



Australian Government

Department of Education, Employment and Workplace Relations

CPCPGS3034A Install LPG storage of aggregate storage capacity up to 500 litres

Release: 1

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Modification History

ISC upgrade. Unit code updated from CPCPGS3014A to CPCPGS3034A Install LPG storage of aggregate storage capacity up to 500 litres

Unit Descriptor

Unit descriptor

This unit of competency specifies the outcomes required to install liquefied petroleum gas (LPG) storage facilities with a storage capacity up to 500 litres for consumer piping systems.

The unit requires the selection, location and installation of LPG storage facilities with a storage capacity of up to 500 litres, either single tank or multiple cylinder installations and the testing of the associated piping system. The storage is connected to consumer piping systems with operating pressures less than 200kPa.

The design requirements of this unit are limited to the application of the design to layout and installation.

Application of the Unit

Application of the unit

Site location for work application may be either domestic or commercial, and may be a new work site or an existing structure being renovated, extended, restored or maintained.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units

CPCPCM2023A

Carry out OHS requirements

Prerequisite units

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify LPG storage requirements.	1.1. Design, drawings, specifications and any special instructions are obtained. 1.2. Safety (OHS) requirements associated with the installation of LPG storage facilities, and workplace environmental requirements , are adhered to throughout the work. 1.3. Quality assurance requirements for company operations are identified and adhered to. 1.4. Gas load and design requirements are determined from plans, specifications, and job drawing or workplace instructions. 1.5. Storage capacity is calculated in compliance with regulatory authority and workplace requirements. 1.6. Type of storage is determined in accordance with job and workplace requirements. 1.7. Containers and type of system (one or two stage) are selected in accordance with standards, job and workplace requirements. 1.8. Appropriate regulators are determined to meet capacity and load of the system in accordance with workplace requirements. 1.9. Appropriateness of selected location to provide the required service is established in conformance to standards and workplace requirements. 1.10. Quantity of materials required is calculated from design, drawings and specifications in conformance to workplace requirements.
2. Prepare for installation.	2.1. Materials and equipment are ordered and checked for compliance with docket and order form, and for acceptable condition. 2.2. Appropriate tools and equipment for storage facility installation, including personal protective equipment, are identified, selected and checked for serviceability. 2.3. Appropriate testing apparatus is selected. 2.4. Work is planned in conjunction with others involved in or affected by the work. 2.5. Work area and materials are prepared to support efficient installation of the system.
3. Install and test LPG storage system.	3.1. Container supports and base, piping, fittings and components are selected in conformance to standards and workplace requirements. 3.2. Size and method of connection are selected in conformance to standards and workplace

ELEMENT**PERFORMANCE CRITERIA**

requirements.

3.3. Tank is purged in accordance with standards.

3.4. System from cylinder outlet is tested, purged and regulator adjusted to be gas-tight, in conformance to regulatory authority and workplace requirements.

3.5. Test data is recorded in format required by regulatory authority and workplace requirements.

ELEMENT	PERFORMANCE CRITERIA
4. Clean up.	<p>4.1. Work area is cleared and materials disposed of or recycled in accordance with state or territory <i>statutory and regulatory authority</i> legislation and workplace procedures.</p> <p>4.2. <i>Tools and equipment</i> are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and workplace procedures.</p> <p>4.3. <i>Information</i> is accessed and documentation completed in accordance with workplace requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills for this unit are:

- communication skills to:
 - access information
 - complete workplace documentation
 - determine requirements
 - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
 - follow instructions
 - plan work with others
 - read and interpret:
 - documentation from a variety of sources
 - drawings and specifications
 - record test data in writing
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication, such as hand signals
- numeracy skills to apply measurements and calculations
- organisational skills, including the ability to plan and set out work
- identifying and accurately reporting to appropriate personnel any faults in tools, equipment or materials
- teamwork skills to work with others to action tasks and relate to people from a

REQUIRED SKILLS AND KNOWLEDGE

range of cultural and ethnic backgrounds and with varying physical and mental abilities

- technological skills to:
 - access and understand site-specific instructions in a variety of media
 - use mobile communication technology.

Required knowledge

Required knowledge for this unit is:

- electrical safety and requisite precautions
- how to access relevant information, including codes and technical standards
- job safety analysis (JSA) and safe work method statements (SWMS)
- material requirements determination process
- procedures for installing and testing gas storage facilities
- properties of gas, gas safety, combustion principles, pressure and flow rates
- relevant statutory and authority requirements related to installing and testing gas storage facilities
- SI system of measurements
- workplace and equipment safety requirements.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment providing that simulated or project-based assessment techniques fully replicate plumbing and services workplace conditions, materials, activities, responsibilities and procedures.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of:

- locating, interpreting and applying relevant information, standards and specifications to determine requirements, and select, locate, install and test LPG storage systems
- applying safety requirements throughout the work sequence, including the use of personal protective clothing and equipment
- as a minimum the ability to, given the plans and specifications, determine the LPG storage requirements, and install and test two LPG storage facilities of less than 500 litre capacity, one being a multiple cylinder installation, ensuring:
 - correct identification of location, design and details of proposed storage installation
 - correct selection and use of appropriate processes, tools and equipment
 - completing all work to specification
 - compliance with regulations, standards and organisational quality procedures and processes
 - communicating and working effectively and safely with others.

Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

EVIDENCE GUIDE

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the minimum task requirements
- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe working practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured

EVIDENCE GUIDE

learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge

- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed. Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Safety (OHS) is to be in accordance with commonwealth, state and territory legislation and regulations and may include:

- handling of materials
- hazard control
- personal protective clothing and equipment prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including recognising and preventing hazards associated with:
 - hazardous materials and substances

RANGE STATEMENT

- service lines
- surrounding structures and facilities
- trip hazards
- use of tools and equipment
- work site visitors and the public
- working at heights
- working in proximity to others
- use of firefighting equipment
- use of first aid equipment
- workplace environment and safety.

RANGE STATEMENT

Environmental requirements include:

- clean-up protection
- waste management.

Quality assurance requirements may include:

- Australian standards
- Environment Protection Authority (EPA)
- internal company quality assurance policy and risk management strategy
- International Standards Organisation
- site safety plan
- workplace operations and procedures.

Materials for installing LPG storage facilities:

- may include:
 - container supports and bases
 - copper tubing
 - fitting and fixing materials
 - gas cylinders and storage tanks
 - gas regulators
 - non-metallic hose assemblies
 - stainless steel
 - other approved materials
- are to comply with job specifications and appropriate standards for the storage of LPG.

Statutory and regulatory authorities include:

- state or territory statutory authority
- statutory gasfitting authority
- statutory plumbing authority.

Tools and equipment may include:

- chain blocks
- forklifts
- grinders
- hacksaws
- hand and power tools
- hand trolleys
- hoists and jacks
- lifting and load shifting equipment
- manual brazing equipment
- measuring equipment
- rollers
- testing equipment.

Information may include:

- charts and hand drawings
- diagrams or sketches
- instructions issued by authorised organisational or external personnel

RANGE STATEMENT

- job drawings
- manufacturer specifications and instructions
- material safety data sheets (MSDS)
- memos
- organisation work specifications and requirements
- recognised formulas or tables accepted by the regulatory authority
- regulatory and legislative requirements, particularly those pertaining to:
 - building codes
 - OHS and environmental requirements
 - plumbing and gasfitting authority regulations
- relevant Australian standards
- safe work procedures relating to determining requirements, and installing and testing LPG storage systems
- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.

Unit Sector(s)

Unit sector Plumbing and services

Co-requisite units

Co-requisite units Nil

Functional area

Functional area