



Australian Government

Assessment Requirements for MARA025 Monitor, loading, unloading, securing and stowage of cargo

Release: 2

Assessment Requirements for MARA025 Monitor, loading, unloading, securing and stowage of cargo

Modification History

Release 2. This is the second release of this unit of competency in the MAR Maritime Training Package.

- Minor statement changes in unit Application
- Minor statement change in Performance Criteria 4.5
- Minor statement changes in Performance Evidence
- Minor changes in Knowledge Evidence.

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

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying actions required to maintain the wellbeing of cargo
- applying international regulations, codes and standards concerning the safe handling, stowage, securing and transport of bulk cargo and dangerous, hazardous and harmful cargo
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and safe work practices
- carrying out cargo operations according to cargo plan or other documents and established safety rule/regulations, equipment operating instructions and shipboard stowage limitations, including identifying incompatible cargo stowage
- developing a cargo plan including:
 - determining cargo operations requirements
 - identifying relevant cargo handling documentation
- establishing and maintaining effective communications during loading and/or unloading, stowage and transportation
- identifying defects or damage to cargo and initiating timely actions in response to defects or damage
- interpreting and applying knowledge of bulk vessel, including bulk grain, chemical and oil tanker, and liquefied gas tanker layouts, cargo features, characteristics and hazards, and related hazard prevention strategies to duties on various types of vessel
- monitoring and anticipating problems and risks associated with loading, unloading, stowage and care of cargo
- monitoring use of equipment in loading, unloading, stowage and care of cargo
- reading and interpreting safety data sheets (SDS)/material safety data sheets (MSDS), relevant cargo-related hazards to vessel and to personnel, and taking appropriate actions

according to organisational procedures

- reading, interpreting and applying instructions, regulations, procedures and information associated with loading, unloading, stowage and care of cargo
- recognising problems and hazards that can arise when managing safety on a liquefied gas tanker, taking appropriate remedial actions and initiating appropriate solutions.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- ballast management issues and procedures
- bulk vessels, including bulk grain, chemical and oil tanker layouts, liquefied gas tanker layouts, cargo features and characteristics
- cargo measurements and calculations involving weights, capacities and stowage factors in accordance with organisational procedures
- cargo care including:
 - inspection and preparation of holds
 - refrigerated cargo
 - safe handling, stowage and securing of cargo including:
 - dangerous goods, hazardous material and harmful cargo, and their effect on the safety of life and the vessel
 - segregation and separation of cargo
 - standard stowage position numbering systems used on container vessels
 - ventilation and control
- cargo handling documentation
- cargo hazards, problems and risk control measures including:
 - appropriate preventative and remedial actions and solutions
 - obstructing view from navigating bridge or overside at the bow defects or damage to cargo, including:
 - damage caused by cargo movement
 - deterioration of perishable cargo
 - water ingress
- cargo lifting and handling equipment safety and safe working loads including:
 - appropriate preventative and remedial actions and solutions
 - operational characteristics of different types of shipboard and terminal-based cargo handling equipment and facilities
 - typical cargo handling problems, risks and hazards
- cargo plan including:
 - cargo weight
 - correct description and stowage of hazardous and dangerous goods
 - description of cargo to be loaded

- load/discharge port
- segregation of non-compatible cargo
- stowage of refrigerated containers
- fundamentals of:
 - cargo operations for oil, chemical and liquefied gas tankers, including cargo preparation and carriage
 - physical properties of oil, chemical and liquefied gases
 - types of oil, chemical and liquefied gas tankers, general arrangement and construction
- hazardous materials/dangerous goods classification, signage, stowage and segregation requirements under the International Maritime Dangerous Goods (IMDG) Code and relevant Marine Orders
- hazards and risk control measures associated with bulk vessels including:
 - bulk grain, chemical and oil tanker cargo loading, and liquefied gas tanker cargo loading, unloading and stowage
- incompatible cargo stowage, including:
 - cargo liable to taint
 - hazardous material/dangerous goods
- inspection and preparation of holds
- methods of caring for various types of cargo, including:
 - blocking
 - chocking
 - lashing
 - shoring
 - tombing
- maritime regulations, codes and conventions related to chemical and oil tankers, and liquefied gas tankers
- methods of stowage and securing of:
 - heavy lifts
 - heavy loads
 - vehicles and trailers
- oil tanker piping and pumping arrangements, including:
 - cargo piping systems
 - cargo pumping systems
 - cargo pumps
 - tanker arrangement
- precautions before entering enclosed and contaminated spaces
- precautions to prevent pollution of the environment from the release of oil, chemicals and liquefied gases
- relevant WHS/OHS and cargo handling legislation, codes of practice, policies and procedures
- types of cargo likely to be carried and their peculiar characteristics including:
 - bulk cargo

- liability to damage
- chemical and oil
- decay or deterioration
- shipping containers
- usual methods of container packing, loading and discharging, stowage and dunnaging
- vessel stability including:
 - effect of cargo, including heavy lifts and deck cargo on the seaworthiness, draught, trim and stability of the vessel
 - effects of a concentrated load which can be spread over a wider area by the use of dunnage and deck shoring taking into consideration the position of girders, transverses and longitudinals under the tank top
 - effects of different types of cargo operations on vessel trim and stability
 - effects on cargo handling of sea conditions, wind and weather
 - effects on stability and draught during loading and discharging operations, including heeling moments from gear and loads
 - ways of restricting vessel stress levels within permitted levels within permitted limits during loading/discharging cargo.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Practical assessment must occur in a workplace, or realistic simulated workplace, under the normal range of workplace conditions.

Simulations and scenarios may be used where situations cannot be provided in the workplace or may occur only rarely, in particular for situations relating to emergency procedures and adverse weather conditions where assessment would be unsafe, impractical or may lead to environmental damage.

Resources for assessment must include access to:

- applicable documentation, such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>