



Australian Government

UEGNSG805 Maintain multi-stage and multi-run gas flow and pressure measuring and regulating devices

Release: 1

UEGNSG805 Maintain multi-stage and multi-run gas flow and pressure measuring and regulating devices

Modification History

Release 1: This is the first release of this unit of competency in the UEG Gas Industry Training Package.

Application

This unit involves the skills and knowledge required to maintain multi-stage and multi-run gas flow and pressure measuring and regulating device of gas distribution and transmission facilities in accordance with relevant legislation, codes of practice and regulations.

It includes maintenance of gas station to equipment which includes non-supervisory control and data acquisition (SCADA) operated multi-stage and multi-run systems, control valves, regulators and meters.

This unit applies to the following types of gas stations, subject to work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace:

- pressure reduction stations, district and customer regulator sets
- compressor stations
- meter stations and customer meter sets
- custody transfer stations
- inlets and city gates
- scraper stations
- gas storage facilities
- non-SCADA main line valves.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

UEGNSG006 Use a portable gas detector to locate escape

UEGNSG804 Maintain single stage and single run gas flow and pressure control and measuring devices

Competency Field

Pressure Control Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare multi-stage and multi-run gas flow and pressure measuring and regulating device

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) and environmental control measures for the site are identified, obtained and applied
- 1.2** Work requirements are interpreted from plans, specifications and instructions
- 1.3** Relevant job requirements and workplace procedures for work activities are discussed with relevant person/s to determine and confirm work schedule and respective responsibilities
- 1.4** WHS/OHS, environmental and sustainable energy workplace policies and procedures are determined and confirmed
- 1.5** Hazards are identified, WHS/OHS risks are assessed and control measures are prioritised, implemented and monitored in accordance with workplace procedures
- 1.6** Scope of responsibility under the relevant work permits and/or relevant notification is determined and confirmed to access, isolate/de-energise systems and perform work in accordance with job requirements and workplace procedures
- 1.7** Equipment, tools and personal protective equipment (PPE) needed to carry out work activities are identified, scheduled, obtained and checked for correct operation and safety
- 1.8** Appropriate person/s are consulted to ensure work activity is coordinated effectively with person/s involved
- 1.9** Materials, plans, diagrams, drawings and resources required for work are confirmed, scheduled and obtained

in accordance with workplace procedures

1.10 Relevant responsibilities associated with first aid and related workplace safety procedures at the work site are identified, checked and confirmed

1.11 Third-party issues are referred to appropriate person/s in accordance with workplace procedures

1.12 Site preparation, safety plan and work schedule are confirmed in accordance with workplace procedures

2 Maintain multi-stage and multi-run gas flow and pressure measuring and regulating device

2.1 WHS/OHS risk control measures, schedule of work and workplace procedures for carrying out work activities are followed

2.2 Gas detectors are used to determine work site gas concentration level and to locate and pinpoint any escaping gas and advise supervisor immediately if site is unsafe in accordance with workplace procedure

2.3 Appropriate materials, tools, equipment and measuring devices are selected and used safely in accordance with workplace procedures

2.4 Hazardous activities are conducted safely in accordance with work instructions, safe work practices and to job requirements

2.5 Work is carried out efficiently, to the required industry standard, without waste of materials or damage to apparatus, circuits, and the surrounding environment or services using sustainable energy principles

2.6 Hazard warnings and safety signs are identified and assessed as part of WHS/OHS risks and incident control measures and are reported to the authorised person/s for directions in accordance with workplace procedures

2.7 Data on system performance and usage is collected, reviewed and reported in accordance with workplace procedures

2.8 Gas station venting and purging operations are undertaken in accordance with workplace procedures

2.9 Regulator and meter runs and components are set up and operated, and system is purged and pressurised in

		accordance with workplace procedures
	2.10	Faults and operational conditions of the components are identified, repaired or replaced and reported in accordance with organisational job requirements
	2.11	Non-routine/unplanned events are referred to authorised person/s for directions in accordance with workplace procedures
	2.12	Routine work activity quality checks are carried out in accordance with workplace instructions
3 Complete work and relevant documentation	3.1	WHS/OHS risk control, work completion measures and workplace procedures are followed
	3.2	Work site is tidied and made safe in accordance with workplace procedures
	3.3	Tools, equipment and surplus resources and materials are cleaned, checked and securely stored
	3.4	Appropriate person/s are notified of work completion in accordance with workplace procedures
	3.5	Work completion documentation is completed accurately and provided to appropriate person/s in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEG Gas Industry Training Package Companion Volume Implementation Guide.

