

<b>Title</b>	<b>Install, commission, and maintain generating sets driven by combustion engines</b>		
<b>Level</b>	<b>5</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	<p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> <li>– establish requirements of the generating sets driven by combustion engines to be installed;</li> <li>– install generating sets;</li> <li>– commission generating sets; and</li> <li>– maintain generating sets.</li> </ul>
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<b>Classification</b>	Electrical Engineering > Electrical Installation and Maintenance
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 This unit standard has been developed for learning and assessment on-job.
- 2 Achievement of this unit standard does not by itself imply that trainees may legally perform prescribed electrical work in their own right. Until they are registered and licensed under the Electricity Act 1992, trainees are assisting, and must work under the supervision of a Supervisor of Electrical Work when carrying out prescribed electrical work. If the prescribed electrical work in question is carried out for reward the Supervisor of Electrical Work must hold a valid practising licence.
- 3 References  
 Electricity Act 1992;  
 Electricity (Safety) Regulations 2010;  
 Health and Safety at Work Act 2015;  
 AS/NZS 3000:2018, *Electrical installations (known as the Australian/New Zealand Wiring Rules)*, including Amendment 1;  
 AS/NZS 3010:20017 *Electrical installations – Generating sets*;  
 AS/NZS 3017:2007, *Electrical installations – Verification guidelines*;  
 and all subsequent amendments and replacements.
- 4 Definitions  
 The term *current regulations and standards* is used in this unit standard to refer to the requirements of the above references.  
 The term *safe and sound practice* relating to the installation of electrical equipment is defined in AS/NZS 3000:2018.
- 5 Range  
 Demonstration of *safe working practices*, and installation in accordance with *safe and sound practice* are essential components of assessment of this unit standard.

- 6 The number and type of generating sets chosen are left to the discretion of the assessor but must be sufficient to assess competence in all outcomes of the unit standard.

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## Outcomes and performance criteria

### Outcome 1

Establish requirements of the generating sets driven by combustion engines to be installed.

#### Performance criteria

- 1.1 Rules applicable to generating sets are identified from current regulations and standards.
- 1.2 Details of equipment and documentation for the installation are established.
- Range include, but are not limited to –  
equipment – motor-generator sets, generator and system protection, switchgear, cables, distribution and control systems, earthing requirements;  
documentation – job specifications, manufacturer's handbooks and drawings, site plans, layout plans for installation, customer's requirements.
- 1.3 Load requirements are established.

### Outcome 2

Install generating sets.

#### Performance criteria

- 2.1 Electrical installation is planned in terms of position of equipment, cables, and installation sequence.
- 2.2 Installation is carried out in accordance with the requirements of current regulations and standards.
- Range motor-generator sets, generator and system protection, switchgear, cables, distribution and control systems, earthing.
- 2.3 Installation is completed according to job specification and/or customer's requirements.

**Outcome 3**

Commission generating sets.

**Performance criteria**

- 3.1 Tests and certification are completed in accordance with current regulations and standards.
- 3.2 Systems are adjusted and tested according to job specification and/or manufacturer's documentation.
- Range tests should include, but are not limited to – supply failure, manual operation, test switching.
- 3.3 Documentation is completed according to job specifications and/or company requirements.
- Range drawings, test results, commissioning logs.

**Outcome 4**

Maintain generating sets.

**Performance criteria**

- 4.1 Standby motor-generator sets, generator and system protection, distribution, and switching equipment are tested periodically to ensure correct operation, and results are documented.
- 4.2 Faulty components are located and defined according to manufacturer's documentation, company requirements, and industry standards.
- 4.3 Faulty components are replaced, according to manufacturer's documentation, company requirements, and industry standards.
- 4.4 Standby supply systems are re-commissioned following maintenance operations, according to manufacturer's documentation and company requirements.

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<b>Planned review date</b>	31 December 2022
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	30 April 1997	31 December 2013
Revision	2	3 April 2001	31 December 2013
Review	3	26 May 2005	N/A
Rollover and Revision	4	15 March 2012	N/A
Revision	5	15 January 2014	N/A
Rollover and Revision	6	28 January 2021	N/A

**Consent and Moderation Requirements (CMR) reference**

0003

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Comments on this unit standard**

Please contact The Skills Organisation [reviewcomments@skills.org.nz](mailto:reviewcomments@skills.org.nz) if you wish to suggest changes to the content of this unit standard.