Australian Government

TDMMH807B PLAN AND NAVIGATE AN OFFSHORE PASSAGE WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

TDMMH807B PLAN AND NAVIGATE AN OFFSHORE PASSAGE WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

Modification History

Not applicable.

Unit Descriptor

UNIT DESCRIPTOR: **This unit involves the skills and knowledge required of a Master 5 or Skipper 3 to plan and navigate a vessel of less than 24 metres in length within offshore limits (200 nm) and determine the vessel's position. This includes the use of coastal navigational charts to plan and conduct the passage and the application of coastal navigational techniques involving a range of instrumentation and navigational aids.** **This unit has been retitled but covers the same functions as previous unit TDMMH801A*Plan and navigate an inshore passage*.**

Application of the Unit

Application of the unit	The unit has applications in the qualification for a Master 5/Skipper 3 as per relevant sections of Part D of the National Standard for Commercial Vessels (NSCV), i.e. Certificate III in Transport&Distribution (Coastal Maritime Operations - Master 5).

Licensing/Regulatory Information

Licensing/legislative requirements	The unit is consistent with the relevant sections of State and Territory maritime regulations and NSCV/USL Code for a Master 5/Skipper 3.

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
.	.
1 Use and care for navigational charts, nautical publicationsand related documentation	a Navigational charts, nautical publications and related documentation are handled and used in ways that ensure continued availability, utility and length of life b Navigational charts, nautical publications, notices to mariners and related documentation are correctly used for voyage planning and identification of navigational hazards in accordance with established procedures
2 Plan route for offshore voyage	a Navigational hazards relevant to a proposed offshore voyage are identified using relevant navigational charts, nautical publications and related documentation b The route for an offshore voyage is determined as per operational instructions and navigational principles and taking due account of identified navigational hazards c Critical points along the proposed route of the voyage are identified and recorded d Appropriate actions to deal with the identified critical points

ELEMENT	PERFORMANCE CRITERIA
	are developed e Potential navigational contingencies and problems that may occur along the planned offshore route are identified and appropriate strategies for dealing with them are developed and recorded

TDMMH807A PLAN AND NAVIGATE AN OFFSHORE PASSAGE WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

ELEMENT	PERFORMANCE CRITERIA
3 Conductan offshore passage	a Forecasts and interpretation of sea and weather conditions are accurate and appropriate to the planned offshore passage of the small vessel b Meteorological information and observations of sea and weather conditions are correctly interpreted and applied to decisions on the vessel's speed and direction c Information from navigation systems is interpreted and applied to identify navigational hazards and to fix the small vessel's position and to enable decisions to be made concerning the vessel's speed and direction d The selection of the mode of steering is the most appropriate for the prevailing weather, sea and traffic conditions and intended manoeuvres e Required alterations to the small vessel's course or speed are made taking into account prevailing weather and sea conditions, the proximity and course of other vessels, relevant navigational hazards, buoyage, signage and overall passage plan requirements f Alterations to the small vessel's course and speed are appropriate to prevailing circumstances and conditions, comply with relevant maritime regulations and do not put at risk the safety of the small vessel or its passengers and crew or that of other vessels, passengers or crew g Signals relevant for navigational manoeuvres are made at the

ELEMENT	PERFORMANCE CRITERIA
	appropriate time in accordance with Australian and international regulations h Operational limits of vessel propulsion, steering, power systems and overall trim and stability are not exceeded during navigational manoeuvres
4 Fix small vessel's position within a limited area	a Primary position fixing method is selected in accordance with navigational principles and prevailing conditions b Position is fixed using the selected method and information derived from relevant navigational systems c Checks are made for random, instrument, system and data errors and appropriate corrections and allowances are made to derived courses and bearings d Time interval between fixes is appropriate to the prevailing navigational conditions e Verification of primary position fixing is regularly carried out using appropriate methods f Performance checks and tests of navigation position fixing instruments and systems are carried out in accordance with company procedures and manufacturer's instructions

