



Government of **Western Australia**  
Department of **Commerce**  
*Energy Safety*

# **Safe Working Guidelines for Electrical Workers**

**Draft version: March 2017**

## Preface

This booklet covers, in general terms, basic electrical safety practices.

It provides advice on how working safely can be achieved and maintained by every electrical worker, for themselves and also for the benefit of others. In particular, it provides guidelines on providing effective supervision of electrical workers with varying competencies.

Every electrical worker must be constantly vigilant about the dangers involved in working with electricity. **The danger is real.**



These Guidelines are designed to complement general and specific workplace safety requirements in the *WA Occupational Safety and Health Act 1984*, the *Occupational Safety and Health Regulations 1996* and the *Electricity (Licensing) Regulations 1991*.

Should anything in these Guidelines be found to be in conflict with this Act or these Regulations, then the requirements of the Act and the Regulations prevail.

*Every care has been taken to ensure references to legislation, Australian Standards and other documents in the Guidelines are accurate at the time of publication.*

*However, amendments to these documents are made periodically and the reader should always check to ensure that applicable referenced information is current.*

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# 1 Responsibilities

## ***Occupational Safety and Health Act 1984***

Employers' and employees' responsibilities for maintaining workplace safety are set out in Sections 19 and 20 of the *Occupational Safety and Health Act 1984*.

**Employers** have the primary duty of care to maintain a safe working environment for employees by providing information and training, safe work procedures, safety equipment and effective supervision.

**Employees** also have a duty of care to ensure their own safety and to avoid any act which adversely affects the safety of others encountered during the performance of their work. Employees must cooperate with employers, follow safe work procedures and use protective equipment.

## **Licensing**

Both the employer and the employee have the responsibility to ensure that the employee has the appropriate current licence, as set out in the Electricity (Licensing) Regulations 1991, to lawfully perform electrical work on behalf of the employer, while observing any restrictions applicable to the individual licence.

## **Work standards**

The supervising electrician is responsible for checking and testing all electrical work carried out to ensure compliance with the appropriate Acts, Regulations and Australian Standards, particularly AS/NZS 3000 Wiring Rules.

## 2 Supervision of electrical workers

It is especially tragic for accidents and fatalities to be suffered by electrical workers where they have not been adequately supervised. These clearly are preventable accidents.

### Effective supervision

Whether you are an employer, supervisor or an electrical worker under supervision, it is important to understand your obligations under the Electricity (Licensing) Regulations 1991.

These guidelines will assist in understanding these obligations and for improving workplace safety.

### What is effective supervision?

The importance of effective supervision is recognised by the Electricity (Licensing) Regulations 1991, Regulation 50. In particular, Regulations 50, 50AA and 50AB provide detailed requirements for effective supervision of workers for the purpose of preventing danger to life and property.

Effective supervision includes, but is not limited to, the following:

- ensuring that all workers are licensed to carry out the required work;
- adequate job planning, risk assessment and risk mitigation;
- ensuring the supervising electrician has the necessary knowledge and skill levels for the type of work to be undertaken;
- giving due consideration to the level of training, knowledge and skill of the electrical worker(s) who are being supervised;
- managing the number and proximity of electrical workers to enable the required level of oversight and clear lines of communication; and
- equipping electrical workers with the appropriate safety equipment and monitoring their proper use.

The responsibility for providing effective supervision of electrical workers rests with the employer and the supervising electrician. In deciding on the appropriate level of supervision for an electrical worker on a particular scope of work or task, the supervising electrician must consider all relevant factors including, but not limited to, the following.

### The type of work

Variations in the work environment, whether related directly to electricity supply or not, present many situations which the supervising electrician must assess when determining safety requirements for the job at hand and the level of supervision appropriate for the electrical worker.

### Knowledge/skills of the employee

The supervising electrician must make a conscious appraisal of the technical knowledge and practical skills of the electrical worker.

