Title	**Demonstrate knowledge of faults, fault diagnosis and testing in wind turbines**		
Level	**4**	**Credits**	**10**

Purpose	People credited with this unit standard are able to: demonstrate knowledge of faults and fault diagnosis in wind turbines; and describe testing of systems in wind turbines.

Classification	Electricity Supply > Electricity Supply - Power System Maintenance

Available grade	Achieved

Guidance Information

1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable legislative and industry requirements.

2 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the current version of the Health and Safety at Work Act 2015; Electricity Act 1992; Electricity (Safety) Regulations 2010; and any subsequent amendments and replacements; Electricity supply industry codes of practice and documented enterprise procedures, including *Safety Manual – Electricity Industry* (SM-EI) (2015) available from www.eea.co.nz.

3 Definitions
Asset owner refers to a participant who owns or operates assets used for generating or conveying electricity.
Industry requirements include all asset owner requirements; manufacturers' specifications; and enterprise requirements which cover the documented workplace policies, procedures, specifications, business, and quality management requirements relevant to the workplace in which assessment is carried out.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of faults and fault diagnosis in wind turbines.

Performance criteria

1.1 Common faults in wind turbines are described in terms of symptoms, causes, and remedies.

Range includes – faults in mechanical, hydraulic and electrical systems, emergency stop, overspeed;
evidence of three different faults is required.

1.2 Mechanical and hydraulic plant fault diagnosis process is explained.

Range symptom analysis, condition measurement, use of manuals and fault-finding data, logical analysis, fault location.

1.3 Electrical fault diagnosis process is explained.

Range symptom analysis, condition measurement, use of manuals and fault-finding data, logical analysis, fault location.

1.4 The decision to repair or replace is described in terms of turbine type and downtime considerations.

Outcome 2

Describe testing of systems in wind turbines.

2.1 Testing of electrical systems in wind turbines is described.

Range includes – checking fault codes, referring to diagrams and manuals, choosing appropriate points of isolation, testing in a safe manner that meets all regulations and manufacturer specifications.

2.2 Testing of mechanical and hydraulic systems in wind turbines is described.

Range includes – checking fault codes, referring to diagrams and manuals, choosing appropriate points of isolation, testing in a safe manner that meets all regulations and manufacturer specifications.

Planned review date	31 December 2026

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	29 April 2021	N/A

Consent and Moderation Requirements (CMR) reference	0101

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

Comments on this unit standard

Please contact Connexis - Infrastructure Industry Training Organisation qualifications@connexis.org.nz if you wish to suggest changes to the content of this unit standard.