



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **TDMMA707B MONITOR THE LOADING, STOWAGE, SECURITY AND UNLOADING OF CARGO**

**Revision Number: 1**

## TDMMA707B MONITOR THE LOADING, STOWAGE, SECURITY AND UNLOADING OF CARGO

### Modification History

Not applicable.

### Unit Descriptor

UNIT DESCRIPTOR:

**This unit involves the skills and knowledge required to monitor and maintain the safe and efficient loading, stowage, security and unloading of cargo on a commercial vessel.**

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### Application of the Unit

<b>Application of the unit</b>	The unit has application in qualifications for Master (Unlimited), Watchkeeper (Deck), Master (Less than 500 GT) and Master Class 3, i.e. Advanced Diploma of Transport&Distribution(Maritime Operations - Master Unlimited), Diploma of Transport&Distribution(Maritime Operations - Deck Watchkeeper).and Diploma of Transport&Distribution(Coastal Maritime Operations - Master Class 3).
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### Licensing/Regulatory Information

<b>Licensing/legislative requirements</b>	The unit is consistent with the relevant sections of STCW 95, Marine Orders, the International Ship and Port Facility Security (ISPS) Code and NSCV/USL Code.
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### Pre-Requisites

Not applicable.

## Employability Skills Information

Not applicable.

## Elements and Performance Criteria Pre-Content

<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.</i>
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<b>1 Supervise the loading, stowage and unloading of general cargo</b>	<ul style="list-style-type: none"> <li>a Instructions are given to crew and others involved in the cargo operations in accordance with the plan for loading, unloading or stowage of the cargo</li> <li>b Preparations for loading, stowage and unloading are monitored in accordance with procedures and stowage plan</li> <li>c Compliance with relevant regulations, procedures and instructions pertaining to the type of cargo to be handled is checked prior to and during operations</li> <li>d Techniques used for cargo calculations and handling are monitored to ensure their appropriateness according to the type of cargo to be loaded, stowed or unloaded</li> <li>e Checks are made to ensure that cargo is correctly identified, inspected and confirmed against documentation prior to commencement of loading, unloading and stowage operations</li> <li>f Loading, stowage and unloading operations are monitored against procedures and stowage plan for the type of cargo involved</li> <li>g Communication is clear, concise and acknowledged at all times according to good cargo handling practice and regulations</li> </ul>
<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
<p><b>2 Ensure compliance with safety and hazard control procedures</b></p>	<ul style="list-style-type: none"> <li>a Safety and hazard control management plan for cargo operations is implemented as per company procedures and regulatory requirements</li> <li>b Checks are made to ensure tests and inspections on cargo handling equipment are correctly conducted as per regulations and company procedures</li> <li>c Cargo handling hazards are identified and action is taken to minimise or eliminate risk to personnel, cargo, vessel and the environment</li> <li>d Safety and hazard minimisation procedures and regulations are maintained at all times during cargo handling operations</li> <li>e Where relevant, precautions and procedures necessary for gas freeing a tank and for the entry of personnel into a tank are supervised</li> <li>f Where relevant, procedures and precautions necessary for entry into a pump room or other confined spaces on a vessel are supervised</li> <li>g Action is taken in the event of a cargo handling incident or emergency to secure the cargo and the vessel and maintain the safety of the vessel and persons involved</li> <li>h In the event of a safety incident or emergency, a safety incident report and other required documentation on a safety incident is prepared and processed in accordance with company procedures</li> </ul>
<p><b>3 Supervise ballast management operations</b></p>	<ul style="list-style-type: none"> <li>a Checks are made to ensure ballast requirements of port authority are identified and interpreted</li> <li>b Ballast management procedures are supervised in accordance with company procedures and port authority requirements</li> <li>c Ballast management problems are identified and necessary action taken to minimise risk to the environment</li> </ul>

ELEMENT	PERFORMANCE CRITERIA
<b>4 Complete cargo handling documentation</b>	<ul style="list-style-type: none"><li>a Independent cargo surveyors are used in the loading, stowage and unloading of cargo in accordance with company procedures</li><li>b Correct log book entries are made relating to cargo handling operations and incidents</li><li>c A letter of protest is used in any untoward incident relating to cargo operations and care</li><li>d All cargo handling documentation is completed as per regulations</li></ul>

## Required Skills and Knowledge

### REQUIRED KNOWLEDGE

*This describes the knowledge required for this unit.*

- 1 Relevant sections of applicable maritime regulations
- 2 Relevant OH&S and cargo handling legislation, codes of practice, policies and procedures
- 3 Procedures and documentation required in the event of an incident during cargo handling operations
- 4 Methods for handling various types of cargo
- 5 Operational characteristics of different types of shipboard and terminal-based cargo handling equipment and facilities
- 6 Ways of restricting vessel's stress levels within permitted limits during loading/discharging of dry bulk cargoes
- 7 Typical cargo handling hazards and problems and appropriate preventative and remedial action and solutions
- 8 Effects of different types of cargo operations on vessel's trim and stability
- 9 Procedures for carrying out calculations involving weights, capacities, stowage factors, load densities, etc., including:
  - a
  - b