### Before commencing work

Before the any electrical work commences, the supervising electrician must:

- Be confident that the electrical worker is fit for work.
- Ensure there are no exposed live parts and the apparatus is safe, isolated (de-energised), tested and tagged.
- Clearly instruct the electrical worker on which tasks he/she is expected to do and (where necessary) which ones he/she must not do until he/she is instructed on how to do the tasks. Confirm that the electrical worker understands the work instructions.
- Ensure that the electrical worker is equipped with the necessary PPE and tools and understands how to use them correctly.

Electrical workers must not embark on tasks for which they feel unprepared, lack adequate supervision or consider to be risky.

## Levels of supervision

Different levels of supervision may be applied, depending on the nature of the work and the experience and competence of the electrical worker:

- **Direct supervision**

The supervising electrician must remain on the same work site as the electrical worker, be able to converse easily with him/her, and oversee the electrical work being performed to ensure it is being carried out correctly and safely.

The supervising electrician must be a person licensed to carry out the electrical work without supervision.

- **General supervision**

General supervision does not require constant attendance of the supervisor.

The supervising electrician, after consideration of the electrical worker's work history, assessed competence, work site conditions, scope and complexity of the electrical work to be carried out, may, after the initial site attendance, attend the work site at regular intervals to verify the electrical work is being performed correctly and safely, including on completion.

The supervising electrician must be a person licensed to carry out the electrical work without supervision.

## Supervision of Apprentices

The level of supervision necessary for individual apprentices requires continual assessment of the apprentice's experience and competence related to the task being undertaken.

A gradual relaxation of the level of supervision is logical as an apprentice develops the skills, knowledge and experience leading to a trade qualification.

Information available from the apprentice training assessment system is directly relevant to an individual's assessment.

The following table provides further clarification of the level of supervision that an apprentice requires for different types of work tasks during his/her on-the job-training.

*This table is to be used as a guideline only. The level of supervision may be varied dependent upon the assessed competence of the individual apprentice and the nature of the assigned work tasks.*

Type of work	Apprentice (year)	Supervision level required
New installations (not connected to electricity supply)	1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> or final	Direct Direct General General
Alterations and additions (existing installations)	1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> or final	Direct Direct Direct General
Maintenance of installations and equipment	1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> or final	Direct Direct General (under isolation permit system) General (under isolation permit system)
Workshop tasks	1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> or final	Direct General General General
Isolation of installations and equipment	1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> or final	Not permitted Not permitted Direct General
Testing and fault-finding	1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 4 <sup>th</sup> or final	Not permitted Not permitted Not permitted Direct
Live work	<b>Work on any live/energised electrical circuit or equipment is prohibited</b> (other than testing and fault-finding)	

### Supervision of Apprentices near energised equipment

**Generally, apprentices are not permitted to work on or near energised circuits and apparatus.**

However, some testing and fault finding tasks cannot be carried out while the electrical equipment is de-energised (e.g. voltage measurements).

The limited circumstances in which work is permitted on or near energised circuits or equipment and the strict precautions that are required to maintain safe working conditions are prescribed in the:

- Occupational Safety and Health Regulations 1996;
- Electrical (Licensing) Regulations 1991; and
- Code of Practice for work on or near energised electrical installations & in roof spaces of certain buildings (published by EnergySafety).

Apprentices are permitted to learn and carry out testing and fault-finding techniques:

- **only** in the fourth or final year of training;
- **only** after the supervising electrician has conducted a comprehensive risk assessment, prepared a written safe work method statement and implemented the controls necessary to ensure safe working conditions (as required by the regulations); and
- **only** under the direct and constant supervision of the supervising electrician.

The supervising electrician must be physically present and the supervisor and apprentice must be constantly in sight of, and able to communicate directly with, each other.

Section 6 of these Guidelines provides further information about where and how work on or near energised electrical equipment is permitted.



### 3 Dangers of working with electricity

#### Electrical risks

The most common electrical risks and causes of injury are:

- **Electric shock** causing injury or death.

**All electric shocks must be avoided**

**ALL ELECTRIC SHOCKS ARE POTENTIALLY FATAL**

Minor shocks could have resulted in death or injury had circumstances been only slightly different.

