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| **Title** | **Implement controls to work in a hazardous gas atmosphere in a gas network** | | |
| **Level** | **4** | **Credits** | **10** |

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| **Purpose** | People credited with this unit standard are able to demonstrate knowledge of company procedures, documentation, hazards and equipment for working in a hazardous gas atmosphere in a gas network; prepare to work in a hazardous gas atmosphere; implement controls required to work in a hazardous gas atmosphere; and complete reporting and documentation. |

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| **Classification** | Gas Industry > Gas Network Operations |

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| **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;
Resource Management Act 1991;
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 pipes systems*.

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 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.
*Hazardous gas atmosphere* refers to where gas is present in the atmosphere and the conditions that may create an explosive atmosphere are uncontrolled.

7 Assessment against this unit standard may take place under real or practical simulated conditions.

## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of company procedures, documentation, hazards and equipment for working in a hazardous gas atmosphere in a gas network.

### Performance criteria

1.1 Company procedures for working in a hazardous gas atmosphere are located and interpreted.

Range may include – network standard, standard operating procedure, safe work procedure, job hazard analysis, job risk assessment.

1.2 Documentation and instructions for a specified job are obtained.

Range may include – work instruction, non-routine procedure, site location, network drawings, job card, utility plans, permits, consents, easement conditions.

1.3 The key considerations for working in a hazardous gas atmosphere are described.

Range network configurations – isolation, pressure reduction, bypass; work flow evaluation, risk evaluation, refusal to work, required notifications, required authorisation, work instruction, personnel protective equipment, rescue plan.

1.4 Equipment and materials for working in a hazardous gas atmosphere are described in terms of function.

Range gas detection equipment, breathing apparatus, personnel protective equipment, fire suits, intrinsically safe equipment, non-sparking tools, firefighting equipment, continuity bond, earthing equipment, rescue harness and rope.

1.5 Potential environmental and safety hazards and their controls associated with working in a hazardous gas atmosphere are described.

Range hazards may include – gas release, explosive atmosphere, too low network pressure, noise, ignition sources, weather, excavations, other utilities, vehicles and public, electrical;
controls may include – network monitoring, isolation, risk evaluation and approval to proceed, safety observer, additional personnel, gas detection equipment, intrinsically safe equipment, safety observer, non-sparking tools, safe access and egress, utility protection, temporary traffic control, exclusion zones, signage, barriers, personal protective equipment, breathing apparatus, rescue harness and rope, fire service, firefighting equipment, continuity bond, earthing equipment;
evidence of six hazards and controls are required.

1.6 Potential faults associated with incorrect application and operation of equipment and procedures for working in a hazardous gas atmosphere are identified.

**Outcome 2**

Prepare to work in a hazardous gas atmosphere.

**Performance criteria**

2.1 Alternative network configuration options are assessed.

Range isolation, pressure reduction, bypass.

2.2 The requirements of the work instruction are confirmed.

Range required notifications, required authorisation, additional personnel, risk evaluation, personnel protective equipment, rescue plan, workflow evaluation.

2.3 Equipment and materials for working in a hazardous gas atmosphere are prepared and positioned.

Range may include – gas detection equipment, breathing apparatus, personnel protective equipment, fire suits, intrinsically safe equipment, non-sparking tools, firefighting equipment, continuity bond, earthing equipment, rescue harness and rope, tools, fittings.

**Outcome 3**

Implement controls required to work in a hazardous gas atmosphere.

**Performance criteria**

3.1 Risk assessment and work instruction requirements are carried out.

3.2 Monitoring requirements are established.

Range may include – gas atmosphere, weather conditions, network pressure, exclusion zones.

3.3 Rescue plan measures are established.

Range may include – fire service, firefighting equipment, safety harness and ropes, safety observer.

3.4 Personnel protective equipment is used.

Range may include – breathing apparatus, fire suits, flame retardant overalls, rescue harness & rope.

**Outcome 4**

Complete reporting and documentation.

**Performance criteria**

4.1 Records and documents are completed and processed, and information is communicated to internal and external parties as required.

Range may include – job card, as-built records, completion notice, additional work, event log, incident report.

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| **Planned review date** | 31 December 2025 |

**Status information and last date for assessment for superseded versions**

| Process | Version | Date | Last Date for Assessment |
|---|---|---|---|
| Registration | 1 | 27 May 2021 | N/A |

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| **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 MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.