TDMMH807A PLAN AND NAVIGATE AN OFFSHORE PASSAGE WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

ELEMENT	PERFORMANCE CRITERIA
4 Fix small vessel's position within a limited area (**continued**)	g Position of small vessel is recorded in accordance with regulations and established procedures
5 Document and report planned route and passage	a Planned route for a small vessel's offshore voyage is recorded and reported in accordance with procedures and regulations b Plans and strategies for dealing with critical situations and contingencies along the route of an offshore voyage are recorded c Details of an offshore passage, including navigational incidents and related action taken are recorded in the vessel's log in accordance with relevant maritime regulations

TDMMH807A PLAN AND NAVIGATE AN OFFSHORE PASSAGE WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

TDMMH807A PLAN AND NAVIGATE AN OFFSHORE PASSAGE WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

Required Skills and Knowledge

REQUIRED SKILLS

This describes the basic skills required for this unit.

1 Use verbal communication skills required when planning and navigating a passage within limits of responsibility of a Master 5 or Skipper 3

2 Read and interpret charts and other published information relevant to planning and navigating a passage within limits of responsibility of a Master 5 or Skipper 3

3 Read and interpret instrument and equipment readings and indications relevant to planning and navigating a passage within limits of responsibility of a Master 5 or Skipper 3

4 Complete any required operational records

6 Work safely and collaboratively with others when planning and navigating a passage

7 Select and use relevant equipment required when planning and navigating a passage as per standard operating procedures

8 Recognise faulty equipment and take appropriate action as per operating instructions

9 Recognise problems that may be experienced when planning and navigating a passage and take appropriate action

10 Adapt to differences in vessels, and equipment and related standard operating procedures

11 Planning and navigating a passage for a vessel of less than 24 metres

REQUIRED SKILLS

16 Correct a magnetic compass direction/reading for variation and deviation

17 Correct a gyro compass direction for gyro errors

REQUIRED KNOWLEDGE

This describes the knowledge required for this unit.

1 Relevant sections of State and Territory regulations, NSCV and USL Code dealing with responsibilities of a Master 5 or Skipper 3

2 Principles and procedures of navigation and passage planning, including contingency planning (within the limits of responsibility of a Master 5 or Skipper 3

3 Information required to develop an effective passage plan

4 Procedures for storing and handling navigational charts, nautical publications and related documentation in serviceable condition

5 Principles and procedures for fixing a small vessel's position

6 Procedures for converting one set of coordinates to another

7 Procedures for the calculation of the height of tide for a given time at any place listed using tide tables

8 Errors in common position fixing systems and their effect on observed positions

9 Methods for controlling small vessel speed and direction

10 Typical manoeuvring and engine characteristics for small vessels up to 24 m in length, including stopping distances and turning circles at various draughts, speeds and loading

11 Effects on vessel handling of wind, currents and bottom topography

12 Voyage planning and position fixing problems that may be experienced for small vessels on offshore voyages and appropriate action and solutions

13 Small vessel reporting systems

14 Parallel indexing techniques

15 Electronic chart system and errors and procedures for their correct use

Evidence Guide

Evidence Guide

TDMMH807A PLAN AND NAVIGATE AN OFFSHORE PASSAGE WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

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 Plan the offshore passage of a small vessel up to 24 metres in length b Fix the position of a small vessel within offshore waters using all acceptable methods c Identify navigational hazards and make due allowance for them when planning an offshore voyage d Conduct the passage of a small vessel up to 24 metres in length on an offshore voyage, taking into account all relevant navigational hazards e Access, use and maintain coastal navigational charts, nautical publications and related documentation f Communicate effectively with others when planning an offshore voyage and conducting navigation g Follow reporting procedures in accordance with the relevant maritime regulations
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 planning and conducting an offshore passage 2 identifying and evaluating navigation problems and

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.