- **Burns** from arcing, explosion or fire.
- **Falls** from ladders, scaffolds or elevated work platforms (EWPs) as a direct consequence of an electric shock.
- **Poisoning** from toxic gases causing illness or death.
- **Fire** resulting from an electrical fault.

It only requires a very small failure of a work practice, such as a slip with a screwdriver or a dropped tool, for such accidents to occur.

#### Electric shock

Since the human body is a conductor of electricity, a current will flow through its tissues when contact is made simultaneously with two objects which are at different voltage potentials. For example, if two terminals of different voltage potential are grasped, one in each hand, current will flow through the body from hand to hand. A similar effect will be produced if only the active is touched and the person is in contact with earth or conducting material in earth contact.

Contact may also be made by tracking through or across a medium (e.g. wet areas), or by arcing.

Electric shock is the effect produced on the body, particularly the nervous system, by an electrical current. The effect varies depending upon the magnitude, path and frequency of the current and the duration of contact. (Even the briefest contact with electricity can have serious consequences.)

If the current magnitude is within a certain range and its path traverses the heart region, the normal rhythm of the heart can be interrupted. In this state, known as ventricular fibrillation, the heart contracts randomly and cannot maintain blood circulation. Return to normal rhythm rarely occurs spontaneously and if the condition persists for more than a few minutes, the result is almost certain to be fatal.

Electric shock may also stop the heart completely and/or the victim's breathing.

**“Electrocution”** means death resulting from an electric shock.

Electricity supply systems typically operate at 230 volts AC phase to earth and 400 volts AC phase to phase. **A shock at these voltages can be fatal.** Hence, it is essential that adequate precautions are taken to ensure no person comes into contact with any ‘live’ electrical equipment or conductors.

A high voltage shock (of 1,000 volts or more) may inflict other forms of serious injury such as severe burns and organ failure.

Under normal circumstances, voltages below 50 volts AC generally are not harmful to humans. However, they must still be treated with respect, especially in wet or polluted areas.

## **Burns**

Electricity flashovers/arcs produce very high temperature gases, and can cause severe burns and permanent disfigurement. Inhalation can also inflict severe internal burns on the victim’s airways.

The risk of injury from arcing or explosion is extreme when high fault currents are present. This typically applies to low voltage circuits close to transformers or switchboards, where electrical protection may only detect and interrupt an arcing fault slowly or not at all.

High energy electrical arcs are often explosive and also cause injury through impact from flying debris.

## **Falls**

Falls from ladders, scaffolds or other elevated work platforms can occur as a direct consequence of an electric shock or arc blast, resulting potentially in serious injury or death.

## **Poisoning**

Burning and arcing associated with electrical equipment may release various harmful gases and contaminants. Inhalation of these dangerous products may cause short term or chronic illness or result in death from suffocation.

## **Fire**

Workers using electricity may not be the only ones at risk. Faulty electrical equipment and poor electrical installations can lead to fires that may also cause injury or death to others and property loss.

## 4 Safe working practices

### Before starting work

- Plan and discuss the job. Include a risk assessment.
- Think about what is to be done, including isolation requirements.
- Ensure all workers have the appropriate PPE and its condition is satisfactory. PPE will provide only limited protection from electrical risks such as electric shock, arc flash and arc blast.
- Check if the upstream electrical protection has a maintenance setting that enables an immediate circuit trip if any fault occurs.
- Confirm permission to isolate (comply with any access or vicinity permit system applicable to the site).
- Isolate the electrical equipment or circuit.
- Secure the isolation by fitting locks and “Danger” or “Out of Service” tags (as applicable).
- Erect safety barriers where required.
- Use the correct earthing equipment.
- Cover adjacent live apparatus with insulating blankets.
- Test before starting work (check test instruments before and after use).
- Ensure test instruments are fit for purpose and adequately rated (e.g. Category IV etc.).
- Start work only when authorised to do so.

