



Australian Government

MARC043 Transmit and receive information by marine radio

Release: 2

MARC043 Transmit and receive information by marine 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
- AMPA statement removed from 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 radio, including using marine very high frequency (VHF) and high frequency (HF) 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) devices and digital selective calling MOB (DSC-MOB) devices.

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

- master on commercial vessels up to 100 m in length within the exclusive economic zone (EEZ) or
- chief mate or deck watchkeeper on a vessel up to 100 m in length within the EEZ.

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 Long Range Radio Operator's Certificates of Proficiency (LROCPs).

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

This unit is one of the requirements to obtain Australian Maritime Safety Authority (AMSA) certification as specified in Marine Order 505.

Seafarers seeking certification should check with AMSA.

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 and HF radio equipment to transmit and receive messages

PERFORMANCE CRITERIA

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

- 1.1** Appropriate VHF and HF radio equipment is selected for operation within limits of specifications
- 1.2** 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 radio voice communications (radiotelephony) and digital selective calling (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 radio equipment according to vessel safety management system
- 1.5** Radio communication problems are documented and promptly reported according to organisational

		procedures
2 Maintain and fault-find radio equipment	2.1	Routine maintenance checks are carried out on radio voice communications (radiotelephony) equipment according to manufacturer instructions and specifications, and organisational procedures
	2.2	Out-of-specification performance and faults in 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 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 System (MASTREP) 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 organisational procedures
	4.3	EPIRBs, SARTs and AIS-SARTs are deployed as required 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 MARC020 Transmit and receive information by marine 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 MARC043 Transmit and receive information by marine 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:

- applying work health and safety (WHS)/occupational health and safety (OHS) procedures and precautions when using and checking radio equipment
- communicating effectively with others during radio communication
- conducting operational checks on radio equipment
- identifying and evaluating radio communication problems and determining appropriate courses of actions
- maintaining records of radio communication
- operating radio equipment according to manufacturer instructions
- operating VHF and HF radio equipment to transmit and receive messages, including:
 - operating normal vessel-to-vessel service (ship-to-ship)/normal vessel-to-shore service (ship-to-shore)
- performing operational checks on 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) devices and digital selective calling MOB (DSC-MOB) devices.
- reading and interpreting marine radio regulations, rules and instructions
- recognising typical faults and problems with radio equipment and taking appropriate actions
- simulating radio voice communications (radiotelephony) accurately and consistently in both normal and emergency situations using very high frequency (VHF) and high frequency (HF) radio equipment in compliance with the relevant sections of radio regulations, including:
 - distress, urgency and safety communications
 - medical service
 - navigational
- simulating the operation of AIS-MOB devices and DSC-MOB devices

- 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 and performance criteria and include knowledge of:

- Australian marine search and rescue system
- available radio services, including:
 - medical advice services
 - Modernised Australian Ship Tracking and Reporting System (MASTREP)
 - public correspondence
 - scheduled broadcasts (skeds)
 - search and rescue
- different types of marine radio equipment, their features, applications, operating characteristics, limitations and operating procedures
- EPIRB frequencies
- hazards associated with radio transmission, the repair and maintenance of radio equipment, and related hazard control measures
- marine VHF repeater stations
- methods of communicating vessel position
- operational checks of radio equipment
- principles and procedures for marine radio communication
- procedures for:
 - deploying and operating EPIRBs and SARTs
 - keeping radio communication records
 - transmitting and decoding the phonetic alphabet, excluding the figure code
- purpose of, and procedures for monitoring, calling and working frequencies
- radio calling, replying and relaying procedures
- radio communication log
- radio equipment manufacturer specifications and instructions
- radio regulations adopted by the World Radio Communication Conference (as amended), including Chapters VII and IX
- relevant organisations, and their services, including:
 - coast stations
 - limited coast stations
 - Maritime Communication Stations
 - state or territory police forces
- relevant sections of maritime regulations related to radio operation, including:
- typical radio communication problems and appropriate actions and solutions
- typical radio equipment faults, defects and related fault-finding techniques and remedial procedures

- WHS/OHS regulations appropriate to the operation and maintenance of radio equipment.

Assessment Conditions

Assessors of this unit must hold as a minimum:

- a Long Range Radio Operator's Certificate of Proficiency (LROCP) or equivalent, issued under the Radio communications Act 1992, 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 (SMS), workplace procedures, guidelines and operational manuals relating to the use of radio communication equipment, including:
 - Marine Radio Operators Handbook
 - radio regulations adopted by the World Radiocommunication Conference (as amended)
 - Radiocommunications Act (1992)
- tools, equipment, materials and relevant personal protective equipment (PPE) currently used in industry, including:
 - AIS-MOB devices
 - AIS-SARTs
 - DSC-MOB devices
 - EPIRBs
 - medium frequency (MF) or HF radio transceiver with DSC capabilities
 - SARTs
 - VHF radio transceiver with DSC capabilities.

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