractors must hold valid licences and be trained and competent for the work.

Work Methods

Working Energised

(42) WHS Regulations and Electrical Safety Regulations prohibit work on energised (live) electrical equipment unless one or more of the exceptions under the WHS Regulations apply (see WHS Regulation 158). It is insufficient to conduct live electrical work simply because it is more convenient than isolating and de-energising.

(43) Refer to the Code of Practice: Managing Electrical Risks in the Workplace in the relevant jurisdiction for more information on the few circumstances under which testing live is permitted and how it should be carried out.

(44) Where energised work is permitted under Regulation 158:

- a. A written risk assessment must be completed before work starts.
- b. An Energised Electrical Work Permit must be authorised by the WHS Manager (or delegate).
- c. The permit must include hazards, controls, PPE, rescue arrangements, competent persons, and supervision.
- d. Energised work must only be undertaken by a licensed electrician trained in live work procedures.
- e. Permits and risk assessments must be retained for five years.

Working De-energised

(45) Electrical work on energised electrical equipment is prohibited. Before electrical work is carried out, a competent person must test it to ensure it is not energised. All precautions must be taken to prevent de-energised equipment from being inadvertently re-energised by isolating and locking out circuits/equipment intended to be worked on. Refer to HRP22 Lock/tag out Procedure.

(46) De-energised testing methods should be used before energised testing methods. Fault finding should first be

attempted in a de-energised environment using de-energised testing methods. If unsuccessful, energised testing methods may be used, subject to meeting the requirements of the WHS Regulation for working energised.

(47) Where concealed services are suspected, HRP22 Lock Out Tag Out procedures must be followed as a precaution until confirmation of de-energisation is achieved

Restricted Access

(48) Controls must be in place to prevent unauthorised access to equipment while it is being repaired or maintained. Controls may include locked access, barricading, and signage at entry to notify SCU employees, contractors, students, and others of the electrical hazards.

Lock Out Principles

(49) Lockouts or isolation principles are designed to either isolate or prevent the use of specific equipment or systems. This may be because the equipment is not working correctly and poses a danger to staff and/or others in public access areas. Refer to HRP22 Lock/tag out Procedure.

Altering Isolation for Testing, Fault Finding, and Re-energising

(50) Working on live equipment should be avoided at all times. Suppose testing or fault finding on live equipment is necessary. In that case, testing shall be carried out by a competent person only and per the WHS Regulations for energised electrical work.

Leaving Unfinished Work

(51) If work is left unfinished, you must ensure that the workplace is safe so far as is reasonably practicable. For example:

- a. Terminate any exposed conductors.
- b. Physically secure any exposed conductors or surrounding metalwork.
- c. Tag and tape off the electrical equipment, workplace area, and excavations.
- d. Inform affected persons at the workplace that the work is incomplete and advise them of potential hazards.
- e. Ensure excavations are covered or barricaded.
- f. Take necessary precautions to ensure that electrical equipment cannot become inadvertently re-energised.
- g. Ensure that the status of switchboards and electrical equipment is clearly and correctly labelled; and
- h. Hand over adequate information to workers taking up the unfinished work to allow them to continue the work safely.

Safe Work Procedures

(52) A safe system of work will be applied to electrical work, which may include risk assessment, Safe Work Instruction (SWI), and Task Hazard Analysis (THA).

Personal Protective Equipment (PPE)

(53) PPE (such as eyewear, insulated gloves, hard hats, aprons, breathing protection) must comply with Australian Standards and protect against maximum expected energy levels when working on or near energised equipment.

High Voltage Work

(54) Any work on high-voltage electrical installations must:

- a. Be performed only by authorised high-voltage switching operators holding current competency certification.
- b. Be undertaken under a documented Switching Program approved by SCU Property Services.
- c. Be logged in the Site Electrical Register with details of the switching authority, program, and permits issued.

Tools and Equipment

(55) All tools and equipment must be fit for purpose, maintained, and used appropriately.

(56) Examples include insulated tools, non-conductive ladders, insulating mats, calibrated testers, temporary covers, safe ladder placement, PPE, and safe management of conductive items.

First Aid and Rescue

(57) SCU must provide and maintain all equipment required for first aid and low-voltage rescues.

(58) Sufficient numbers of workers must be trained in first aid and rescue equipment use.

Rescue and Resuscitation Training

(59) All electrical workers must complete Low Voltage Rescue (LVR) and CPR training through a Registered Training Organisation.

(60) LVR and CPR training must be refreshed every 12 months.

Part D - Review of Control Measures

Reporting

(61) All issues, faults, and/or damage to SCU electrical infrastructure and equipment must be reported in the SCU Maintenance Management System.

(62) All incidents, near misses, and hazards relating to electrical work and equipment must be reported in Riskware.

(63) The WHS team will notify the regulator of a notifiable serious electrical injury or illness of a person or dangerous electrical incident.

Section 4 - Responsibilities

(64) Refer to [WSHMP13: Responsibilities and Accountability Statement](#).

Section 5 - Records of Documentation

(65) All relevant documentation will be recorded and kept in accordance with WHS Legislation and other legislative obligations, including:

- a. Details and scope of the work performed.
- b. Names of those performing the work.
- c. Evidence of an electrical licence.
- d. Records of visual inspections (Workplace Inspection Checklist).
- e. Site electrical register.
- f. The Site Electrical Register must include known embedded cables and legacy infrastructure. Where

undocumented services are identified or suspected, they must be logged and verified by a competent person and documented appropriately.

(66) Records of risk assessments, Energised Electrical Work Permits, isolation records, training evidence, and associated SWMS must be retained for a minimum of five (5) years from the date the work was carried out. Records relating to incidents, investigations, and corrective actions must also be retained for at least five (5) years, or longer if required by legislation or SCU policy. These records must be securely stored and made available for inspection by regulators or auditors upon request.

Section 6 - Revision and Approval History

(67) This Procedure will be reviewed as per nominated review dates or because of other events, such as:

- a. Internal and external audit outcomes.
- b. Legislative changes.
- c. Outcomes from management reviews.
- d. Incidents.

Section 7 - References

Work Health and Safety Act (in the applicable jurisdiction that SCU operates)

Work Health and Safety Regulation (in the applicable jurisdiction that SCU operates)

Electrical Safety Act 2002 (QLD)

Electrical Safety Regulation 2013 (QLD)

How to manage and control electricity in the workplace 2021 COP (QLD) 2022 (NSW)

AS/NZS 3760:2010 - In-service safety inspection and testing of electrical equipment

AS 1319:1994 Safety Signs for the Occupational Environment

Related Documents

[HRP22: Lock Out, Tag Out](#)

[WHSMP13: Responsibility and Accountability Statement](#)

Status and Details

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Responsible Executive	Kim Franks Vice President (People and Culture)
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