**If in doubt about anything, ask the supervisor for advice before starting work**

### When working

- Use safety observers where required.
- Never rely on your memory about work conditions – if unsure about anything, check visually or re-test.
- Connect the earth and neutral conductors first.
- Disconnect the earth and neutral conductors last.
- Check the isolation points and re-test before resuming work after a break.
- Always wear the PPE required for the work.

### On completion of work

- Check that tools are not left on or in the job.
- Check that the work is complete and has been tested.
- Notify all personnel involved that the equipment will be energised.
- Relinquish your work permit (if relevant).
- Remove your own earthing equipment (where applicable).
- Remove your “Danger” or “Out of Service” tags and locks.

- Check all “Danger” tags, “Out of Service” tags, earths and locks have been removed by other workers.
- Energise equipment and confirm correct operation, including restoration of normal electrical protection settings (if applicable).
- Remove and store all safety barriers and other equipment.

### **Safety practices**

- Know the electric shock and resuscitation procedure.
- Keep a first aid kit handy.
- Check the first aid kit regularly.
- Know where fire extinguishers are located and how to operate them.
- Know the correct type of fire extinguisher for the various types of fires.
- Keep your work place clean and orderly.
- Report all electrical accidents to your employer (who must report the accident immediately to the relevant network operator).

### **Tools**

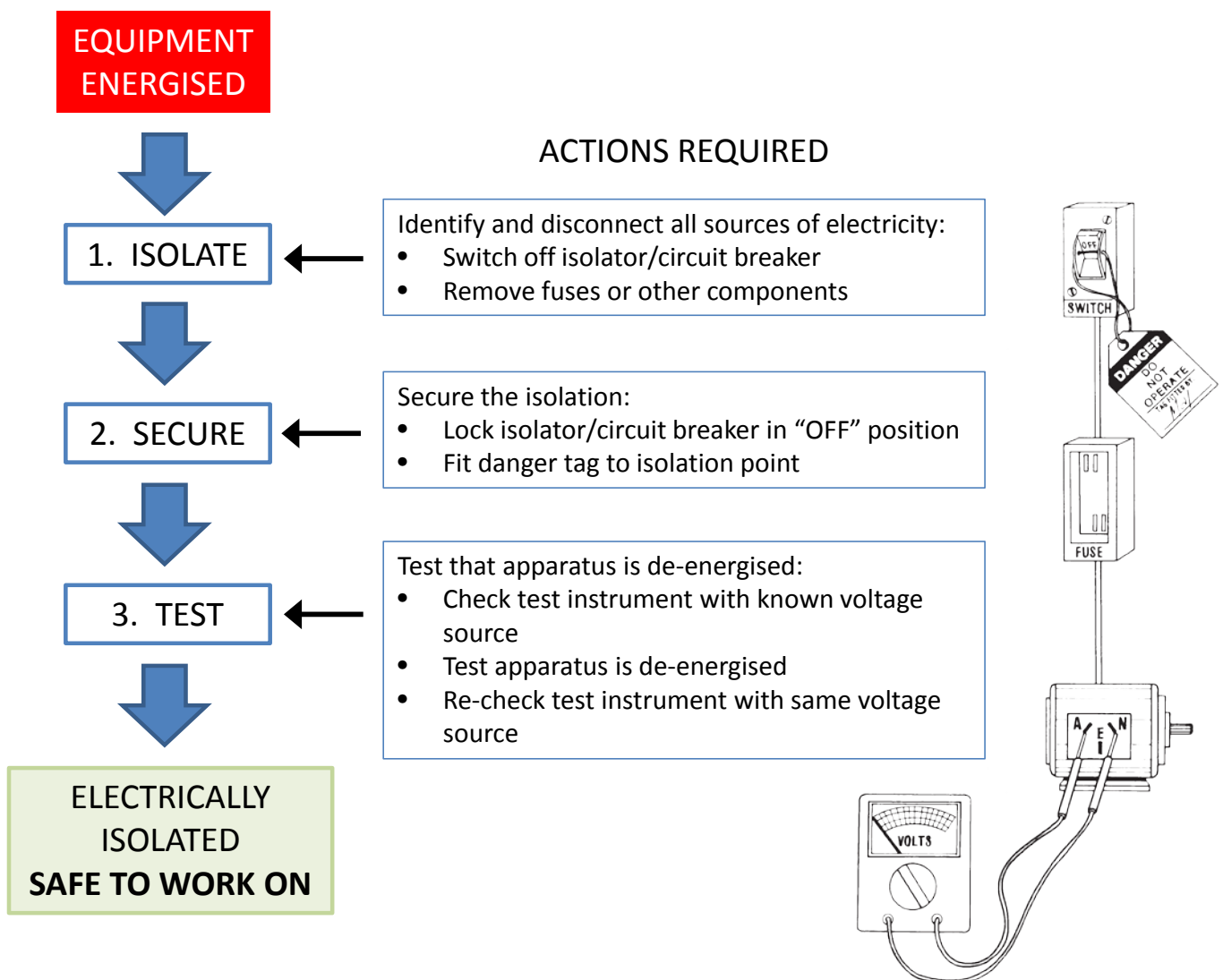
- Regularly check and clean all tools and equipment.
- Use approved safety belts.
- Use insulated ladders.
- Use non-conducting tape measures when working on or near electrical equipment.
- Use Residual Current Devices (RCDs) when using plug-in electric tools.

