



Australian Government

UEGNSG060 Maintain SCADA controlled flow and pressure equipment and electronic gas measurement equipment

Release: 1

UEGNSG060 Maintain SCADA controlled flow and pressure equipment and electronic gas measurement equipment

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 supervisory control and data acquisition (SCADA) controlled gas distribution and transmission station facilities in accordance with relevant legislation, codes of practice, regulations and workplace procedures.

It includes gas station maintenance of equipment, including remotely operated and controlled valves, air loaded, and SCADA controlled regulators, Coriolis, and ultrasonic and electronic meters.

This unit applies to the following types of gas stations, subject to workplace safety and duty of care requirements being met for the workplace:

- compressor stations
- custody transfer stations
- inlets and city gates
- scraper stations
- gas storage facilities
- SCADA controlled main line valves

The skills and knowledge described in this unit require a licence or permit to practice in the workplace where work is carried out on electrical installations which are designed to operate at voltages greater than 50 V a.c. or 120 V d.c.

Competency development activities in this unit are subject to regulations directly related to licensing.

Additional and/or other conditions may apply in some jurisdictions subject to regulations related to electrical work. Practice in the workplace and during training is also subject to workplace safety regulations.

Pre-requisite Unit

UEGNSG040 Use a portable gas detector to locate a combustible gas escape

Competency Field

Pressure Control Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare SCADA controlled gas flow and pressure equipment and electronic gas measurement equipment

PERFORMANCE CRITERIA

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

- 1.1** Workplace safety, environmental and sustainable energy practices for the site are identified, obtained and understood
- 1.2** Job requirements are obtained and interpreted from plans, specifications and instructions
- 1.3** Relevant job requirements and workplace procedures for work activities are discussed with relevant person/s, including third parties, to determine and confirm work schedule and respective responsibilities
- 1.4** Hazards are identified, workplace safety and environmental risks are assessed, and control measures are prioritised, implemented and monitored in accordance with workplace procedures
- 1.5** Scope of responsibility under the relevant job requirements, including all work permits and/or relevant notifications, is determined and confirmed to access the services and perform work in accordance with job requirements and workplace procedures
- 1.6** Equipment, tools and personal protective equipment (PPE) needed to carry out work activities are identified, obtained and checked for correct operation and safety in accordance with workplace procedures and manufacturer instructions
- 1.7** Materials, plans, diagrams, drawings and resources required for work are confirmed and obtained in accordance with workplace procedures
- 2.1** Workplace safety and environmental risk control measures, schedule of work and workplace procedures

2 Maintain SCADA controlled gas flow and

**pressure equipment and
electronic gas
measurement equipment**

for carrying out work are followed

- 2.2** Gas detectors are used to determine worksite gas concentration levels and to locate and pinpoint any escaping gas, and supervisor advised immediately if site is unsafe in accordance with workplace procedures
- 2.3** Appropriate materials, tools and equipment are selected and used safely in accordance with manufacturer instructions and workplace procedures
- 2.4** Work is completed within agreed timeframe and to industry standards in accordance with job requirements and workplace procedures
- 2.5** Hazardous activities are conducted safely in accordance with regulatory requirements and workplace procedures
- 2.6** Alarms, codes and hazard warnings are correctly recognised, and the correct response strategy is selected and applied in accordance with workplace procedures
- 2.7** Electrical isolations are scheduled, and local/remote control actuated and communicated in accordance with workplace procedures
- 2.8** Data on system performance, usage and unplanned events is collected, reviewed and reported in accordance with workplace procedures
- 2.9** Gas station venting and purging operations are undertaken in accordance with workplace procedures
- 2.10** Gas flow regulator and meter runs, and components are set up and operated, and system is vented, purged and pressurised in accordance with workplace procedures
- 2.11** Process variables and set points are taken and required adjustments and repairs are carried out in accordance with workplace procedures
- 2.12** Actuators are isolated/de-energised in accordance with manufacturer instructions and workplace company procedures
- 2.13** Faults and operational conditions of the components are identified, repaired or replaced, and reported in

		accordance with organisational job requirements
	2.14	Unplanned events are referred to the relevant person/s for directions in accordance with workplace procedures
3 Complete SCADA maintenance work and relevant documentation	3.1	Workplace safety risk control measures for work completion are followed
	3.2	Quality and safety checks of the work are conducted in accordance with job requirements, workplace procedures and community and industry standards
	3.3	Worksite is cleaned, reinstated and made safe in accordance with workplace procedures
	3.4	Tools, equipment and any surplus resources/materials are cleaned, checked and securely stored in accordance with workplace procedures
	3.5	Incidents are reported and followed up as required in accordance with workplace procedures
	3.6	Relevant person/s is notified of work completion in accordance with workplace procedures
	3.7	Work completion documentation is completed accurately and provided to relevant 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.

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG806 Maintain SCADA controlled flow and pressure equipment and electronic gas measurement equipment.

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 UEGNSG060 Maintain SCADA controlled flow and pressure equipment and electronic gas measurement equipment

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 and performance criteria on at least two separate occasions and include:

- applying relevant workplace safety requirements, including:
 - applying workplace procedures and practices
 - using of risk control measures
- applying sustainable energy principles and practices
- 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 correctly drawings, diagrams, schedules, workplace procedures and manuals relevant to the work to be undertaken
- maintaining supervisory control and data acquisition (SCADA) controlled gas flow and pressure measuring and regulating device in accordance with relevant legislation, industry standards, codes of practice, regulations and workplace procedures
- purging and venting components
- replacing pressure relief device with over pressure protection devices
- replacing boosters and relief with over pressure protection 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 and performance criteria and include knowledge of:

- component types, function and operation, including:
 - data collection and equipment control functions, including:
 - remote telemetry unit (RTU)
 - plant control system (PCS)
 - programmable logic controllers (PLCs)

- distributive control systems (DCS)
- flow control, filtration, pressure control, overpressure control, turbine, ultrasonic and Coriolis metering
- gas station maintenance requirements and procedures
- hazardous activities, including lifting, climbing, working in confined spaces, excavations, trenches or aloft, and use of power tools, techniques and practices
- maintenance of SCADA gas flow and pressure measuring and regulating devices
- principles of SCADA use in monitoring and control of applicable organisational gas infrastructure
- relevant job safety analysis (JSA) or risk mitigation processes
- relevant legislation, industry standards and codes of practice
- relevant manufacturer specifications, manuals and procedures
- relevant workplace safety requirements, including:
 - legislated work health and safety (WHS)/occupational health and safety (OHS) requirements
 - legislated industry/technical specific requirements
 - workplace safety procedures
 - manufacturer requirements
- relevant workplace policies and procedures
- relevant workplace reporting and documentation requirements, including:
 - gas facility manuals
 - schematics
 - SCADA displays
 - switches, piping and instrumentation diagram/drawing
- RTUs and associated controller maintenance
- SCADA controlled gas station venting, purging and pressurisation operations
- SCADA gas flow measurement equipment
- SCADA gas station alarms and safety devices
- SCADA operated gas conditioning and monitoring equipment
- SCADA operated gas station valves
- SCADA operated pressure control equipment.

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 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 PPE currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

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<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6a6c032e-ffcb-4f3d-8063-415efbd261e8>