



Australian Government

UEGNSG118 Select and commission equipment to meet pressure and temperature control specifications

Release: 1

UEGNSG118 Select and commission equipment to meet pressure and temperature control specifications

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 select and commission equipment for pressure and temperature control in a natural gas or liquefied petroleum gas (LPG) system.

It includes determining equipment pressure and temperature control specifications and performance parameters for natural gas or LPG system. It also includes selecting, planning and overseeing commissioning of equipment and validating natural gas or LPG control system performance.

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

Pre-requisite Unit

Not applicable

Competency Field

Cross Discipline Units

Unit Sector

Gas Industry

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Determine performance parameters for natural gas or LPG system control

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, practices and environmental and sustainable energy workplace procedures are reviewed and applied

- 1.2 Performance parameters for the natural gas or LPG system control are determined from analysed data and expected outcomes of the work is confirmed with appropriate personnel
 - 1.3 Specifications for performance parameters for the natural gas or LPG system to be controlled are obtained or determined with the appropriate personnel in accordance with workplace procedures
 - 1.4 Properties and natural gas or LPG characteristics are identified and discussed with appropriate personnel
 - 1.5 Relevant documentation, industry standards and legislative requirements are determined, analysed and applied
 - 1.6 Natural gas or LPG system growth requirements are evaluated in determining the control specifications performance requirements
 - 1.7 Work roles and tasks are allocated in accordance with job requirements and worker/s competencies
 - 1.8 Work is prioritised and sequenced within an acceptable timeframe in accordance with industry quality standard and workplace procedures
 - 1.9 Liaison and communication with authorised personnel, authorities, clients and land owners are undertaken to resolve gas system issues and coordinated work activities in accordance with workplace procedures
 - 1.10 Risk control measures are identified, prioritised and applied to the work schedule
 - 1.11 Site requirements are identified, risk assessed and relevant work permits are secured to coordinate the performance of work in accordance with job requirements and workplace procedures
- 2 **Plan and oversee commissioning of natural gas or LPG control equipment**
 - 2.1 Control equipment and materials are selected to meet performance, budgetary and WHS/OHS requirements
 - 2.2 Commissioning plan, inspection and testing criteria are developed and implemented in accordance with workplace procedures

- 2.3 Relevant resources are scheduled in accordance with workplace requirements
 - 2.4 Relevant gas supply authorities and statutory bodies are consulted and notified in accordance with workplace procedures
 - 2.5 Performance monitoring plan is developed
 - 2.6 Relevant documentation is completed and authorised by the relevant authorities
 - 2.7 Specific data is analysed and compared with compliance specifications to ensure completion of project within an agreed timeframe in accordance with job requirements
 - 2.8 Unplanned events and non-routine problems are identified and actioned, in accordance with job requirements and workplace procedures
 - 2.9 Quality of work is monitored against performance agreement, workplace procedures and relevant industry standards
- 3 **Validate natural gas or LPG system performance**
 - 3.1 Inspections to validate natural gas or LPG system performance are undertaken to ensure compliance with job requirements and pressure and temperature control specifications, and documentation needed to complete the project is completed
 - 3.2 System performance is reviewed to ensure performance of the natural gas or LPG system is within specifications
 - 3.3 Natural gas or LPG system performance is reviewed to ensure balance is maintained with interconnected systems
 - 3.4 Natural gas or LPG system performance is reviewed to ensure security of supply is within acceptable risk factors and in accordance with relevant industry standards
 - 3.5 Reports and performance data are completed and lodged with relevant authorities
 - 3.6 Appropriate personnel are notified of job completion and reports/documents are finalised 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.

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| gas systems must include at least two (2) of the following: | <ul style="list-style-type: none">• transmission and distribution pipelines• storage facilities• underground storage• LPG installations• tanker and storage facilities |
| gas characteristics must include at least two (2) of the following: | <ul style="list-style-type: none">• temperature• chemical composition• pressures and pressure reduction• reserve quantities• LPG evaporation rates |
| resources must include at least four (4) of the following: | <ul style="list-style-type: none">• relevant personnel• materials and equipment• personal protective equipment (PPE)• company operating/workplace procedures• equipment manuals• training resources |
| legislative requirements must include: | <ul style="list-style-type: none">• WHS/OHS, government acts and regulations• relevant Australian industry standards and codes of practice• environmental legislative requirements |
| relevant requirements must include at least three (3) of the following: | <ul style="list-style-type: none">• government authorities• landowners/traditional land owners• stakeholders• local councils• fire authorities• other utilities• statutory authorities |
| documentation must include at least five (5) of the following: | <ul style="list-style-type: none">• contracts• specifications• drawings/plans |

- manufacturer specifications
- work permits
- company standard operation and safety procedures
- company management plans and policies
- company forms and files
- laws and codes of practice

Unit Mapping Information

This unit replaces and is equivalent to UEGNSG118B Select and commission equipment to meet pressure and temperature control specifications.

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 UEGNSG118 Select and commission equipment to meet pressure and temperature control specifications

Modification History

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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 applicable permit to work system, including:
 - identifying the limitations in a permit to work system
 - permit to work system
 - types of permit limitations
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - using risk control measures
 - workplace procedures and practices
- applying sustainable energy principles and practices
- communicating effectively with stakeholders
- dealing effectively with unplanned events in accordance with workplace procedures, in a manner that minimises risk to personnel and equipment
- determining performance control parameters for natural gas or LPG system
- optimising performance of pressure and temperature control equipment
- planning and implementing commissioning of natural gas or LPG control equipment
- validating natural gas or LPG system performance specifications.

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:

- commission/decommission pipelines and cathodic protection principles, including:
 - commissioning and decommissioning procedures for pipeline and gas industry facilities and infrastructure
 - cathodic protection systems
 - plan and design commissioning procedures

- plan and design cathodic protection commissioning procedures
- designing and modification to pressure and temperature equipment
- optimise performance of pressure and temperature control equipment
- operating principles of pressure and temperature control equipment and their performance characteristics, including:
 - electronic control equipment
 - pneumatic control equipment
- principles of gas flow and gas metering
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- 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.

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

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