

# Effective supervision of electrical apprentices

## Requirements document

### Guideline

Energy Safe Victoria (ESV) is the state energy safety regulator for gas, electricity and pipelines in Victoria. Part of our role is to investigate electrical incidents and fatalities. In a recent 12 month period, ESV has investigated the death of three apprentice electricians. This is an unacceptable statistic for Victoria and it is incumbent on all stakeholders in the electrical trade to be vigilant in regard to the safe and effective supervision of electrical apprentices.

This paper has been developed to provide employers and supervisors of electrical apprentices information and guidance on our expectations (including responsibilities) for the effective supervision of apprentices.

## Employer's responsibility

Regardless of who is tasked within the organisation to carry out the role of supervisor, the employer remains responsible for the quality of apprentice training, and their safety and supervision – including, direct, general and broad supervision.

We expect the employer to comply with the requirements of AS/NZS 4836 – safe working on or near low-voltage electrical installations and equipment, across the organisation where relevant.

## Supervisor's responsibility

A supervisor of an electrical apprentice must be competent and adequately qualified in the role of supervisor, and hold a Victorian A Class electricians licence (the silver card) if the apprentice is an apprentice electrician. For other electrical apprentices the supervisor would be qualified to supervise the apprentice type.

It is the supervisor's responsibility to provide effective supervision to the apprentice.

Effective supervision means:

- Being present at the site of the electrical work to the extent necessary to ensure that the work is being carried out safely and correctly.
- Being aware of the details of the electrical work being performed, give instruction and direction to the apprentice.
- Being the responsible person for the compliance of the electrical work.

The supervisor is responsible for:

- Assessing whether the workplace is a safe working environment for the apprentice i.e. is the workplace in a condition that will provide for a safe working environment.
- Deciding what level of supervision should apply at various stages of the apprenticeship.
- Ensuring that the apprentice is given opportunities to learn and practice on-the-job skills.
- Isolating, testing and commissioning of circuits and equipment.
- Training, mentoring and monitoring progress on a daily basis.

## Levels of supervision and when they apply

Apprentices need varying levels of supervision as they acquire skills and gain confidence. This supervision falls into three categories: direct, general and broad.

Apprentices begin learning a particular skill under direct supervision. When they achieve competence in a skill, they move to general supervision for that skill. These decisions should be made in consultation with the apprentice. It is important that an apprentice is able to voice their confidence or uncertainty in regard to their abilities and different aspects of electrical work.

### Direct supervision

Direct supervision is one-on-one supervision. This is essential for every new apprentice and must be maintained during the training of a particular skill, until the apprentice has demonstrated their competence in that skill.

The supervisor shall provide specific and constant guidance to the apprentice, closely liaising and monitoring the apprentice, and continually reviewing the work practices and the standard of their work.

The supervisor shall:

- Remain on the same work site as the apprentice.
- Provide instruction and guidance to the apprentice, and observe all aspects of the apprentice's work to ensure work is performed safely and correctly.
- Be able to communicate directly with the apprentice at all times.
- Remain within audible range (within earshot) of the apprentice.

### General supervision

General supervision is a stage that an apprentice enters as they gain skills that allow them to function more independently. The apprentice will move from direct supervision to general supervision only in the skills where they have demonstrated competence.

As part of general supervision, the supervisor shall provide the apprentice with instruction and direction for the tasks to be performed, with progressive checks and relevant testing to be carried out while the work is being undertaken.

The supervisor shall:

- Remain on the same work site as the apprentice.
- Provide instruction and guidance, and observe all aspects of the apprentice's work to ensure work is performed safely and correctly.
- Be readily available to communicate directly with the apprentice when required.
- Be readily available in the immediate work area.

### Broad supervision

The apprentice at this level of supervision must be able to demonstrate electrical knowledge and skills relevant to the task. The apprentice will not require constant guidance from the supervisor whilst performing familiar tasks. The supervisor shall consult with the apprentice regarding the tasks being undertaken, and provide instruction and direction as required.

The supervisor shall provide periodic face-to-face contact throughout the day, or work cycle, to check that the apprentice's work complies with technical and safety requirements.

