

# ELECTRICAL SAFETY PROCEDURE

<b>Version No</b>	2.0
<b>Issued</b>	30 <sup>th</sup> April 2018
<b>Next Review</b>	April 2021
<b>GDS</b>	12.16.2

## 1. OVERVIEW

The District Council of Orroroo Carrieton (**the organisation**) recognises its obligation to manage risks to health and safety associated with electrical hazards at the workplace and to make sure that, so far as is reasonably practicable, persons at work are safe from the risk of death, electrical shock or other injury caused indirectly or directly by electricity or fire caused by an electrical fault.

This Procedure aims to:

- (a) Ensure that the organisation's Work Health and Safety ('WHS') management system conforms with legislative requirements and ReturnToWorkSA's Performance Standards for Self Insurers ('PSSI');
- (b) Eliminate risks associated with electrical installations, equipment and work by:
  - i. Identifying reasonably foreseeable electrical hazards at the workplace and eliminating risks so far as is reasonably practicable, or where that is not reasonably practicable, minimise risks so far as is reasonably practicable by implementing the Hierarchy of Control;
  - ii. Ensuring that electrical installations and electrical equipment is maintained in safe working order, inspected and tested; and
  - iii. Requiring all electrical work performed on an electrical installation or electrical equipment to be carried out by a competent person.

This procedure applies to all workers who manage, supervise or undertake activities that involve electricity, electrical installation or electrical equipment. It does not cover the performance of electrical work which is required to be undertaken by a licenced or registered electrical worker.

SIGNED .....

Chief Executive Officer

Date: 30 / 4 / 2018

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Chairperson, WHS Committee

Date: 30 / 4 / 2018

## 2. CORE COMPONENTS

The core components of the organisation's electrical safety procedure aim to:

- (a) Implement a system for the identification of reasonably foreseeable electrical hazards and the assessment and recording of risks once identified, (on a prioritised basis);
- (b) Eliminate identified electrical risks, where reasonably practicable;
- (c) Implement controls identified as part of a risk assessment process based on the highest level of the Hierarchy of Control that is reasonably practicable and ensure that they are maintained and reviewed in accordance with the Hazard Management Procedure;
- (d) Require all electrical work to be carried out by a competent person;
- (e) Implement a system and program of:
  - i. Appropriate inspection and/or testing; and
  - ii. Testing and tagging of electrical equipment; and
- (f) Require records to be maintained and available.

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## 3. DEFINITIONS

Competent person	<p>(a) For electrical work on energised electrical equipment or energised electrical installations. (other than testing referred to in regulations 150 and 165): a person registered to undertake the work under the Plumbers, Gas Fitters and Electricians Act 1995; or [as defined by the Work Health and Safety Regulations 2012, Regulation 4]</p> <p>(b) For any other case, a person who has necessary practical and theoretical skills, acquired through training, qualification, experience or a combination of these, to correctly undertake the required tasks [as defined by the AS/NZS 3760: In service safety inspection and testing of electrical equipment, Section 1.4.4]</p>
Contractor	A person conducting a business or undertaking (PCBU) that carries out work or performs services under a contract for service; this includes their workers.
Electrical equipment	<p>Means any apparatus, appliance, cable, conductor, fitting, insulator, material, meter or wire that:</p> <p>(c) Is used for controlling, generating, supplying, transforming or transmitting electricity at a voltage greater than extra-low voltage; or or</p> <p>(d) Is operated by electricity at a voltage greater than extra-low voltage; or</p> <p>(e) 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</p> <p>(f) Is, or is part of, an active impressed current cathodic protection system within the meaning of AS 2832.1: Cathodic protection of metals—Pipes and cables.</p> <p>Electrical equipment does not include any apparatus, appliance, cable, conductor, fitting, insulator, material, meter or wire that is part of a motor vehicle if:</p> <p>(a) The equipment is part of a unit of the vehicle that provides propulsion for the vehicle; or</p> <p>(b) The electricity source for the equipment is a unit of the vehicle that provides propulsion for the vehicle.</p> <p>Motor vehicle means a vehicle that is built to be propelled by a motor that forms part of the vehicle. [as defined by the Work Health and Safety Regulations 2012, Regulation 144]</p>
Electrical installation	<p>Means a group of items of electrical equipment that:</p> <p>(a) Are permanently electrically connected together; and</p> <p>(b) Can be supplied with electricity from the works of an electricity supply authority or from a generating source. [as defined by the Work Health and Safety Regulations 2012, Regulation 145]</p>
Electrical work	<p>Means—</p> <p>(a) Connecting electricity supply wiring to electrical equipment or disconnecting electricity supply wiring from electrical equipment; or</p> <p>(b) Installing, removing, adding, testing, replacing, repairing, altering or maintaining electrical equipment or an electrical installation. [as defined by the Work Health and Safety Regulations 2012, Regulation 146(1) and subject to the exclusions contained in Regulation 146(2)]</p>

