



Australian Government

UEGNSG811 Monitor and operate complex flow control, measuring and regulating devices for gas distribution

Release: 1

UEGNSG811 Monitor and operate complex flow control, measuring and regulating devices for gas distribution

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 monitor and operate complex flow control, measuring and regulating device to monitor and control gas supply in gas distribution system in accordance with relevant legislation, codes of practice, regulations and workplace procedures.

It includes on site local inspecting and controlling of gas flow and pressure; local monitoring of gas flow, pressure and measurement; recording and reporting on anomalies to gas flow pressure and measurement; and controlling the system to organisational and statutory requirements.

This unit applies to gas distribution systems, subject to all work health and safety (WHS)/occupational health and safety (OHS) and duty of care requirements being met for the workplace.

The application of the skills and knowledge described in this unit may require a license or permit to practice in the workplace.

Other conditions may apply under state and territory legislative and regulatory licencing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Pressure Control Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

1 Prepare to monitor and operate gas flow control, measuring and regulating devices

- 1.1** Work requirements for monitoring and operating complex gas flow control, measuring and regulating device are interpreted from plans, specifications and job instructions
- 1.2** Relevant requirements and workplace procedures for work activities are communicated to relevant person/s
- 1.3** WHS/OHS, environmental and sustainable energy workplace policies and procedures related to the monitoring and operating of complex flow controls are obtained, confirmed and communicated to relevant person/s
- 1.4** Work activities are prioritised and sequenced in consultation with relevant person/s for completion within acceptable timeframes and in accordance with workplace procedures
- 1.5** Risk control measures for identified hazards are prioritised, implemented and monitored in accordance with work schedule
- 1.6** Relevant work permits are obtained to access, isolate/de-energise systems and perform work in accordance with job requirements and workplace procedures
- 1.7** Resources, appropriately licensed person/s, equipment, tools and personal protective equipment (PPE) required for work activities are identified, scheduled and confirmed in a safe working order
- 1.8** Liaison and communication with authorised person/s, authorities, clients and land owners is undertaken so work activities can be carried out, as required
- 1.9** Persons participating in work activities are fully briefed and respective responsibilities confirmed, as required, in accordance with workplace procedures

2 Monitor and operate gas flow control, measuring and regulating devices

- 2.1** Gas flow device and equipment performance information is collected and reported in accordance with workplace and job requirements
- 2.2** Dealings with customers are consistent with workplace

procedures and the specific needs of customers are identified and considered in targeting client service

- 2.3 Monitoring and operating complex flow control devices workplace procedures are applied to ensure job is completed in agreed timeframe and to quality industry standards with a minimum of waste in accordance with job requirements
- 2.4 Routine inspections of system are scheduled and monitored in accordance with the work schedule and workplace procedures
- 2.5 Hazard warnings and safety signs are identified and hazards WHS/OHS risks assessed and reported to authorised person/s for directions in accordance with workplace procedures
- 2.6 Data on system performance and usage is collected, analysed and reported with any unplanned events in the monitoring and operation of complex flow control in accordance with workplace procedures
- 2.7 Ongoing quality checks of work activities are undertaken in accordance with given instructions and workplace procedures

3 Control and adjust flows and complete records and reports

- 3.1 Flow regulating systems are inspected and adjustments made to meet gas flow demand and customer requirements
- 3.2 Accidents and injuries are reported, as required in accordance with workplace procedures
- 3.3 Gas flows and diversions are determined to facilitate repair or emergency activities in accordance with organisational job requirements
- 3.4 Process faults and operational conditions of the gas system are identified, addressed and reported in accordance with organisational requirements
- 3.5 Work completion records, reports and documentation are finalised, processed and appropriate person/s notified

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.

competency must demonstrate monitoring and operating of complex gas flow control, measuring and regulating devices for gas pressure and flow control with the following:

constants and variables must include the following:

equipment must include at least two (2) of the following procedures:

basic regulators must include at least two (2) of the following:

distribution valves must include the following:

meters must include at least two (2) of the following:

operational checks must include at least three (3) of the following:

pressure alterations must include the following:

- custody transfer stations
- inlets and city gates
- scraper stations
- gas storage facilities
- main line valves
- inspecting and controlling
- regulation of flow and pressure
- measuring
- recording and reporting
- regulation of flow and regulation devices
- regulation of the system
- equipment
- organisational and statutory requirements
- pressure controllers - operation and maintenance commissioning/setting
- troubleshooting
- pressure boosters minor repairs
- types/models
- sleeve types
- diaphragm types
- hydraulic plug types
- ball, plug, gate instrument and butterfly valves
- meters diaphragm meters
- rotary meters
- turbine meters
- oil changing
- single run units
- dual run units
- district regulators
- field regulators
- industrial units
- regulator stations

- flaring and purging must include the following:
- distribution mains
 - industrial units
 - regulator stations
 - distribution mains
- overpressure protection systems - function and operation must include at least three (3) of the following:
- over-pressure shut-off (OPSO)
 - internal pressure relief systems
 - pressure relief valves
 - slam shut systems
 - valve actuator & control systems
- documentation must include the following:
- risk assessments
 - timesheets
 - completing worksheets
 - notifications and work permits
 - equipment checklists
 - meter bypass forms
 - service orders
 - pressure recording charts
- regulator station heaters must include the following:
- heater: scheduled maintenance procedures
 - heater: operational checks
 - water quality testing

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG811A Monitor and operate complex flow control, measuring and regulating devices for gas distribution.

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 UEGNSG811 Monitor and operate complex flow control, measuring and regulating devices for gas distribution

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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
- completing required documentation and reporting requirements
- dealing effectively with unplanned events in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- monitoring and operating supervisory control and data acquisition (SCADA) for gas distribution systems in accordance with relevant legislation, industry standards, codes of practice, regulations and workplace procedures.

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:

- component types, function and operation, including data collection and equipment control functions
- gas flow control device operation
- gas station operation requirements and procedures
- principles of SCADA use in monitoring and control of applicable organisational gas infrastructure
- relevant job safety assessments or risk mitigation processes
- relevant legislation, industry standards, codes of practice and regulations
- relevant manufacturer specifications, manuals and procedures
- relevant organisation gas facility manuals, schematics, SCADA displays, switches and procedures

- relevant workplace documentation
- relevant workplace policies and procedures
- SCADA gas flow measurement equipment
- SCADA operated gas conditioning and monitoring equipment, principles of operation, components and fault finding, adjustments and minor repairs
- SCADA operated pressure control equipment
- WHS/OHS legislated requirements.

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.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in 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, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

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