



Australian Government

MARH002 Apply weather information when navigating inland waters as Master

Release: 1

MARH002 Apply weather information when navigating inland waters as Master

Modification History

Release 1. New unit of competency.

Application

This unit involves the skills and knowledge required to predict meteorological conditions and apply them to ensure the safe navigation of a vessel. It includes interpreting and applying information obtained from observations, reports and instruments and forecasting weather for an intended inland waters passage using all available data.

This unit applies to those working in the capacity of a Master Inland Waters on any commercial vessel up to 24 metres engaged in inland waters navigation.

This unit has links to legislative and certification requirements.

Pre-requisite Unit

Not applicable.

Competency Field

H – Navigation

Unit Sector

Not applicable.

Elements and Performance Criteria

Elements describe the essential outcomes.

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

1 Obtain weather information

- 1.1 Relevant weather forecasts are obtained from a range of sources and correctly interpreted
- 1.2 Weather conditions are observed and correctly interpreted according to established nautical and meteorological practice
- 1.3 Basic measurements of meteorological conditions are correctly made and recorded using established procedures
- 1.4 Relevant meteorological charts, publications and related documentation are obtained, used, updated, stored and

			maintained
2	Apply weather data to safe navigation	2.1	Weather condition hazards relevant to a proposed voyage are identified using relevant forecasts based on interpretation of meteorological observations, reports and measurements
		2.2	Voyage is modified as required to take into account weather and water condition hazards according to established navigational practice and operational instructions
3	Maintain records of weather and oceanographic information	3.1	Meteorological measurements, observations, reports and forecasts are recorded and stored according to organisational procedures and regulatory requirements
		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

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

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

Sources include one or more of the following:

- charts
- instruments
- observations
- reports
- satellite images

Documentation include one or more of the following:

- meteorological publications
- navigational charts of inland waterways
- notices and instructions of relevant maritime authorities
- operational orders
- organisational procedures
- relevant sections of state and territory marine regulations, National Standard for Commercial Vessels (NSCV) and Uniform Shipping Laws (USL) Code
- vessel log
- vessel manufacturer instructions and recommended procedures
- weather reports, charts and satellite images

Unit Mapping Information

This is a new unit. This unit is equivalent to MARH3001A Apply weather information when navigating inland waters as Master.

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 MARH002 Apply weather information when navigating inland waters as Master

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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 and performance criteria on at least one occasion and include:

- completing required records and documentation
- identifying and evaluating weather forecasting problems and determining appropriate solutions
- navigating under a range of conditions (day and night, clear visibility and restricted visibility)
- reading, interpreting and applying weather information
- recognising problems that may occur when interpreting and applying weather information to navigation and taking appropriate action
- selecting and using relevant instruments and equipment according to instructions
- using relevant communication skills when navigating a small vessel as Master
- using weather forecasts to ensure safe navigation.

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:

- basic principles and procedures interpreting meteorological information
- effects on navigation and vessel handling of wind, currents and bottom topography
- maritime communication techniques
- meteorological and oceanographic parameters:
 - atmospheric pressure
 - pressure gradient and isobar patterns
 - air temperature
 - relative humidity
 - wind strength
 - wind direction
 - visibility (in conditions of fog, mist, rain and snow)
 - cloud
- problems in forecasting weather information to navigate a vessel and appropriate action and solutions

- procedures for applying forecast of likely weather and water conditions to the development of a typical voyage
- procedures to be followed during gale conditions and cyclones, including the means of securing a vessel in a cyclone mooring
- principles of weather forecasting using information obtained from observations, reports and instruments, including:
 - vertical division of the atmosphere
 - air masses and fronts
 - cloud classifications
 - heat exchange process
 - synoptic chart analysis
 - pressure systems, cold and warm fronts
 - cyclones, storms and gales
 - tropical meteorology
 - sources of weather data
- relevant sections of state and territory regulations, National Standard for Commercial Vessels (NSCV) and Uniform Shipping Laws (USL) Code dealing with responsibilities of a Master Inland Waters
- sources of weather reports and methods for their interpretation.

Assessment Conditions

Assessors must satisfy National Vocational Education and Training Regulator (NVR)/Australian Quality Training Framework (AQTF) assessor requirements.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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.

Resources for assessment must include access to:

- tools, equipment, machinery, materials and personal protective equipment currently used in industry
- applicable documentation such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- range of relevant exercises, case studies and/or simulations.

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