



Australian Government

Department of Education, Employment and Workplace Relations

TDMMB4507A MONITOR CONDITION AND SEAWORTHINESS OF A SMALL VESSEL UP TO 24 METRES

Revision Number: 1

TDMMB4507A MONITOR CONDITION AND SEAWORTHINESS OF A SMALL VESSEL UP TO 24 METRES

Modification History

Not applicable.

Unit Descriptor

UNIT DESCRIPTOR:

This unit involves the skills and knowledge required to monitor the condition and seaworthiness of a small commercial vessel up to 24 metres, including awareness of the fundamental principles of vessel construction, load-lines conditions of assignment, structural elements to restrain fires, design characteristics that contribute to watertight integrity, and regulatory requirements for seaworthiness.

Application of the Unit

Application of the unit	The unit has applications in the qualification for a Coxswain and Master 5 on a small commercial vessel up to 24 m in length operating in coastal waters, i.e. Certificate II in Transport&Distribution (Coastal Maritime Operations - Coxswain) and Certificate III in Transport&Distribution (Coastal Maritime Operations - Master Class 5).
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Licensing/Regulatory Information

Licensing/legislative requirements	The unit is consistent with the relevant State and Territory maritime regulations and the National Standard for Commercial Vessels.
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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
1 Monitor the condition of a small vessel up to 24 m	- a Work to monitor condition and seaworthiness of the vessel is planned and carried out in accordance with procedures and safety regulations - b Where required, vessel is slipped as per standard operating procedures - c Coverage and frequency of checks and inspections on the vessel complies with the procedures - d Checks of the integrity of the vessel's hull are correctly carried out - e Action taken in anticipation of environmental changes is timely and appropriate to the change - f Action taken in emergency situations is appropriate to the significance of the situation and ensures maintenance of watertight integrity - g Precautions are taken to ensure that vessel and on-board powered equipment is operated in accordance with manufacturer's instructions and regulations
2 Identify and explain the structural components	- a Basic structural components are correctly identified - b Reasons for deteriorated hull and fittings are identified and explained

ELEMENT	PERFORMANCE CRITERIA
of a small vessel	c Basic understanding of the properties and application of common materials used in small vessel construction is demonstrated and applied when operating a small vessel

ELEMENT	PERFORMANCE CRITERIA
3 Rectify identified problems with the condition of the vessel	a Any deterioration of the vessel's hull or structure is identified either in the water or on a slipway and reported to relevant personnel and appropriate action is initiated to fix the identified problem b Repairs and corrosion control are initiated and coordinated in accordance with procedures and manufacturer's instructions c Communication with others concerning the condition and seaworthiness of the vessel and related action is clear, concise and made at a suitable time and place d Records of problems identified and actions taken are complete, accurate and comply with requirements.

Required Skills and Knowledge

REQUIRED KNOWLEDGE

This describes the knowledge required for this unit.

- 1 Relevant State and Territory regulations applicable to small coastal vessels up to 24 m
- 2 Relevant OH&S legislation and policies
- 3 Procedures for the checking and inspecting the seaworthiness of a small vessel up to 24 m
- 4 Standard operating procedures for slipping a small vessel up to 24 m
- 5 The principal stresses which act on the structure of a small vessel up to 24 m
- 6 Principles and procedures to ensure the watertight integrity of hull of a small vessel up to 24 m in both normal and emergency situations
- 7 Damage control measures that may be required to maintain the integrity of the hull in a range of typical emergency situations that could occur on a small vessel up to 24 m
- 8 Procedures for the initiation and coordination of repair and/or replacement on board a small vessel up to 24 m
- 9 Repairs and corrosion control measures, including surface preparation and painting and antifouling on small vessels up to 24 m
- 10 Safety, environmental and hazard control precautions and procedures relevant to inspection and maintenance operations, including recommended precautions as per Australian Standard on Entry into Confined Spaces (AS2865)
- 11 A basic understanding of the properties and application of materials used in the construction of small vessels up to 24 m
- 12 Construction, layout and subdivision requirements of various types of small vessels up to 24 m
- 13 Records that must be maintained concerning the seaworthiness of a small vessel up to 24 m

REQUIRED SKILLS

This describes the basic skills required for this unit.

- 1 Use basic verbal communication skills required when monitoring the condition and seaworthiness of a small vessel up to 24 m
- 2 Read, interpret and apply basic instructions, stability book, vessel plans and specifications relevant to monitoring the condition and seaworthiness of a small vessel up to 24 m
- 3 Work safely and collaboratively with others when monitoring the condition and seaworthiness of a small vessel up to 24 m
- 4 Select and use equipment as per operating instructions
- 5 Recognise faulty equipment and components and take appropriate action
- 6 Recognise routine problems when monitoring the condition and seaworthiness of a small vessel up to 24 m and take appropriate action
- 7 Adapt to changes in equipment and procedures in the workplace
- 8 Follow required work schedule as per company requirements
- 9 Follow all required OH&S procedures and precautions when monitoring the condition and seaworthiness of a small vessel up to 24 m
- 10 Secure a small vessel up to 24 m before it puts to sea
- 11 Slip a small vessel up to 24 m
- 12 Check and inspect the seaworthiness and watertight integrity of a small vessel up to 24 m

Evidence Guide

Evidence Guide

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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.