## **REQUIRED KNOWLEDGE**

c

d

e

## **REQUIRED KNOWLEDGE**

- 10 Effects on cargo handling of wind and weather
- 11 Ballast management issues and procedures
- 12 Typical types and sizes of shipping containers
- 13 Standard stowage position numbering systems used on container vessels
- 14 Factors that affect the reading of a vessel's draught
- 15 IMDG Code
- 16 Cargo handling communication techniques
- 17 Cargo handling documentation requirements, including documentation to limit claims on cargo carried

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## **REQUIRED SKILLS**

*This describes the basic skills required for this unit.*

- 1 Read and interpret and apply instructions, regulations, procedures and information relevant to the loading, stowage, security and unloading of cargo
- 2 Communicate effectively with others during the loading, stowage, security and unloading of cargo
- 3 Provide leadership to others on matters related the loading, stowage, security and unloading of cargo
- 4 Take appropriate initiatives related to the loading, stowage, security and unloading of cargo
- 5 Interpret and apply security and safety practices and regulations when monitoring the loading, stowage, security and unloading of cargo
- 6 Modify activities dependent on differing workplace contingencies, risk situations and environments
- 7 Identify and solve problems associated with the loading, stowage, security and unloading of cargo and take appropriate action based on available information

## REQUIRED KNOWLEDGE

- 8 Monitor and anticipate problems and risks related to the loading, stowage, security and unloading of cargo, and take appropriate action
- 9 Adapt to differing types of vessels, port facilities, cargo and equipment
- 10 Monitor the use of equipment involved in the loading, stowage, security and unloading of cargo

## Evidence Guide

<b>Evidence Guide</b> <b>TDMMA707B MONITOR THE LOADING, STOWAGE, SECURITY AND UNLOADING OF CARGO</b>
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*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 this Training Package.*

<b>1 Critical aspects of evidence required to demonstrate competency in this unit</b>	Assessment must confirm appropriate knowledge and skills to: <ol style="list-style-type: none"><li>a Monitor and supervise cargo handling operations:<ol style="list-style-type: none"><li>1 in normal and emergency situations</li><li>2 in normal and adverse weather conditions</li><li>3 across a representative range of typical cargo handling contexts</li></ol></li><li>b Ensure compliance with all required safety, environmental and hazard control precautions and procedures when overseeing the handling of cargo during loading/unloading and stowage operations</li><li>c Identify typical cargo handling problems and hazards and take appropriate action</li><li>d Communicate effectively with others during cargo handling operations</li></ol>
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**Evidence Guide**  
**TDMMA707B MONITOR THE LOADING, STOWAGE, SECURITY AND UNLOADING OF CARGO**

**2 Evidence required for demonstration of consistent performance**

- a Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- b Consistently applies underpinning knowledge and skills when
  - 1 monitoring and supervising cargo handling operations
  - 2 identifying and evaluating cargo handling problems and determining appropriate courses of action
  - 3 identifying and implementing improvements to cargo handling procedures
  - 4 applying safety precautions relevant to cargo handling operations
  - 5 assessing operational capability of cargo handling equipment
- c Shows evidence of application of relevant workplace procedures, including:
  - 1 relevant maritime regulations
  - 2 ISM Code and associated vessel's safety management system and procedures
  - 3 OH&S regulations and hazard prevention policies and procedures
  - 4 standard operating procedures and work instructions
  - 5 relevant manufacturer's guidelines relating to the use of machinery, including instructions on equipment capability and limitations

**Evidence Guide (continued)**  
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**2 Evidence required for demonstration**

- 6 security procedures
- 7 following on-board housekeeping processes

**Evidence Guide (continued)**

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<p><b>of consistent performance (continued)</b></p>	<p>d Action is taken promptly to report and/or rectify accidents and safety incidents in accordance with statutory requirements and company procedures</p> <p>e Work is completed systematically with required attention to detail</p> <p>f Recognises and adapts appropriately to cultural differences in the workplace, including modes of behaviour and interactions between crew and others</p>
<p><b>3 Context of assessment</b></p>	<p>a Assessment of competency must comply with the assessment requirements of the relevant maritime regulations</p> <p>b Assessment of this unit must be undertaken within relevant marine authority approved and audited arrangements by a registered training organisation:</p> <ol style="list-style-type: none"> <li>1 As a minimum, assessment of knowledge must be conducted through appropriate written/oral examinations, and</li> <li>2 Appropriate practical assessment must occur:             <ol style="list-style-type: none"> <li>i at the registered training organisation; and/or</li> <li>ii on an appropriate working or training vessel</li> </ol> </li> </ol>
<p><b>4 Specific resources required for assessment</b></p>	<p>Access is required to opportunities to:</p> <p>a monitor and supervise suitably simulated cargo loading/unloading operations over an appropriate range of cargo handling situations, weather and operational conditions; and/or</p> <p>b monitor and supervise the actual cargo loading/unloading operations of a vessel</p>

