



TRAINING STANDARDS
AUSTRALIA

National Supervision Policy - Electrotechnology

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National Supervision Policy

Developed By	EE-Oz Training Standards
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1. Related Documents

This National Supervision Policy Guideline augments the “National Code of Good Practice for New Apprenticeships” released December 2000, by the Commonwealth Government. It has been developed to assist both parties (employers and apprentices) entering into a “Training Contract/Contract of Training” to understand each others obligations and expectations. The code is available from the Australian Apprenticeships website www.australianapprenticeships.gov.au or phone 1800 639 629.

This guideline should be read in conjunction with any relevant Commonwealth, State or Territory legislative requirements. It does not replace or override any obligations whatsoever, whether legislative, under duty of care, or other dominant rulings that apply to the respective parties.

Obligations of employers supervising apprentices.

2. Purpose

This Supervision Policy Guideline has been produced as advisory information for industry stakeholders, practitioners, and workers who are involved in providing direct or indirect supervision to Electrotechnology apprentices in training. It covers a number of Electrotechnology allied apprenticeship vocations, which are included in the nationally endorsed National Electrotechnology Training Package. It specifically deals with the electrical apprenticeship vocation of “Electrician” as it pertains to electrical licensing.

3. Scope

This policy applies to employers of electrotechnology apprentices and trainees.

4. Background

Entry into Electrotechnology Trade vocations in the Electrotechnology industry is typically through State/Territory approved Apprenticeships. Electrotechnology Apprenticeships utilise an on-and-off-the-job training regime to developing an apprentice’s full range of competencies. The appropriate level of supervision that should be applied to an apprentice during the on-the-job component should consider the welfare of the apprentice in terms of safety and competency development.

The well-recognised tapering (direct-general-broad) pattern of supervision, which includes instructions dispensed to an apprentice throughout their apprenticeship is a proven model in developing a competent Tradesperson.



Determining the appropriate level of supervision to apply is generally dependent on the balance between assuring safety of the apprentice and the work to be carried out, and the experience of the apprentice. The level and pattern of supervision to be applied is not one that is time based but takes into account a range of factors such as:

- knowledge and skills (on-and off-the-job technical training/learning) attained, and
- previous experience/learning and training/practice and repetition the apprentice has had relative to each particular task, skill or work function to be performed.

This Guide was developed through extensive consultations with key stakeholders. It is a second version release and, will thus be amended from time to time to take account of changes in line with legislation, regulations, standards, technology, and/or key stakeholder views. Feedback on suggested changes is welcomed and, should be directed to EE-Oz Training Standards in the first instance for further consideration.

The Policy Guideline presents a model of best practice supervision and suggested safe work practice for Supervisors responsible for supervising apprentices during their period of competency development. Importantly, it is hoped that in publishing this policy guide more sound supervision and safe work practices will emerge, leading to reductions in danger to life/property and, the development of quality tradespersons for the industry.

Disclaimer: It should be noted that this Policy Guideline does not in anyway replace any Commonwealth, State or Territory legislative and/or regulatory requirements; and does not override any duty of care responsibilities, codes of practice and other relevant codes or regulations pertaining to the respective parties.

5. Policy Guideline

During the course of an apprenticeship it is expected that an apprentice would have worked across a representative range of equipment, consistently and to requirements in the industry with supervision ranging from direct to general to broad. They will also have concurrently attained the relevant essential knowledge and skills to support workplace performance.

The apprentice having worked under these conditions would have the opportunity to develop the relevant competencies and, accordingly been certified as a Tradesperson by a Registered Training Organisation (RTO). This should assure prospective employers that as a Tradesperson, they have attained sufficient depth and breadth to be able to perform across a variety of contexts, and respond and manage a number of contingencies not previously undertaken.

This policy guideline puts forward a suggested best practice model of supervision that may be applied to apprentices in the Electrotechnology industry, with particular emphasis on the “Electrical Apprenticeship” given its interrelationship with Electrical Licensing requirements.

Supervisors can use it as a guide when planning their supervision responsibilities and allocating a range of work functions and activities in the workplace to apprentices.

In providing advice relating to the supervision of apprentices, it is suggested that an entity/business or person employing an apprentice should:

- take all reasonable steps to ensure supervision is carried out by a person that is appropriately licensed (where appropriate) and competent to carry out the work in question unsupervised;
- take into consideration (see below) issues related to the use of apprentices as Competence Assistants/Safety Observers, prevailing legislation, the obligations of employers supervising apprentices and, where applicable, Regulator Requirements for Electrical Vocations, Testing for System integrity and operability whilst energised, and Working near live parts; and



- take into consideration the kind of work being undertaken, particularly where regulated (e.g. electrical) work applies and especially with regard to whether live parts are being tested or are in the vicinity of the work area/environment; and
- have regard to the level of competence of the apprentice being supervised for the particular task, skill or activity to be performed, with the goal of supervision progressively diminishing to broad in the fourth stage – with the exception of “first time” work and testing.

