Title	**Use hand-held gas leakage detection equipment in a gas network**		
Level	**3**	**Credits**	**5**

Purpose	People credited with this unit standard are able to: demonstrate knowledge of procedures, documentation, and equipment for using hand-held gas leakage detection equipment; use hand-held gas leakage detection equipment; and interpret and record gas leakage detection equipment readings.

Classification	Gas Industry > Gas Network Operations

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:
Gas Act 1992;
Health and Safety at Work Act 2015;
Gas (Safety and Measurement) Regulations 2010;
AS/NZS 4645.1:2018 *Gas distribution networks – Network management*;
AS 2885.3:2012 *Pipelines – Gas and liquid petroleum Operation and maintenance*;
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 The candidate will be assessed on enterprise-specific hand-held equipment that may include: thermal conductivity detector (e.g. Gasco seeker), flame ionisation detector (FID), laser detection, personal multi-gas detector.

7 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.
LEL stands for lower explosive limit.
UEL stands for upper explosive limit.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of procedures, documentation, and equipment for using hand-held gas leakage detection equipment.

Performance criteria

1.1 Documentation and company procedures for using gas leakage detection equipment are located and interpreted in terms of general use.

1.2 Types and function of equipment, components, and materials for using gas leakage detection equipment are identified and described.

Range type may include – combustible gas detector, flame ionisation detector, personal multi-gas detector, laser detector;
evidence of three types are required;
components may include – pumps, hoses, gauges, water traps, hydrogen cylinders, probes, aspirators, gas scale, batteries, filters, meter scale, multi-gas cylinder;
function may include – 0-10% LEL, 0-100% LEL, 0-100% gas, zero, parts per million.

1.3 Potential hazards associated with using hand-held gas leakage detection equipment and their controls are described.

Range hazards may include – faulty equipment, incorrect readings, hazardous atmosphere, incorrect batteries;
evidence of three hazards is required;
controls may include – equipment selection, equipment calibration, equipment maintenance, training, procedures and manufacturer's instructions;
evidence of three different controls is required.

Outcome 2

Use hand-held gas leakage detection equipment in a gas network.

Performance criteria

2.1 Gas leakage detection equipment is checked for calibration.

Range may include – calibration label, reference cylinder, tag, certificate, currency.

2.2 Functional checks are completed.

Range may include – detector purged, zero reading, calibration gas used, battery level check, filter check, hose and wand check.

2.3 Gas leakage detection equipment is operated.

Outcome 3

Interpret and record gas leakage detection equipment readings.

Performance criteria

3.1 Readings are interpreted in terms of LEL and UEL.

3.2 Readings are interpreted in terms of parts per million or gas in air.

3.3 Readings are recorded.

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	19 November 1997	31 December 2018
Revision	2	3 August 2000	31 December 2018
Review	3	22 October 2002	31 December 2018
Review	4	20 November 2006	31 December 2020
Review	5	17 August 2017	31 December 2021
Revision	6	30 August 2018	31 December 2021
Review	7	27 February 2020	N/A
Rollover	8	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.