

Title	Demonstrate knowledge of gas pressure control and metering station design		
Level	5	Credits	6

Purpose	People credited with this unit standard are able to: demonstrate knowledge of design specifications for gas pressure control and metering stations in a gas network; and demonstrate knowledge of and interpret design plans for gas pressure control and metering stations for district and network gas supply.
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Classification	Gas Industry > Gas Network Operations
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Available grade	Achieved
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Guidance Information

- 1 This unit standard is intended for, but 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.
- 3 Performance of the outcomes of this unit standard must comply with the following:
 Gas Act 1992;
 Health and Safety at Work Act 2015;
 Resource Management Act 1991;
 Gas (Safety and Measurement) Regulations 2010;
AS/NZS 4645.1:2008 Gas distribution networks – Network management;
AS/NZS 4645.2:2008 Gas distribution networks – Steel pipe systems;
AS/NZS 4645.3:2008 Gas distribution networks – Plastic pipe systems;
AS 2885.1-2012 Pipelines – Gas and liquid petroleum Design and construction;
 NZS 5259:2015 *Gas measurement;*
 ISO 9000.
- 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;
 International Standards Organisation (ISO) standards may be found at www.iso.org;
 New Zealand standards (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 **Definition**
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.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of design specifications for gas pressure control and metering stations in a gas network.

Performance criteria

- 1.1 Load requirements for gas supply are identified and explained.
- 1.2 Feasibility of meeting customers identified load requirements is determined.
- 1.3 Potential locations are identified and their features explained.
- Range security, environmental, safety, access, availability, hazardous areas.
- 1.4 Design specifications and functional performance requirements of pressure control and gas metering stations are identified and explained.
- Range loading, size, regulator selection, upgrade potential, compatibility with existing system, safety features, safe configurations, standardised designs.

Outcome 2

Demonstrate knowledge of and interpret design plans for gas pressure control and metering stations for district and network gas supply.

Performance criteria

- 2.1 Design plans for gas pressure control and metering stations are explained.
- Range location and layout, materials specifications, components specifications, overall design requirements, component design requirements, pipework design and specifications, instrumentation and cathodic protection, overpressure protection, noise suppression, corrosion protection, enclosures and security requirements, construction and testing requirements, construction and testing records, materials, pressure ratings, loads, pressure losses, system size, safety features;

may also include – hazard analysis documentation, velocities, system capacity.

2.2 Equipment requirements for gas pressure control and metering stations are identified and explained.

Range regulators, filters, relief valves, valves, safety systems, slam shut valves, instrumentation, meters, monitoring equipment, telemetry.

2.3 Design plans are assessed for safety.

Range includes safety of the environment, explosive atmospheres; may include – relief venting position, pressure settings, maximum allowable over pressure, security, signage.

Planned review date	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	20 November 2006	31 December 2020
Review	2	17 August 2017	N/A
Revision	3	30 August 2018	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 MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.