## 5 Electrical isolation

Before commencing any electrical work, the electrical circuits or equipment to be worked on must be disconnected from all sources of electricity supply, adequate precautions must be taken to prevent inadvertent re-energisation and electric shock, and proven to be de-energised and safe to work on.

Principles and safe practices for the effective isolation of electrical circuits and equipment are described comprehensively in AS/NZS 4836<sup>1</sup>. These are summarised below for reference.

### Essential steps for effective electrical isolation



<sup>1</sup> AS/NZS 4836:2011 - Safe working on or near low-voltage electrical installations and equipment

## Securing the isolation

### Locks

Where a facility exists to lock a switch in the “OFF” position, it must be used.

Locks are for the **safety of personnel** and:

- they must be **uniquely keyed** so that they can be fitted and removed only by the person owning the lock;
- **all persons involved in carrying out the work must fit their own lock** at the same isolation point(s). This may require the use of a multi-lock security device;
- they must be **clearly labelled** (with a personal identification tag or Danger tag) to identify the owner and the nature of the electrical work being undertaken; and
- they must be removed upon completion of work or at the end of the shift (if the work will be continued by others, who must fit their own locks).

### Danger tags

A Danger tag on an item of equipment is a warning to all persons that the equipment **must not be operated**, as lives may be placed in danger.



FRONT

BACK

Danger tags are for the **safety of personnel** and:

- they **must be attached in a prominent position** at each isolation point;
- they **must be fitted and removed only by the person who signed the tag**;
- **all persons** involved in carrying out the work **must fit their own Danger tag** at the same isolation point(s); and
- they must be removed upon completion of the work or at the end of the shift (if the work will be continued by others, who must fit their own Danger tags).

## Out of Service tags

This tag is used to identify appliances or equipment that are out of operation for repairs and alterations or are still in the process of being installed. While an Out of Service tag is fitted, the appliance or equipment **must not be operated**.



FRONT

BACK

Out of Service tags are for the **safety of personnel** and **security of equipment** and must be:

- **attached in a prominent position** at each isolation point; and
- **fitted and removed only by authorised persons.**

## **6 Work on or near energised electrical equipment**

### **Work on or near energised electrical equipment is generally prohibited**

Electrical installing work must not be carried out on or near energised equipment except in the circumstances and manner as defined in Regulation 55 of the Electricity (Licensing) Regulations 1991.

These exceptions do not apply to work carried out by, or on behalf of, a network operator on the network operator's service apparatus.

The exceptions and approach to restricted work on energised electrical equipment are summarised in the following sections for ease of reference.

