



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

Safe Working Guidelines for Electrical Apprentices

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Preface

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

It is provided as a guide to employers and apprentices to ensure apprentices have sufficient basic trade safety knowledge prior to being granted an electrician's training licence.

It also forms part of the apprentice's reference material during his/ her apprenticeship.

Every apprentice entering the electrical industry must be aware of the dangers involved in working with electricity. **The danger is real.**



Safe working practices and procedures for the protection of an electrical apprentice are an integral part of the electrical trade and must be the first skills learned.

The importance of electrical safety is recognised by the Electricity (Licensing) Regulations 1991:

Regulation 22(3): A licence endorsed as an electrician's training licence shall not be issued to a person unless the Board is satisfied that the person has been assessed as satisfactory in relation to safety in the manner approved by the Board.

Note: This booklet uses the term "apprentice" even though he/she may not have entered into a formal apprenticeship.

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Assessment and testing of apprentice's knowledge of workplace safety

Assessment guidelines

The Electricity (Licensing) Regulations 1991 requires the apprentice to be assessed as having an adequate level of knowledge of safety principles and practices as a condition of obtaining an electrician's training licence:

Regulation 22(3) states: A licence endorsed as an electrician's training licence shall not be issued to a person unless the Board is satisfied that the person has been assessed as satisfactory in relation to safety in the manner approved by the Board.

The employer is responsible for:

- providing the apprentice with a copy of this booklet;
- carrying out an interview to assess whether the apprentice:
 - understands his/her and other's safety responsibilities as detailed in this booklet, including:
 - apparel and personal safety equipment (required to perform the job safely); and
 - supervision requirements (work he/she can carry out without supervision and when he/she requires supervision).
 - has a sound knowledge of rescue and resuscitation procedures.
- supervising a written test (Apprentice Safety Assessment Test) of the apprentice or arranging to have an independent assessor carry out the test;
- completing the Apprentice Safety Assessment Report Form and providing it to the Electrical Licensing Board; and
- within one month of engagement, the apprentice attending (at least) a basic course in CPR by a reputable service provider (e.g. St John Ambulance). Relying on gaining this essential knowledge from this booklet or other means is not sufficient.

Eligibility to conduct interview and test

The person conducting the assessment must be an electrician, licensed to carry out the electrical work for which the apprentice is to be indentured, without supervision.

Assessment

The assessor will evaluate the responses to the test questions. A score of at least 80% correct answers must be achieved, with satisfactory responses in the general interview, to enable the assessor to assure the Electrical Licensing Board that the apprentice's knowledge of trade safety justifies the issue of an electrician's training licence.

If the assessor is confident that the apprentice meets the requirements (based on the results of the interview and the written test), the Assessment Report is to be completed.

On the other hand, if the assessor is not confident about the apprentice's competence, the apprentice should be given more time and instruction and then be reassessed.

Further details are available at <http://www.commerce.wa.gov.au/publications/apprentice-safety-assessment-guidelines-test-and-report>

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 a 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 are required to take reasonable care to ensure their own safety and to avoid any act which adversely affects the safety of others. Employees must cooperate with employers, follow safe work procedures and use protective equipment.

Licensing

Both the employer and the apprentice have the responsibility to ensure that an electrician's training licence is obtained before the apprentice carries out any electrical work.

At the completion of their apprenticeship, apprentices must obtain an electrician's licence before they can carry out electrical work lawfully as a tradesperson.

Applications for both licences must be made to EnergySafety's Licensing Office.

Ongoing requirements

Employer's responsibility

The employer must provide suitable training to ensure that the apprentice maintains necessary safety work standards and achieves the required competencies.

Employers must establish and maintain an individual file/record of the apprentice's progress and performance. The records must include dates, successful performance of key working practices and other important details for future reference.

Apprentice's responsibility

As an electrical apprentice, you must work closely with the employer/supervisor to achieve a high standard of safety and workmanship. Always listen to instructions and follow safe working procedures.

Electrical workers must not embark on tasks for which they feel unprepared or appear to be risky. If ever in doubt about anything, ask your supervisor.

Work standards

The supervising electrician is responsible for ensuring that the apprentice learns the necessary work skills and for checking and testing all electrical work carried out by the apprentice to ensure compliance with the Electricity (Licensing) Regulations 1991. (This includes compliance with AS/NZS 3000 Wiring Rules and other technical standards listed in Schedule 2 of these regulations.)

2 Supervision of electrical apprentices

The importance of effective supervision is recognised by the Electricity (Licensing) Regulations 1991, Regulation 50.

