Title	**Install, commission, and maintain generating sets driven by combustion engines**		
Level	**5**	**Credits**	**10**

Purpose	People credited with this unit standard are able to: – establish requirements of the generating sets driven by combustion engines to be installed – install generating sets – commission generating sets – maintain generating sets.

Classification	Electrical Engineering > Electrical Installation and Maintenance

Available grade	Achieved

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 (version as cited in the Electricity (Safety) Regulations), *Electrical installations (known as the Australian/New Zealand Wiring Rules),* including Amendment 1
AS/NZS 3010:2017 *Electrical installations – Generating sets*
AS/NZS 3017:2022, *Electrical installations – Verification inspection and testing*
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.

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.

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.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

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	31 December 2025
Rollover and Revision	4	15 March 2012	31 December 2025
Revision	5	15 January 2014	31 December 2025
Rollover and Revision	6	28 January 2021	31 December 2025
Review	7	27 April 2023	31 December 2025

Consent and Moderation Requirements (CMR) reference	0003

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