### **Exceptions**

Work on or near energised electrical equipment may only be undertaken where the supervising electrician has determined it is the only practical option because:

1. de-energising that part of the installation would put the health and safety of a person at significant risk (e.g. it may be necessary for life-saving equipment to remain energised and operating while electrical work is carried out on the premises);
2. it is necessary that the electrical equipment to be worked on is energised in order for the work to be carried out properly (e.g. testing, commissioning, switching, fault-finding); and
3. a risk assessment demonstrates that the risks can be reduced to a minimum practical level to enable the work to be performed safely.

Note: Loss of production by itself is not a satisfactory reason for working on energised equipment.

### **Where work on or near energised equipment is the only option**

The required approach to carrying out live electrical work is set out in:

- Regulation 55 of the Electricity (Licensing) Regulations 1991; and
- Regulation 3.143 of the Occupational Safety and Health Regulations 1996.

In summary, the regulations require that:

1. A comprehensive risk assessment must be conducted by a competent person/the supervising electrician.
2. The identified risks and control measures implemented must be documented in a written "safe work method statement" and a record kept for at least 28 days after the work is completed.
3. The work must be undertaken only:
  - in accordance with the pre-determined work method; and
  - by competent persons who have the necessary tools, equipment and PPE for the work.



## Work in the vicinity of energised electrical equipment

In some circumstances, the risks associated with undertaking electrical work **near** energised equipment can be equivalent to those associated with work on energised electrical equipment.

Further guidance is provided in the *Code of practice for work on or near energised electrical installations & in roof spaces of certain buildings*, where the term “**near**” is defined as:

*“a position whereby an uninsulated energised part of an electrical installation can be contacted by a person carrying out the work, directly or indirectly (including with a thing used or controlled by the person).”*

A risk assessment must be made to determine the risk level associated with working near energised electrical equipment and appropriate risk control measures must be implemented and documented in the safe work method statement.

Work must not proceed until the risk has been minimised by:

- effective segregation or shielding using barricades or insulating covers to prevent inadvertent contact; and/or
- the use of special PPE and tools appropriate for the work.

## Work in roof spaces

The Occupational Safety and Health Regulations 1996 generally prohibit workers entering the roof spaces of buildings unless the electrical installation is de-energised and isolated at the main switch.

However, persons with an electrical worker’s licence endorsed as an electrician’s licence may enter a roof space without isolating the electrical installation provided a risk assessment has been performed to determine the risk level and appropriate risk control measures have been implemented and documented in a safe work method statement.

## 7 Personal protective equipment (PPE)

### General

The use of protective clothing and equipment is an essential part of working safely. Many electrical workers have avoided serious injury or death because of the clothes and other PPE they were wearing at the time.

Appropriate PPE provides some (limited) level of protection from:

- electric shock;
- flash burns resulting from an arcing fault; and
- mechanical impacts.

### **Limitations of Personal Protective Equipment (PPE)**

**PPE cannot be relied on as the sole risk control measure to provide full protection from electrical hazards**

**PPE should be used in conjunction with other risk control measures and be considered as the final safety measure**

PPE must comply with the relevant legislation and Australian or International technical standards. In particular:

- (1) The Occupational Safety and Health Regulations 1996 provide general requirements and technical standards for PPE used in Western Australia.
- (2) AS/NZS 4836 (Section 9) provides a selection guide for PPE for various types of electrical work.
- (3) ENA NENS 09-2011 National guideline for the selection, use and maintenance of PPE for electrical arc hazards.

Basic information about key items of PPE for electrical workers is provided in the following sections, for easy reference and guidance.

Employers must provide additional safety equipment required by specific electrical work tasks such as insulated gloves, insulated covers/barriers and thermally rated clothing.

### Responsibilities

**Employers** must ensure their employees wear suitable everyday work clothes/footwear and must provide the necessary additional protective equipment to enable employees to carry out their work safely.

Employers must ensure that employees are trained in the correct use and care of their PPE so that it provides the level of protection intended.

