



Australian Government

Department of Education, Employment and Workplace Relations

TDMMF3307B EXECUTE WATCHKEEPING ARRANGEMENTS AND PROCEDURES ON A SMALL VESSEL

Revision Number: 1

TDMMF3307B EXECUTE WATCHKEEPING ARRANGEMENTS AND PROCEDURES ON A SMALL VESSEL

Modification History

Not applicable.

Unit Descriptor

UNIT DESCRIPTOR:

This unit involves the skills and knowledge required of a Master 4 or Skipper 2 to execute watchkeeping arrangements and procedures on a small commercial vessel engaged on a coastal voyage that comply with the watchkeeping principles and bridgework procedures specified in the relevant regulations.

Application of the Unit

Application of the unit	The unit has applications in qualifications for a Master 4 and Skipper 2 operating a vessel of less than 80 metres in length within inshore limits (15 nm) and less than 35 metres within ACMW (600 nm), i.e. Certificate IV in Transport&Distribution (Coastal Maritime Operations - Master Class 4).
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Licensing/Regulatory Information

Licensing/legislative requirements	The unit is consistent with the relevant maritime regulations describing mandatory minimum requirements for a Master 4/Skipper 2. This includes applicable sections of State/Territory maritime licensing and regulatory requirements and the National Standard for Commercial Vessels (NSCV) and the 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
1 Carry out watchkeeping procedures	- a The conduct, handover and relief of the watch conforms with accepted principles and vessel's procedures - b A proper look-out is maintained at all times and in such a way as to conform to accepted principles and procedures and regulatory requirements - c The vessel is navigated safely using appropriate visual and electronic techniques to check position and to keep it on the coastal track laid down - d The progress of the vessel along a planned track is analysed and speed and course adjusted as appropriate to maintain a required estimated time of arrival at a point on the track - e Lights, shapes and sound signals conform with the requirements contained in the Regulations for Preventing Collisions at Sea and are correctly recognised - f The frequency and extent of monitoring of traffic, the vessel and the environment conform with accepted principles and procedures - g Responsibility for the safety of navigation is clearly defined at all times, including periods when the master is on the bridge and while under pilotage - h Safe navigational practice is achieved through the implementation of accepted bridge resource management principles and procedures

ELEMENT	PERFORMANCE CRITERIA
1 Carry out watchkeeping procedures (continued)	- i IALA Buoyage System is correctly used, as required, to aid the safe navigation of a vessel engaged on a coastal voyage - j Fatigue management strategies are correctly applied within the bridge management team
2 Respond to potential collision and emergency situations	- a Potential collision situations are analysed and appropriate action is taken in ample time and in accordance with regulatory requirements - b Correct responses are made to emergencies and situations that pose a danger to the vessel and personnel on board - c Distress signals are recognised and appropriate action is taken to initiate search and rescue procedures
3 Maintain watchkeeping records	- a A proper and accurate record is maintained of the movements and activities relating to the navigation of the vessel - b Appropriate entries pertaining to the watch are recorded in the vessel's log

Required Skills and Knowledge

REQUIRED KNOWLEDGE

This describes the knowledge required for this unit.

- 1 Relevant sections of State and Territory maritime regulations, NSCV and USL Code
- 2 IMO principles for keeping a safe navigational watch
- 3 Relevant OH&S legislation and policies
- 4 The use of the IALA Buoyage System
- 5 Implications of a range of factors that can affect watchkeeping functions on a vessel up to 80 metres in length engaged on a coastal voyage
- 6 Causes of groundings, collisions and casualties when on board vessel
- 7 Typical navigational hazards and implications for watchkeeping on a vessel up to 80 metres in length engaged on a coastal voyage
- 8 Operating procedures for typical navigational aids and skills and knowledge needed to use them effectively
- 9 Principles of estimating a position in absence of visual or electronic systems
- 10 Watch handover procedures
- 11 Watchkeeping problems and emergency situations for commercial vessels up to 80 metres in length engaged on a coastal voyages and appropriate action and solutions
- 12 Manual and electronic navigational aids available to the bridge team and the procedures for their operation and use during a watch
- 13 Instrumentation, controls and alarms on a vessel up to 80 metres in length engaged on a coastal voyage
- 14 Rudder and propeller control and vessel manoeuvring characteristics
- 15 Precautions necessary when navigating in or near traffic separation schemes or other routeing measures
- 16 Fatigue management principles and techniques, including
 - a signs of fatigue
 - b ways of controlling fatigue

REQUIRED KNOWLEDGE

- c action to be taken when fatigued
- 17 Maritime communication techniques required during watchkeeping functions

REQUIRED SKILLS

This describes the basic skills required for this unit.

- 1 Communicate effectively with others on watchkeeping issues, arrangements and requirements
- 2 Read, interpret and apply instructions, procedures and information relevant to the role and responsibilities of a watchkeeper
- 3 Select and use appropriate internal and external communications equipment during watchkeeping duties
- 4 Provide leadership as a member of the bridge team during watchkeeping duties
- 5 Take appropriate initiatives related to the protection of the environment during watchkeeping duties
- 6 Interpret and apply required practices during watchkeeping duties
- 7 Modify activities dependent on differing vessel contingencies, risk situations and environments
- 8 Identify and solve problems that may arise during watchkeeping duties and report problems and issues and take appropriate action based on available information
- 9 Monitor and anticipate hazards and risks that may arise during watchkeeping duties and take appropriate action
- 10 Adapt to differences in vessels, bridge equipment and watchkeeping procedures
- 11 Select and operate bridge equipment as required in the course of watchkeeping functions
- 12 Fix a position at any time during a voyage

Evidence Guide

Evidence Guide
TDMMF3307B EXECUTE WATCHKEEPING ARRANGEMENTS AND PROCEDURES ON A SMALL VESSEL

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.

