



Australian Government

Department of Education, Employment and Workplace Relations

UEGNSG612B Supervise technical operations for liquefied petroleum gas storage and processing

Release: 1

UEGNSG612B Supervise technical operations for liquefied petroleum gas storage and processing

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This Competency Standard Unit covers the technical supervision of liquefied petroleum gas storage, processing and maintenance operations. The competency standard refers to Resources; Activities; Appropriate Persons; Relevant Persons; Monitoring; Operational Requirements; Effective Communication; Types of Gas System Faults; Relevant Documentation; Legislative Requirements; Records and reports

Application of the Unit

Application of the Unit 2)

This competency standard shall apply to any work site where liquefied petroleum gas operations occur.

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, 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 4 Writing 4 Numeracy 4

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 Plan and prepare to supervise operations	1.1 Operational area is checked for hazards and the works schedule(s), including drawings, plans, requirements, established procedures and material lists are detailed, analysed if necessary by site inspection and the extent of the preparation of the work determined for planning and coordination 1.2 Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes to a quality standard and in accordance with established procedures 1.3 Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule 1.4 Relevant requirements and established procedures for the work are communicated to all persons and identified for all work sites 1.5 OHS, environmental and sustainable energy policies and procedures related to the work are identified to ensure safe systems of work are followed 1.6 Relevant work permits are secured to coordinate the performance of work according to requirements and or established procedures 1.7 Resources including appropriately licensed persons, equipment, tools and personal protective equipment required for the job are identified, scheduled, coordinated and confirmed in a safe and technical working order 1.8 Clients are provided with possible solutions and options within the scope, acceptable cost and requirements 1.9 Liaison and communication issues with authorised persons, authorities, clients and land owners are resolved and activities coordinated to carry out work

ELEMENT	PERFORMANCE CRITERIA
	1.10 Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with established procedures 1.11 Status of the system is sought through communication with pipeline control centre in accordance with established procedures 1.12 Expenditure is forecast and managed to keep within operational budget constraints
2 Supervise operations	2.1 OHS policies and procedures and safe work practices are followed to eliminate or minimise incidents and hazards 2.2 Appropriate persons are inducted according to company standard operating procedures 2.3 First Aid and other related work procedures are performed according to requirements and established procedures 2.4 Lifting, climbing, working in confined spaces, excavations, trenches, and aloft, use of power tools, techniques and practices are safely exercised according to requirements 2.5 Equipment faults are identified through inspection and testing of operational equipment in accordance with a work schedule and to requirements 2.6 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 2.7 Operating conditions of equipment are monitored through gauge levels, temperatures, flow indicators in order to determine performance of equipment and system 2.8 Information concerning the operation of the pipeline system is monitored and conveyed to relevant persons to ensure safe and efficient

ELEMENT	PERFORMANCE CRITERIA
	operation of the pipeline system
	2.9 Fault finding and troubleshooting techniques are applied to operational systems and equipment to identify any repairs or maintenance that is required according to requirements and established procedures
	2.10 Essential Knowledge and Associated Skills are applied to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
	2.11 Solutions to non-routine problems are identified and actioned using Essential Knowledge and Associated Skills according to requirements
	2.12 Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client/customer to a community and industry standards
3 Finalise completion details	3.1 Work undertaken is checked against works schedule for conformance with requirements and anomalies which are reported and solutions identified in accordance with established procedures
	3.2 Accidents and injuries are reported and followed up in accordance with requirements and established procedures
	3.3 Work site is rehabilitated/cleaned up and confirmed safe and in accordance with 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
	3.5 Relevant work permit(s) are signed off in accordance with requirements
	3.6 Works completion records, reports as installed/modified drawing(s) and documentation and information is confirmed,

ELEMENT

PERFORMANCE CRITERIA

processed and the 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 the supervising of technical operations for liquefied petroleum gas storage and processing.

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

KS01- G612B Gaseous fuel storage technical operations

- 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 3.6.6 Technical drawings
Evidence shall show an understanding of the requirements to understand technical drawings for the LPG environment, indicated by the following:
- understanding and interpreting technical drawings.
- G 5.6.1 Supervision of LPG processes
Evidence shall show an understanding of the requirements to supervise LPG staff, activities and procedures, indicated by the following:
- effective communication including:
 - Demonstration of an understanding and skill in appropriate workplace colleague and third-party communication

- Understanding relevant organisational and regulatory requirements in workplace communications
- motives for communication
- communication networks
- communication types including:
 - Oral – directly spoken
 - Oral – telephone or radio
 - Written – reports, memos etc
 - Electronic – email, electronic files, video presentations etc
- choosing the medium and the flow of a message
- blocks to effective communication
- using emergency equipment including fire fighting equipment
 - dealing with emergencies
 - elements of an emergency plan
 - fire extinguishing system
- understanding industrial awards and employee entitlements
 - individual and collective bargaining agreements
 - awards and employee entitlements
- correct waste management procedures
 - organisational requirements for waste management
 - affects of not managing waste effectively
- coordinating the work of others
 - the importance of good management
 - what good managers do
 - the importance of leadership
 - effective leadership
 - the importance of control
 - control methods
 - principles of effective control
 - control systems and techniques
- applying permit to work system including permits and limitations
 - understanding applicable organisational permit to work systems
 - demonstrated application of an organisational permit to work system
- providing technical leadership and accurate instruction

- understanding organisational procedures for the testing, diagnosing and rectification of faults.
- G 5.6.2 Assess and control odourant levels for LPG processing
Evidence shall show an understanding of the requirements to assess the correct odourant levels for the processing of LPG, indicated by the following:
- assessing correct odourant levels for processing LPG.
 - Implication of incorrect odourant levels
 - Correct odorant injection levels
- G 5.6.3 Operate LPG plant and equipment
Evidence shall show an understanding of the requirements to undertake the operation of plant and equipment used in the LPG environment, indicated by the following:
- correct vessel inspecting, testing techniques and coating procedures to protect against corrosion
 - liquid product transfer (fiscal and operational)
 - monitor, identify and rectify any problems associated with storage processing (transfer processes and procedures)
 - metering and calibration procedures
 - operation of storage/processing facilities and equipment
 - operation of pumps, compressors, valving, shutdown and deluge systems.

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 5	Resources: Vessels Pumps Compressors Valves Product Control and monitoring equipment Mixing and sampling equipment Air equipment
B	At least 3	Activities: Product revival, processing and/or dispatch Rectification of gas system

		faults Scheduling of maintenance, repairs and/or modifications Commissioning of new plant and/or equipment Stock control
C	At least 5	Monitoring of storage/processing facilities: Pressure Temperature Volume Corrosion Liquid/vapour leaks Product levels Product levels Security
D	At least 3	Operational requirements: Product levels Product blending/mixing/odourising Manufacturers maintenance requirements Rectification of gas system faults
E	At least 4	Types of faults: Liquid/vapour leaks Electrical problems Mechanical failure Over filled vessel Out of current inspection status Gauge failure
F	All	Working safely in an LPG environment Interpreting technical drawings Determining odourant levels for LPG processing OHS and associated legislative requirements ADG Code

G	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
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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 supervising technical operations for liquefied petroleum gas storage and processing.

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)

There are no recommended concurrent assessments with this unit.

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 supervising technical operations for liquefied petroleum gas storage and processing.

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:

Resources

Activities

Appropriate persons (5)

Relevant persons

Monitoring

Operational requirements (5)

Effective communication (5)

Types of gas system faults

Relevant documentation (5)

Legislative requirements (5)

Records/reports (5)

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**
LPG.