In determining the level and pattern of supervision to discharge to an apprentice in relation to the work whilst in training several factors are taken into account. These are knowledge attained and, previous experience and training the apprentice has had relative to each particular task, skill, or work function to be performed. The pattern of supervision will typically range from direct, general to broad (see attached Supervision Policy Guideline Table for detailed information on each). Time served is not a determinate but a factor for consideration.

Competent Assistant/Safety Observer

Apprentices who are new entrants into the industry and who have not acquired relevant skills and knowledge are not to be used as Competent Assistants/Safety Observers in their initial period (first 6 months) of training. Thereafter, they may be appropriately utilised as a competent assistant/safety observers, but only if they have been suitably trained and have attained an adequate level of knowledge and skill as required by legislation and/or any prevailing industry guideline/s.

Legislation

Employers are responsible for supervising the development of an Apprentice. In discharging supervision, Supervisors should have the appropriate and comparable technical competencies for given work. Additionally they should have an understanding of supervision related to apprentices, such that they are familiar with the level of supervision that should be applied for the given work and how this should be varied dependent upon the knowledge, skill, and experience of the apprentice.

Note: The following information is a guide only:

- a) A “person in training” under a “Training Agreement/Contract of Training” is a person who is undertaking, but has not completed:
 - I. an approved apprenticeship and, for electrical licensed areas, a relevant electrical apprenticeship; and/or
 - II. a training program approved by the relevant State/Territory Training Authority and, in relation to Electrical Licensing with the respective Electrical Regulator
- b) Employers should take all reasonable steps to ensure that “persons in training”:
 - I. are not placed in the immediate vicinity of an exposed live high voltage conductor or apparatus, and/or
 - II. are not required to work where there is a risk of coming into contact with an exposed live low voltage conductor or apparatus
- c) Employers should prohibit “persons in training” from working at a place where there is a risk of contact with exposed live conductors or apparatus unless the “persons in training” have been adequately trained and skilled in all the prevailing safe working procedures for the work activity and work environment
- d) Employers should take all reasonable steps to ensure that “persons in training” who are required to perform electrical work are appropriately supervised by a licensed electrical worker able to perform the work, to take all reasonable steps to ensure electrical safety at all times



- e) The level of supervision to be discharged to apprentices should be in accordance with any prevailing regulatory requirement and, appropriate for:
 - I. the type of regulatory (e.g. electrical) work performed; and
 - II. the adequacy of the “person in training”; and
 - III. an assessment to confirm relevant knowledge, skill and experience of the “person in training” is evident
- f) Apprentices should be advised and instructed in CPR and rescue techniques; and the correct use of personnel protective equipment (PPE), safety equipment; and testing equipment. Appropriate use of protective work clothing, insulated work footwear (sole), safety glasses and other safety essentials are a necessary part of accident prevention practices and also should be advised. Included are insulating gloves, mats, covers, and similar safety equipment, where appropriate, CPR, recovery apparatus and; correct use of testing equipment/instruments.
- g) Employers/supervisors should take all reasonable steps to ensure apprentices record their workplace activities using an approved workplace recording system (logbook, Profiling data entry cards/web base entry) that covers work exposure/practice undertaken against industry standards, the level of supervision provided, equipment worked on, dates, and other relevant important information.

Regulator Requirements for Electrical Vocations

It is a common requirement of electrical regulatory authorities in each State/Territory that all electrical work be performed in accordance with the respective regulations and AS/NZS 3000. A person carrying out unsupervised electrical work is to be appropriately licensed. With the relevant licence a person may carry out a range of work without supervision. Apprentices however, provided they are engaged under a “Contract of Training” and are appropriately supervised are generally permitted to perform relevant electrical work.

The supervising electrical worker is obligated in taking all reasonable steps to ensure that all electrical work is checked, tested and complies with appropriate Acts, Regulations and Australian Standards.

Employers of electrical workers and electrical workers themselves, (which includes apprentices/trainees) must be aware of, and comply with, the requirements of any local State/Territory Electricity Act, local supply authority requirements, Common Law requirements (duty of care), Codes of practice, permit systems, and/or any other relevant code or regulation. Information regarding applicable requirements should, in the first instance, be directed to such bodies.

