



**Australian Government**

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

# **TDMMA207B PLAN AND ENSURE SAFE CARE OF CARGO DURING A VOYAGE**

**Revision Number: 1**

## TDMMA207B PLAN AND ENSURE SAFE CARE OF CARGO DURING A VOYAGE

### Modification History

Not applicable.

### Unit Descriptor

UNIT DESCRIPTOR:

**This unit involves the skills and knowledge required to plan and oversee the safe care of cargo during a voyage.**

### Application of the Unit

<b>Application of the unit</b>	The unit has application in qualifications for Master or Chief Mate on a vessel of 500 gross tonnage or more operating in international waters, i.e. Advanced Diploma of Transport&Distribution(Maritime Operations - Master Unlimited).
--------------------------------	--

### Licensing/Regulatory Information

<b>Licensing/legislative requirements</b>	The unit is consistent with the relevant sections of STCW 95, the International Ship and Port Facility Security (ISPS) Code and Marine Orders under the Australian Navigation Act 1912, describing requirements for a Master or Chief Mate on a vessel of 500 gross tonnage or more operating in international waters.
---	--

### Pre-Requisites

Not applicable.

## Employability Skills Information

Not applicable.

## 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. Assessment of performance is to be consistent with the Evidence Guide.*

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<b>1 Plan the care of cargo during a voyage</b>	<ul style="list-style-type: none"> <li>a The cargo being carried is identified and its characteristics established prior to the voyage</li> <li>b Relevant regulations, procedures and instructions pertaining to the type of cargo being carried are accessed and interpreted prior to voyage</li> <li>c The vessel's cargo stowage plan is interpreted in accordance with operational and security procedures</li> <li>d The vessel's plan for the care of cargo during the voyage is prepared in accordance with company and customer requirements and relevant regulations</li> </ul>
<b>2 Oversee the care of cargo during a voyage</b>	<ul style="list-style-type: none"> <li>a Cargo is correctly identified, inspected and status confirmed as required during the voyage</li> <li>b Action required to maintain the wellbeing of cargo during the voyage is taken in accordance with company procedures and customer requirements</li> <li>c Cargo sweat is controlled using shipboard ventilation and humidity control systems as required</li> </ul>

ELEMENT	PERFORMANCE CRITERIA
<b>2</b> <b>Oversee the care of cargo during a voyage (continued)</b>	<p>d Where relevant, required monitoring and care of livestock is carried out as required by company and customer requirements and relevant regulations</p> <p>e Communication with relevant personnel is clear, concise and acknowledged at all times according to good cargo care practice and regulations</p>
<b>3</b> <b>Complete cargo care documentation</b>	<p>a Correct log book entries are made relating to cargo care operations and incidents during a voyage</p> <p>b A letter of protest is used in any untoward incident relating to cargo operations and care</p> <p>c All cargo reports and documentation are completed in accordance with operational and security requirements and regulations</p>
<b>4</b> <b>Follow safety, security and hazard control procedures for cargo during a voyage</b>	<p>a Cargo stowage hazards are identified and action is taken to minimise or eliminate risk to personnel, cargo, vessel and the environment</p> <p>b Safety and hazard minimisation procedures and regulations related to cargo care are followed at all times during a voyage to maintain the safety of personnel, cargo and vessel</p> <p>c Where relevant, precautions and procedures necessary for gas freeing a tank and for the entry of personnel into a tank are correctly followed</p> <p>d Where relevant, procedures and precautions necessary for entry into a pump room or other confined spaces on a vessel are correctly followed</p> <p>e Action is taken in the event of a cargo related incident or emergency to secure the cargo and the vessel and maintain the safety of the vessel and persons involved</p>

