

PIROBS3.10E – Transmit and receive information by marine radio or telephone

Functional area **Observer operations**

Prerequisites **None required**

Descriptor

This unit covers the performance outcomes, skills and knowledge necessary for a person to transmit and receive information by marine radio or telephone on board a commercial vessel, including using marine VHF and HF radiotelephone in accordance with regulations, carrying out user maintenance and fault finding procedures on radio equipment and power supplies, and operating an emergency position indicating radio beacon (EPIRB) and a search and rescue transponder (SART).

Elements

Performance criteria

1. Operate VHF and HF radio equipment to transmit and receive messages

- 1.5 Types of radiotelephony equipment are selected and operated within limits of specifications
- 1.6 Radio equipment is operated to transmit and receive various types of signal as per manufacturer's instructions, established radio operation procedures and regulatory requirements
- 1.7 Regulations and procedures applicable to vessel stations equipped with radiotelephony and digital selective calling (DSC) facilities are applied during radio communication
- 1.8 OH&S procedures and hazard control strategies are applied when operating radio equipment in accordance with vessel's ISM Code safety management system

2. Maintain and fault-find radio equipment

- 2.4 Routine maintenance checks are carried out on radiotelephony equipment in accordance with manufacturer's instructions and specifications and company procedures
- 2.5 Out-of-specification performance and faults in radio equipment are correctly identified and investigated using prescribed fault finding techniques as per established user maintenance procedures and manufacturer's instructions
- 2.6 Identified faults and defective radio equipment and component parts are rectified or replaced as per manufacturer's instructions and established maintenance procedures

3. Access search and rescue radio facilities

- 3.5 Application is made to the appropriate organisation for the provision of the required search and rescue services
- 3.6 Information required by any regional ship reporting system is supplied in the required format

4. Deploy and operate an EPIRB and a SART

- 4.1 Routine checks are carried out on emergency position indicating radio beacons (EPIRBs) and search and rescue transmitters (SARTs) to confirm their operational capability in accordance with manufacturer's instructions and specifications
- 4.2 Appropriate action is taken to rectify or replace EPIRBs or SARTs that are found to be malfunctioning or are inoperable in accordance with manufacturer's instructions and company procedures

- 4.3 Emergency position indicating radio beacons (EPIRBs) and search and rescue transmitters (SARTs) are deployed as required in accordance with manufacturer's instructions and established search and rescue procedures

Evidence guide

Each unit of competency has an evidence guide that relates directly to the performance criteria. Its purpose is to guide assessment of the unit in the workplace and/or training program. The following components provide information to assist this purpose.

Required knowledge

The essential knowledge and understanding a person needs to perform work to the required standard include:

- Sections of relevant regulations related to marine radio communication
- Different types of marine radio equipment, their features, applications, operating characteristics and operating procedures
- Basic principles and procedures for marine radio communication
- Purpose for and procedures for the monitoring of calling and working frequencies
- Radio calling, replying and relaying procedures
- Purpose of silence periods when operating radio equipment
- Limitations on the performance of different types of marine radio equipment
- Methods of communicating vessel position
- Hazards associated with radio transmission and the repair and maintenance of radio equipment and related hazard control measures and OH&S regulations.
- A basic understanding of the marine search and rescue systems
- Procedures for the transmitting and decoding of the phonetic alphabet excluding the figure code
- Operational checks, including checking of radio performance, testing fuses, measuring capacity of batteries and the specific gravity of the electrolyte and measuring on and off load voltage
- Typical radio equipment faults and defects and related fault finding techniques and remedial procedures
- Procedures for deploying and operating EPIRBs and SARTs
- Typical radio communication problems and appropriate action and solutions
- Procedures for keeping records of radio communication

Required skills

The essential skills a person needs to perform work to the required standard include:

- Communicate effectively with others during radio communication
- Read and interpret radio equipment instructions
- Read and interpret marine radio regulations, rules and instructions
- Use the phonetic alphabet
- Keep records of radio communication

- Work collaboratively with other shipboard personnel and passengers
- Recognise typical faults and problems with radio equipment and take appropriate action
- Adapt to changes in radio equipment and related procedures
- Operate radio equipment in accordance with manufacturer's instructions
- Conduct operational checks on radio equipment
- Apply OH&S procedures and precautions when using and checking radio equipment

Literacy skills used for:

- Reading regulations, manuals and other related instructional documentation
- Interpreting the phonetic alphabet
- Record keeping

Numeracy skills used for:

- Radio frequencies and
- Measuring capacity and voltage of batteries, specific gravity of the electrolyte

Technology skills used for:

- Operating radio equipment

Critical aspects of competence

Assessment must confirm the ability to:

- Operate VHF and HF radio equipment to transmit and receive messages
- Maintain and fault-find radio equipment
- Access search and rescue radio facilities
- Deploy and operate an EPIRB and a SART
- Maintain records of radio communication

Assessment must confirm knowledge of:

- VHF and HF radio equipment
- Search and rescue radio operations
- EPIRB and SART
- Radio communication record keeping protocols

Context of assessment

While practical assessment would ideally be conducted with operational radiotelephony equipment it may be undertaken with radio simulator equipment however the assessment should be as realistic as possible

Method of assessment

The following assessment methods are suggested:

- Observation of the candidate operating VHF and HF radio equipment and transmitting emergency, safety and normal messages
- Observation of the candidate demonstrating the operation an EPIRB and a SART under controlled conditions
- Written or oral short answer questions to assess underpinning knowledge
- Third-party reports, including reports from observer programme coordinators and observer programme trainers

Interdependent assessment of units

This unit is likely to be assessed independently

Resources required for assessment

Resources may include:

- VHF and HF radio equipment
- EPIRB and SART
- Radiotelephony Operator's Manual
- Battery, hydrometer, battery capacity tester, fuses