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Energised (live)	Means connected to a source of electrical supply or subject to hazardous induced or capacitive voltages [as defined by the Code Of Practice: Managing Electrical Risks in the Workplace, Appendix A]
Isolated	Means disconnected from all possible sources of electricity supply and rendered incapable of being made energised without premeditated and deliberate action [as defined by the Code Of Practice: Managing Electrical Risks in the Workplace, Appendix A]
Hierarchy of control	If it is not reasonably practicable for risks to health and safety to be eliminated, risks must be minimised, so far as is reasonably practicable, by doing one or more of the following: (a) Substituting (wholly or partly) the hazard giving rise to the risk with something that gives rise to a lesser risk; (b) Isolating the hazard from any person exposed to it; and (c) Implementing engineering controls. If a risk then remains, the duty holder must minimise the remaining risk, so far as is reasonably practicable, by implementing administrative controls. If a risk then remains the duty holder must minimise the remaining risk, so far as is reasonably practicable, by ensuring the provision and use of suitable personal protective equipment. [as defined by the Work Health and Safety Regulations 2012, Regulation 36]
Hostile operating environment	An environment where: (a) Electrical equipment is used in 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; (b) Electrical equipment is moved between different locations in circumstances where damage to the equipment or to a flexible electricity supply cord is reasonably likely; (c) Electrical equipment is frequently moved during its normal use; or (d) Electrical equipment form part of, or is used in connection with, an amusement device. [as defined by the Work Health and Safety Regulations 2012, Regulation 164] Note: this extends to construction or demolition sites.
PCBU	Person Conduction a Business or Undertaking. [as defined in the Work Health and Safety Act 2012, Section 5]
Personal protective equipment (PPE)	Anything used or worn by a person to minimise risk to the person's health and safety, including air supplied respiratory equipment [as defined by the Work Health and Safety Regulations 2012, Regulation 5]
Plant	Includes— (a) Any machinery, equipment, appliance, container, implement and tool; and (b) Any component of any of those things; and (c) Anything fitted or connected to any of those things. [as defined by the Work Health and Safety Act 2012, Section 4]

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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. [as defined by Code of Practice: Managing electrical risks in the workplace, Appendix A]
Tiger tails 	Plastic pipe type cable covers, used to provide a useful visual indication to people working in the vicinity of overhead electric lines or stay wires. Tiger tails do not insulate wires. [Source: Safe Work Australia Definitions for the General Guide for Working in the Vicinity of Overhead and Underground Electric Lines and Supporting Specific Guides]

## 4. PROCEDURE

### 4.1. Register of electrical equipment

4.1.1. The Manager of Corporate & Community Services will maintain a register(s) of electrical equipment at the workplace.

- (a) The register may be a section of the plant register or a separate register of electrical equipment;
- (b) The register should include electrical equipment that is supplied with electricity through an electrical socket outlet, indicating whether it is used in a hostile operating environment, matched to:
  - i. A record of formal inspections and tests;
  - ii. A repairs register; and
  - iii. A record of all faulty equipment showing details of services or corrective actions.

4.1.2. The register should be readily available in a central location.

Each worksite should have access to the part of the register relevant to the electrical equipment that is supplied with electricity through an electrical socket outlet.

4.1.3. Department managers will notify the Manager of Corporate & Community Services when electrical equipment, (which is under their control,) is introduced, modified, altered or disposed of, who will update the register to reflect the changes made.

### 4.2. Identification of electrical hazards

4.2.1. Electrical hazards should be identified in accordance with the WHS Hazard Management and Plant procedures and in consultation with workers, their representatives and other duty holders (if relevant). This includes, but is not limited to, identification of electrical hazards associated with work undertaken:

- (a) At the organisation's workplaces; and
- (b) By volunteers.

4.2.2. Hazards arising from electrical equipment or installations may arise from:

- (a) The design, construction, installation, maintenance and testing of electrical equipment or electrical installations;
- (b) Design change or modification;
- (c) Inadequate or inactive electrical protection;
- (d) Where and how electrical equipment is used, (for example, there is a greater risk of damage if used outdoors or in a workshop environment);
- (e) Electrical equipment being used in an area in which the atmosphere presents a risk to health and safety from fire or explosion, (for example, in confined spaces);
- (f) The type of electrical equipment (for example, 'plug in' electrical equipment that is moved around from site to site, including extension leads, is particularly liable to damage);
- (g) The age of electrical equipment and electrical installations;

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- (h) Work carried out on or near electrical equipment or electrical installations, including electric overhead lines or underground electric services; and
- (i) Exposure to high electromagnetic fields for workers with some medical conditions (for example, pacemakers.)

4.2.3. The hazard identification process must be undertaken before:

- (a) The connection and supply of electricity to a new electrical installation at a workplace;
- (b) The modification, maintenance or repair of an existing supply of electricity to or at a workplace, or of any existing electrical installations or equipment at a workplace;
- (c) Any electrical equipment is installed or operated; and
- (d) The introduction or modification of a work practice or procedure associated with electrical equipment that may present a risk to health and safety.

[Note: The Preventative Actions Checklist in Appendix A will assist in the identification of hazards associated with electrical work.]

### 4.3. Risk assessment

4.3.1. The department manager should form a team to undertake the risk assessment. The team should consist of a competent person to lead the risk assessment process, workers who are involved in the activity to be assessed, a HSR (where one exists), the manager or supervisor and other stakeholders or experts where relevant.

4.3.2. The risk assessment should be undertaken in accordance with the WHS Hazard Management and Plant procedures.

4.3.3. For work on energised electrical equipment, a risk assessment must be completed and documented by a competent person and controls put in place before work commences.

### 4.4. Risk control

4.4.1. Controls should be implemented to eliminate, so far as is reasonably practicable, identified risks to health and safety.

4.4.2. If it is not reasonably practicable to eliminate risks, risk controls will be selected in descending order from the hierarchy of control, and in accordance with the WHS Hazard Management Procedure.