The apprentice may only isolate, test or commission circuits and equipment whilst under direct supervision.

The supervisor is not required to be on the same work site as the apprentice at all times, but shall:

- Meet with the apprentice at the start of the day or work cycle and provide direction.
- Isolate and prove de-energisation of any circuits or equipment on which the apprentice will be working.
- Attend the site at regular intervals to ensure work is being carried out safely and correctly.
- Be readily available by electronic communication to provide advice and guidance to the apprentice.
- Must attend the site on completion of the electrical work to test and verify the work completed by the apprentice, and to carry out any commissioning or livening of the work.

## Conditions for carrying out isolation procedures

In all cases, the supervisor shall be responsible for carrying out isolation procedures, confirmation of isolation, compliance testing and commissioning/energisation. Apprentices should have the opportunity to carry out these tasks in the final stages of their apprenticeship, but only under direct supervision and under the conditions below:

- A 3rd stage apprentice may carry out basic (not live) fault finding under direct supervision.
- A 4th stage apprentice may carry out basic (not live) fault finding under general supervision only if they have been deemed competent to do so.
- A 4th stage apprentice may carry out advanced fault finding and confirmation of isolation under direct supervision.

## Ratio or supervisors to apprentices

An employer of electrical workers should ensure that the ratio of supervisors to apprentices is 1:2 under direct supervision and 1:4 under general supervision.

- One supervisor is to supervise no more than two apprentices under direct supervision at any one time.
- One supervisor is to supervise no more than four apprentices under general supervision at any one time.

## Level of guidance

The level of guidance required for an apprentice is expected to gradually diminish from direct supervision through to general instruction to a broad direction over the stages of the apprenticeship, as competency is attained and demonstrated by the apprentice.

The level of competency directly relates to the type of work being carried out. For example; a 4th stage apprentice, who generally works on domestic installations, would not necessarily be competent to work at the same level on a construction site, or a large industrial site, and may require additional direct supervision on the requirements when introduced to these unfamiliar work sites.

## Apprentice competency

The following criteria are essential when assessing an apprentice to be competent in a task:

- awareness of safety requirements
- performing the job to an appropriate technical standard
- understanding workplace policies and procedures
- dealing with everyday problems that may occur
- understand why a task is performed in a certain way or sequence
- being able to apply skills consistently.