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| 1 Critical aspects of evidence required to | Assessment must confirm appropriate knowledge and skills to:
a Monitor and evaluate the condition and seaworthiness of a |
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Evidence Guide

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demonstrate competency in this unit	small vessel up to 24 m under both on the water and on a slip - b Identify any deterioration of the vessel's hull, structure or equipment - c Take appropriate preventative and remedial action to maintain the security and watertight integrity of the vessel's hull - d Initiate and coordinate maintenance, repair or replacement of faulty or damaged equipment or structure as per procedures and manufacturer's instructions - e Exercise all required safety, environmental and hazard control precautions and procedures during inspection and maintenance operations, including required precautions and procedures for entry into a confined space - f Communicate effectively with others when taking action to maintain the seaworthiness of the vessel
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 carrying out routine and emergency monitoring of a small vessel's seaworthiness both on the water and during slipping of the vessel 2 identifying and evaluating problems concerning the condition of a vessel and the integrity of its hull and determining suitable courses of action 3 initiating and coordinating any required repair or maintenance activities to ensure the seaworthiness of a vessel 4 applying precautions during monitoring, repair and maintenance operations - c Shows evidence of application of relevant workplace procedures, including: 1 relevant maritime regulations

Evidence Guide

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- 2 OH&S regulations and hazard prevention policies and procedures
- 3 job procedures and work instructions
- 4 relevant manufacturer's guidelines relating to the seaworthiness the vessel
- 5 procedures to protect the integrity and security of the vessel's hull

Evidence Guide (continued)

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Evidence 2 required for demonstration of consistent performance (continued)	d Action is taken promptly to report and/or rectify problems with the seaworthiness of a vessel and the integrity of its hull e Work is completed systematically with required attention to detail f Recognises and adapts appropriately to cultural differences in the workplace, including modes of behaviour and interactions among crew and others
3 Context of assessment	a Assessment of competency must comply with the assessment requirements of the relevant maritime regulations b Assessment of this unit must be undertaken within relevant marine authority approved and audited arrangements by a registered training organisation: 1 As a minimum, assessment of knowledge must be conducted through appropriate written/oral examinations, and 2 Appropriate practical assessment must occur: - i at the registered training organisation; and/or - ii on an appropriate working or training vessel

Evidence Guide (continued)

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4 Specific resources required for assessment

Access is required to opportunities to:

- a participate in a range of exercises, case studies and other simulated practical and knowledge assessments that demonstrate the skills and knowledge to monitor the condition and the seaworthiness of a small vessel up to 24 m in a range of operational situations; and/or
- b assist in maintaining the seaworthiness of a vessel in a range of operational situations either:
 - i using a suitable simulator over an appropriate range of simulated loading and operational situations
 - ii in appropriate practical situations on an operational commercial or training small vessel up to 24 m

Range Statement

Range Statement

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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

a. Work must be carried out:

- 1 in compliance with the relevant maritime regulations applicable to monitoring the condition and seaworthiness of a small vessel up to 24 m

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b. Work is performed:	1 within a defined range of operations and routine procedures, with responsibility for own outputs in relation to specified quality standards and some responsibility for others
c. Work involves:	1 the conduct of routine monitoring of condition and seaworthiness of a vessel and the specification of solutions to a defined range of typical problems concerning deterioration of a vessel's hull, structure and equipment
d. Work requires:	1 some discretion and judgement in initiating action to report and rectify identified problems with the condition and seaworthiness of the vessel

2. WORKSITE ENVIRONMENT

a Vessel may include:	1 any small Australian commercial vessel up to 24 m
b Seaworthiness of a vessel must be maintained:	1 by day or night in both normal and emergency situations 2 under any possible conditions of sea, weather and loading 3 while underway 4 during berthing and unberthing operations 5 in port 6 in slip or dock 7 while anchoring or mooring

Range Statement (continued)

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VARIABLE	SCOPE
c Action taken to monitor the condition and seaworthiness of a small vessel up to 24 m (within limits of responsibility) may include:	1 routine inspections 2 checks prior to departure 3 checks on completion of a voyage 4 checks on completion of maintenance activities 5 checks in anticipation of a change in sea and weather conditions 6 testing of tanks to check watertight integrity 7 checks during an emergency which may have caused damage or changes to the seaworthiness of the vessel
d Repair and maintenance procedures for a small vessel up to 24 m (within limits of responsibility) may include:	1 repairs to equipment, components, hull and vessel's structure 2 surface preparation and painting 3 antifouling 4 lubrication 5 replacement of faulty equipment or components 6 preparations and precautions prior to entry into any confined space
e Sources of information and documentation may include:	1 relevant maritime regulations applicable to monitoring the condition and seaworthiness of a small vessel up to 24 m 2 procedures for monitoring of condition and seaworthiness of small vessels

Range Statement (continued)

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| 3 | vessel and equipment manufacturer's instructions, plans, specifications and recommended procedures |
| 4 | vessel stability book |
| 5 | vessel survey documentation |
| 6 | safety management system |
| 7 | instructions of relevant maritime authorities related to the seaworthiness of small vessels up to 24 m |
| 8 | maintenance schedules and records |
| 9 | relevant codes of practice |

Range Statement (continued)

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VARIABLE	SCOPE
f Applicable regulations and legislation may include:	1 relevant sections of NSCV and regulations of State and Territory marine authorities related to the operation of a small vessel up to 24 m 2 relevant Commonwealth, State and Territory OH&S legislation

Unit Sector(s)

Not applicable.

Field

Field B Equipment Checking and Maintenance

Relationship to other units

Relationship to other units	The unit may be assessed in conjunction with other units that relate to the functions of the occupation(s) concerned.
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