4.4.3. The risk assessment must clearly indicate what control measures are to be used.

4.4.4. Examples of risk control include, but are not limited to:

Elimination	The most effective control measure is to remove the hazard or hazardous work practice. By designing-in or designing-out certain features, hazards may be eliminated.	<ul style="list-style-type: none"> <li>• Remove electrical equipment</li> <li>• Design in or out certain features</li> </ul>
Substitution	Replacing a hazardous process or material with one that is less hazardous will reduce the hazard, and hence the risk. For example, it may be reasonably practicable to use extra low voltage electrical equipment such as a battery-operated tool rather than a tool that is plugged into mains electricity.	<ul style="list-style-type: none"> <li>• Replace electric tools with battery operated or pneumatic tools in wet environments</li> <li>• Use non-conductive scaffolding or ladders instead of metal</li> </ul>
Isolation	Preventing workers from coming into contact with the source of an electrical hazard will reduce the relevant risks.	<ul style="list-style-type: none"> <li>• Isolate, lock out and tag out the source of electrical energy during operations or maintenance functions</li> <li>• Erect a physical barrier around the work area</li> <li>• Restrict access to electrical switchboards and electrical equipment rooms</li> </ul>
Engineering	Use engineering control measures to minimise the risk, for example installing residual current	<ul style="list-style-type: none"> <li>• Use residual current devices (RCDs)</li> </ul>

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	devices to reduce the risk of receiving a fatal electric shock.	
Administrative	<p>Administrative controls involve the use of safe work practices to control the risk, for example establishing exclusion zones, use of permits and warning signs.</p> <p>Administrative controls and PPE do nothing to change the hazard itself. They rely on people behaving as expected and require a high level of supervision. Exclusive reliance on administrative controls and PPE must only occur where other measures are not reasonably practicable or as an interim control while the preferred control measure is being implemented.</p>	<ul style="list-style-type: none"> <li>• Tag and test electrical equipment</li> <li>• Identify electrical services before work commences eg dial before you dig, cable locator use for walls</li> <li>• Ban the use of electrical equipment in the rain</li> <li>• Use tiger tails</li> <li>• Apply minimum safe approach distances when working near overhead power lines</li> <li>• Use permits and warning signs</li> </ul>
Personal protective equipment	PPE includes protective eyewear, insulated gloves, hard hats, aprons and breathing protection. Most forms of PPE are not relevant to minimising electrical risks in workplaces, except in relation to energized electrical work.	<ul style="list-style-type: none"> <li>• This includes, for example, choosing insulating gloves, mats and tools, hard hat, aprons and breathing protection</li> </ul>

- 4.4.5. Implement the controls identified by the risk assessments before work commences. Any hazards that are unable to be immediately controlled within the risk assessment process should be transferred to the Corrective Action Register for further action and management. Work should not commence until all selected controls are in place.
- 4.4.6. Each person involved in the job should sign their acknowledgement of the risk assessment prior to work commencing.
- 4.4.7. The department manager should inform relevant persons about the control measures selected or corrective actions that have been implemented as a result of the hazard identification and risk assessment process for electrical safety. Department meeting minutes and/or sign-off on risk assessments/safe work procedures should demonstrate that this has occurred.
- 4.4.8. The department manager shall:
- (a) Check that any new hazards that may have been introduced by the selected controls methods are identified by:
    - i. Monitoring and evaluating controls for effectiveness.
    - ii. Recommencing the risk assessment process, outlined at section 0 above, if:
      - New electrical hazards are identified;
      - The measure does not control the risk it was implemented to control, so far as is reasonably practicable;
      - There is a proposed change at the workplace that is likely to give rise to a new or different risk to health or safety that the measure may not effectively control; or
      - The results of consultation indicate that a review is necessary or a health and safety representative requests a review;
  - (b) Communicate the outcomes of the risk assessment process within the department or work group and to the Health and Safety Committee, as required;
  - (c) Retain completed risk assessments; and
  - (d) Consult and coordinate activities with other PCBUs who are undertaking electrical work, so far as is reasonably practicable, if their duty of care overlaps.

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## 4.5. Electrical installation

4.5.1. The Manager of Corporate & Community Services will confirm that the safety of the organisation's electrical installations is maintained in accordance with legislative requirements and the relevant Australian Standards, (refer Section 9: REFERENCES)

4.5.2. Electrical work performed on any electrical installation at the workplace shall be carried out by a competent person licensed under the Plumbers, Gas Fitters and Electricians Act 1995. The competent person must provide a signed certificate of compliance.

4.5.3. Examinations and tests of the electrical installation shall be carried out as required by the Electricity (General) Regulations 2012 and records retained.

4.5.4. Access to electrical switchboards, electrical equipment rooms and any other nominated areas shall be locked and restricted to authorised persons.

## 4.6. RCD protection

4.6.1. The management team should make sure, so far as is reasonably practicable, that electrical risk associated with the supply of electricity to 'plug in' electrical equipment (i.e. through a socket outlet) is minimised by the use of an appropriate RCD in hostile work environments. Common examples of electrical equipment requiring an RCD include:

- (a) Hand-held electrical equipment, for example drills, saws, hair dryers, curling wands and electric knives;
- (b) Electrical equipment that is moved while in operation, including jackhammers, electric lawn mowers, floor polishers and extension cords; and
- (c) Electrical equipment that is moved between jobs in ways that could result in damage to the equipment, for example electric welders, electric cement mixers, portable bench saws and extension cords.