It is especially tragic if accidents occur when apprentices have not been adequately supervised. These are clearly preventable incidents.

Effective supervision

Electrical apprentices require effective supervision for their safety and training and the safety of others. The level of supervision, direct (constant) or general, requires continual assessment of an apprentice's experience, competence and the task to be undertaken. It can vary from direct to general supervision for a particular apprentice, depending on the type of work.

The responsibility for determining the appropriate level of supervision rests with the employer and the supervising electrician. In deciding on the appropriate level of supervision for an apprentice 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 apprentice.

Knowledge/skills of the apprentice

The supervising electrician must make a conscious appraisal of the technical knowledge and practical skills of the apprentice. Where relevant, use should be made of the information available from the apprentice training assessment system. The level of supervision needed for safe working must be measured against this appraisal and the type of work to be carried out.

Before commencing work

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

- Be confident that the apprentice 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 apprentice on which tasks he/she is expected to do and which ones he/she must not be doing until he/she is instructed on how to do the tasks. Confirm that the apprentice understands the work instructions.
- Ensure that the apprentice is equipped with the necessary PPE and tools and understands how to use them correctly.

Levels of supervision

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

- **Direct supervision**

The supervising electrician must remain on the same work site as the apprentice, be able to converse easily with him/her, and oversee the electrical work being performed by the person under training 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 apprentice'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.

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

The following table provides guidance on the appropriate levels of supervision of apprentices during their training.

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 training year	Supervision level required
New installations (not connected to electricity supply)	1 st	Direct
	2 nd	Direct
	3 rd	General
	4 th or final	General
Alterations and additions (existing installations)	1 st	Direct
	2 nd	Direct
	3 rd	Direct
	4 th or final	General
Maintenance of installations and equipment	1 st	Direct
	2 nd	Direct
	3 rd	General (under isolation permit system)
	4 th or final	General (under isolation permit system)
Workshop tasks	1 st	Direct
	2 nd	General
	3 rd	General

	4 th or final	General
Isolation of installations and equipment	1 st	Not permitted
	2 nd	Not permitted
	3 rd	Direct
	4 th or final	General
Testing and fault-finding	1 st	Not permitted
	2 nd	Not permitted
	3 rd	Not permitted
	4 th or final	Direct
Live work	Work on any live/energised electrical circuit or equipment is prohibited (other than testing and fault-finding)	

Supervision near live 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-energized (e.g. voltage measurements).

The limited circumstances in which live work is permitted 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 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 working 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.

Where these requirements are not met, the apprentice must:

- not commence the work or enter the area in the vicinity of the live electrical equipment, or
- cease work immediately and leave the area.

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 death from suffocation or chronic illness.
- **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, potentially resulting 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

Remember, if in doubt about your safety or the safety of others, ask your supervisor.

Isolation and safe working procedures are an essential part of every electrician's job and, if practiced correctly, can prevent injury or save a life.

As an apprentice, your supervisor is required to explain the correct procedures to be followed and you need to clearly understand these before you start work. Good safe working practices include:

Before starting work

- Plan and discuss the job - assess any safety risks.
- Identify the means of safe electrical isolation.
- Ensure that you receive explicit instructions (written if necessary).
- Check that your work mates know rescue and resuscitation techniques.
- Ensure that you have the appropriate PPE and it is in good condition. PPE will provide only limited protection from electrical risks such as electrical shock, arc flash and arc blast.
- Check that all workers have the appropriate PPE for the job.
- Check that you have the appropriate tools for the job.
- Check that the power supplies for any plug-in tools or equipment are Residual Current Device (RCD) protected – regularly perform an operational check of an RCD.
- Take care and think about what is to be done.
- Use the permit system, if applicable, e.g. access permits, vicinity permits, switching programs.
- Check if the upstream electrical protection has a maintenance setting that enables an immediate circuit trip if any fault occurs.
- Isolate by removing the fuses and/or switching off the circuit breaker and locking in the “open” position where possible.
- Apply “DANGER” or “OUT OF SERVICE” tags (as applicable) and locks at the point of isolation.
- Avoid working near exposed live equipment whenever possible.
- Erect safety barriers where required.
- Cover adjacent live apparatus with insulating blankets.
- Always test for no voltage before starting work – always check test instruments before and after use.
- Ensure test instruments are fit for purpose and adequately rated (e.g. Category IV etc.).
- Use the correct earthing equipment.
- Start work only when authorised to do so.