## Elements of effective supervision

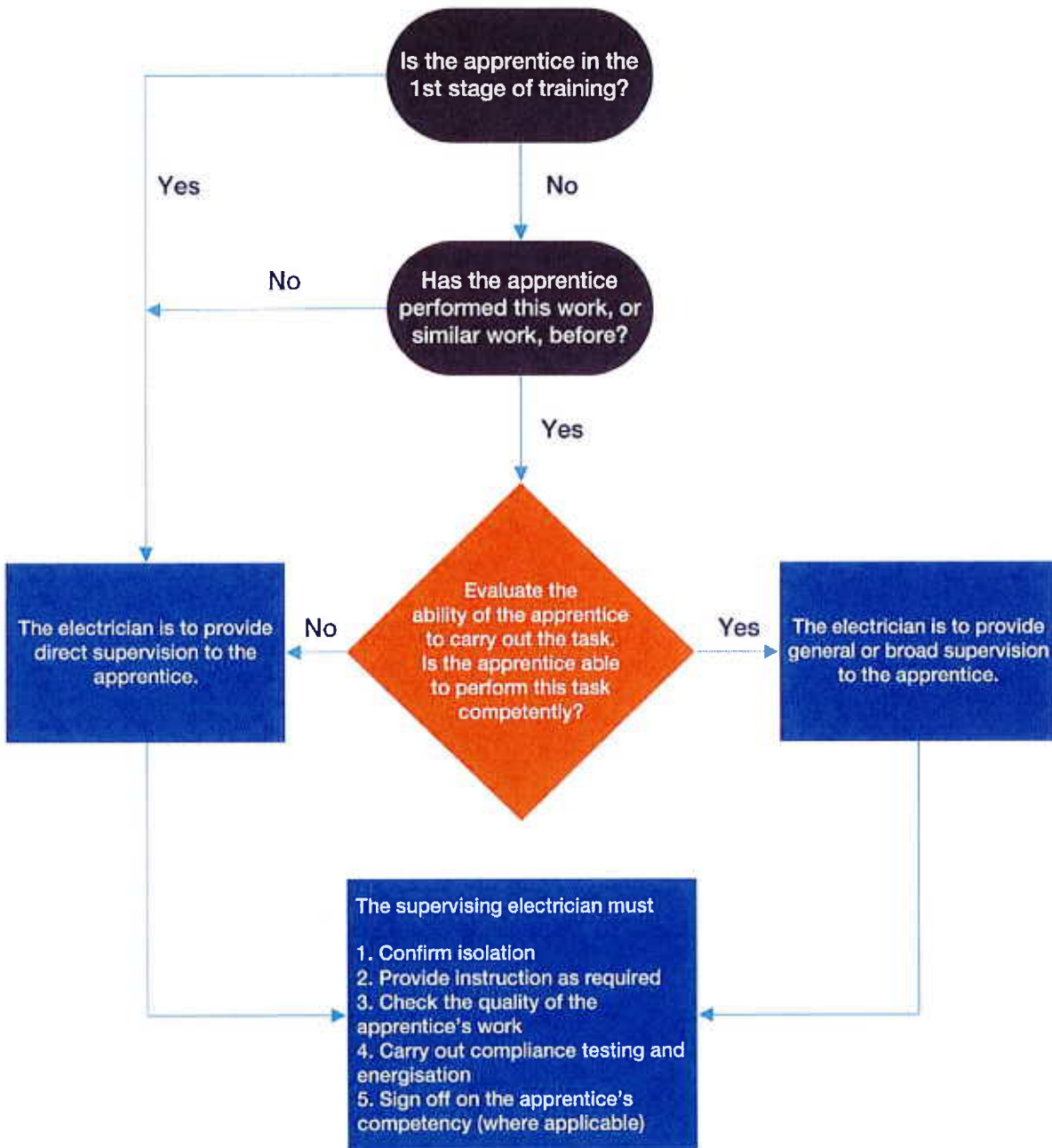
An effective workplace supervisor:

- provides a safe and supportive workplace
- trains the apprentice in safe work practices

- provides technical training
- acts as a positive role model
- manages the apprentice's training needs
- helps the apprentice develop problem solving skills
- provides regular feedback and encouragement
- discusses and develops on-the-job training with the apprentice.

**General guidance: supervision levels**

Type of work	Apprentice training stages	Minimum level of supervision
<ul style="list-style-type: none"> <li>• New electrical installations (not connected to supply)</li> <li>• Cable tray installation</li> <li>• Rough in light and power</li> </ul>	First Second Third Fourth or final	Direct Direct/ General General/Broad Broad
<ul style="list-style-type: none"> <li>• Maintenance, alterations and additions to existing electrical installations</li> <li>• Sub-mains and main installation</li> </ul>	First Second Third Fourth or final	Direct Direct/General General Broad
<ul style="list-style-type: none"> <li>• Workshop assembly and maintenance of electrical equipment</li> </ul>	First Second Third Fourth or final	Direct Direct/General General/Broad Broad
<ul style="list-style-type: none"> <li>• Distribution and main switchboard installation</li> </ul>	First Second Third Fourth or final	Direct Direct Direct / General General / Broad
<ul style="list-style-type: none"> <li>• Electrical isolation of installation and equipment</li> </ul>	First Second Third Fourth or final	Direct Direct Direct Direct
<ul style="list-style-type: none"> <li>• Testing</li> </ul>	First Second Third Fourth or final	Direct Direct Direct Direct
<ul style="list-style-type: none"> <li>• Fault finding</li> </ul>	Third Fourth or final	Direct Direct
<ul style="list-style-type: none"> <li>• Live work</li> </ul>	<p><b>Work on or near any live/energised electrical installation or equipment is not permitted</b></p> <p>Testing to confirm isolation and fault-finding are exceptions and must be under direct supervision- refer to above section and AS/NZS 4836</p>	



## The Victorian Occupation Health and Safety Act 2004

The Occupational Health and Safety Act 2004 places a duty of care on employers to provide such supervision to employees as necessary to enable the employees to perform their work in a manner that is safe and without risks to health. The use of the above requirements in no way removes or limits the employer's duty of care under Occupational Health and Safety legislation in providing a safe workplace.

