



Australian Government

UEGNSG117 Plan and implement the data acquisition and metering requirements of a gas system

Release: 1

UEGNSG117 Plan and implement the data acquisition and metering requirements of a gas system

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 plan and implement the data acquisition and metering requirements of a gas system.

It includes planning and commissioning the data acquisition and metering requirements of a natural or liquefied petroleum gas (LPG) system, determining specific equipment and maintenance requirements, communicating with relevant authorities and stakeholders, and completing relevant documentation.

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

Pre-requisite Unit

Not applicable.

Competency Field

Gas Cross Discipline

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan data acquisition and metering requirements of a gas system

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) principles and practices and environmental and sustainable energy policies and procedures which may influence the systems are obtained and reviewed

- 1.2 Data is analysed and data acquisition and metering requirements of the gas system are determined and expected outcomes of the work are communicated with appropriate person/s
 - 1.3 Properties and characteristics of gas to be measured are identified on the development of a data acquisition and metering requirements system in accordance with workplace procedures
 - 1.4 Design capacity of gas system is identified in accordance with workplace procedures
 - 1.5 Back-up systems are specified in accordance with workplace procedures
 - 1.6 Legislative requirements are identified
 - 1.7 Data storage and communication systems are specified
 - 1.8 Work is prioritised and sequenced for completion within acceptable timeframes to industry standards in accordance with workplace procedures
 - 1.9 Communication issues with authorised persons, authorities, clients and land owners are resolved and work coordinated in accordance with work schedule and workplace procedures
 - 1.10 Hazards are identified, risks are assessed and control measures are implemented in accordance with workplace procedures
- 2 Determine equipment and maintenance requirements**
- 2.1 Systems modelling is used to evaluate alternative proposals in accordance with workplace procedures
 - 2.2 Maintenance activities are determined and scheduled in accordance with requirements and workplace procedures
 - 2.3 WHS/OHS and sustainable energy principles, functionality and practices to reduce accidents and minimise waste are incorporated into the project in accordance with requirements and workplace procedures
 - 2.4 Technical advice is obtained in relation to equipment hazards, assessed risks and reasonably practicable risk control measures so that monitoring can be undertaken and appropriate authorities consulted, as required, in accordance with workplace requirements and procedures

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| | <p>2.5 Data is analysed and compared with compliance specifications to ensure completion of the project within agreed timeframes in accordance with maintenance requirements</p> <p>2.6 Maintenance recording system is developed incorporating organisation initiatives in accordance with workplace procedures</p> <p>2.7 Metering equipment is selected to meet performance specifications and is optimally located in the system</p> <p>2.8 Unplanned situations are responded to in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment</p> <p>2.9 Quality of work is monitored against performance agreement and industry standards</p> |
| <p>3 Commission data collection and metering system</p> | <p>3.1 Final inspections of the metering and data acquisition plan are undertaken to ensure compliance with requirements and all specifications and documentation required to complete the project are included</p> <p>3.2 Resources required for the work are obtained and scheduled in accordance with the plan and workplace procedures</p> <p>3.3 Metering and data acquisition system is commissioned in accordance with the plan and organisational WHS/OHS policies and procedures</p> <p>3.4 Work completion reports are completed and appropriate person/s notified in accordance with workplace procedures</p> <p>3.5 Reports are submitted to relevant person/s for approval in accordance with workplace procedures</p> <p>3.6 Approved copies of metering and data acquisition plan are issued and records updated in accordance with workplace procedures</p> |

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.

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| gas systems must include at least five (5) of the following: | <ul style="list-style-type: none">• custody transfer stations• tanker transfer• decantation• tempered liquid petroleum systems• field or district regulators• LPG systems• meters and regulators• transmission and distribution systems |
| planning and implementing the data acquisition and metering requirements of a gas system must include at least four (4) of the following variables: | <ul style="list-style-type: none">• temperatures• pressure and flow rates from regulator or custody transfer stations• water bath heater operation (water temperature, pilot light and main burner operation)• faulty equipment (over pressure and under pressure, slam shut operation and filter problems)• pipeline ruptures• security system monitoring and pressure and volume data for 'balancing the system' |
| resources must include at least four (4) of the following: | <ul style="list-style-type: none">• relevant persons• relevant authorities• company workplace procedures• materials• equipment manuals/specifications• personal protective equipment (PPE)• fire safety systems and training resources |
| relevant authorities must include at least three (3) of the following: | <ul style="list-style-type: none">• government authorities• landowners• stakeholders• local councils• fire authorities• other utilities |
| relevant documentation must include at least eight (8) of the following: | <ul style="list-style-type: none">• specifications, drawings and plans• manufacturer specifications• company standard operational and safety |

procedures

- company management plans and policies
- work permits
- hot work permits
- company forms and files
- acts and regulations
- contracts
- recording/reporting
- maintenance activities
- inspection and incident reports

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG117B Plan and implement the data acquisition and metering requirements of a gas system.

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 UEGNSG117 Plan and implement the data acquisition and metering requirements of a gas system

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:

- analysing relevant workplace data
- applying relevant industry standards, guidelines, codes of practice, legislation and regulations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements
- applying sustainable energy and environmental principles and practices
- commissioning data collection and metering system
- communicating with relevant stakeholders
- dealing with unplanned events/situations in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- determining metering equipment and maintenance requirements
- employing correct waste management procedures
- following workplace procedures
- planning data acquisition and metering requirements of a gas system
- reviewing and reporting on completed work.

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:

- relevant workplace data
- chemical and physical behaviours of gas
- commission/decommission pipelines and cathodic protection principles
- communicate effectively
- data acquisition and metering requirements
- environmental and sustainable energy principles and practices
- permit to work system, including types of permit limitations
- relevant industry standards, guidelines, codes of practice, legislations and regulations

- relevant manufacturer specifications
- relevant safe work method statements/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- reviewing and reporting requirements for completed work
- stakeholder relations
- supervisory control and data acquisition (SCADA) system operations
- utility and gas industry metering technical systems and processes
- waste management 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.

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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