



Australian Government

MARH019 Forecast weather and oceanographic conditions

Release: 2

MARH019 Forecast weather and oceanographic conditions

Modification History

Release 2. This is the second release of this unit of competency in the MAR Maritime Training Package.

- Minor statement changes in unit Application
- Minor statement changes in Assessment Conditions.

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

Application

This unit involves the skills and knowledge required to forecast weather and oceanographic conditions during a near coastal voyage and to take appropriate actions based on predictions.

It includes interpreting weather and oceanographic information, using information to predict local weather and oceanographic conditions, and maintaining records of weather and oceanographic information.

This unit applies to people working in the maritime industry in the capacity of Master up to 45 metres Near Coastal.

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit.

This unit is one of the requirements to obtain Australian Maritime Safety Authority (AMSA) certification as a Master up to 45 metres Near Coastal and a Mate up to 100 metres Near Coastal, as specified in Marine Order 505.

Seafarers seeking certification should check with AMSA.

Pre-requisite Unit

Not applicable.

Competency Field

H – Navigation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

1 Interpret weather and oceanographic information

1.1 Ocean and weather conditions are observed and interpreted

1.2 Measurements of current local, meteorological and oceanographic parameters are made and recorded using appropriate shipboard instruments

1.3 Weather charts and satellite images are acquired and interpreted

1.4 Weather reports are obtained and interpreted

2 Use information to predict local weather and oceanographic conditions

2.1 Forecasts of local weather and oceanographic conditions are correctly made using available information

2.2 Wave height and swell forecast is made using available information

2.3 Effects of local topographical features on wind flow and weather conditions are estimated using available information

2.4 Potentially dangerous conditions are identified and appropriate actions taken to secure vessel

3 Maintain records of weather and oceanographic information and forecasts

3.1 Weather and oceanographic information and forecasts are recorded and filed according to organisational procedures

3.2 Action on vessel operations initiated as a result of weather and oceanographic forecasts is documented according to organisational procedures

3.3 Meteorological charts, publications and related documentation 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.

Unit Mapping Information

This unit replaces and is equivalent to MARH006 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 MARH019 Forecast weather and oceanographic conditions

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Performance Evidence

- ensuring currency of relevant reference material
- observing, interpreting and forecasting weather and oceanographic conditions
- reading, interpreting and applying weather and oceanographic information
- recognising problems that may occur when interpreting weather and oceanographic information
- selecting and using shipboard instruments to assist in forecasting weather and oceanographic conditions, including:
 - anemometers
 - barometers
 - equipment for receiving weather maps and forecasts
 - wet and dry bulb thermometers
- 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 and performance criteria and include knowledge of:

- actions to be taken in potentially dangerous conditions, including:
 - avoiding extreme adverse weather conditions
 - avoiding storm centres and dangerous quadrants by adjusting course and speed
 - properly securing all vessel equipment
- basic principles for making meteorological and oceanographic measurements
- effects on navigation and vessel handling of wind, currents and bottom topography
- heat exchange process
- ocean and weather conditions, including:

- air masses and fronts
- cloud classifications
- cyclones, storms and gales
- ocean currents
- pressure systems and cold fronts
- sea state
- synoptic chart analysis
- tide prediction
- tropical meteorology
- principles and procedures of weather forecasting using information obtained from observations, charts, satellite images, reports and instruments
- sources of weather and oceanographic information, and methods for their interpretation
- topographical effects on wind flow
- typical problems in forecasting weather and oceanographic conditions
- vertical division of the atmosphere
- work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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.

Practical assessment must occur in a workplace, or realistic simulated workplace, under the normal range of workplace conditions.

Simulations and scenarios may be used where situations cannot be provided in the workplace or may occur only rarely, in particular for situations relating to emergency procedures and adverse weather conditions where assessment would be unsafe, impractical or may lead to environmental damage.

Resources for assessment must include access to:

- applicable documentation, such as legislation, regulations, codes of practice, workplace procedures and operational manuals, Australian national tide tables, weather reports and safety management systems (SMS)
- tools, equipment, machinery, materials and personal protective equipment (PPE) currently used in industry, including:
 - anemometers
 - barograph

- barometers
- equipment for receiving weather maps and forecasts
- wet and dry bulb thermometers.

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