

Title	Demonstrate knowledge of cathodic protection and carry out a reading in a gas network		
Level	3	Credits	5

Purpose	People credited with this unit standard are able to: demonstrate knowledge of the purpose and types of cathodic protection in a gas network, and cathodic protection system surveys; and carry out a cathodic protection test reading.
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Classification	Gas Industry > Gas Network Construction
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Available grade	Achieved
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Guidance Information

- 1 This unit standard is intended for, but is not limited to, workplace assessment. The range statements relate to enterprise specific equipment, procedures, and processes.
- 2 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable manufacturer's specifications, company procedures and legislative requirements. This includes the knowledge and use of suitable tools and equipment.
- 3 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the current version of:
Health and Safety at Work Act 2015;
Resource Management Act 1991;
AS/NZS 4645.1:2018 *Gas distribution networks – Network management*;
AS/NZS 2885.1-2018 *Pipelines – Gas and liquid petroleum Design and construction*;
AS 2885.3-2012 *Pipelines – Gas and liquid petroleum Operation and maintenance*;
AS 2832.1-2015 *Cathodic protection of metals part 1: Pipes and cables*;
and any subsequent amendments and replacements.
- 4 References
Australian standards (AS) may be found at www.standards.org.au;
Australian/New Zealand standards (AS/NZS) may be found at www.standards.govt.nz.
- 5 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

6 Definitions

Company procedures mean the documented methods for performing work activities, and include health and safety, operational, environmental, and quality management requirements. They may refer to legislation, regulations, guidelines, standard operating procedures, manuals, codes of practice, or policy statements.

CP refers to cathodic protection.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the purpose and types of cathodic protection in a gas network.

Performance criteria

1.1 The corrosion process is described.

1.2 The principle and purpose of cathodic protection systems is described.

1.3 Types of cathodic protection systems are described.

Range galvanic anode, impressed current.

1.4 The purpose of cathodic protection system equipment is described.

Range transformer rectifier, anode bed, galvanic anodes, test points, corrosion coupons.

1.5 The current and voltage ranges of cathodic protection systems are identified.

Range output voltage, output current, on-potential, off-potential, polarised potential.

Outcome 2

Demonstrate knowledge of cathodic protection system surveys in a gas network.

Performance criteria

2.1 Reasons for the survey of cathodic protection systems are described.

2.2 The required voltage levels for effective cathodic protection are described.

2.3 Cathodic protection survey equipment is described in accordance with its purpose and use.

Range copper sulphate half-cell, multi-meter, data logger, cathodic protection system interruption device, direct current voltage gradient meter, pipe locator, flange isolation tester, current measuring clamps, Class 0 gloves, equipotential mats.

Outcome 3

Carry out a cathodic protection test reading.

Performance criteria

- 3.1 Condition of test point is checked.
- 3.2 CP reading is obtained.
- 3.3 Results are recorded and reported.

Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 February 2020	N/A
Rollover	2	30 January 2025	N/A

Consent and Moderation Requirements (CMR) reference	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Waihanga Ara Rau Construction and Infrastructure Workforce Development Council qualifications@waihangaararau.nz if you wish to suggest changes to the content of this unit standard.