Testing for System integrity and operability whilst energised

Testing for System integrity and operability whilst installations, equipment or articles are energised should not be carried out by apprentices. Where absolutely necessary, it must be undertaken under the strictest of direct supervision and according to any prevailing regulation or code/standard. Notwithstanding, any such work to be performed should always include:

- compliance with any legislation, regulation(s), standard(s) or code(s) of practice
- the establishment and use of safe systems of work, including safe work practices
- the development and use of a written risk assessment, and Job Safety Analysis (JSA)
- use of appropriate tools and equipment, and
- work processes are in place to assure safety of the installation, personnel, and property.



Working near live parts

Apprentices should not, in their training program work near or in the vicinity of exposed live parts consistent with the following:

- work in the vicinity of exposed live high voltage conductors, apparatus and/or accessories, or
- work where there is a risk of coming into contact with an exposed live low voltage conductor, apparatus, and/or accessories, and
- then only according to legislation, regulation(s), standard(s) or code(s) of practice; including AS/NZS 4836 – Safe Working on low voltage electrical installations, and with the appropriate level of skills held and relevant supervision applied for the particular work, and
- “Testing for System integrity and operability – energised” as defined and outlined in this document.

The table “Supervision Policy Guideline - Electrotechnology Apprentices” is for use as a guideline to supplement and further clarify the suggested supervision requirements included in this guide. The Supervision Tables should be read in conjunction with this part of the Supervision Policy Guideline. It should be acknowledged that the level of supervision will vary dependent upon the knowledge, and level of skill and experience of the apprentice, as pointed out above. The decision is a matter for the Supervisor to determine on a case-by-case basis.

The degree of supervision, direct, general or broad to discharge requires continual assessment of an apprentice’s knowledge, skill and experience relative to the nature of the task, skill or activity to be undertaken. The degree of supervision may vary from direct to general, to broad, depending on the type of work being carried out on a particular occasion and a particular point in time. Supervisors need to exercise appropriate duty of care and judgement in this regard, and take all reasonable steps to ensure that such judgements are not made solely on the bases of the apprentice’s, time served.

It should be noted that Electrical Regulators generally consider that there are two levels of supervision applying to apprenticeship training when performing electrical work: ‘direct’ or ‘indirect’. General and Broad supervision combined corresponds with the second level of supervision (indirect) generally recognised by Regulators.

The supervising registered electrical worker is obligated in taking all reasonable steps to ensure that all electrical work is checked and tested and complies with the appropriate Acts, Regulations and Australian Standards, particularly AS/NZS 3000 Wiring Rules.

6. Typical Pattern of Supervision – Electrical Apprentices Only

Competency function**	Time Served - notional	General Level/Pattern of Supervision
Install support and mechanical protection	Less than 6 months More than 6 months to 12 months More than 12 months to 2 years More than 2 years to 4 years	Direct Direct/General, after skill demonstrated General Broad
Install & terminate cables exceeding <i>extra-low</i> voltage	Less than 6 months More than 6 months to 12 months More than 12 months to 2 years More than 2 years to 3 years More than 3 years to 4 years	Direct Direct/General, after skill demonstrated General General Broad
Install apparatus & equipment	Less than 6 months More than 6 months to 12 months More than 12 months to 2 years More than 2 years to 3 years More than 3 years to 4 years	Direct Direct Direct/General, after skill demonstrated General Broad
Maintain apparatus & circuits	Less than 6 months More than 6 months to 12 months More than 12 months to 2 years More than 2 years to 3 years More than 3 years to 4 years	Direct Direct Direct/General, after skill demonstrated General Broad
Commission apparatus & circuits	Less than 6 months More than 6 months to 12 months More than 12 months to 2 years More than 2 years to 3 years More than 3 years to 4 years	Direct Direct Direct Direct/General, after skill demonstrated Broad
Test apparatus & circuits (Verification of installation circuits and equipment)	Less than 6 months More than 6 months to 12 months More than 12 months to 2 years More than 2 years to 3 years More than 3 years to 4 years	Direct Direct Direct Direct/General, after skill demonstrated Broad (after successful completion of the electrical installation safety testing knowledge and skills component of training)
Note: <i>All electrical apprentices are to be competent in testing a full installation at the point of becoming a Tradesperson.</i>		