1 Critical aspects of evidence required to demonstrate competency in this unit	Assessment must confirm appropriate knowledge and skills to: - a Implement watchkeeping arrangements and procedures on a vessel up to 80 metres in length engaged on a coastal voyage - b Fulfil watchkeeping responsibilities and apply watchkeeping principles - c Take appropriate action in the event of a potential collision or other emergency situation arising during a watch - d Communicate effectively with others in the course of watchkeeping duties
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 executing watchkeeping arrangements on a vessel up to 80 metres in length engaged on a coastal voyage 2 identifying and evaluating watchkeeping problems and determining appropriate courses of action 3 identifying and implementing improvements to bridge management procedures 4 applying safety precautions relevant to watchkeeping operations 5 dealing with potential collisions and other potentially dangerous situations arising during a watch - c Shows evidence of application of relevant workplace procedures, including:

Evidence Guide

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- 1 relevant maritime regulations
- 2 OH&S regulations and hazard prevention policies and procedures
- 3 job procedures and work instructions
- 4 relevant guidelines relating to bridge management and watchkeeping arrangements on board vessel
- 5 following bridge housekeeping processes
- d Action is taken promptly to report and/or rectify watchkeeping incidents in accordance with established procedures
- 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

Evidence Guide (continued)

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Context of 3 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 demonstrate the ability to maintain a safe watch through a range of suitably simulated watchkeeping situations, exercises and case studies and/or
- b maintain a safe watch on a commercial vessel up to 80 metres in length engaged on a coastal voyage over an appropriate range of situations and weather and sea conditions

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 regulations

b. Work is performed:

- 1 as a member of a bridge team within defined operational requirements and with limited accountability and responsibility for self and others in achieving the prescribed outcomes

Range Statement

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c. Work involves:	1 the application of nautical principles and watchkeeping techniques during the execution of watchkeeping arrangements on a vessel up to 80 metres in length engaged on a coastal voyage
d. Work requires:	1 some discretion and judgement in anticipating and dealing with possible watchkeeping problems, navigation and safety hazards and contingencies that may arise and initiating appropriate action

2. WORKSITE ENVIRONMENT

a Vessel may include:	1 any commercial vessel of less than 80 metres in length within inshore limits (15 nm) and less than 35 metres within ACMW (600 nm)
b Watchkeeping arrangements and procedures may be implemented:	1 by day or night in both normal and emergency situations 2 under any possible conditions of weather and loading 3 while underway 4 during berthing and unberthing operations 5 while anchoring or mooring 7 while in port 8 while berthed, moored or at anchor

Range Statement (continued)

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VARIABLE	SCOPE

Range Statement (continued)
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c Watchkeeping principles (as laid out in the relevant regulations) include:	1 proper lookout must be maintained at all times 2 duties of look-out and helmsman must be kept separate 3 look-out must give full attention to keeping a proper look-out and must not be given other duties which could interfere with the task 4 required precautions must be taken to avoid pollution of the marine environment 5 appropriate assistance must be available to be summoned to the bridge if required by a change in the vessel's situation
d Fatigue management strategies may include:	1 recognition of symptoms of fatigue 2 arranging to take a break when symptoms of fatigue are identified 3 maintenance of personal fitness and health 4 appropriate dietary habits 5 avoidance of excessive consumption of alcohol prior to watchkeeping duties 6 use of watchkeeping alarms
e Emergencies and potentially dangerous navigational situations may include:	1 fire 2 beaching or stranding 3 possible collision 4 heavy weather and synchronous rolling 5 distress signal 6 failure of bridge equipment, steering equipment, navigational lights 7 loss of main engines

Range Statement (continued)
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- 8 person overboard
- 9 fog and restricted visibility
- 10 cargo shift
- 11 retrieval of survivors from the water
- 12 loss of watertight integrity
- 13 intoxicated persons on board vessel
- 14 dragging anchor or fouled hawse
- 15 loss of mooring lines or winches when berthing
- 16 entry into confined spaces

Range Statement (continued)
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VARIABLE	SCOPE
e Emergencies and potentially dangerous navigational situations may include: (continued)	17 personnel working aloft or overside 18 sudden list or loll 19 fishing gear caught on an underwater obstruction
f Available navigational aids may include:	1 radar 2 electronic position indicating devices 3 other equipment affecting the safe navigation of the vessel

Range Statement (continued)

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g Factors to be taken into account when executing watchkeeping duties include:	1 bridge must never be left unattended 2 weather and sea conditions, visibility and whether there is daylight or darkness 3 proximity of navigational hazards 4 use and operational condition of navigational aids 5 the operational status of bridge instrumentation, controls and alarms 6 provision on the bridge of unmanned machinery space (UMS) controls, alarms and indicators 7 unusual demands on the navigational watch arising from operational conditions 8 traffic density and other activities occurring in the area in which the vessel is navigating 9 the size of the vessel and the field of vision available from the conning position 10 the attention necessary when navigating in or near traffic separation schemes or other routeing measures 11 rudder and propeller control and vessel manoeuvring characteristics
h Documentation and records may include:	1 operational orders 2 coastal navigation charts 3 relevant sections of State and Territory marine regulations, NSCV/ USL Code 4 vessel's log 5 company procedures 6 instructions of relevant maritime authorities

Range Statement (continued)

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VARIABLE	SCOPE
i Applicable legislation, regulations and codes may include:	1 relevant sections of State and Territory marine regulations, NSCV/ USL Code 2 regulations for preventing collisions at sea 3 relevant Commonwealth, State and Territory OH&S legislation

Unit Sector(s)

Not applicable.

Field

Field MF Operational Quality and Safety

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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