## Required Skills and Knowledge

### REQUIRED KNOWLEDGE

*This describes the knowledge required for this unit.*

- 1 IMO STCW 95 Convention and Codes, the International Ship and Port Facility Security (ISPS) Code and AMSA Marine Orders applicable to the management of cargo care operations
- 2 Relevant OH&S legislation, codes of practice, policies and procedures
- 3 ISM Code safety management system
- 4 Methods for caring for various types of cargo during a voyage
- 5 Typical operational characteristics of different types of shipboard cargo care equipment and facilities
- 6 Typical hazards and problems associated with the carriage of various types of cargo and appropriate preventative and remedial action and solutions
- 7 Differences between vessel's sweat and cargo sweat and reasons for the formation of both
- 8 Processes for the control of vessel and cargo sweat during a voyage, including the use of shipboard ventilation and humidity control systems
- 9 Effects of different types of cargo on vessel's trim and stability
- 10 Procedures for calculating the maximum deadweight available to a vessel that needs to subsequently enter various seasonal load-line zones
- 11 Effects on cargo of wind, weather and sea conditions during a voyage
- 12 Typical types and sizes of shipping containers
- 13 Standard stowage position numbering systems used on container vessels
- 14 Procedures for determining the forces acting on equipment used to lash cargo
- 15 Procedures for calculating the longitudinal stresses acting on a vessel's hull using both manual and computer techniques
- 16 Cargo care communication techniques
- 17 Cargo care documentation requirements, including documentation to limit claims on cargo carried

## REQUIRED SKILLS

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

- 1 Communicate effectively with other personnel when caring for cargo on a vessel
- 2 Interpret and follow procedures and precautions for the security and safe care of various types of cargo including:
  - i general cargo
  - ii dry bulk cargo
  - iii dangerous cargo
  - iv special and abnormal cargoes
  - v bulk liquids and gas cargoes
- 3 Prepare and implement plans for the care of cargo on a vessel
- 4 Check that cargo on a vessel is properly secured
- 5 Identify problems that may occur when caring for cargo on a vessel and take required action
- 6 Control sweat by the correct use of various types of shipboard ventilation and humidity control systems

## Evidence Guide

### Evidence Guide

### TDMMA207B PLAN AND ENSURE SAFE CARE OF CARGO DURING A VOYAGE

*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</b> | Assessment must confirm knowledge and skills to: <ol style="list-style-type: none"> <li>a Plan and oversee cargo care operations:             <ol style="list-style-type: none"> <li>1 safely in both normal and emergency situations</li> </ol> </li> </ol> |
|---|--|

**Evidence Guide****TDMMA207B PLAN AND ENSURE SAFE CARE OF CARGO DURING A VOYAGE**

<b>this unit</b>	<ul style="list-style-type: none"> <li>2 in normal and adverse weather conditions</li> <li>3 across a representative range of typical cargo carriage contexts</li> <li>b Exercise all required safety, security, environmental and hazard control precautions and procedures when overseeing the care of cargo during a voyage</li> <li>c Identify typical cargo care problems and hazards and take appropriate action</li> <li>d Communicate effectively with others during cargo care operations</li> </ul>
<b>2 Evidence required for demonstration of consistent performance</b>	<ul style="list-style-type: none"> <li>a Performance is demonstrated consistently over a period of time and in a suitable range of contexts</li> <li>b Consistently applies underpinning knowledge and skills when: <ul style="list-style-type: none"> <li>1 planning and overseeing cargo care operations</li> <li>2 identifying and evaluating cargo care problems and determining appropriate courses of action</li> <li>3 identifying and implementing improvements to cargo care procedures</li> <li>4 applying safety precautions relevant to cargo care</li> <li>5 assessing operational capability of cargo care equipment</li> </ul> </li> <li>c Shows evidence of application of relevant workplace procedures, including: <ul style="list-style-type: none"> <li>1 relevant sections of IMO STCW 95 Convention and Code, the International Ship and Port Facility Security (ISPS) Code and AMSA Marine Orders</li> <li>2 ISM Code and associated vessel's safety management system and procedures</li> </ul> </li> </ul>

**Evidence Guide****TDMMA207B PLAN AND ENSURE SAFE CARE OF CARGO DURING A VOYAGE**

- 3 OH&S regulations and hazard prevention policies and procedures
- 4 issue resolution procedures
- 5 job procedures and work instructions
- 6 relevant manufacturer's guidelines relating to the use of machinery, including instructions on equipment capability and limitations
- 7 security procedures

**Evidence Guide (continued)****TDMMA207B PLAN AND ENSURE SAFE CARE OF CARGO DURING A VOYAGE**

<b>2 Evidence required for demonstration of consistent performance (continued)</b>	<ul style="list-style-type: none"> <li>8 following on-board housekeeping processes</li> <li>d Action is taken promptly to report and/or rectify accidents and incidents in accordance with statutory requirements and company procedures</li> <li>e Work is completed systematically with required attention to detail</li> <li>f Recognises and adapts appropriately to cultural differences in the workplace, including modes of behaviour and interactions among crew and others</li> </ul>
<b>3 Context of assessment</b>	<ul style="list-style-type: none"> <li>a Assessment of competency must comply with the assessment requirements of the relevant maritime regulations</li> <li>b Assessment of this unit must be undertaken within relevant marine authority approved and audited arrangements by a registered training organisation:               <ul style="list-style-type: none"> <li>1 As a minimum, assessment of knowledge must be conducted through appropriate written/oral examinations, and</li> </ul> </li> </ul>



