



Australian Government

MARC044 Transmit and receive information by marine VHF radio

Release: 2

MARC044 Transmit and receive information by marine VHF radio

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. New unit of competency. Licensing/regulatory information has been incorporated in accordance with Regulatory requirements. Assessment Requirements have been strengthened in accordance with Regulatory requirements.

Application

This unit involves the skills and knowledge required to:

- transmit and receive information by marine very high frequency (VHF) radio according to regulations
- carry out user-maintenance and fault-finding procedures on radio equipment and power supplies
- operate emergency position indicating radio beacons (EPIRBs), search and rescue radar transponders (SARTs), automatic identification system search and rescue transmitters (AIS-SARTs), AIS man overboard (AIS-MOB) device, and digital selective calling MOB (DSC-MOB) device.

This unit applies to people working in the maritime industry in the capacity of:

- coxswain on vessels up to 12 metres in length with propulsion power that is unlimited for an outboard engine or up to 500 kW for an inboard engine operating in inshore or designated waters or
- coxswain on tenders or auxiliary vessels up to 12 m in length operating within 3 nautical miles (nm) of a parent vessel within the exclusive economic zone (EEZ).

This unit covers VHF radio equipment only; *MARC043 Transmit and receive information by marine radio* should be selected where competency in both VHF and high frequency (HF) radio is required.

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit. The Radiocommunications Act 1992 (the Radcomm Act), through the Radiocommunications Licence Conditions (Maritime Ship Licence) Determination 2015, requires that operators of VHF maritime ship stations are appropriately qualified to operate the stations.

This means that operators are required to hold a relevant Australian Maritime Radio Operator's Certificate of Proficiency or an equivalent overseas qualification.

The Australian Maritime College (AMC) acts as the Australian Communications and Media Authority (ACMA) delegate in providing marine radio certificate services under the Radcomm Act, including the issue of Short Range Radio Operator's Certificates of Proficiency (SROCP).

Operators who have attained a Statement of Attainment from a Registered Training Organisation (RTO) for this unit of competency can apply to the AMC for the issue of a SROCP without the need to sit a further examination.

This unit of competency is one of the requirements to obtain Australian Maritime Safety Authority (AMSA) certification as a Coxswain Grade 1 Near Coastal (NC), as specified in Marine Order 505.

Pre-requisite Unit

Not Applicable

Competency Field

C – Equipment Operations

Unit Sector

Not Applicable

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Operate VHF radio equipment to transmit and receive messages

PERFORMANCE CRITERIA

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

- 1.1** VHF radio equipment is selected for operation within limits of specifications
- 1.2** VHF radio equipment is operated to transmit and receive various types of signal according to manufacturer instructions, established radio operation procedures and regulatory requirements
- 1.3** Regulations and procedures applicable to vessel stations equipped with VHF radio and DSC facilities are applied during radio communication
- 1.4** Work health and safety (WHS)/occupational health and safety (OHS) procedures and hazard control strategies

		are applied when operating VHF radio equipment according to vessel safety management system
	1.5	Radio communication problems are documented and promptly reported according to established procedures
2 Maintain and fault-find VHF radio equipment	2.1	Routine maintenance checks are carried out on VHF radio equipment according to manufacturer instructions and specifications, and company procedures
	2.2	Out-of-specification performance and faults in VHF radio equipment are correctly identified and investigated using prescribed fault-finding techniques according to established user maintenance procedures and manufacturer instructions
3 Access search and rescue VHF radio facilities	3.1	Request is made to the appropriate organisation for the provision of the required search and rescue services
	3.2	Information required by the Modernised Australian Ship Tracking and Reporting (MASTREP) system is supplied and received in the required format
4 Deploy and operate an EPIRB, SART and AIS-SART	4.1	Routine checks are carried out on EPIRBs, SARTs and AIS-SARTs to confirm their operational capability according to manufacturer instructions and specifications
	4.2	Appropriate action is taken to rectify or replace EPIRBs, SARTs or AIS-SARTs that are found to be malfunctioning or are inoperable according to manufacturer instructions and company procedures
	4.3	EPIRBs, SARTs and AIS-SARTs are deployed according to manufacturer instructions and established search and rescue procedures
5 Operate a MOB device as a locating device in an emergency	5.1	Routine checks are carried out on AIS-MOB and DSC-MOB devices to confirm their operational capability according to manufacturer instructions and specifications
	5.2	AIS-MOB and DSC-MOB devices are operated according to manufacturer instructions and regulatory requirements

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 MARC021 Transmit and receive information by marine VHF radio.

