



Australian Government

Department of Education, Employment and Workplace Relations

NWP277A Work safely with liquefied chlorine gas

Revision Number: 2

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Modification History

NWP277A Release 2: Layout adjusted. No changes to content.

NWP277A Release 1: Primary release.

Unit Descriptor

This unit of competency describes the outcomes required to work safely with liquefied chlorine gas, including the safe changeover of gas containers; safe transport, handling and storage of liquefied chlorine gas containers; and implementation of emergency procedures.

Application of the Unit

This unit supports the attainment of skills and knowledge required for operational staff with specific responsibility for disconnecting and connecting liquefied chlorine gas containers in water and wastewater treatment plants.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

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 required performance needed to demonstrate achievement of the element. Where <i>bold italicised</i> text is used, further information is detailed in the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to work with liquefied chlorine gas.	1.1 Check work <i>procedures</i> and instructions for compliance with current <i>legislative and organisational requirements</i>. 1.2 Check hazard signage for compliance with organisational requirements. 1.3 Select and check <i>tools and equipment</i> required to ensure that safety requirements of task and site are met. 1.4 Check <i>first aid provisions</i> for potential liquefied chlorine gas exposure hazards for compliance with organisational requirements. 1.5 Select, fit and use <i>appropriate personal protective equipment</i>.
2 Perform liquefied chlorine gas container changeover procedures.	2.1 Obtain liquefied chlorine gas containers from the <i>correct storage area</i> and handle them according to organisational requirements. 2.2 Conduct <i>disconnection procedures</i> according to organisational requirements. 2.3 Conduct <i>connection procedures</i> according to organisational requirements. 2.4 Transport depleted containers to correct storage area according to organisational requirements. 2.5 Check and store tools and equipment according to organisational procedures.
3 Implement emergency procedures.	3.1 Locate and understand <i>emergency procedures</i>. 3.2 Follow safe workplace procedures for emergency situations within scope of responsibilities.

Required Skills and Knowledge

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

Required skills:

- access, interpret and apply relevant legislative and organisational requirements
- access, interpret and apply safety procedures
- identify and report hazards
- apply first aid procedures according to job requirements
- select and use personal protective equipment
- use tools and equipment
- apply correct liquefied chlorine gas container procedures relating to:
 - transport, handling and storage
 - disconnection
 - connection
- perform work-related calculations
- operate a vacuum chlorinator safely during disconnection and reconnection procedures
- interpret material safety data sheets (MSDS)
- work effectively as part of a team
- complete records and logs
- use literacy skills in regard to verbal and written communication in the workplace
- communicate effectively in the workplace

Required knowledge:

- personal protective equipment and its application
- emergency equipment and its application
- properties of liquefied chlorine gas
- basic function and components of vacuum chlorinator systems
- hazards of liquefied chlorine gas handling
- relevant MSDS
- procedures for liquefied chlorine gas container:
 - transport, handling and storage
 - disconnection
 - connection
- maintenance procedures for personal protective equipment

Evidence Guide

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

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

The candidate should demonstrate the ability to changeover liquefied chlorine gas containers safely and correctly, including:

- correctly selecting, fitting and using PPE, including air-supplied self-contained breathing apparatus
- implementing relevant Australian standards, MSDS requirements and other legislative and organisational requirements as applicable
- correctly transporting, handling and storing liquefied chlorine gas containers
- correctly disconnecting liquefied chlorine gas containers
- correctly connecting liquefied chlorine gas containers
- implementing emergency procedures relating to liquefied chlorine gas hazards

Context of and specific resources for assessment

Access to the workplace and resources including:

- documentation that should normally be available in a water industry organisation
- relevant codes, standards and government regulations

Where applicable, physical resources should include equipment modified for people with disabilities.

Access must be provided to appropriate learning and assessment support when required.

Assessment processes and techniques must be culturally appropriate, and appropriate to the language and literacy capacity of the candidate and the work being performed.

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 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
- a decision of competence only taken at the point when the assessor has complete confidence in the person's competence over time and in various contexts
- all assessment that is part of a structured learning

experience must include a combination of direct, indirect and supplementary evidence

- where assessment is for the purpose of recognition (RCC/RPL), the evidence provided will need to be authenticated and show that it represents competency demonstrated over a period of time
- assessment can be through simulated project-based activity and must include evidence relating to each of the elements in this unit

Questioning will be undertaken in a manner appropriate to the skill levels of the operator and cultural issues that may affect responses to the questions, and will reflect the requirements of the competency and the work being performed.

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. Add any 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.

<i>Procedures</i> may include:	• transport and handling of liquefied chlorine gas containers • liquefied chlorine gas container disconnection procedures • liquefied chlorine gas container connection procedures • storage of liquefied chlorine gas cylinders or drums
<i>Legislative and organisational requirements</i> may include:	• AS/NZS 2927 The storage and handling of liquefied chlorine gas • MSDS for liquefied chlorine gas • relevant federal and state or territory legislation and regulations • codes of practice, associated standards and guidance material • documented organisational policies, manuals and induction programs • relevant community planning and development agreements, such as land care agreements
<i>Tools and equipment</i> may include:	• wire brush • valve key
<i>First aid provisions</i> may include:	• cardiopulmonary resuscitation (CPR) instructions • safety shower • eyewash
<i>Appropriate personal protective equipment (PPE)</i> may include:	• protective clothing • safety footwear • chemical resistant gloves • air-supplied self-contained breathing apparatus
<i>Correct storage area</i> may include:	• indoor or shaded outdoor compound at treatment site or depot
<i>Disconnection procedures</i> may include:	• chlorinator shutdown and isolation • purging operations • leak testing
<i>Connection procedures</i> may include:	• component replacement • chlorinator start-up • leak testing • stand-by settings

Emergency procedures may include:

- raising alarm
- contacting appropriate personnel
- isolating liquefied chlorine gas containers
- evacuation procedures

Unit Sector(s)

Not applicable.

Competency field

Treatment.