## Range Statement

**Range Statement**  
**TDMMA707B MONITOR THE LOADING, STOWAGE, SECURITY AND UNLOADING OF CARGO**

*The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.*

### VARIABLE

### SCOPE

#### 1. GENERAL CONTEXT

<b>a. Work must be carried out:</b>	1 in compliance with relevant maritime regulations.
<b>b. Work is performed:</b>	1 relatively independently within broad operational requirements, with limited accountability and responsibility for self and others in achieving the prescribed outcomes.
<b>c. Work involves:</b>	1 the monitoring and supervision of a significant range of cargo handling operations across a wide and often unpredictable variety of cargo types and operational contexts. Monitoring and overseeing the implementation of a broad plan or strategy for cargo handling operations and stowage is required. Defined accountability and responsibility for self and others in achieving the outcomes is involved.
<b>d. Work requires:</b>	1 limited responsibility in the management of functions related to cargo handling operations and procedures.

#### 2. WORKSITE ENVIRONMENT

<b>a Cargo may be loaded or unloaded from:</b>	1 any Australian or international commercial vessel

**Range Statement**

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<p><b>b Cargo handling operations may be carried out:</b></p>	<p>1 by day or night in both normal and emergency situations 2 under any permissible conditions of weather 3 at various shoreside loading and discharge terminals</p>
<p><b>c Types of cargo may include:</b></p>	<p>1 general cargo 2 containers</p>

**Range Statement (continued)**

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<b>VARIABLE</b>	<b>SCOPE</b>
<p><b>c Types of cargo may include: (continued)</b></p>	<p>3 various types of solid bulk materials 4 various types of bulk liquids 5 special and abnormal cargo such as:     i refrigerated cargo and containers     ii pig iron, ingots and steel billets     iii mineral concentrates     iv extra heavy cargo</p>
<p><b>d Cargo handling equipment may include:</b></p>	<p>1 single swinging derricks 2 union purchase derricks 3 shipboard cranes 4 terminal-based cranes</p>

**Range Statement (continued)**  
**TDMMA707B MONITOR THE LOADING, STOWAGE, SECURITY AND UNLOADING OF CARGO**

	5 pumps, valves and hoses
<b>e Cargo handling hazards may include:</b>	<ul style="list-style-type: none"> <li>1 faulty cargo handling equipment</li> <li>2 damaged cargo</li> <li>3 cargo handling operations in poor weather or sea conditions</li> <li>4 incorrectly stowed cargo</li> <li>5 incorrectly lashed or secured cargo</li> <li>6 using equipment beyond safe working limits</li> <li>7 non-compliance with safe working procedures</li> </ul>
<b>f Documentation and records may include:</b>	<ul style="list-style-type: none"> <li>1 ISM Code safety management system plans, procedures, checklists and instructions</li> <li>2 cargo handling operational orders and instructions</li> <li>3 relevant maritime regulations</li> <li>4 vessel's log</li> <li>5 vessel's 'Cargo Securing Manual'</li> <li>6 vessel's Register of Materials Handling Equipment</li> <li>7 vessel/shore safety checklist</li> <li>8 company cargo handling procedures</li> </ul>

**Range Statement (continued)**

**TDMMA707B MONITOR THE LOADING, STOWAGE, SECURITY AND UNLOADING OF CARGO**

<b>VARIABLE</b>	<b>SCOPE</b>
<p><b>f Documentation and records may include:(continued)</b></p>	<p>9 cargo handling equipment manufacturer's instructions and recommended procedures</p> <p>10 instructions of relevant maritime authorities</p> <p>11 relevant Australian and international standards and regulatory requirements</p>
<p><b>g Applicable legislation, regulations and codes may include:</b></p>	<p>1 sections of IMO STCW 95 Convention and Code related to cargo handling, including the International Ship and Port Facility Security (ISPS) Code</p> <p>2 relevant sections of AMSA Marine Orders</p> <p>3 relevant sections of State and Territory maritime regulations, NSCV and USL Code</p> <p>4 relevant international, Commonwealth, State and Territory OH&amp;S legislation</p> <p>5 International Grain Code</p> <p>6 Lumber load-line requirements and the Code of Safe Practice for Ships carrying Timber Deck Cargo</p>

**Unit Sector(s)**

Not applicable.

## Field

Field MA Handling Cargo and Vessel Stability

## Relationship to other units

<b>Relationship to other units</b>	The unit may be assessed in conjunction with other units that form part of a maritime job function.
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