Title	**Demonstrate knowledge of standard gas pressure control equipment and metering stations**		
Level	**3**	**Credits**	**8**

Purpose	People credited with this unit standard are able to demonstrate knowledge of the types, principles, design, selection, handling and application of standard gas pressure control and metering equipment.

Classification	Gas Industry > Gas Measurement

Available grade	Achieved

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;
Gas Act 1992;
Gas (Safety and Measurement) Regulations 2010;
AS/NZS 4645.1:2018 *Gas distribution networks – Network management*;
AS/NZS 4645.2:2018 *Gas distribution networks – Steel pipe systems*;
AS/NZS 4645.3:2018 *Gas distribution networks – Plastic pipe systems*;
NZS 5259:2015 *Gas measurement*;
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 Definitions
Company procedures means the documented methods for performing work activities and include health and safety, environmental, and quality management requirements. They may refer to manuals, codes of practice, or policy statements.

Standard gas pressure control and metering includes Pressure Reducing Stations (PRS) and Gas Measurement Systems (GMS) for single point of supply installations with two-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.
Opso means over-pressure shut-off.
Upso means under-pressure shut-off.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the types and principles of standard gas pressure control and metering equipment.

Performance criteria

1.1 The three basic elements of a gas regulator are identified and described in terms of their function.

1.2 Standard gas pressure control and metering equipment and symbols are identified and their function described according to gas industry terminology.

Range meter, regulator, filter, slam shut, upso valve, opso valve, relief valve.

1.3 Components of gas pressure control equipment are defined according to gas industry terminology.

Range spring, valve, valve seat, diaphragm, valve stem/spindle, internal relief, breather, orifice, pilot, weight.

1.5 The basic operation of standard gas pressure control and metering equipment is described.

Range internal relief, separate relief, regulators, upso valve, opso valve, slam shut, stage control.

Outcome 2

Demonstrate knowledge of the design, selection, handling and application of standard gas pressure control and metering equipment.

Performance criteria

2.1 The factors that determine the type of pressure control equipment required for an application are identified.

Range inlet pressure, outlet pressure, flow demand, security of supply, location.

2.2 The types and application of single stream standard gas pressure control installations are identified and described.

Range single regulator, single regulator with internal relief, first and second stage regulators, first and second stage regulators with external relief.

2.3 The effect of the reduction in pressure on temperature across standard gas pressure control equipment is described.

2.4 The factors affecting the location of standard gas pressure control equipment are identified.

Range may include – access, noise, relief venting, ignition hazards, vehicle hazards, ignition sources, aesthetics.

2.5 The factors to consider for identifying, handling, transporting, and storing, gas regulators and relief valves are described.

Range may include – badge or data plate, dust caps, packaging, sealing wire, storage.

Replacement information	This unit standard, unit standard 32040, and unit standard 32042 replaced unit standard 30381.

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	27 February 2020	N/A
Rollover	2	30 January 2025	N/A

Consent and Moderation Requirements (CMR) reference	0014

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.