

Prescribed content for EWRB approved Competence Programmes



**Electrical Workers
Registration Board**

SAFETY | COMPETENCY | COMPLIANCE

Introduction

The Competence Programme (CP) for continued registration of Electrical Workers is prescribed by the Electrical Worker Registration Board (EWRB) through the Gazette, Notice No. 2023-sl4076. The Gazette notice provides mandatory course content to be covered in CPs for each registration class.

Purpose

This document sets out further detail to the Gazette notices to assist Competence Programme Providers to ensure full coverage of the mandatory course content to the EWRB's expectations.

Gazette Notice No. 2023-sl4076 sets out that the mandatory course content for classes of registration not involved in high voltage installations – Electrical Service Technician, Electrical Appliance Serviceperson, Associated Tradesperson is as follows:

- *Supervision (not for AT).*
- *Earthing requirements as listed in AS/NZS 3000.*
- *The purpose, usage and operational testing of residual current devices.*
- *Prospective short circuit currents.*
- *Testing requirements in accordance with AS/NZS 3000, AS/NZS 3760, and the Electricity (Safety) Regulations 2010.*
- *An update on changes to regulations and/or Standards.*

Additional **mandatory course content** in relation to **endorsed mining operations**:

- *The requirements of AS/NZS 3007.*
- *The safety principles that apply to mining.*
- *The performance of safety functions required for mining activities and mining electrical equipment.*

Additional **mandatory course content** in relation to **endorsed hazardous areas**:

- *The requirements of AS/NZS 60079.0, 60079.11, 60079.14, 60079.17, 60079.18, 60079.29.2, and 60079.35.1.*
- *The safety principles that apply to hazardous areas.*
- *The performance of safety functions required for hazardous areas.*

Additional **mandatory course content** in relation to **endorsed medical cardiac protected areas**:

- *The requirements of AS/NZS 3003 and AS/NZS 2500.*
- *The safety principles that apply to medical cardiac protected areas.*
- *The performance of safety functions required for medical cardiac protected areas.*

Additional **mandatory course content** in relation to **endorsed supervision**:

- *The principles that apply to supervising other workers.*
- *The Board's published policies and guidelines on supervision practices.*
- *Risk management considerations.*
- *Site or job management functions to ensure safe working practices for people operating under supervision*

Gazette Notice No. 2023-si4076 sets out that the **mandatory course content** for the Electrical Service Technician class of registration involved in high voltage installations as follows:

- *Supervision.*
- *Prospective short circuit currents.*
- *Electrical safe distances and their application as listed in NZECP 34.*
- *Earthing requirements as listed in the Electricity (Safety) Regulations 2010 and the use of bonding and equipotential zones to comply with regulation 8 of those regulations.*
- *The installation, operation, and testing of electrical protection equipment, including current and voltage transformers.*
- *Testing and certification as listed in the Electricity (Safety) Regulations 2010.*
- *An update on changes to regulations and/or standards.*

Additional **mandatory course content** in relation to **endorsed supervision**:

- *The principles that apply to supervising other workers.*
- *The Board's published policies and guidelines on supervision practices.*
- *Risk management considerations.*
- *Site or job management functions to ensure safe working practices for people operating under supervision.*

How to use this document

The left hand column of the below table sets out additional detail to the mandatory course content prescribed in the Gazette and referred above. This detail is separated into subject areas for easier understanding. The right-hand column provides commentary to assist with covering both the prescribed content as well as the additional detail. The programme delivery material and assessment must be appropriate for the class of registration.

