



Australian Government

UEGNSG608B Perform minor maintenance on gas processing/storage facilities and equipment

Release: 1

UEGNSG608B Perform minor maintenance on gas processing/storage facilities and equipment

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This Competency Standard Unit covers the performing of minor maintenance on liquefied petroleum gas processing facilities and equipment. The competency standard also refers to pressure vessels and fittings; types of variations or irregularities; appropriate parts; types of adjustments; relevant documentation.

Application of the Unit

Application of the Unit 2)

This competency standard shall apply to any basic and safe work site where Gas Industry operations occur. It could also apply, where applicable to other workplaces in the electricity supply industry (transmission and distribution and generation), the electrotechnology industry and the water industry, subject to all Occupational Health and Safety and duty of care requirements being met for the workplace.

Licensing/Regulatory Information

License to practice 3)

The skills and knowledge described in this unit are not subject to licence regulation other than those directly related to Occupational Health and Safety, gas/electricity/water industry safety and compliance,

License to practice

3)

industrial relations, environmental protection, telecommunications, anti discrimination and training. Commonwealth, State/Territory or Local Government legislation and regulations may exist that limits the age of operating certain equipment.

Pre-Requisites

Prerequisite Unit(s)

4)

Competencies

4.1)

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed:

Nil

Literacy and numeracy skills

4.2)

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills

5)

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit
Performance Criteria describe the required performance needed to demonstrate achievement of the element.
Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare and plan for maintenance activities	1.1 All necessary and appropriate facilities, tools, test and measurement instruments, materials and components to allow the completion of the work are selected against the work schedule(s), including drawings, plans, requirements and established procedures 1.2 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites 1.3 OHS, environmental and sustainable energy policies and procedures related to performing minor maintenance on gas processing and storage facilities and equipment are obtained and confirmed 1.4 Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures 1.5 Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule 1.6 The facilities and equipment is made safe by ensuring it is safely isolated, depressurised, purged, tagged and locked out before allowing any repair or maintenance work to be undertaken and the relevant work permits are obtained to access and perform work according to requirements and established procedures 1.7 Resources including appropriately licensed

ELEMENT

PERFORMANCE CRITERIA

		persons, equipment, tools and personal protective equipment required for the job are identified, scheduled and obtained and confirmed in working order
	1.8	Relevant persons at worksite are confirmed to be current in First Aid and other related work procedures according to requirements
	1.9	Liaison and communication with authorised persons, authorities, clients and land owners is completed so that work can be carried out where necessary
	1.10	Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
	1.11	Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
	1.12	Fault-finding and troubleshooting techniques are applied to operational systems in order to identify any repairs or maintenance which may need to be undertaken
	1.13	Road signs, barriers and warning devices are positioned in accordance with requirements including traffic management plans
2	Perform minor maintenance on gas processing/storage facilities	2.1 OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards 2.2 Lifting, climbing, working in confined spaces or aloft, and use of power tools, techniques and practices are safely followed and currency according to requirements confirmed 2.3 Essential Knowledge and Associated Skills for the performing of minor maintenance on gas processing and storage facilities and equipment

ELEMENT

PERFORMANCE CRITERIA

- | | | |
|---|---------------------------|--|
| | | is applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements |
| | 2.4 | Adjustments to calibration and test equipment and devices are made to ensure equipment and devices operate within specific ranges and to maintain correct flow parameters to ensure gas availability |
| | 2.5 | Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures |
| | 2.6 | Unplanned events in performing minor maintenance on gas processing/storage facilities and equipment are undertaken with the scope of established procedures |
| | 2.7 | Parts are replaced and known solutions to a variety of problems are applied using Essential Knowledge and Associated Skills |
| | 2.8 | Maintenance is performed and ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures |
| 3 | Record and report results | |
| | 3.1 | Maintenance results are documented and work undertaken is checked against work schedules for conformance with requirements and anomalies reported in accordance with established procedures |
| | 3.2 | Accidents and injuries are reported in accordance with requirements and established procedures where applicable |
| | 3.3 | Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures |
| | 3.4 | Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures |

ELEMENT

PERFORMANCE CRITERIA

- 3.5 Relevant work permit(s) are signed off and equipment is returned to service in accordance with requirements
- 3.6 Work completion records, reports and information are finalised and processed and appropriate persons notified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices for to performing minor maintenance on gas processing/storage facilities and equipment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-G608 Storage facility and equipment minor maintenance B

G 3.6.1 Working safely in an LPG environment

Evidence shall show an understanding of the requirements to work safely in an LPG environment, indicated by the following:

- working safely in accordance with procedures, OHS, emergency and environmental requirements
- awareness of the properties of LPG
- identifying variations and irregularities.