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 MARC044 Transmit and receive information by marine VHF radio

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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:

- accessing search and rescue radio facilities
- adapting to changes in equipment and procedures in the workplace
- applying work health and safety (WHS)/occupational health and safety (OHS) procedures and precautions when using and checking very high frequency (VHF) radio equipment
- carrying out radio communication accurately and consistently in both normal and emergency situations using shipboard VHF radio equipment and using emergency position indicating radio beacons (EPIRBs), search and rescue radar transponders (SARTs), in compliance with the relevant sections of the Radio Regulations adopted by the World Radio Communication Conference (as amended) and maritime regulations, including:
 - distress, urgency and safety communications
 - medical service
 - navigational
 - normal vessel-to-vessel service (ship to ship)
 - normal vessel-to-shore service (ship to shore)
- communicating effectively with others during VHF radio communication
- conducting operational checks on VHF radio equipment
- deploying and operating an EPIRB and a SART
- maintaining and fault-finding radio equipment
- maintaining records of radio communication
- operating VHF radio equipment to transmit and receive messages in accordance with manufacturer instructions
- operating automatic identification system man overboard (AIS-MOB) devices and digital selective calling MOB (DSC-MOB) devices
- performing operational checks on EPIRBs, SARTs, AIS-SARTs, AIS-MOB devices and

DSC-MOB devices

- recognising typical faults and problems with VHF radio equipment and taking appropriate action
- reading and interpreting marine VHF radio regulations, rules and instructions
- using the phonetic alphabet.

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:

- Australian marine search and rescue system
- available radio services, including:
 - Modernised Australian Ship Tracking and Reporting (MASTREP)
 - medical advice services
 - public correspondence
 - scheduled broadcasts (skeds)
 - search and rescue
- different types of marine VHF radio equipment, their features, applications, operating characteristics, limitations and operating procedures
- EPIRBs
- guidelines relating to the use of VHF radio communication equipment
- hazards associated with VHF radio transmission, and the repair and maintenance of VHF radio equipment, and related hazard control measures
- limitations on the performance of different types of marine VHF radio equipment
- marine VHF repeater stations
- methods of communicating vessel position
- operational checks, including:
 - checking VHF radio performance
 - measuring capacity of batteries and the specific gravity of the electrolyte
 - measuring on and off load voltage
 - testing fuses
- principles and procedures for marine VHF radio communication
- procedures for:
 - deploying and operating EPIRBs, SARTs and AIS-SARTs
 - keeping records of VHF radio communication
 - transmitting and decoding of the phonetic alphabet, excluding the figure code
- purpose of, and procedures for, the monitoring of calling and working frequencies
- relevant organisations and their services, including:
 - coast stations
 - company bases

- fishing organisations and cooperatives
- limited coast stations
- private shore stations
- state or territory police forces
- sections of relevant regulations related to marine VHF radio communication
- VHF radio calling, replying and relaying procedures
- VHF radio equipment faults and defects and related fault-finding techniques and remedial procedures
- VHF radio communication problems and appropriate action and solutions
- WHS/OHS regulations appropriate to the operation and maintenance of VHF radio equipment.

Assessment Conditions

Assessors of this unit must hold as a minimum:

- a Short Range Radio Operator's Certificate of Proficiency (SROCP) issued under the Radiocommunications Act 1992 (the Radcomm Act), with a minimum 12 months relevant experience.

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 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:

- documentation, such as legislation, regulations, codes of practice, safety management system, workplace procedures and operational manuals, including:
 - Marine VHF Radio Operators Handbook
 - Radiocommunications Act 1992 (the Radcomm Act)
 - Radio Regulations adopted by the World Radiocommunication Conference (as amended)
- tools, equipment, materials and relevant personal protective equipment (PPE) currently used in industry, including:
 - VHF radio transceiver
 - DSC equipment

- aerials
- batteries
- electrical and radio cable connections
- electrical fuses
- EPIRBs
- SARTs
- AIS-SARTs
- AIS-MOB devices
- DSC-MOB devices.

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