

Title	Carry out a Direct Current Voltage Gradient (DCVG) survey on a steel gas pipe		
Level	4	Credits	8

Purpose	<p>People credited with this unit standard are, on a steel gas pipe, able to:</p> <ul style="list-style-type: none"> – demonstrate knowledge of company procedures, documentation, equipment, and hazards for DCVG survey and equipment; – use DCVG survey equipment; and – report the results of the DCVG survey.
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Classification	Gas Industry > Gas Transmission Operations
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Available grade	Achieved
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Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable manufacturer specifications, company procedures, and legislative requirements.
- 2 Legislation and standards relevant to this unit standard include:
 - Health and Safety at Work Act 2015;
 - Resource Management Act 1991;
 - AS 2832.1: 2015 *Cathodic protection of metals, Part 1 – Pipes and cables*; available from www.standards.org.au;
 - ANSI/NACE SP-0502-2010: *Pipeline External Corrosion Direct Assessment (ECDA) Methodology*;
 - NACE SP-0207-2007: *Performing Close-Interval Potential Surveys and DC Surface Potential Gradient Surveys on Buried or Submerged Metallic Pipelines*; available from www.amp.org;
 - and any subsequent amendments and replacements.
- 3 Definition
Company procedures refer to 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.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of company procedures, documentation, equipment, and hazards for DCVG survey and equipment.

Performance criteria

- 1.1 Documentation and company procedures for DCVG survey are interpreted and described in terms of purpose.
- Range may include – network standard, standard operating procedure, safe work procedure, work instruction, job hazard analysis, equipment operating manuals; evidence of three items of documentation is required.
- 1.2 Job documentation and instructions are confirmed for accuracy.
- Range may include – job card, site location, utility plans, consents, easements, CP survey results; evidence of three items of documentation is required.
- 1.3 DCVG survey is described in terms of its objectives, outputs and how it is carried out.
- 1.4 DCVG reporting criteria are described.
- 1.5 Use and application of DCVG survey equipment are described.
- Range cathodic protection systems interruption device, DCVG survey meter, soil resistance meter, reference electrode, probe.
- 1.6 Potential environmental and safety hazards are described in terms of their controls.
- Range ground conditions, other utilities, traffic, public, livestock.
- 1.7 Potential faults associated with incorrect application and operation of equipment, and the steps to avoid them are described.

Outcome 2

Use DCVG survey equipment on a steel gas pipe.

Performance criteria

- 2.1 Safety and environmental risks are identified and controlled.

2.2 Existing pipeline cathodic protection conditions are assessed prior to survey.

Range test point readings, cp current output, coating system, previous survey results.

2.3 DCVG survey equipment is operated in accordance with equipment manufacturer instructions and industry standards.

Outcome 3

Report the results of DCVG survey on a steel gas pipe.

Performance criteria

3.1 DCVG survey results are recorded.

3.2 Results of DCVG survey are evaluated against previous surveys or data.

3.3 Deviations from the expected range of results are investigated and remedial actions are recommended.

3.4 The report captures all the relevant information gathered in the DCVG survey.

Planned review date	31 December 2027
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	6 February 1997	31 December 2018
Revision	2	3 August 2000	31 December 2018
Review	3	24 January 2002	31 December 2018
Review	4	22 May 2009	31 December 2018
Review	5	17 August 2017	31 December 2025
Review	6	24 November 2022	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 Waihangara Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@WaihangaraAraRau.nz if you wish to suggest changes to the content of this unit standard.