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

When working

- Always wear your PPE.
- Use only the correct tools and safety equipment for the work.
- Use safety observers where required.
- Never put yourself or others at risk.
- Never rely on your memory about work conditions – if unsure about anything, check visually or re-test.
- Connect conductors in order - the earth first, then the neutral and the active last.
- Disconnect conductors in order – the active first, the neutral second and the earth last.
- Always check the isolation points and re-test before resuming work after a break.

On completion of work

- Check that tools are not left on or in the job.
- Remove personal earthing equipment (where applicable).
- Check that the equipment is safe to be energised.
- Notify all personnel that the equipment will be energised.
- Remove the “DANGER” or “OUT OF SERVICE” tags.
- Remove the isolation locks.
- Remove and store all safety barriers.
- Relinquish your access or vicinity work permit (if relevant).
- Once re-energised, confirm the equipment is operating correctly, including restoration of normal electrical protection settings (if applicable).

Safety practices

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

Tools

- Use the correct tools for the job at hand.
- Regularly check, clean and maintain all tools.
- Use RCDs when using plug-in electric tools.
- Use insulated ladders.
- Use approved safety belts and other equipment.
- Use non-conducting tape measures when working on or near electrical equipment.

5 General safety tips

Metallic jewellery

Conductive jewellery such as wrist watches, rings, chains or piercings must never be worn while carrying out electrical work.

Use of electric tools

Use RCD protection when operating any plug-in electric tool or equipment.

Worksite safety

Many worksites have their own site-specific safety requirements. All persons must abide by all additional safety requirements applicable to individual sites.

Job instructions

Ensure that you understand all instructions given by the supervisor. If in doubt, request further explanation, in writing if necessary.

**All the safe work practices and procedures are
worthless if they are
Not applied with *skill and common sense*
If in doubt – ask**