4.6.2. The requirement for an RCD does not apply where:

- (a) The supply of electricity is to an extra low voltage system that is electrically separated from earth and from other systems in such a way that a single fault cannot give rise to the risk of electric shock; or
- (b) The supply of electricity is to electrical plant and is
  - i. Direct current (DC), or
  - ii. Provided through an isolating transformer that complies with AS/NZS 61558 Safety of power transformers, power supply units and similar; or
  - iii. Provided from a portable generator that complies with AS 2790 Electricity generating sets—Transportable (up to 25 kW).

4.6.3. The department manager is responsible for making sure that:

- (a) RCD testing is undertaken by a competent person, and where relevant, in accordance with the intervals outlined in AS/NZS 3760 In service safety inspection and testing of electrical equipment;
- (a) Persons using portable RCDs are instructed in their use and maintenance;
- (b) If an RCD is found to be faulty it is taken out of service and replaced as soon as possible;
- (c) The tripping function of portable RCDs is checked before use by operating the 'trip test' button; and
- (d) Records of the results of the testing process (other than the daily push button test for portable RCDs) are retained.

## 4.7. Electrical equipment

### 4.7.1. Purchase and use

The purchase and use of electrical equipment will be subject to specific risk assessment, which should include the identification and assessment of electrical hazards, including the environment in which it is to be used.

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### 4.7.2. Inspection and testing

The department manager will make sure a competent person undertakes inspection and testing activities for electrical equipment, as follows:

- (a) When new electrical equipment is purchased, the supplier is deemed responsible for the initial electrical safety. Subject to 4.7.2(b), new electrical equipment does not require testing however the department manager responsible for its purchase should make sure it is visually inspected to ensure that no damage has occurred during transport, delivery, installation or commissioning.
- (b) If the new electrical equipment is to be used in a hostile operating environment, it shall be inspected and fitted with a tag stating:
  - i. That the equipment is 'new to service';
  - ii. The date of entry into service;
  - iii. The date when the first electrical safety test is due; and
  - iv. That the equipment has not been tested.
- (c) Electrical equipment must be regularly inspected, tested and tagged by a competent person after taking into account:
  - i. Information provided by the designer or manufacturer of the electrical equipment;
  - ii. Any hazard identification and risk assessment process that is relevant to the use of the electrical equipment in its intended work environment; and
  - iii. Guidance from AS/NZS 3760 – In service safety inspection and testing of electrical equipment, (refer to Appendix B for indicative testing and inspection intervals for electrical equipment.)
- (d) Second hand electrical equipment requires inspection and testing before its first use.

### 4.7.3. The use of electrical equipment without a current test tag in a hostile operating environment is not permitted.

- (a) Prior to use of electrical equipment, the operator must check that the electrical equipment has a current test tag and, when required, record this check on the pre-start checklist.
- (b) If a test tag is not fitted or is out of date, follow the requirements of step 4.7.6 below.

### 4.7.4. Persons managing contracts and/or contractors should confirm that any electrical equipment used by contractors has been tested and tagged prior to work commencing.

### 4.7.5. Workers operating electrical equipment are required to follow the training and instructions in place (eg following manufacturer's requirements and/or safe operating procedures, undertaking pre-operational checks, use of permits if indicated, etc.).

### 4.7.6. All workers should check the physical condition of electrical equipment they use, including the lead and plug connections, prior to starting work. If a hazard is identified prior to or during use such as, but not limited to, frayed or damaged electrical cords, faults in functioning, or no current test tag:

- (a) The electrical equipment should be turned off or otherwise isolated and tagged with an out of service tag, in accordance with the Isolation, Lock Out, Tag Out procedure and removed from service, until a competent person determines that it is safe for use; and
- (b) The worker shall make sure, as far as is reasonably practicable, that the department manager or supervisor is advised of electrical equipment that has been withdrawn from service.

### 4.7.7. Inspection, testing, maintenance or repair activities shall be undertaken by competent persons in accordance with legislative requirements, manufacturer's instructions, safe work procedures and documented maintenance schedules. Records of inspection, testing, maintenance or repair activities shall be retained.

### 4.7.8. When identified as a requirement in the risk assessment process, a permit for work shall be issued prior to work commencing.

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- 4.8. Controls for work in the proximity of overhead or underground electric lines
- 4.8.1. Any person required to carry out work that may involve a reasonably foreseeable danger of accidental direct contact with exposed live conductors or exposed live parts of electrical equipment should meet the training requirements of section 5.4 of this procedure.
- 4.8.2. When working, using cranes (including earthmoving machinery and elevating work platforms), operating machinery or erecting buildings and structures including scaffolds near overhead powerlines, the documented risk assessment must consider the need for tiger tails to be installed on the closest low voltage lines. If tiger tails are required, [SA Power Networks](#) should be contacted to arrange installation. [Note: Tiger Tails are only visual indicators and do not insulate the powerline. They cannot be used on high voltage lines]. When using Tiger Tails on powerlines, legal clearance distances must be maintained.
- 4.8.3. To operate cranes and elevating machinery safely near powerlines at the minimum clearance required by the Electricity (General) Regulations 2012 and referenced in guidance material from the Office of The Technical Regulator, Safe Work Australia and Department for Transport, Energy and Infrastructure, (refer to Section 9: References):
- (a) The voltage must be identified, and
  - (b) A spotter (competent person who is suitably qualified (whether by experience, training, or both) with the sole duty of observing and warning against unsafe approach of the crane, its lifting attachment or its load to powerlines) carries out spotting duties at all times, and
  - (c) A documented risk assessment is carried out before any work commences, in consultation with all relevant parties involved in the work, and
  - (d) The electricity network operator is notified before commencing work, (and where necessary a [Request for Network Access](#) is completed,) and
  - (e) Any conditions specified by the electricity network operator or Technical Regulator must be complied with.
- 4.8.4. In addition to the minimum clearance distances set out in the Electricity (General) Regulations 2012 for machinery and structures, there are safe approach limits to be maintained by people working near powerlines, (refer to Table 1 of [Working Safely Near Overhead Power Lines](#).)
- 4.8.5. The minimum safe approach limit is measured from the closest conductor on the powerline to the closest part of the person. This includes any article of clothing worn by the person or conductive object held or carried by the person.
- 4.8.6. In some circumstances the clearances specified in AS/NZS 4576 – Guidelines for Scaffolding may be less than those prescribed in the Electricity (General) Regulations 2012, in which case the prescribed distances of the Regulations must be complied with.
- 4.8.7. All underground power supply lines are to be accurately located before any excavation work commences.
- (a) The person supervising the task should make sure [Dial Before You Dig](#) has been contacted on 1100 or online for details of underground cables.
  - (b) A [Request for Network Access](#) may be required when digging in proximity to underground cables.
- 4.8.8. If a task requires digging deeper than 30 centimetres within three metres of a stobie pole, the supervisor must obtain a written permission from the electricity network operator.
- 4.8.9. The ground level directly under powerlines must not be raised if it reduces the ground clearance to less than that prescribed by the Regulations.