	determining appropriate navigational solutions 3 interpreting and applying information derived from navigational equipment and systems 4 applying required precautions relevant to coastal voyage planning and navigation 5 fixing the position of the small vessel in an offshore area
	c Shows evidence of application of relevant workplace and regulatory procedures, including: 1 relevant maritime regulations 2 reporting requirements for small vessels 3 job procedures and navigational instructions 4 use of relevant nautical publications and charts

Evidence Guide (**continued**)

TDMMH807A PLAN AND NAVIGATE AN OFFSHORE PASSAGE WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

2 Evidence required for demonstration of consistent performance **(continued)**	5 procedures for the storage and maintenance of nautical publications and charts d Action is taken promptly to report and/or rectify navigational errors and contingencies 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
4 Specific resources required for assessment	Access is required to opportunities to: a plan a simulated offshore passage and conduct navigation using an appropriate marine simulator in simulated coastal areas and across an appropriate range of navigational hazards; and/or b assist in the planning and conduct of an actual offshore passage for a small commercial vessel up to 24 m in length

Range Statement

Range Statement

TDMMH807A PLAN AND NAVIGATE AN OFFSHORE PASSAGE WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

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 sections of State and Territory marine regulations, NSCV and USL Code
b. Work is performed:	1 within defined operational procedures, with responsibility for own outputs and limited responsibility for others
c. Work involves:	1 the application of nautical principles to the planning and conduct of an offshore passage and the fixing of a small vessel's position across a range of predictable offshore contexts
2. WORKSITE ENVIRONMENT	
a Vessel may include:	1 any commercial vessel up to 24 metres in length operating within offshore limits
b Voyages to be planned and conducted may include:	1 any voyage within offshore limits navigable by the size and type of small vessel concerned 2 passages through: i traffic separation schemes in offshore areas

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

	ii tidal restricted areas iii VTS controlled areas iv marine parks
c Navigation may occur in conditions of:	1 *clear visibility using visual navigational techniques* 2 *restricted visibility* 3 clear visibility using a combination of visual and electronic techniques

Range Statement (**continued**)

TDMMH807A PLAN AND NAVIGATE AN OFFSHORE PASSAGE WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

VARIABLE	SCOPE
d Instrumentation and equipment used for navigation and fixing a small vessel's position may include:	1 radar 2 GPS satellite navigation systems 3 integrated navigation systems and electronic chart systems 4 magnetic compasses 5 gyro compasses and repeaters 6 chronometers and sextants 7 azimuth mirrors and vanes 8 pelorus 9 doppler and electromagnetic logs 10 depth sounders

VARIABLE	SCOPE
e The use of navigational aids to assist safe navigation may include:	1 avoidance of collision with another vessel 2 fixing the position of the vessel 3 tracking of other vessels 4 assistance in making of command navigational decisions 5 navigating during search and rescue operations
f Position fixing techniques may include:	1 visual bearings of landmarks, coastal features and all aids to navigation such as lighthouses, beacons and buoys 2 dead reckoning, taking into account winds, tides, currents and estimated speed 3 radar fixes 4 using parallel indexing 5 electronic navigational systems
g Documentation and records may include:	1 relevant sections of State and Territory marine regulations, NSCV/USL Code 2 operational orders 3 navigational charts of offshore waters 4 annual and weekly notices to mariners 5 navigational warning records 6 small vessel's log 7 small vessel manufacturer's instructions and recommended procedures 8 instructions of relevant maritime authorities

Range Statement (**continued**)

TDMMH807A PLAN AND NAVIGATE AN OFFSHORE PASSAGE WITHIN THE LIMITS OF RESPONSIBILITY OF A MASTER 5

VARIABLE	SCOPE
h 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 SOLAS Convention and STCW Code 4 relevant international, Commonwealth, State and Territory OH&S legislation 5 Guidelines and criteria for vessel reporting systems

Unit Sector(s)

Not applicable.

Field

Field MH Navigation

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.