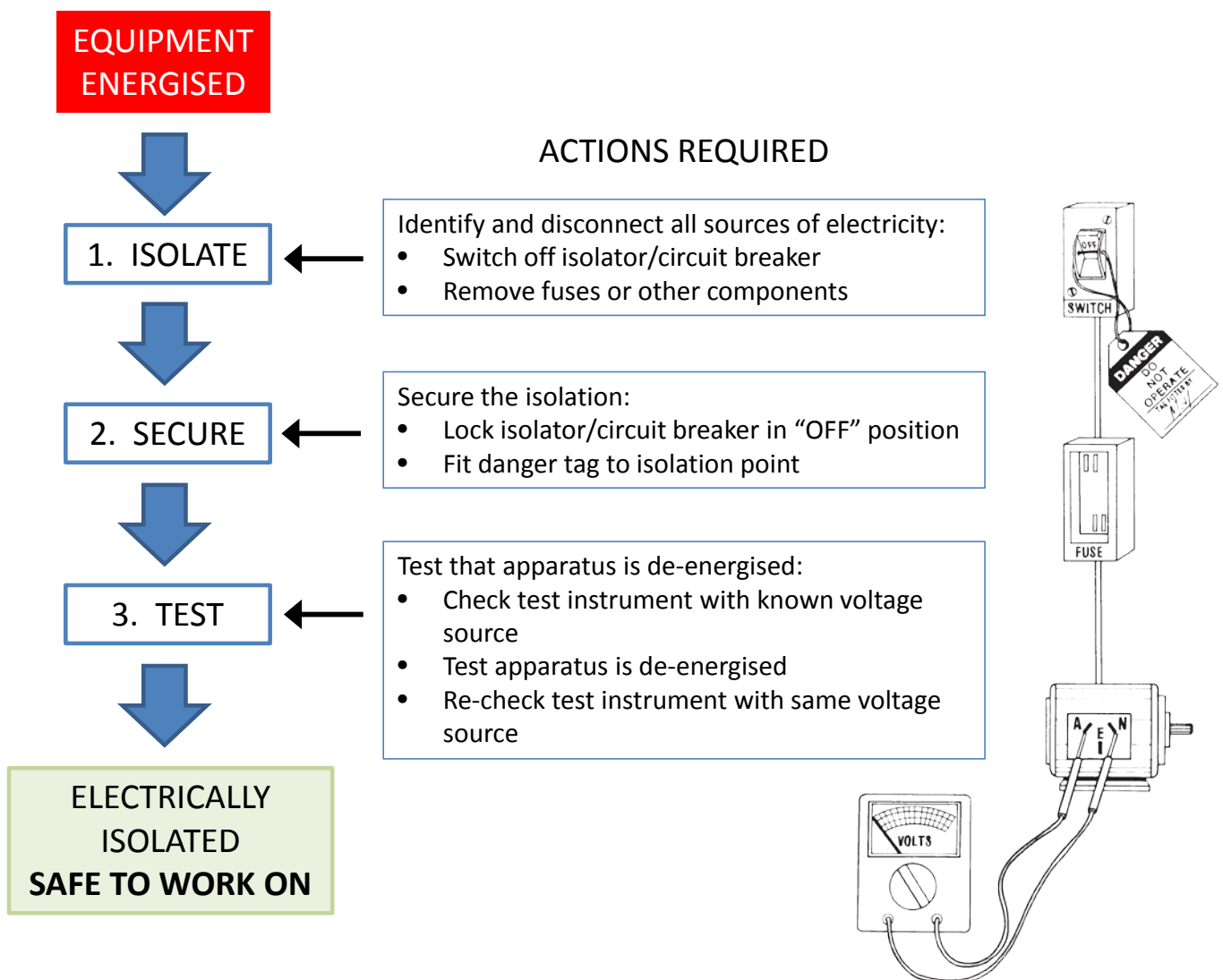
6 Electrical isolation

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

It is essential that all apprentices take part in observing and, once formally trained, performing the isolation procedure in order to gain a sound working knowledge of this essential safe working practice.

Principles and safe practices for the effective isolation of electrical circuits and equipment are described comprehensively in AS/NZS 4836:2011, Safe working on or near low-voltage electrical installations and equipment (AS/NZS 4836). These are summarised below for reference.

Essential steps for effective electrical isolation



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.



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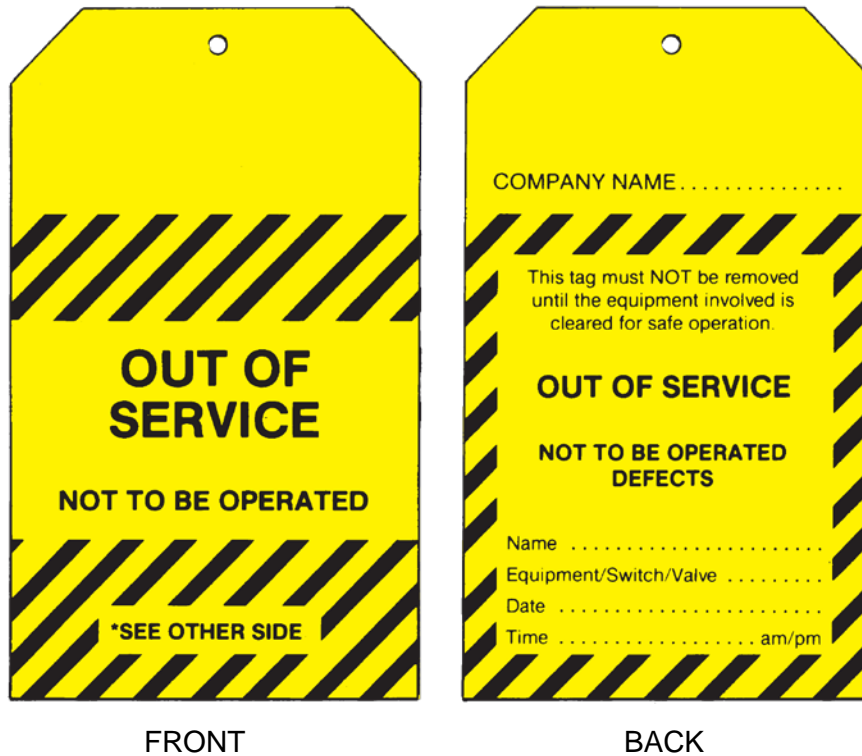
BACK

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 or 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**.



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.**

7 Personal protective equipment (PPE)

General

Many electrical workers have avoided serious injury or death because of the clothes and other PPE they were wearing at the time.

Appropriate clothing and personal safety equipment provide 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 technical standards. In particular:

- (1) The Occupational Safety and Health Regulations 1996 provide general requirements for PPE used in Western Australia.
- (2) AS/NZS 4836 (Section 9) provides a guide to the use of 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.

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.

PPE provided to employees must comply with the relevant legislation and Australian technical standards.

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.

Apprentices (and all other 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 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;
- have sleeves to wrist length; and
- have legs reaching to the 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).
- 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 apprentices must have current first aid and resuscitation skills.

