



Australian Government

MARH011 Forecast weather and oceanographic conditions to plan a safe passage

Release: 1

MARH011 Forecast weather and oceanographic conditions to plan a safe passage

Modification History

Release 1. This is the first release of this unit of competency in the MAR Maritime Training Package Release 3.0.

Application

This unit involves the skills and knowledge required to forecast weather and oceanographic conditions to plan a safe passage.

This unit applies to maritime workers working in the maritime industry as a Master Unlimited.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

H – Navigation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Forecast area weather

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1 Synoptic chart is interpreted and recorded
- 1.2 Information received by weather fax is interpreted and recorded
- 1.3 Weather reports are obtained, interpreted and recorded
- 1.4 Observations of weather and cloud formations are made, interpreted and recorded

- 1.5 Statistical data and observations are used to predict likely weather conditions for a determined period
- 2 Use information to predict oceanographic conditions**
 - 2.1 Information on ocean current systems is interpreted and recorded
 - 2.2 Nautical publications on tides and currents are used to calculate tidal conditions
 - 2.3 Wave height and swell forecast is made using available information
 - 2.4 Potentially dangerous oceanographic conditions are identified and appropriate action is taken to maintain safety of navigation and to minimise risk to safety of vessel
- 3 Maintain records of weather and oceanographic information and forecasts**
 - 3.1 Statistical data and observations are recorded and filed according to organisational procedures
 - 3.2 Actions taken to maintain safety of navigation and to minimise risk to safety of vessel as a result of weather and oceanographic forecasts, are documented according to organisational procedures
 - 3.3 Meteorological and nautical publications are updated and stored according to organisational procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Weather conditions include one or more of the following:

- air masses and fronts
- cloud classifications
- cyclones, storms and gales
- heat exchange process
- ocean currents
- pressure systems and cold fronts
- sea state
- synoptic chart analysis
- tide prediction
- tropical revolving storms
- use of tide tables
- vertical division of the atmosphere
- weather data provided by shipboard instruments

Dangerous oceanographic conditions include one or more of the following:

- excessively high sea state and swells
- ice formations
- tornados, tropical revolving storms, hurricanes and gales

Appropriate action includes one or more of the following:

- avoiding storm centres and dangerous quadrants by adjusting course and speed
- ensuring all crew and passengers are informed
- ensuring all vessel equipment is properly secured
- securing cargo and stores
- taking action to avoid extreme adverse weather conditions

Unit Mapping Information

This unit replaces and is equivalent to MARH6001A Forecast weather and oceanographic conditions to plan a safe passage.

MARH6001A replaces and is equivalent to TDMMH907B Forecast weather and oceanographic conditions.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>

Assessment Requirements for MARH011 Forecast weather and oceanographic conditions to plan a safe passage

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least one occasion and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- calculating tidal conditions
- ensuring currency of relevant reference material
- observing, interpreting and forecasting weather and oceanographic conditions
- reading, interpreting and applying weather and oceanographic information
- selecting and using shipboard instruments to assist in forecasting weather and oceanographic conditions
- supporting reasons for intended action with statistical data and observations of actual conditions
- using appropriate nautical publications on tides and currents
- using tide tables to calculate height of tide.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- air masses and fronts
- basic principles for making meteorological and oceanographic measurements
- characteristics of various weather systems including tropical revolving storms, and avoidance of storm centres and dangerous quadrants
- cloud classifications
- cyclones, storms and gales
- effects on navigation and vessel handling of wind, currents and bottom topography
- heat exchange process
- ocean currents
- pressure systems and cold fronts

- principles and procedures of weather forecasting using information obtained from observations, charts, satellite images, reports and instruments
- procedures for filing and maintaining weather and oceanographic information
- procedures to be followed during gale conditions and tropical revolving storms
- sea state
- sources of weather and oceanographic information, and methods for their interpretation
- synoptic chart analysis
- tide prediction
- tropical revolving storms
- typical problems in forecasting weather and oceanographic conditions
- use of tide tables
- vertical division of the atmosphere
- weather data provided by shipboard instruments
- WHS/OHS requirements and work practices.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations, current at the time of assessment.

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Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations or where this is not available, in simulated workplace operational situations or an industry-approved marine operations site that replicate workplace conditions.

Resources for assessment include access to:

- relevant documentation including synoptic chart, weather reports, workplace procedures, regulations, codes of practice, operation manuals, meteorological and nautical publications
- shipboard instruments, equipment, materials and personal protective equipment currently used in industry.

Performance should be demonstrated consistently over time and in a suitable range of contexts.

Links

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