



**Australian Government**

# **MARA012 Contribute to basic cargo operations on liquefied gas tankers**

**Release: 1**

# MARAO12 Contribute to basic cargo operations on liquefied gas tankers

## Modification History

Release 1. This is the first release of this unit of competency in the MAR Maritime Training Package.

## Application

This unit involves the skills and knowledge required to recognise hazards associated with liquefied gas tankers (basic gas) and to apply appropriate hazard control measures to contribute to safe cargo operation.

This unit applies to people working in the maritime industry in the capacity of:

- Chief Mate
- Deck Officers
- Engineering Officers
- Engineers
- Masters
- Ratings.

## Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit.

- This unit is one of the requirements to obtain Australian Maritime Safety Authority (AMSA) certification as Chief Mate, Deck Officers, Engineering Officers, Engineers, Masters and Ratings for basic operations on liquefied gas tankers and to meet regulatory requirements this unit must be delivered consistent with Marine Orders and with the relevant sections of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).
- Those regulatory requirements include STCW International Maritime Organization (IMO) model course competencies and areas of knowledge, understanding and proficiency, together with the estimated total hours required for lectures and practical exercises. Teaching staff should note that timings are suggestions only and should be adapted to suit individual groups of trainees depending on their experience, ability, equipment and staff available for training.

## Pre-requisite Unit

Not applicable.

## Competency Field

A – Handling Cargo and Vessel Stability

## Unit Sector

Not applicable.

## Elements and Performance Criteria

### ELEMENTS

Elements describe the essential outcomes.

**1 Determine characteristics of tanker cargo and tankers to ensure safe transfer and transport of cargo**

### PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

**1.1** Features of various types of liquefied gas tankers are outlined

**1.2** Cargo operations of tankers are identified

**1.3** Properties of cargo being transported are identified and their impact on safety, the environment and vessel operations are outlined

**1.4** Hazards associated with the transport of cargo are clarified according to emergency response documentation

**1.5** Hazard controls associated with tanker cargo are employed according to organisational procedures

**2 Comply with legislative and organisational requirements for safe transfer and transport of tanker cargo**

**2.1** Safety data sheets (SDS)/material safety data sheets (MSDS) relevant to cargo are accessed and procedures for tanker safety and safety management are identified

**2.2** SDS/MSDS are interpreted to identify relevant cargo-related hazards to the vessel and to personnel

**2.3** Legislative and organisational requirements are interpreted to identify appropriate actions for safe transfer and transport of cargo

- |                                                                                                   |                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>3 Take precautions to prevent hazards</b>                                                      | <b>3.1</b> Organisational policies and procedures to minimise hazards are identified                                                                                                                 |
|                                                                                                   | <b>3.2</b> Type and severity of the hazard posed by cargo is recognised                                                                                                                              |
|                                                                                                   | <b>3.3</b> Transfer and transport of cargo is monitored to prevent hazards                                                                                                                           |
|                                                                                                   | <b>3.4</b> Gas monitoring equipment is regularly inspected and used according to organisational procedures                                                                                           |
| <b>4 Recognise hazardous situation</b>                                                            | <b>4.1</b> Source of hazard is identified according to organisational procedures                                                                                                                     |
|                                                                                                   | <b>4.2</b> Risk is assessed considering severity and likelihood of consequences                                                                                                                      |
|                                                                                                   | <b>4.3</b> Control measures to minimise risk are implemented to level of responsibility or referred to appropriate person for further action                                                         |
|                                                                                                   | <b>4.4</b> Containment procedures are applied where appropriate                                                                                                                                      |
|                                                                                                   | <b>4.5</b> Appropriate safety procedures are followed and personal protective equipment (PPE) is used according to organisational procedures                                                         |
|                                                                                                   | <b>4.6</b> Risk is eliminated, where possible, and if not practical, actions are taken to control risk                                                                                               |
| <b>5 Take precautions to prevent pollution of the environment from release of liquefied gases</b> | <b>5.1</b> Procedures to prevent pollution are identified and observed at all times                                                                                                                  |
|                                                                                                   | <b>5.2</b> Measures to prevent pollution during normal and emergency situations are applied according to regulatory requirements and organisational procedures                                       |
|                                                                                                   | <b>5.3</b> All relevant information is immediately reported to appropriate persons when a vapour leak or cloud is detected or a malfunction has occurred that poses a risk of a vapour leak or cloud |
|                                                                                                   | <b>5.4</b> Shore-based response personnel are promptly notified when a vapour leak or cloud occurs                                                                                                   |

## Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

## Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

## Unit Mapping Information

This unit replaces and is equivalent to MARA001 Contribute to safe cargo operations on liquefied gas tankers.

## Links

Companion Volume implementation guide can be found in VetNet -  
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>