



Australian Government

MARO3001A Contribute to monitoring and controlling a safe engine watch

Release 1

MARO3001A Contribute to monitoring and controlling a safe engine watch

Modification History

Release 1

This is the first release of this unit.

Unit Descriptor

This unit involves the skills and knowledge required to contribute to a safe engine watch on a vessel under instructions from the officer of the watch.

Application of the Unit

This unit applies to those sailing on any vessel in the capacity of an Integrated Rating where engine watchkeeping duties are to be performed.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | |
|---|--|
| 1 Follow instructions to monitor engine-room machinery and equipment | <ul style="list-style-type: none">1.1 Propulsion unit and auxiliary machinery are <i>monitored</i> according to manufacturer specifications and organisational procedures1.2 Deviations are identified and reported according to organisational procedures1.3 Unsafe conditions and potential hazards are recognised, and risk is assessed and reported according to organisational procedures1.4 Unsafe conditions and hazards are rectified according to organisational procedures1.5 Effective communication is maintained with the officer of the watch on matters relevant to the safety and integrity of the vessel1.6 Procedures for relief, maintenance and handover of a watch are followed |
| 2 Respond to potential emergency situations | <ul style="list-style-type: none">2.1 <i>Emergency situations</i> are promptly reported to the officer of the watch2.2 <i>Alarms</i> are recognised and reported2.3 Control measures to minimise the emergency are implemented2.4 Containment procedures are applied where appropriate2.5 Appropriate safety procedures are followed and personal protective equipment is used according to organisational procedures2.6 Emergency is eliminated where possible, and if not practical, actions are taken to control the emergency2.7 Appropriate <i>firefighting equipment</i> is identified to carry out firefighting operations |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required Skills:

- Communicate effectively with officer of the watch on matters relevant to watchkeeping duties
- Conform to established procedures and practices in taking initial action on becoming aware of the emergency or abnormal situation
- Maintain the integrity of emergency alarm systems at all times
- Monitor and anticipate hazards and risks that may arise during engine watchkeeping duties
- Monitor propulsion and auxiliary machinery according to instructions during watchkeeping duties
- Recognise potential hazards, assess risks and report them to the officer of the watch
- Respond to engine orders given by officer of the watch
- Use internal communications and alarm systems

Required Knowledge:

- Alarms associated with engine room machinery and their meaning
- Correct use of monitoring equipment used in the engine room
- Emergency duties and alarm signals
- Engine room alarm systems and the distinguish between the various alarms
- Escape routes from machinery spaces
- Information required to maintain a safe engine watch
- Monitoring equipment used in the engine room
- Orders as they relate to watchkeeping
- Procedures for the relief, maintenance and handover of a watch
- Requirements for the safe operation of boilers
- Shipboard terms and definitions
- Terms used in machinery spaces and names of machinery and equipment
- Typical engine emergency situations and appropriate action and solutions
- Work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, the required skills and knowledge, the range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the Elements, Performance Criteria, Required Skills, Required Knowledge and include:

- performing basic engine watchkeeping duties under instruction on a vessel moored, at anchor or under way
- communicating clearly and concisely and acknowledging orders in a seamanlike manner
- seeking advice/clarification from the officer of the watch where watch information or instructions are not clearly understood
- conforming to accepted practices and procedures in the maintenance, handover and relief of the watch.

Context of and specific resources for assessment

Performance is demonstrated consistently over time and in a suitable range of contexts.

Resources for assessment include access to:

- industry-approved marine operations site where contributing to monitoring and controlling a safe engine watch can be conducted
- tools, equipment and personal protective equipment currently used in industry
- relevant regulatory and equipment documentation that impacts on work activities
- range of relevant exercises, case studies and/or other simulated practical and knowledge assessments
- appropriate range of relevant operational situations in the workplace.

In both real and simulated environments, access is required to:

- relevant and appropriate materials and equipment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals.

Method of assessment

Practical assessment must occur in an:

- appropriately simulated workplace environment and/or
- appropriate range of situations in the workplace.

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate to this unit:

- direct observation of the candidate contributing to

monitoring and controlling a safe engine watch

- direct observation of the candidate applying relevant WHS/OHS requirements and work practices.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

In all cases where practical assessment is used it should be combined with targeted questioning to assess Required Knowledge.

Assessment processes and techniques must be appropriate to the language and literacy requirements of the work being performed and the capacity of the candidate.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below.

Monitored may include:

- Boiler water levels and steam pressure
- Engine room machinery temperatures
- Oil levels

Emergency situations may include:

- Fire, including engine room scavenge fires
- Generator failure
- Loss of engine cooling water

Alarms must include:

- Bilge
- Boiler level and pressure
- Fire extinguishing gas alarms
- Temperature

Firefighting equipment must include:

- Fixed gas systems
- Fixed water systems
- Portable extinguishers

Unit Sector(s)

Not applicable.

Competency Field

Watchkeeping