



**Australian Government**

# **UEGNSG621A Control bulk storage of LPG**

**Release 1**

## UEGNSG621A Control bulk storage of LPG

### Modification History

This unit replaces UEGNSG610B Control storage of LPG in terminal

### Unit Descriptor

#### Unit Descriptor

#### 1) Scope:

##### 1.1) Descriptor

This unit covers controlling the bulk storage of LPG in terminals and depots installation in accordance with relevant legislation, codes, regulations and established procedures.

This encompasses following procedures to correctly and safely transfer LPG; monitor and store LPG at facilities; and emergency response using appropriate materials, tools and equipment.

### Application of the Unit

#### Application of the Unit 2)

This competency standard shall apply to LPG bulk storage terminals & depots, subject to all Workplace Health and Safety (WHS)/Occupational Health and Safety (OHS) and duty of care requirements being met for the workplace.

This unit is intended as an entry level AQF 3 competency for new entrants in the gas industry. It is suitable for employment-based programs under an approved contract of training.

## Licensing/Regulatory Information

### License to practice 3)

#### During Training:

Competency development activities are subject to regulations directly related to licensing, occupational health and safety and where applicable contracts of training such as apprenticeships.

#### In the workplace

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. Other conditions may apply to this competency under State and Territory legislative and regulatory requirements.

## 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:

UEGNSG141A Apply Workplace Health and Safety regulations, codes and practices in the gas industry

UEGNSG005A Prepare to work in the Australian gas

**Prerequisite Unit(s) 4)**

industry

UEGNSG132A Carry out basic work activities in a gas industry work environment

UEGNSG140A Apply environmental policies and procedures in the utilities industry

UEGNSG134A Establish a utilities infrastructure work site

**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   |
|---|--|
| <b>1 Prepare for the storage of LPG</b> | <p>1.1 Appropriate persons are consulted to ensure the work is coordinated effectively with others involved on the work site and the availability of equipment is determined</p> <p>1.2 Equipment is checked in accordance with standard operating procedures and relevant requirements</p> <p>1.3 WHS/OHS, environmental and sustainable energy policies and procedures related to requirements and established procedures for control storage of LPG in terminal are obtained and confirmed for the purposes of the work performed and communicated</p> <p>1.4 Work is prioritised and sequenced following consultation with others for completion within acceptable timeframes and in accordance with established procedures</p> <p>1.5 Risk control measures for identified hazards are prioritised, implemented and monitored against the work schedule</p> <p>1.6 Relevant work permits are obtained to access, isolate/de-energise systems and perform work according to requirements and/or established procedures</p> <p>1.7 Appropriate valves are operated and other resources including appropriately persons,</p> |

**ELEMENT****PERFORMANCE CRITERIA**

- 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 related work procedures according to requirements
- 1.9 Site is prepared according to the work schedule to minimise risk and damage to property, commerce and individuals in accordance with established procedures
- 1.10 Persons participating in the work, including plant operators and contractors are fully briefed and respective responsibilities confirmed where applicable in accordance with established procedures
- 2 Control Storage of LPG**
- 2.1 LPG is stored in a safe and efficient manner in accordance with standard operating procedures and the condition of LPG is controlled within specifications and in accordance with legislative requirements
- 2.2 Lifting, climbing, working in confined spaces or aloft, and use of tools, techniques and practices are safely followed and currency maintained according to requirements confirmed
- 2.3 Required Skills and Knowledge for the control storage of LPG in terminal is applied to ensure completion in an agreed timeframe and to quality/ safety/ environmental standards according to requirements
- 2.4 Controlling the storage of LPG in terminal is carried out in accordance with the work schedule and to established procedures
- 2.5 Emergency response procedures and potential hazards, safety risks and control measures are monitored and preventative action taken and referred to appropriate authorities in accordance with requirements and established procedures

| <b>ELEMENT</b>                                    | <b>PERFORMANCE CRITERIA</b>  |
|---|--|
|   | 2.6 Abnormalities are reported and unplanned events incurred while controlling the storage of LPG in a terminal are undertaken within the scope of established procedures and responsibility |
|   | 2.7 Fault-finding and troubleshooting techniques are applied to operational systems and equipment in order to identify any repairs or maintenance which may need to be undertaken            |
|   | 2.8 Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures  |
| <b>3 Complete work and relevant documentation</b> | 3.1 Work undertaken is checked against works schedule for conformance with requirements, anomalies are 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 are cleaned, checked and returned to storage in accordance with established procedures                   |
|   | 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 as installed and modified, drawings and documentation and information are finalised and processed and appropriate persons notified                      |

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

7) *This describes the skills and knowledge and their level, required for this unit.*

Evidence shall show that knowledge has been acquired of safe working practices for the controlling the bulk storage of LPG in a terminal or depot.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies. The extent of the required skills and knowledge is provided below. It forms an integral part of this unit.