G 3.6.2 Understanding the correct use of plant and equipment in an LPG environment

Evidence shall show an understanding of the requirements to correctly use plant and equipment in an LPG environment, indicated by the following:

- operate transfer equipment including compressors or pumps
- transfer methods for pipes and hoses

- selection, testing and set up processes for transfer equipment
- making analytical judgements for appropriate adjustments to plant and equipment
- awareness of test equipment and its uses
- operation, testing and inspecting equipment that includes pressure vessels and associated fitting
- understanding manufacturer's specifications to make adjustments to parts where appropriate
- understanding of how to select appropriate equipment for tasks associated with LPG
- operating correctly gas analysis equipment
- operating correctly gas alarm and communication equipment.

G 3.6.4 LPG communication including the recording of LPG information

Evidence shall show an understanding of the requirements to communicate and record information in an LPG environment, indicated by the following:

- accurately recording LPG information
- recording and reporting corrective actions in an LPG environment
- identifying and reporting any problems associated with transfer processes and procedures
- communicating in an LPG environment
- understanding of permit to work systems for an LPG environment.

Evidence Guide

EVIDENCE GUIDE

9) The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment 9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that

can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

**Critical aspects
of evidence
required to
demonstrate
competency in
this unit** 9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines — UEG11'. Evidence shall also

comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
 - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range
 - Apply sustainable energy principles and practices as specified in the Performance Criteria and range
 - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner's performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment
 - Demonstrate an appropriate level of employability skills
 - Conduct work observing the relevant Anti discrimination legislation, regulations, policies and workplace procedures
- Demonstrate performance across a representative range of contexts from the prescribed items below.

Range of tools/equipment/procedures/workplace		
Group No	The minimum number of items on which skill is to be demonstrated	Item List
A	At least 7	Pressure vessels and fittings: Pressure vessel Vapourisers Earth connections Relief valves System(s) isolation Emergency shut-down valving (eg ISC valves) Manual shut-down valving Pipe work

		Vessel footings Regulators Hoses and couplings Pumps Compressors
B	At least 3	Types of irregularities may include: Corrosion Impact damage Point deterioration Leakage Non-operability of shutdown systems Equipment out of calibration
C	At least 6	Appropriate parts to be replaced: Excess flow valves Relief valves Pressure regulators/springs Pump seals/compressor seals Pressure gauges Bypass valves Meters Solenoids Valves Break away couplings Meter heads
D	At least 2	Types of adjustments: Downstream pressure adjustment Storage pressure adjustment (vapouriser system only)

		Bypass pressure adjustment for pumps
E	All	Documentation: OHS, environmental and associated legislative requirement ADG Code Australian Standards Manufacturer's specifications Work permits
F	At least one occasion	Deal with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items

Context of and specific resources for assessment 9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this Competency Standard Unit.
- Appropriate environmental regulation and work practices.
- Appropriate organisational requirements.
- Appropriate work environment, equipment and tools.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency in performing minor maintenance on gas

processing/storage facilities and equipment.

Assessment of this competency must also be undertaken in either an actual workplace or under a simulated work environment. Assessment must also integrate the employability skills.

**Method of
assessment**

9.4)

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the Industry to which this Competency Standard Unit applies. This requires that the specified Essential Knowledge and Associated Skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

**Concurrent
assessment and
relationship with
other units**

9.5)

UEGNSG102B Carry out work activities in a utilities industry work environment

UEENEEE101 A Apply Occupational Health Safety regulations, codes and practices in the workplace

UEGNSG104B Comply with environmental policies and procedures

UEGNSG105B Establish the work site

BSBFLM312B Contribute to team effectiveness

BSBFLM303C Contribute to effective workplace relationships

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to performing minor maintenance on gas processing/storage facilities and equipment.

The following constants and variables included in the element/Performance Criteria in this unit are fully described in the Definitions Section of this volume and form an integral part of the Range Statement of this unit:

Pressure vessels and fittings

Types of variations or irregularities

Appropriate parts

Types of adjustments

Documents

Documentation (3)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field	11)
	LPG.