**Employees** must wear suitable clothes/footwear at all times and use the additional protective equipment provided for the work in the correct manner.

Every electrical worker must ensure that:

- They always use PPE appropriate for the work undertaken;
- Their co-workers also use the appropriate PPE; and
- They maintain their PPE in good condition and/or replace any defective items.

**When you are issued with PPE, look for the relevant Australian/New Zealand Standard marking, rating, classification and certification expiry date.**

## **Basic PPE**

### **Safety footwear**

Safety footwear provides protection from:

- 1) *Electric shock.*
- 2) *Falling objects.*

Safety footwear must:

- be non-conductive;
- have a covered steel toe cap; and
- comply with technical standard AS/NZS 2210.



### **Safety glasses**

Safety glasses provide protection from:

- 1) *Flying objects caused by activities such as grinding and cutting.*
- 2) *Electrical arcing.*

Safety glasses must:

- have non-conductive frames; and
- comply with AS/NZS 1337.



## Work Gloves

*Work gloves provide protection from mechanical impact in relation to tools, equipment and work materials.*

Gloves must:

- have no conductive fasteners such as zips or studs;
- be made of durable material appropriate for the required work; and
- comply with technical standard AS/NZS 2161.



## Safety helmets

*Many work sites require safety helmets to be worn at all times. They provide protection from contact with:*

- 1) *Overhead wires/structures.*
- 2) *Falling objects.*

All helmets must be:

- non-conductive; and
- comply with AS/NZS 1801.



## RCDs

**Fixed** or **Portable** RCDs provide protection from electric shock in the event of:

- *inadvertent energisation of equipment being worked on.*
- *a malfunction of portable electric tools and extension leads.*

RCDs must be provided in the workplace as required by:

- Regulation 3.60 of the Occupational Safety and Health Regulations 1996; and
- Technical standard AS/NZS 3012, Electrical installations – Construction and demolition sites

RCDs should be tested for correct operation before commencing work



## Protective clothing

Many work sites require full body cover protective clothing to be worn at all times. This is also required for certain types of electrical work, such as testing and fault-finding.

Clothing provides some (limited) level of protection from:

- 1) Electric arcing/flash burns.
- 2) Flying or falling objects.
- 3) Electric shock.

Protective clothing for electrical work must cover the body completely and:

- be of cotton material;
- have non-conductive and concealed buttons; and
- have sleeves to wrist length and legs reaching to footwear.

Additional care must be taken to ensure clothing is reasonably close fitting and remains fastened to avoid catching or entanglement. This is particularly important when working in the vicinity of any moving machinery or rotating equipment.



## Additional PPE

Other types of PPE commonly required for general work are:

- Hearing protection (earplugs or earmuffs); and
- Respiratory protection (breathing masks).

Guidelines about other specific forms of PPE appropriate for electrical workers are provided in AS/NZS 4836 (Section 9) and ENA NENS 09-2014.

Depending on the assessment of the risks involved, additional PPE should be considered for some types of work e.g. testing and fault-finding. This may include:

- flame retardant clothing;
- insulated gloves;
- arc rated face shield;
- insulating covers/mats; and
- safety belt/harness.

## 8 Rescue and resuscitation

***All electrical workers and their assistants must have current first aid and resuscitation skills.***

The recommended method of CPR (cardiopulmonary resuscitation) is that published by the Australian Resuscitation Council in their Guideline 8 - Cardiopulmonary Resuscitation.

The key elements of this CPR method are reproduced in **Appendix 1** for use as a reference only.

Detailed steps in the CPR method are subject to variation from time to time. All electrical workers must refresh their knowledge of the procedures at least annually.

Further information and training in first aid and resuscitation procedures is available from recognised training providers.

## 9 Reporting and investigation of electrical accidents

The Electricity (Licensing) Regulations 1991 require the reporting and investigation of electrical accidents, including electrical shocks.