Glossary of Abbreviated Terms

- Competence Programme – CP
- Electrical Workers Registration Board – EWRB
- AS/NZS – Australian Standard / New Zealand Standard
- Electrical (Safety) Regulations 2010 – ESR
- Electricity Act 1992 – EA

Mandatory Course Content for those not involved with High Voltage Installation

Additional detail	Guidelines for minimum coverage
<p>Supervision (Not for AT)</p> <p><i>General Regulatory</i></p> <ol style="list-style-type: none"> 1. Supervision of “Trainees” carrying out “prescribed electrical work”. 2. Requirements for the issue of Trainee Limited Certificate or as an authority to carry out PEW. <p><i>Legislative</i></p> <ol style="list-style-type: none"> 3. EA sections 76, 77, 78 4. ESR 92, 93, 100, 101 <p><i>EWRB Rules and Policy</i></p> <ol style="list-style-type: none"> 5. Supervision “Companion Guide” 6. B-PO-05A Supervision (other than Limited Certificate Holders) 7. B-PO-05 Supervision of Trainees Holding a Limited Certificate 	<p>Electrical workers and employer’s and responsibilities under ESR 100 and 101.</p> <p>Reference to EWRB documents:</p> <ul style="list-style-type: none"> • Supervision companion guide: promote contents and use • B-PO-05 Supervision (of Trainees Holding a Limited Certificate) applies to trainees, those working towards registration • B-PO-05A Supervision (other than Limited Certificate Holder) applies to licensed persons working outside of their class of registration or no non licenced persons) <p>Supervisor’s responsibilities/ level of supervision, as per B-PO-05 section 7. Supervisor’s responsibilities for electrical work out by the trainee.</p> <p>Trainee’s responsibilities as per B-PO-05 section 8.</p> <p>Definition of Trainee and requirements for Trainee limited certificate or limited certificate.</p>
<p>Earthing requirements as listed in AS/NZS 3000.</p> <p><i>Standards</i></p> <ol style="list-style-type: none"> 1. AS/NZS 3000:2007 2. AS/NZS 3760 	<p>Earthing arrangement and earthing conductors as in Section 5 of AS/NZS 3000:2007.</p> <p>MEN Switchboard, Function of MEN link, MEN earthing system functions and general arrangement.</p> <p>Table 5.1 of AS/NZS 3000:2007</p> <p>Maximum acceptable test values in Section 8 of AS/NZS 3000:2007 for Low Voltage Installations.</p> <p>Fundamental principles purpose for</p> <ul style="list-style-type: none"> • earthing functions , protective, functional • automatic disconnection times and prospective touch voltage earth fault loop impedance • equipotential bonding <p>Earthing requirements for electrical appliances and equipment</p> <ul style="list-style-type: none"> • Protective earth and earth continuity for Class I equipment, EPOD, cord /extension sets • Functional earthing • earth leakage current • construction of Class I & II equipment, terms basic ,supplementary, reinforced double insulation

<p>The installation, operation and testing of residual current devices (RCCB, RCBO, SRCD and PRCD).</p> <p><i>Legislative</i></p> <p>1. ESR 24</p> <p><i>Standards</i></p> <p>2. AS/ NZS3760 (<i>Tests and values listed in for portable RCD's</i>)</p> <p>3. AS/NZS3000 Section 2</p>	<p>Operation of an RCD as a safety device:</p> <ul style="list-style-type: none"> • The operation of an RCD as a safety device. • The testing requirements of ESR 24 to prove an RCD is not electrically unsafe. • RCD Types for NZ, installation requirements, operation, and testing to AS/NZS 3000:2007. • Additional requirements and locations for 10mA RCD <p>Identifying electrically unsafe RCD's.</p> <p>Reasons for regular testing, promote instrument testing in preference to test button verification.</p> <p>Importance of regular testing of PRCD's on a work or construction site.</p> <p>AS/NZS3000 Section 2</p> <ul style="list-style-type: none"> • Clause 2.6.3 • Clause 2.6.3.2.2
<p>Prospective short circuit currents (PSCC).</p> <p><i>Standards</i></p> <p>1. AS/NZS 3000:2007</p>	<p>Cover the fault path and effects of fault currents in an MEN installation.</p> <p>Show the relationship of low impedance to large current flow and fault levels. ($I=V/Z$).</p> <p>Describe the dangers and risks associated with high PSCC to electrical workers.</p>
<p>Testing and certification</p> <p><i>Standards</i></p> <p>1. Requirements as specified in AS/NZS 3000</p> <p>2. Reference to AS/NZS 3760, AS/NZS 5762, AS/NZS 5761, AS/NZS 4701</p> <p><i>Legislative</i></p> <p>3. ESR 15, 15A, 24 25, 26, 74A, 75, 80, 90</p>	<p>Testing Fittings and appliances equipment</p> <p>Ensure detailed coverage of:</p> <ul style="list-style-type: none"> • Visual inspections (checks) • Earth continuity, protective earthing • Earth leakage testing • Insulation resistance tests • Polarity to ensure no transposed conductors • Earth fault-loop impedance test (value of these tests to EST's connecting equipment) • RCD's (testing portable and fixed RCD's with RCD test instruments) • In-service testing of appliances and equipment • Test and Tag regime including additional requirements for construction and demolition sites • Periodic assessments of installations in relation to ESR 75 (1) & (3) <p>Describe application of different testing equipment required, including the requirement and methods to confirm instruments remain accurate.</p> <p>Describe the testing sequence and verification process, including the importance of visual inspections.</p> <p>Explain the importance, fundamental principles, analyse meaning of test results and what hazards could arise including actions required to be under taken to ensure safe outcomes if test results fall outside the prescribed parameters.</p> <p>Provide a practical (hands on) exercise that all participants can independently demonstrate and have their competency assessed in testing fittings and appliances /equipment to confirm electrically safety</p>