- in work must be conducted in at least three (3) of the following types of gas stations:
- pressure reduction stations, district and customer regulator sets
 - compressor stations
 - meter stations and customer meter sets
 - custody transfer stations
 - inlets and city gates

equipment must include the following:	• scraper stations • gas storage facilities • non-SCADA main line valves • valves, types: ball, plug, double block and bleed • pressure controllers • at least two (2) types of regulators: • diaphragm, sleeve and hydraulic plug • at least two (2) types of meters: • diaphragm, rotary and turbine Note: fault finding is limited to the component level.
constants and variables must include the following:	• monitoring, adjusting and controlling • regulation of flow and pressure • gas measurement • recording and reporting • regulation of the system • equipment • organisational and statutory requirements • low voltage electrical work
third-party issues referred to appropriate person/s must include the following:	

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG805A Maintain Multi-Stage and Multi-Run Gas Flow and Pressure Measuring and Regulating Devices.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>

Assessment Requirements for UEGNSG805 Maintain multi-stage and multi-run gas flow and pressure measuring and regulating devices

Modification History

Release 1: This is the first release of this unit of competency in the UEG Gas Industry Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - applying workplace procedures and practices
 - using of risk control measures
- applying sustainable energy principles and practices
- carrying out work on gas flow and pressure measuring and regulating devices in accordance with relevant legislation, codes of practice, regulations and workplace procedures
- completing required documentation and reporting
- dealing effectively with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- identifying and interpreting drawings, diagrams, schedules, workplace procedures and manuals relevant to the work to be undertaken
- purging and venting gas components
- replacing, operating, fault finding, adjusting and maintaining gas valves, filters, regulators and pressure relief devices
- replacing, operating, fault finding, adjusting/testing, and maintaining pressure measurement, control, boosters and relief devices
- selecting correct materials, equipment, tools, personal protection equipment (PPE) and measurement devices.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- gas distribution and transmission station, including types, principles of operation and components
- gas flow and pressure measuring and regulating device operation and maintenance

- relevant legislation, standards, codes of practice and workplace procedures
- gas flow control fault finding, repair and/or replacement
- gas flow control, including principles, component types and operation and maintenance
- gas flow measurement equipment, including:
 - types
 - positive displacement meters
 - turbine meters
 - operation
 - maintenance
 - fault finding, repair and replacement
- gas monitoring equipment, including types, principles of operation, components, maintenance and fault finding, repair and/or replacement
- gas pressure control equipment, including:
 - types
 - pilot loaded diaphragm and sleeve regulators
 - slam shuts
 - pressure relief valve (PRV)
 - principles of operation
 - multi-runs and stage systems, inter-stage and active/monitor
 - maintenance
 - fault finding, repair and replacement
- gas station alarms and safety devices
- gas station valves types, operation and maintenance
- gas station venting and purging operations
- multi-stage gas flow and pressure control and measurement maintenance
- relevant legislation, standards, codes of practice and regulations
- relevant manufacturer specifications, manuals and procedures
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- safe working practices for carrying out work in a gas industry environment
- safe working practices, techniques and practices for hazardous activities, including:
 - lifting, climbing, working in confined spaces, excavations, trenches or, working aloft, and use of power tools
- relevant WHS/OHS legislated requirements
- relevant workplace reporting and documentation requirements, including gas facility manuals, schematics, supervisory control and data acquisition (SCADA) displays, switches, piping and instrumentation diagram/drawing
- relevant workplace policies and procedures.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include

requirements in the Standards for Registered Training Organisations current at the time of assessment.

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Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, facilities, equipment and PPE currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, environmental regulation, work practices, regulations, codes of practice and operation manuals.

Links

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