All electrical workers and apprentices should receive ongoing training in rescue and resuscitation procedures by attending a recognised course at least annually.

The following information is provided as a quick reference only.

Isolate the electricity

The first critical step before attempting to assist a casualty after an electrical accident is to check for danger to yourself, the casualty and bystanders. In particular, ensure that the source of electricity is isolated before anything else is attempted (Part of Step D in the resuscitation procedure).

Low Voltage (230/400): Immediately switch off the electricity. If this is not practicable, pull or push the casualty clear of the electrical contact using dry non-conducting material (wood, rope, clothing, plastic or rubber). Do not use metal objects or anything moist.

High Voltage: Wait until disconnection of the electricity is confirmed.

Basic principles of first aid

The purpose of giving first aid to a casualty is to:

- Preserve life Check for danger to yourself, the casualty, bystanders.
- Prevent further injury If possible, leave the casualty where they are and render first aid. Move the casualty only if necessary to save their life or prevent further injury.
- Promote recovery Help the casualty to breathe, stop bleeding, get trained help, make the casualty comfortable.
- Protect the unconscious Clear and open the airway, turn the casualty into the recovery position.

Recovery position

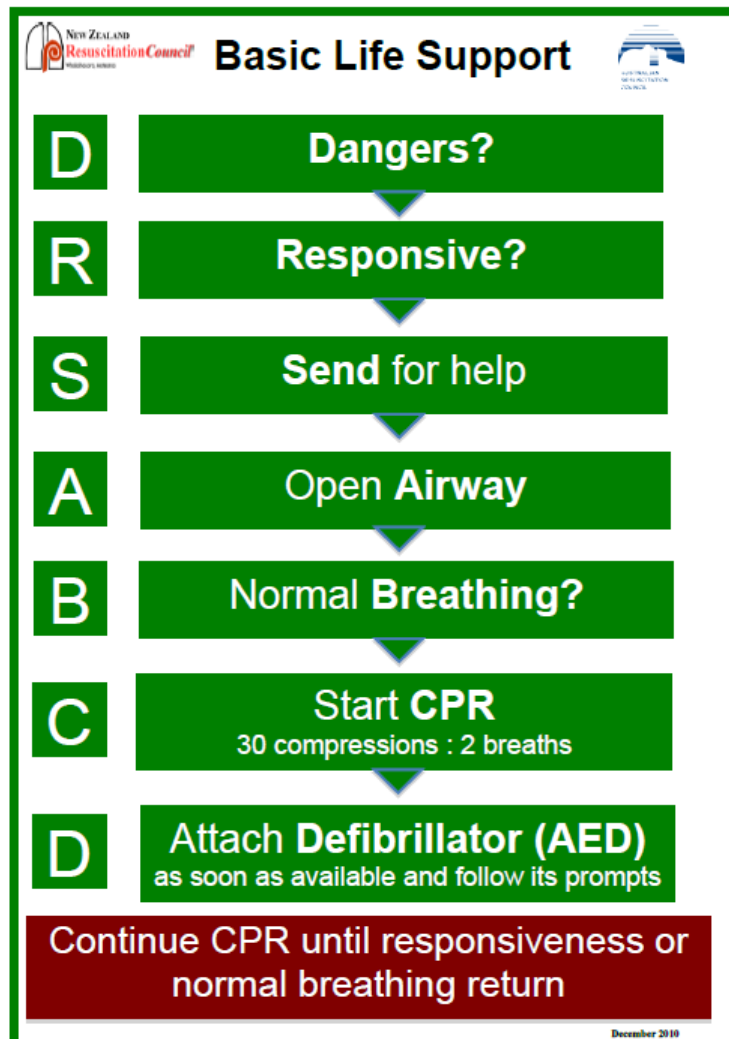
A casualty should be placed into the recovery position when they are unconscious and breathing and the person administering first aid is waiting for medical assistance to arrive.



Emergency resuscitation (CPR)

The method of emergency life support is Cardiopulmonary Resuscitation, more commonly referred to as “**CPR**”.

The recommended emergency procedures shown below are reproduced from the Australian Resuscitation Council Guideline 8 - Cardiopulmonary Resuscitation (as published in September 2015):



The seven steps of resuscitation 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** If not breathing, 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 operating instructions.

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.

Details of the “DRS ABCD” steps in the CPR method are subject to variation from time to time. Persons trained in resuscitation should 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 and apprentices must report all electrical accidents (including minor shocks) to their employer.
- When an electrical accident is reported, the employer is 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.

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
Email: 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.