### Reporting

- Electrical workers must report all electrical accidents (including minor electrical shocks) to their employer.
- The employer is then required to notify the relevant network operator about the incident.
- In remote areas of Western Australia where there is no network operator, an electrical accident must be reported to EnergySafety. This should be done by telephoning:

**FREECALL 1800 678 198** (all hours)

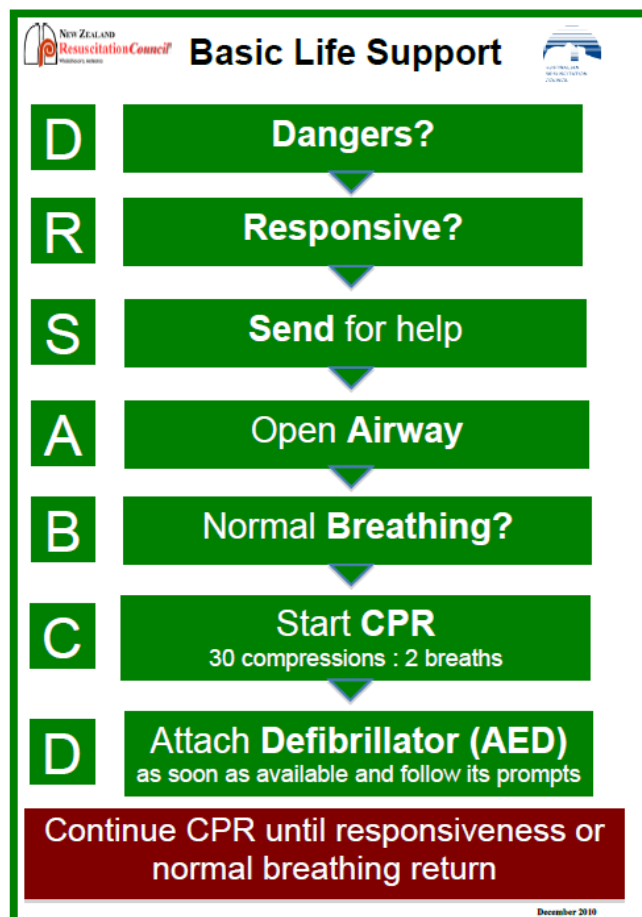
This phone number is for use within Western Australia only.

### Investigation

Electricity network operators and EnergySafety investigate all electrical accidents, including electric shocks. In this way, the cause of the incident can be determined and actions can be taken to minimise the risk of a recurrence.

## Appendix 1 – Recommended emergency life support procedures

This information is reproduced from the Australian Resuscitation Council Guideline 8 Cardiopulmonary Resuscitation (as published in September 2015):



The steps for basic life support are “**DRS ABCD**”:

- D** Check for **D**anger (hazards/risks/safety).
- R** Check for **R**esponse (if unresponsive).
- S** **S**end for help.
  
- A** Open the **A**irway.
- B** Check **B**reathing (if not breathing/abnormal breathing).
- C** Give 30 chest **C**ompressions (almost two compressions/second) followed by two breaths.
- D** Attach an AED (Automated External **D**efibrillator) if available and follow the prompts.

If still not breathing/abnormal breathing, **continue CPR** until medical help arrives.

Providing 30 compressions (at approximately 100/min) and giving two breaths (each given over one second per inspiration) should result in the delivery of five cycles in approximately two minutes.

**Department of Commerce**

**EnergySafety Division**

Level 1, 303 Sevenoaks Street (Cnr Grose Ave) Cannington WA 6107

Telephone: (08) 6251 1900

Facsimile: (08) 6251 1901

National Relay Service: 13 36 77

Mailing address: Locked Bag 14, Cloisters Square WA 6850

Website: [www.energysafety](http://www.energysafety)

Email: [energysafety@commerce.wa.gov.au](mailto:energysafety@commerce.wa.gov.au)

Energy incident notification (24 hours): 1800 678 198

If you require the services of an interpreter, contact the Translating and Interpreting Services (TIS) on 131 450 and ask for connection to EnergySafety on 6251 1900.

This publication is available on request in other formats to assist people with special needs.