#### **KS01-G621A Bulk gaseous fuel terminal storage**

Evidence shall show an understanding of controlling the bulk storage of LPG in terminals and depots in accordance with relevant legislation, codes, regulations and established procedures to an extent indicated by the following aspects:

T1. Relevant Australian Standards, guidelines and codes of practice

T2. Relevant WHS/OHS policies and procedures.

- Safety signs including workplace hazards and warnings

T3. LPG storage/pressure vessels

- Requirements
- Types, construction, size, valves, labelling, Material Safety Data Sheets (MSDS)
- Testing and inspection procedures

T4. LPG bulk transfer

- Requirements, applications, methods, procedures
- Equipment/tools
  - Types, selection, manufacturers specifications/instructions, testing, set up, adjusting
  - Compressors, pumps
  - Pipes and hoses

T5. LPG Storage Facility

- Operation
- Manufacturer's specifications and standard adjustments to LP Gas equipment
- Identifying variations and irregularities
- Making analytical judgments for appropriate adjustments to plant and equipment
- Monitoring, testing, inspection and reporting requirements
- Safety



## REQUIRED SKILLS AND KNOWLEDGE

- Gas alarm and communication equipment
- Ignition prevention/control
- Leak testing requirements, types, procedures, required equipment/tools

### T6. Personal Protection Equipment

- Types, application, checking, maintenance and storage

### T7. Hazard identification, risk assessment and control

- Work Permits, JHA's, JSA's, JSEA's, SWM's, etc.
- Use of spill kits and PPE

### T8. Manual handling

- Characteristics, types, techniques

### T9. Accidents and emergency

- Types: fire, gas leak
- Emergency response equipment and procedures
  - breathing apparatus
  - gas detectors/oxygen monitoring devices
  - compliance requirements
  - Emergency shutdown, fire protection and security requirements
  - Reporting

T10. Organisation's policies, quality requirements, specifications, forms and reports for work activities

## Evidence Guide

### EVIDENCE GUIDE

8) 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 8.1)

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 8.2)  
of evidence  
required to  
demonstrate  
competency in  
this unit**

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 required skills and knowledge 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.
  - Controlling of the bulk storage of LPG in terminals and depots in accordance with relevant legislation, codes, regulations and established procedures as described in 9.) Range Statement and including;

| <b>Range of tools/equipment/procedures/work place</b> |   |   |
|---|---|---|
| <b>Group</b>  | <b>The minimum number of items on which skill is to be demonstrated</b> | <b>Item List</b>  |
| <b>A.</b>   | At least 3  | <ul style="list-style-type: none"> <li>• Pumps and compressors</li> </ul> |

|   |                       |   |
|---|-----------------------|---|
| <b>Equipment</b>                            |                       | <ul style="list-style-type: none"> <li>• Valves</li> <li>• Vessels</li> <li>• Control and monitoring equipment</li> <li>• Mixing equipment</li> <li>• Sampling equipment</li> </ul>   |
| <b>B. Procedures</b>                        | All                   | <ul style="list-style-type: none"> <li>• Site operating procedures</li> </ul>   |
| <b>C. Monitoring of storage facilities:</b> | At least 5            | <ul style="list-style-type: none"> <li>• Pressure</li> <li>• Temperature</li> <li>• Levels</li> <li>• Corrosion</li> <li>• Asset integrity</li> <li>• Gas leaks</li> <li>• Stock levels</li> <li>• Security</li> <li>• Fire protection systems</li> <li>• Shutdown systems</li> </ul> |
| <b>D. Emergency Response</b>                | All                   | <ul style="list-style-type: none"> <li>• Gas leaks and fire</li> <li>• Equipment failure</li> <li>• Hazards and incidents</li> </ul>  |
| <b>E. Documentation</b>                     | All                   | <ul style="list-style-type: none"> <li>• Maintenance records</li> <li>• Stock control records</li> <li>• Inspection checklists/reports</li> <li>• WHS/OHS, environmental and associated legislative requirements</li> </ul>   |
| <b>F. Unplanned event</b>                   | At least one occasion | Deal with an unplanned event by drawing on required skills and knowledge to provide appropriate solutions incorporated in the holistic assessment with the above listed items   |

**Context of and specific resources for assessment** 8.3)

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

- WHS/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.

These should be part of the formal learning/assessment environment.

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

Where simulation is considered a suitable strategy for assessment, conditions must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to locating, proving and protecting utility assets

**Method of assessment** 8.4)

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 required Skills and Knowledge 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 required skills and knowledge described in this unit.

**Concurrent  
assessment and  
relationship  
with other units**

**8.5)**

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied Competency Standard Units where listed.

- |            |  |
|------------|--|
| UEGNSG132A | Carry out work activities in a gas industry work environment |
| UEGNSG134A | Establish a utilities infrastructure 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 controlling bulk storage of LPG in a terminal or depot.

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:

- Appropriate persons
- LPG storage and transfer plant and equipment
- Legislative requirements
- Operation and monitoring of storage facilities
- Security/ Emergency / Fire protection systems
- Site operating procedures
- Documentation

### Unit Sector(s)

Gas supply industry.

### Competency Field

**Competency Field**            11)  
LPG