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### 4.9. Accidents or incidents involving electricity

4.9.1. A first aid officer must not put themselves at risk to deliver first aid when electricity is involved. If the situation is hazardous and cannot be made safe for the delivery of first aid, the first aid officer should contact emergency services to take control of the situation.

4.9.2. Any person suspected of receiving an electrical shock should be taken for medical assessment regardless of how well they feel. Any worker involved in an incident involving electricity should report the incident to their manager as soon as reasonably practicable. The department manager should immediately notify the Manager of Corporate & Community Services who will ascertain whether statutory reporting to SafeWork SA or the Office of the Technical Regulator is required.

4.9.3. If a notifiable incident occurs, namely:

- The death of a person; or
- A serious injury or illness of a person; or
- A dangerous incident

a report must be made by the Manager of Corporate & Community Services as follows:

- a) A notifiable incident is reported to [SafeWork SA](#) by the fastest possible means (telephone 1800 777 209 - 24 hours a day) immediately after becoming aware that a notifiable incident has occurred.
- a) Any incident occurring that involves electricity or an electric shock, gas or plumbing is reported to the [Office of the Technical Regulator](#) (telephone: 8226 5518; Business Hours or 1800 558 811 After Hours):
  - i. In the case of a death resulting from the incident - immediately by telephone
  - i. In the case of a person requiring medical assistance resulting from the incident - within one working day of the incident
  - ii. In any other case that involves electricity - within ten working days of the incident
  - iii. Gas incidents resulting in damage to property of \$5,000 or more – within ten working days of the incident
  - iv. Gas incidents involving a gas infrastructure pipeline (operating above 1050 kPa) resulting in any injury or damage to property, or incidents requiring the attendance of a fire brigade – within one month from the date of the incident.
  - v. In the case of Water or Sewerage system incidents;
    - For Priority type 1 incidents – Verbal notification immediately and written notification within 24 hours
    - For Type 1 incidents - Verbal notification within 3 hours and written notification within 24 hours
    - For Type 2 incidents - Verbal notification not required and written notification within 10 working days.

Further guidance can be found [here](#)

4.9.4. Whenever any statutory reports have been made, the Manager of Corporate & Community Services should ensure that the LGAWCS has been notified.

4.9.5. Any claim for worker's compensation should be reported in accordance with the Workplace Return to Work Procedure.

4.9.6. The Incident Reporting and Investigation procedure must also be complied with, including the requirement that the site where the incident occurred is not disturbed until an inspector arrives at the site or any earlier time that an inspector directs.

### 4.10. Monitoring and evaluation

4.10.1. Department managers should review and revise any existing risk control measures related to electrical safety, using the same methods as the initial hazard identification process:

- (a) When the control measure does not minimise the risk so far as is reasonably practicable;

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- (b) Before a change at the workplace that is likely to give rise to a new or different health and safety risk that the control measure may not effectively control;
  - (c) If a new hazard or risk is identified; or
  - (d) If the results of consultation indicate that a review is necessary or a health and safety representative requests a review.
- 4.10.2. Any electrical installation, electrical equipment, materials, equipment or apparatus used in hostile operating environments or when indicated by the manufacturer, shall be subject to regular inspection and testing.
- 4.10.3. The Health and Safety Committee must monitor the Corrective Action Register (including any issues of an electrical nature) during its meetings and refer outstanding items requiring direction or enforcement to the management team.
- 4.10.4. The management team must:
- (a) Review electrical hazard and incident statistics, audit results, legislative changes and other information relating to the electrical safety process and direct action when required. Minutes should record outcomes of discussion and actions undertaken;
  - (b) Include the electrical safety procedure as part of the ongoing management review process and report the findings of internal audits into the electrical safety procedure, as relevant; and
  - (c) Set, monitor and review objectives, targets and performance indicators for electrical safety program(s), as relevant.

