

Title	Assemble, install, test, and commission a standard gas pressure control and metering station		
Level	4	Credits	15

Purpose	<p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – demonstrate knowledge of company procedures, documentation, hazards, and equipment to assemble, install, test, and commission standard gas pressure control and metering station equipment; – prepare to assemble, install, test, and commission a standard gas pressure control and metering station; – assemble and test a standard capacity gas pressure control and metering station; – install and commission a gas pressure control and metering station; and – complete reporting and documentation procedures.
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Classification	Gas Industry > Gas Network 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. This includes the knowledge and use of suitable tools and equipment.
- 2 Legislation, regulations and industry standards relevant to this unit standard include:
 - Health and Safety at Work Act 2015;
 - Gas Act 1992;
 - Resource Management Act 1991;
 - Gas (Safety and Measurement) Regulations 2010;
 - NZS 5259:2015 *Gas measurement*;
 - AS/NZS 4645.1: 2018 *Gas distribution networks – Part 1: Network management*;
 - AS/NZS 4645.2: 2018 *Gas distribution networks – Part 2: Steel pipe systems*;
 - AS/NZS 4645.3: 2018 *Gas distribution networks – Part 3: Plastics pipe systems*; available from www.standards.govt.nz;
 and any subsequent amendments and replacements.

3 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.

Standard gas pressure control and metering stations include Pressure Reducing Stations (PRS) and Gas Measurement Systems (GMS) for single point of supply installations with 2-stage pressure reduction and installations with a meter bypass stream that is normally closed. The following installations are excluded: district regulator stations, twin stream configurations, active/monitor configurations.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of company procedures, documentation, hazards, and equipment to assemble, install, test, and commission standard gas pressure control and metering station equipment.

Performance criteria

- 1.1 Documentation and company procedures to assemble, install, test, and commission standard gas pressure control and metering stations are interpreted and described in terms of their purpose.
- Range network technical standard, equipment operating manuals, safe work procedures, standard operating procedure, work instruction, job hazard analysis, job risk assessment; evidence of five items of documentation is required.
- 1.2 Job documentation and instructions are confirmed for accuracy.
- Range job card, location drawing, test certificates, pressure settings, hazard identification, utility plans, permit, network plans, piping and equipment drawing; evidence of five items of documentation is required.
- 1.3 Potential environmental and safety hazards are described in terms of their controls.
- Range hazards may include – gas release, pneumatic pressure, excavations, other utilities, confined spaces, vehicles and public, electrical, contaminants, ignition source; controls may include – gas detection equipment, safe access and egress, temporary traffic control, signage, barriers, personal protective equipment, continuity bond, earthing, waste removal and disposal, fire extinguisher; evidence of four hazards and their controls is required.

1.4 Types and function of equipment, components, and materials for assembly and installation of standard gas pressure control and metering stations are described.

Range valving, piping, sensing lines, pipe supports, gaskets, test points, paint, test equipment, sealing compound, tags and labels.

1.5 Potential hazards of incorrect application and operation of equipment and procedures are described.

Range uncontrolled release of gas, supply interruption, damage to equipment, overpressure downstream, upstream impact.

Outcome 2

Prepare to assemble, install, test, and commission a standard gas pressure control and metering station.

Performance criteria

2.1 Safety and environmental hazards are identified and controlled.

Range hazards may include – gas release, pneumatic pressure, other utilities, excavations, confined spaces, vehicles and public, electrical, contaminants, ignition source;
controls may include – gas detection equipment, signage, barriers, personal protective equipment, safe access and egress, temporary traffic control, continuity bond, earthing, waste removal and disposal, fire extinguisher;
evidence of four hazards and their controls is required.

2.2 Equipment is prepared, laid out and checked against design.

Range direction of flow on regulators, meter direction, meter size, flange class rating, gaskets, thread compatibility, sensing lines, pipe alignment, spacing of equipment, insulation joints, corrosion protection.

2.3 Worksite is prepared for installation in accordance with company procedures.

Range support locations, access for maintenance, site condition, terrain, foundations, inlet and outlet connections, earthing.

Outcome 3

Assemble and test a standard capacity gas pressure control and metering station.

Performance criteria

3.1 Equipment is used to assemble the standard gas pressure control station, regulators, meters, and ancillary equipment.

3.2 Standard gas pressure control and metering station is checked for leakage and strength.

Range non-destructive test, hydrostatic test, pneumatic test, material and equipment certification, test pressure, test certificate.

3.3 Worksite and station are prepared for installation.

Range inlet and outlet connections, equipment support, access for maintenance, site security, terrain, earthing, equipment labels and tags.

Outcome 4

Install and commission a gas pressure control and metering station.

Performance criteria

4.1 Standard gas pressure control and metering station is installed.

Range isolation valve, filter, regulator, relief valve, meter, meter bypass, corrector, gauges, sensing lines, tags and/or labels, equipment orientation.

4.2 Standard gas pressure control and metering station is purged and commissioned.

Range purge equipment, gas detection equipment, calibrated gauges, regulator set points, relief valve set points, equipment functional tests, flow indications, odourant test, meter reading.

4.3 Integrity test is carried out to check for leakage.

Outcome 5

Complete reporting and documentation procedures.

Performance criteria

5.1 Reporting and documentation procedures are completed and communicated, and information is communicated to internal and external parties as required.

Range completion notice, additional work, as-built drawings, serial numbers, test certificates, meter data, pressure settings, materials used, inspection, odourant testing, tags, cathodic protection, torque.

Replacement information	This unit standard replaced unit standard 12511 and unit standard 12514.
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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	22 October 2002	31 December 2018
Review	2	20 November 2006	31 December 2020
Review	3	17 August 2017	31 December 2023
Revision	4	30 August 2018	31 December 2023
Review	5	27 May 2021	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 Waihangā Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@WaihangāAraRau.nz if you wish to suggest changes to the content of this unit standard.