	<p>All the Electricity (Safety) Regulations that are relevant to the class of registration and cover testing and verification of PEW should be covered</p> <p>Make reference to new regulations, the importance of keeping up to date and the need for a good level or understanding of the latest version Electricity (Safety) Regulations.</p> <p>Verification /Certification</p> <ul style="list-style-type: none"> • Tagging and labelling compliant and non-compliant appliances or equipment after visual inspection and testing • Issuance of electrical safety certificates (ESC) including what these certificates must document in accordance with ESR 74A • Promote the importance of recording and retaining test results, attaching these to an ESC and maintaining a system of document management/storage
<p>An update on changes to regulations and/or standards.</p>	<p>Cover changes and updates to the Electricity Safety Regulations and relevant standards, particularly AS/NZS3000, include any other relevant legislative changes</p> <p>Promote importance of using current version of the Electricity (Safety) Regulations and to maintain a good level of regulatory understanding.</p> <p>Promote the importance to maintain competency with ongoing professional development on a regular basis</p> <p>Promote the use of free standards available to all licenced electrical workers with a Realme login through the EWRB website.</p> <p>Include relevant authoritative information from EWRB Electron, Board news, notices, EnergySafety and WorkSafe safety bulletins, technical publications and websites.</p>
<p>Additional subject matter to be incorporated into the CP</p>	
<p>Electrical safety and compliance of fittings and appliances ESR 13,14A, 15, 15A, 23 (cite Schedule 4), 26, 63, 87, 89, 89A, 90</p>	<p>Explain and discuss</p> <ul style="list-style-type: none"> • Safety responsibilities for persons carrying out work in compliance with ESR 13 • Compliance assured by Installing fittings /appliances to manufacturer's instructions and risks if they are not • Safety responsibilities of persons in relation to fittings and appliances in compliance with ESR 15, 15A • Definition of electrically unsafe appliances as cited in ER 23 and the use and citing of Schedule 4 to check appliances and fittings are compliant • When fittings and appliances in use are deemed to be electrically safe as cited in ER 26 • All PEW in low and extra-low voltage installations must be tested must be as cited in ER 63 • New and used fittings/appliances to be electrically safe if it complies with AS/NZS 3820 or ESR schedule 4 • Prohibitions relating to fittings and appliances ESR 87. • Use of handheld appliances in high risk areas eg damp situations or confined spaces (ESR 89, 89A) • Appliances must be tested after work has been done on them ER 90
<p>Reporting unsafe appliances and equipment ESR 19</p>	<p>Requirement and process to notify Work safe of electrically unsafe appliances, fittings equipment or installations.</p>
<p>Limits of work& requirement to always work within ones limits of work and individual competencies</p>	<p>Discuss and explain the difference in limits of work for licence classes</p>