**Evidence Guide (continued)****TDMMA207B PLAN AND ENSURE SAFE CARE OF CARGO DURING A VOYAGE**

	<p>2 Appropriate practical assessment must occur:</p> <ul 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> </ul>
<b>4 Specific resources required for assessment</b>	<p>Access is required to opportunities to:</p> <ul style="list-style-type: none"> <li>a plan and manage the actual cargo care operations during the voyage of a vessel; and/or</li> <li>b plan and manage suitably simulated cargo care operations over an appropriate range of situations, weather and operational conditions</li> </ul>

**Range Statement****Range Statement****TDMMA207B PLAN AND ENSURE SAFE CARE OF CARGO DURING A VOYAGE**

*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**

**Range Statement****TDMMA207B PLAN AND ENSURE SAFE CARE OF CARGO DURING A VOYAGE**

<b>a. Work must be carried out:</b>	1 in compliance with mandatory rules and regulations and IMO Conventions and Codes, including the relevant sections of the AMSA Marine Orders and ensuring that applicable codes, guidelines and standards recommended by IMO, the classification societies and maritime industry organisations are taken into account
<b>b. Work is performed:</b>	1 relatively independently under broad operational requirements, with accountability and responsibility for self and others in achieving the prescribed outcomes
<b>c. Work involves:</b>	1 the planning and execution of a significant range of cargo care techniques across a wide and often unpredictable variety of cargo types and operational contexts. Contribution to the development of a broad plan or strategy for cargo stowage and care is required and accountability and responsibility for self and others in achieving the outcomes is involved
<b>d. Work requires:</b>	1 significant judgement in planning, technical and leadership functions related to cargo care operations and procedures

**2. WORKSITE ENVIRONMENT**

<b>a Cargo may be:</b>	1 as carried on any Australian or international commercial vessel
<b>b Cargo care operations may be carried out:</b>	1 by day or night in both normal and emergency situations 2 under any permissible conditions of weather
<b>c Cargo care hazards may include:</b>	1 damaged cargo

**Range Statement (continued)****TDMMA207B PLAN AND ENSURE SAFE CARE OF CARGO DURING A VOYAGE**

<b>VARIABLE</b>	<b>SCOPE</b>
<b>c Cargo care hazards may include: (continued)</b>	2 cargo security in poor weather or sea conditions 3 incorrectly stowed cargo 4 incorrectly lashed or secured cargo 5 non-compliance with safe working procedures
<b>d Types of cargo may include:</b>	1 general cargo 2 containers 3 various types of solid bulk materials 4 various types of bulk liquids 5 various types of liquefied gas 6 special and abnormal cargo such as: <ul style="list-style-type: none"> <li>i refrigerated cargo and containers</li> <li>ii pig iron, ingots and steel billets</li> <li>iii livestock</li> <li>iv mineral concentrates</li> <li>v extra heavy cargo</li> </ul>
<b>e Documentation and records may include:</b>	1 ISM Code safety management system plans, procedures, checklists and instructions 2 cargo care operational orders and instructions 3

**Range Statement (continued)****TDMMA207B PLAN AND ENSURE SAFE CARE OF CARGO DURING A VOYAGE**

4  
5  
6  
7  
8  
9  
10  
11  
12

**Range Statement (continued)****TDMMA207B PLAN AND ENSURE SAFE CARE OF CARGO DURING A VOYAGE**

<b>VARIABLE</b>	<b>SCOPE</b>
<b>f Applicable legislation, regulations and codes may include:</b>	<p>1 relevant sections of IMO STCW 95 Convention and Code and the International Ship and Port Facility Security (ISPS) Code</p> <p>2 relevant sections of AMSA Marine Orders, including:</p> <ul style="list-style-type: none"> <li>i Part 34 as it relates to solid bulk cargoes</li> <li>ii Part 43 as it relates to livestock</li> </ul> <p>3 relevant international, Commonwealth, State and Territory OH&amp;S legislation</p> <p>4 International Grain Code</p> <p>5 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 relate to the functions of the occupation(s) concerned.
------------------------------------	---