## 5. TRAINING

- 5.1. The training needs analysis should identify the electrical safety training needs of workers, having regard to:
- 5.1.1. The nature of the work carried out by the worker;
  - 5.1.2. The nature of any risks associated with the work at the time the information, training or instruction is provided; and
  - 5.1.3. The control measures implemented.
- 5.2. The following types of training should be considered for inclusion on the TNA:
- 5.2.1. Induction training - workers and contractors, where relevant, should have the organisation's requirements for electrical safety explained to them during the induction process;
  - 5.2.2. Risk assessment - workers undertaking risk assessments should have specific training that includes legislative requirements for electrical safety;
  - 5.2.3. Work-specific training - to ensure that workers carrying out particular work are trained on any electrical and other risks specific to the work, as appropriate;
  - 5.2.4. Use of portable RCDs - workers using portable RCDs should be instructed in their use and maintenance;
  - 5.2.5. Inspection and testing – for persons carrying out any testing of electrical equipment;
  - 5.2.6. Supervisor and management training - to ensure that safety issues are appropriately managed at the workplace;
  - 5.2.7. Emergency procedure training - to ensure workers know what to do in the event of an emergency, for example procedures to follow if a person receives an electric shock;
  - 5.2.8. First aid training - to ensure appropriate procedures are followed for administering first aid, for example proper treatment for electric shock;
  - 5.2.9. Electrical rescue and resuscitation training for safety observers; and
  - 5.2.10. Ongoing or refresher training - to ensure that training is repeated as appropriate on a periodic basis.
- 5.3. Any person required to carry out electrical work should be a competent person who must be, if required by the *Plumbers, Gas Fitters and Electricians Act 1995*, licensed under that Act.

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- 5.4. Work involving a danger of accidental direct contact with exposed live conductors
- 5.4.1. In the case of work involving a danger of accidental direct contact with exposed live conductors or exposed live parts of electrical equipment:
- (a) The work must only be carried out by a person who is competent and qualified to carry out the work; and
  - (b) Except where the contrary is shown by reference to generally accepted industry practices or the particular circumstances of the case, it will be presumed that safe work practices require the person to carry out the work with a competent assistant suitably trained in the work and—
    - i. in resuscitation; and
    - ii. In releasing persons from live electrical apparatus; and
    - iii. If appropriate, in rescuing persons from poles, structures, elevated work platforms or confined spaces.  
[as prescribed by the Electricity (General) Regulations 2012 (63)].
- 5.4.2. Persons required to carry out, or help in carrying out, electrical work must be suitably trained in rescue and resuscitation in accordance with the requirements of the Technical Regulator [as prescribed by the Electricity (General) Regulations 2012 (68)].

## 6. RECORDS

The following records shall be maintained:

- 6.1. Electrical equipment register
- 6.2. Electrical equipment risk assessments and safe work procedures
- 6.3. Purchase or hire documentation, including operation manuals
- 6.4. Training records, licences and other competency records
- 6.5. Electrical equipment inspection, testing and maintenance records
- 6.6. Electrical equipment registration and certification records

All records must be managed in line with the current version of General Disposal Schedule 20 for Local Government.

## 7. RESPONSIBILITIES

- 7.1. The *management team* is accountable for:
- 7.1.1. Checking that the organisation manages electrical hazards in accordance with legislative requirements;
  - 7.1.2. Approving reasonably practicable expenditure necessary for electrical safety upon receipt of expenditure requests;
  - 7.1.3. Setting objectives, targets and performance indicators for electrical safety program(s), as relevant;
  - 7.1.4. Providing managers and supervisors with training which enables them to:
    - (a) Apply the requirements of the electrical safety legislation and this procedure to the areas and activities under their control; and
    - (b) Provide adequate training and supervision to the persons under their control;
  - 7.1.5. Consulting with other PCBUs, so far as is reasonably practicable, if their duty of care overlaps;
  - 7.1.6. Checking, so far as is reasonably practicable, that reasonably foreseeable electrical safety hazards within each department are identified, assessed and controlled when elimination is not practicable;
  - 7.1.7. Monitoring the Corrective Action Register and enforcing close out of items when required;
  - 7.1.8. Reviewing the effectiveness of the electrical safety process; and
  - 7.1.9. Including electrical safety in the management review process.

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- 7.2. *Managers and supervisors* are accountable for:
- 7.2.1. Providing training, information, instruction and supervision to workers and other stakeholders to check that:
    - (a) Competency and where relevant, licensing, is demonstrated and maintained; and
    - (b) They understand and can apply the electrical safety procedure and any relevant safe work procedures in relation to the tasks they undertake.
  - 7.2.2. Checking that reasonably foreseeable electrical hazards within their department or the tasks workers or others are required to undertake are identified, assessed and recorded on the hazard register, in consultation with workers or their representatives;
  - 7.2.3. Implementing controls, in consultation with workers or their representatives or other stakeholders, using the hierarchy of control; and evaluating and reviewing them for effectiveness;
  - 7.2.4. Communicating the outcomes of risk assessments within the department or work groups and across the organisation as required;
  - 7.2.5. Checking that any newly purchased electrical equipment is tagged on entry to service, if required;
  - 7.2.6. Checking that faulty electrical equipment is immediately removed from service and tagged with an out of service tag;
  - 7.2.7. Logging electrical safety issues with maintenance as soon as they are identified;
  - 7.2.8. Closing out Corrective Action Register items within designated time frames;
  - 7.2.9. Retaining records as required, (within the organisation's records management system);
  - 7.2.10. Seeking expert advice when a need is identified; and
  - 7.2.11. Providing required reports to the Health and Safety Committee and management team.
- 7.3. The *Manager of Corporate & Community Services* is accountable for:
- 7.3.1. Maintaining the currency of the electrical equipment register;
  - 7.3.2. Checking that portable electrical equipment issued to staff has a tag indicating current electrical testing compliance when required;
  - 7.3.3. Ensuring a competent person undertakes required testing of electrical equipment on site and that the electrical equipment that passes the test is tagged with a non-metallic, non-reusable tag;
  - 7.3.4. Checking that any electrical equipment identified as faulty during testing is withdrawn from service and tagged with an out of service tag until repairs are completed or disposal occurs;
  - 7.3.5. Arranging required inspections, testing and maintenance and retaining records;
  - 7.3.6. Implementing any corrective or preventative actions required for the continual improvement of the electrical safety process; and
  - 7.3.7. Checking that statutory reporting requirements have been met in relation to electrical incidents at work.
- 7.4. *Workers* are accountable for:
- 7.4.1. Attending training when required;
  - 7.4.2. Following any reasonable instruction related to electrical safety;
  - 7.4.3. Only using electrical equipment if it is within their level of competency, job role and the equipment has a current test tag (if required);
  - 7.4.4. Applying an out of service tag to electrical equipment that is faulty or does not have a required current test tag, immediately removing it from service and completing a maintenance request;
  - 7.4.5. Using, testing and maintaining a portable RCD as instructed; and
  - 7.4.6. Reporting any hazardous situations or safety problems immediately to their manager.