Competency function**	Time Served - notional	General Level/Pattern of Supervision
Testing for System integrity and operability – energised (see definition and main document)	Less than 6 months More than 6 months to 12 months More than 12 months to 2 years More than 2 years to 3 years More than 3 years to 4 years	* * * * Direct
Isolation of Installations and Equipment to verify isolation from all sources of supply (proving de-energisation)	Less than 6 months More than 6 months to 12 months More than 12 months to 2 years More than 2 years to 3 years More than 3 years to 4 years	* * * * <i>Direct</i> ¹
Find and repair faults associated with apparatus & circuits (<i>non energised</i>)	Less than 6 months More than 6 months to 12 months More than 12 months to 2 years More than 2 years to 3 years More than 3 years to 4 years	Direct Direct Direct Direct/General, after skill demonstrated Broad
Install & maintain explosion protect equipment	Less than 6 months More than 6 months to 12 months More than 12 months to 2 years More than 2 years to 3 years More than 3 years to 4 years	Direct Direct Direct Direct/General, after skill demonstrated General (supervised by qualified person after appropriate training)
Other work related activities and tasks	Less than 6 months More than 6 months	Direct Level to be determined according to work environment, and nature of activity or task demonstrated developing to Broad.

* Should not to be carried out.

** Competency functions are mainly derived from the index of competency standards used in the National Electrotechnology Training Package (JEE07 or any successor National Electrotechnology Training Package) for the qualification of Certificate III in Electrotechnology Electrician.

Note: Testing for System integrity and operability whilst installations, equipment or articles are energised should not be carried out by apprentices. Where absolutely necessary, it must be undertaken under the strictest of direct supervision and according to any prevailing regulation or code/standard. Notwithstanding, any such work to be performed should always include:

- compliance with any legislation, regulation(s), standard(s) or code(s) of practice
- the establishment and use of safe systems of work, including safe work practices
- the development and use of a written risk assessment, and Job Safety Analysis (JSA)
- use of appropriate tools and equipment, and
- work processes are in place to assure safety of the installation, personnel, and property

¹ Persons required to work in association with electrical equipment shall be competent in procedures providing de-energisation and in the use of relevant instruments.

7. Supervision Policy Guideline - Electrotechnology Apprentices

Type of Work Functions	Typical Apprentice Stage	Typical Level/Pattern of Supervision
Assembling non-electrotechnology associated hardware and/or equipment	One Two Three Four/Final	Direct Direct/General General/Broad Broad
Installing cabling/wiring support and protection systems	One Two Three Four/Final	Direct Direct/General General/Broad Broad
Lay wiring/cabling and terminate accessories for <i>extra low voltage</i>	One Two Three Four/Final	Direct Direct/General General/Broad Broad
Installing apparatus	One Two Three Four/Final	Direct Direct/General General Broad
Maintaining and repairing apparatus and associated circuits	One Two Three Four/Final	Direct Direct/General General Broad
Undertaking commissioning procedures of apparatus and associated circuits	One Two Three Four/Final	Direct Direct Direct/General Broad
Testing apparatus and circuits****	One Two Three Four/Final	Direct Direct Direct/General Broad
Diagnosing and rectifying faults in apparatus and associated circuits (<i>non energised</i>)	One Two Three Four/Final	Direct Direct Direct/General General/Broad
Disconnecting and reconnecting fixed wired electrical equipment connected to supply up to 1000 volts a.c. or 1500 volts d.c.	One Two Three Four/Final	Direct Direct Direct General/Broad
Attaching flexible cords and plugs	One Two Three Four/Final	Direct Direct/General General/Broad Broad
Monitoring Energy Usage	One Two Three Four/Final	Direct Direct/General General/Broad Broad
Working on Electrical Equipment in Hazardous Areas (EEHA)	One Two Three Four/Final	Direct Direct Direct General/Broad

Type of Work Functions	Typical Apprentice Stage	Typical Level/Pattern of Supervision
Following safety procedures	One Two Three Four/Final	Direct Direct/General General/Broad Broad
Using information systems	One Two Three Four/Final	Direct Direct/General General/Broad Broad
Protecting the environment	One Two Three Four/Final	Direct Direct/General General/Broad Broad
Documenting activities	One Two Three Four/Final	Direct Direct/General General/Broad Broad
General tasks – housekeeping, transporting, etc.	One Two Three Four/Final	Direct Direct/General General/Broad Broad

Notes:

1. Types of work functions are mainly derived from the index of competencies used in the National Electrotechnology Training Package (UEE07 or any successor National Electrotechnology Training Package) that make up Certificate III (Tradesperson) qualifications. Not all may apply, and will be dependent on the particular qualification the apprentice is developing their competency in.
2. Testing apparatus & circuits (installation) includes performing, for data communications, where appropriate, extra-low voltage testing to data standards, conformity to integrity, & safety requirements
3. In relation to work related to Data Communications, all work and in particular supervision, is to take account of the Australian Communications Media Authority (ACMA) Registration requirements.