## Links

### Supervising young workers

[www.worksafe.vic.gov.au/pages/safety-and-prevention/health-and-safety-topics/young-workers/information-for-supervisors/supervising-young-workers](http://www.worksafe.vic.gov.au/pages/safety-and-prevention/health-and-safety-topics/young-workers/information-for-supervisors/supervising-young-workers)

### Safety supervision

[www.worksafe.vic.gov.au/data/assets/pdf\\_file/0010/209989/ISBN-Creating-an-environment-for-effective-supervision-2011-06.pdf](http://www.worksafe.vic.gov.au/data/assets/pdf_file/0010/209989/ISBN-Creating-an-environment-for-effective-supervision-2011-06.pdf)

[www.worksafe.vic.gov.au/data/assets/pdf\\_file/0011/209990/ISBN-Supervising-workers-with-specialist-knowledge-or-skills-2011-06.pdf](http://www.worksafe.vic.gov.au/data/assets/pdf_file/0011/209990/ISBN-Supervising-workers-with-specialist-knowledge-or-skills-2011-06.pdf)

## Relevant legislation

### Electricity Safety Act 1998

#### No. 25 of 1998

Section 39 Apprentices deemed to be licensed

An apprentice within the meaning of the **Education and Training Reform Act 2006** in a trade that involves carrying out electrical work is, during the period of the apprenticeship, deemed to be licensed as an electrical worker to carry out electrical work under supervision as prescribed.

### Electricity Safety (Registration and Licensing) Regulations 2010

#### S.R. No. 21/2010

#### 4 Definitions

**effective supervision**, in relation to electrical work, means—

(a) being present at the site of the electrical work to the extent necessary to ensure that the work is being correctly performed and carried out in accordance with the Act and any of the regulations relating to the installation and operation of electrical installations; and

(b) being aware of the details of the electrical work being performed and giving detailed instructions and directions with respect to the electrical work.

#### 34 Apprentices

For the purposes of section 39 of the Act, an apprentice is required to carry out all electrical installation work under the effective supervision of—

- (a) a licensed electrician; or
- (b) in the case of electrical switchgear fitting work—
  - (i) a licensed electrician; or
  - (ii) a licensed electrical switchgear worker.

## Victorian Occupational Health and Safety Act 2004

### Division 2—Main duties of employers

#### 21 Duties of employers to employees

(1) An employer must, so far as is reasonably practicable, provide and maintain for employees of the employer a working environment that is safe and without risks to health.

Penalty: 1800 penalty units for a natural person;

9000 penalty units for a body corporate.

(2) Without limiting subsection (1), an employer contravenes that subsection if the employer fails to do any of the following—

(a) provide or maintain plant or systems of work that are, so far as is reasonably practicable, safe and without risks to health;

(b) make arrangements for ensuring, so far as is reasonably practicable, safety and the absence of risks to health in connection with the use, handling, storage or transport of plant or substances;

(c) maintain, so far as is reasonably practicable, each workplace under the employer's management and control in a condition that is safe and without risks to health;

(d) provide, so far as is reasonably practicable, adequate facilities for the welfare of employees at any workplace under the management and control of the employer;

(e) provide such information, instruction, training or supervision to employees of the employer as is necessary to enable those persons to perform their work in a way that is safe and without risks to health.

(3) For the purposes of subsections (1) and (2)—

(a) a reference to an employee includes a reference to an independent contractor engaged by an employer and any employees of the independent contractor; and

(b) the duties of an employer under those subsections extend to an independent contractor engaged by the employer, and any employees of the independent contractor, in relation to matters over which the employer has control or would have control if not for any agreement purporting to limit or remove that control.

(4) An offence against sub-section (1) is an indictable offence.

## References

The Victorian Occupational Health and Safety Act 2004

The Electricity Safety Act 1998

The Electricity Safety (Installation) Regulation 2009

## Document information

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## Version Control

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