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- 7.5. The *Health and Safety Committee* is accountable for:
- 7.5.1. Facilitating consultation between management and relevant workers in matters relating to electrical safety; and
  - 7.5.2. Monitoring the Corrective Action Register and referring issues that require direction or enforcement to the management team.

- 7.6. *Health and safety representatives* may:
- 7.6.1. Facilitate consultation between department managers and workers in relation to WHS issues that affect the workgroup that they represent; and
  - 7.6.2. Request a review of a control measure in the circumstances outlined in the WHS Hazard Management procedure.

## 8. REVIEW

- 8.1. The electrical safety procedure will be reviewed by the WHS Committee, in consultation with workers or their representatives, every 3 years or more frequently if legislation or organisational needs change. This will include a review of:
- 8.1.1. Feedback from managers, workers, HSRs, HSC, contractors or others;
  - 8.1.2. Legislative compliance;
  - 8.1.3. Performance Standards for Self Insurers;
  - 8.1.4. LGAWCS guidance;
  - 8.1.5. Internal or external audit findings;
  - 8.1.6. Incident and hazard reports, claims costs and trends; and
  - 8.1.7. Any other relevant information.
- 8.2. The reviews may result in preventative and/or corrective actions being implemented or revision of this document.

## 9. REFERENCES

- [Work Health and Safety Act 2012](#)
- [Work Health and Safety Regulations 2012](#)
- [General Disposal Schedule 20 for Local Government](#)
- [ReturnToWorkSA's Performance Standards for Self-Insurers](#)
- [Electricity Act 1996Electricity \(General\) Regulations 2012](#)
- [Plumbers, Gas Fitters and Electricians Act 1995](#)
- [Code of Practice: How to Manage Work Health and Safety Risks](#)
- [Code of Practice: Managing Electrical Risks in the Workplace](#)
- [Code of Practice: Work Health and Safety Consultation Cooperation and Coordination](#)
- [Guideline: Worker Representation and Participation Guide](#)
- Office of the Technical Regulator: [Working Safely Near Overhead Power Lines](#)
- Department for Transport, Energy and Infrastructure: [Working Safely Near Overhead Powerlines](#)
- Safe Work Australia: [General Guide for Working in the Vicinity of Overhead and Underground Electric Lines](#)
- Safe Work Australia: [Guide for Working Safely Near Low Voltage Overhead Electric Lines Near Structures](#)
- Safe Work Australia: [Guide for Operating Cranes and Mobile Plant near Overhead Electric Lines](#)
- Safe Work Australia: [Information Sheet: Tree and Vegetation Management near Overhead Electric Lines](#)
- Safe Work Australia: [Information Sheet: Scaffolding Work near Overhead Electric Lines](#)
- Safe Work Australia: [Definitions for the General Guide for Working in the Vicinity of Overhead and Underground Electric Lines and Supporting Specific Guides](#)
- Australian Standard AS 2832.1 Cathodic Protection of Metals – Pipes and Cables
- Australian Standard AS 2790 Electricity Generating Sets – Transportable (up to 25kW)
- Australian/New Zealand Standard AS/NZS 3000 Electrical Installations (known as the Australian/New Zealand Wiring Rules)

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Australian/New Zealand Standard AS/NZS 3760 In-Service Safety Inspection and Testing of Electrical Equipment

Australian/New Zealand Standard AS/NZS 3012 Electrical Installations-Construction and Demolition Sites

Australian/New Zealand Standard AS/NZS 4576 Guidelines for Scaffolding

Australian/New Zealand Standard AS/NZS 61558 Safety of Power Transformers, Power Supply Units and Similar

Australian/New Zealand Standard AS/NZS 3012 Electrical Installations – construction and demolition sites

NOTE: this is not an exhaustive list and other documents may need to be referenced depending on the nature and hazards of the work being undertaken and the respective work environment.

## 10. RELATED DOCUMENTS

Hazard Management Procedure

Plant Procedure

Emergency Management Procedure

Isolation, Lock Out, Tag Out Procedure

Incident Reporting and Investigation Procedure

First Aid Procedure

Corrective Action Register

Electrical Equipment Register

## 11. DOCUMENT HISTORY

Version No:	Issue Date:	Description of Change:
1.0	18/3/2014	New Document, December 2009
2.0	30/4/2018	Definitions: Competent person – added definition from AS/NZS 3760, PPE – replaced with definition from WHS Regs, RCD – replaced with definition from CoP, addition of definition for tiger tails; Addition of 4.3.3 to reflect Reg 158; Amendment to 4.8.2, Addition of 5.2.5; Deletion of Appendix 1, (hyperlink now included in references), Addition of Appendix B – Indicative testing and inspection intervals for electrical equipment; formatting and language

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### Appendix A: Preventative Actions checklist

This checklist will help you to identify hazards associated with electrical work and develop safe work methods. If you answer 'NO' to any question you must take action to put **appropriate risk control measures** in place.

PART 1: INITIAL ASSESSMENT	Y	N
Can the work be undertaken while the electrical equipment is de-energised? If <b>Yes</b> , proceed to Part 2. If <b>No</b> , is it: necessary in the interests of health and safety that the electrical work is carried out on the equipment while the equipment is energised? OR necessary that the electrical equipment to be worked on is energised in order for the work to be carried out properly? OR is it necessary for the purposes of electrical testing required under Regulation 155? OR are there no reasonable alternative means of carrying out the work? If your answer to any of these is 'yes' proceed to Part 3 after considering whether part of the installation or equipment may be de-energised while the work is carried out. If you cannot answer 'yes' to any of these proceed to Part 2—you must work de-energised.		
PART 2: WORK DE-ENERGISED	Y	N
Do you have approved test instruments suitable for the task? Have you checked that the test instruments are functioning correctly? Have you isolated the supply eg by switching off? Have you conclusively tested that the equipment is de-energised? You must carry out the electrical work in accordance with any safe work method statement that must be prepared for the work. Proceed to Part 4.		
PART 3: WORK ON OR NEAR ENERGISED EQUIPMENT	Y	N
Has a risk assessment been conducted by a competent person which identifies all electrical hazards and non-electrical hazards, both actual and potential?		
Is the work area clear of obstructions to allow for easy access?		
Is the isolation point clearly marked or labelled and capable of being operated quickly?		
Has the person with management or control of the workplace been consulted about the proposed electrical work?		
Do you have a safe work method statement for the task at hand? This should state the control measures required to eliminate or minimise the risks.		
Are you trained, competent and confident in applying the particular procedures or techniques that are required for the task?		
Have you checked to ensure that your tools and accessories are insulated and have been inspected and maintained to ensure they are serviceable?		
Is your test equipment appropriate to the task and functioning correctly?		
Are you wearing the appropriate clothing and associated PPE for the task eg safety helmet and boots, insulating gloves?		
Do you have the appropriate insulating mats and sheeting?		
Is a safety observer present? Note: a safety observer is not required for electrical work if it only involves testing and the risk assessment shows that there is no serious risk associated with the work.		
Are the necessary first aid facilities provided and accessible and are unauthorised persons prevented from entering the work area?		
REMEMBER: Do the work very carefully. Follow the safe work procedures. Assume all exposed conductors are energised. Be aware of the voltage to earth of all exposed conductors.		
PART 4: AFTER COMPLETING THE WORK	Y	N
Have the installations/circuits/equipment been restored to a safe and operable condition?		
Have all tags and locking-off devices been removed?		

Source: COP- Managing Electrical Risks in the Workplace



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## Appendix B: Indicative testing and inspection intervals for electrical equipment

Caution: This table must be read in conjunction with AS/NZS 3760 as a whole, and particularly 2.1

Type of environment and/or equipment	Interval between inspection and tests				
	Equipment including Class I equipment, Class II equipment, cord sets, cord extension sets and EPODs	Residual current devices (RCDs)			
		Push-button test – by user		Operating time and push-button test	
(a)	(b)	Portable (c)	Fixed (d)	Portable (e)	Fixed (f)
Factories, workshops, places of manufacture, assembly, maintenance or fabrication	6 months	Daily, or before every use, whichever is the longer	6 months	12 months	12 months
Environment where the equipment or supply flexible cord is subject to flexing in normal use OR is open to abuse OR is in a hostile environment	12 months	3 months	6 months	12 months	12 months
Environment where the equipment or supply cord is NOT subject to flexing in normal use and is NOT open to abuse and is NOT in a hostile environment	5 years	3 months	6 months	2 years	2 years
Residential type areas of: hotels, residential institutions, motels, boarding houses, halls, hostels, accommodation houses, and the like	2 years	6 months	6 months	2 years	2 years
Equipment used for commercial cleaning	6 months	Daily, or before every use, whichever is the longer	N/A	6 months	N/A
Hire equipment: Inspection Test and tag	Prior to hire	Including push-button test by hirer prior to hire		N/A	N/A
	3 months	N/A		3 months	12 months
Repaired, serviced and second-hand equipment	After repair or service which could affect electrical safety, or an reintroduction to service, refer to AS/NZS 5762				



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AS/NZS 3012 Electrical Installations – construction and demolition sites						
Type of environment and/or equipment	Transportable structures, fixed transportable equipment and construction wiring including switchboards	Portable equipment	Interval between inspection and tests			
			Residual current devices (RCDs)			
			Push-button test – by user		Operating time and push-button test	
			Portable	Fixed	Portable	Fixed
Construction and demolition sites, in accordance with Clause 1.1	6 months	3 months	After connection to a socket or before connection of equipment, and at least every day in use	1 month	3 months	12 months