



Australian Government

MARO007 Contribute to monitoring and controlling a safe engine watch

Release: 1

MARO007 Contribute to monitoring and controlling a safe engine watch

Modification History

Release 1. This is the first release of this unit of competency in the MAR Maritime Training Package.

Application

This unit involves the skills and knowledge required to contribute to a safe engine watch on a vessel while under the direction of the officer in charge of the engineering watch.

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

- Able Seafarer - Engine or Integrated Rating who assists, under the direction of the officer in charge of the engineering watch, in performing engine watchkeeping duties
- Navigational Watch - Deck/Engine.

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit.

- This unit is one of the requirements to obtain Australian Maritime Safety Authority (AMSA) certification as an Able Seafarer – Engine, Integrated Rating or Navigational Watch - Deck/Engine and to meet regulatory requirements this unit must be delivered consistent with Marine Orders and with the relevant sections of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).
- Those regulatory requirements include STCW International Maritime Organization (IMO) model course competencies and areas of knowledge, understanding and proficiency, together with the estimated total hours required for lectures and practical exercises. Teaching staff should note that timings are suggestions only and should be adapted to suit individual groups of trainees depending on their experience, ability, equipment and staff available for training.

Pre-requisite Unit

Not applicable.

Competency Field

O – Watchkeeping

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

1 Follow instructions to monitor engine room machinery and equipment

- 1.1** Unsafe conditions and potential hazards are recognised, and risk is assessed and reported according to workplace procedures
- 1.2** Unsafe conditions and hazards are rectified according to workplace procedures
- 1.3** Effective communication is maintained with the officer in charge of the engineering watch about matters relevant to the safety and integrity of the vessel
- 1.4** Procedures for relief, maintenance and handover of a watch are followed
- 1.5** Emergency situations are promptly reported to the officer in charge of the engineering watch
- 1.6** Alarms are recognised and reported

2 Respond to potential emergency situations

- 2.1** Control measures to minimise a potential emergency are implemented
- 2.2** Containment procedures are applied as required
- 2.3** Appropriate safety procedures are followed, and personal protective equipment (PPE) is used according to workplace procedures
- 2.4** Emergency is eliminated where possible or actions are taken to control the emergency
- 2.5** Appropriate firefighting equipment is identified to carry out firefighting operations
- 2.6** Unsafe conditions and potential hazards are recognised, and risk is assessed and reported to the officer in charge of the engineering watch according to workplace procedures
- 2.7** Unsafe conditions and hazards are rectified according to workplace procedures

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 MARO005 Contribute to monitoring and controlling a safe engine watch.

Links

Companion Volume implementation guide can be found in VetNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>

Assessment Requirements for MARO007 Contribute to monitoring and controlling a safe engine watch

Modification History

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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 relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- communicating clearly and concisely, and acknowledging orders in a seamanlike manner
- communicating effectively with the officer in charge of the engineering watch about matters relevant to watchkeeping duties
- conforming to accepted practices, principles and procedures in the maintenance, handover and relief of the watch
- conforming to established procedures and practices in taking initial action in the event of an emergency or abnormal situation
- maintaining the integrity of emergency alarm systems at all times
- monitoring and anticipating hazards and risks that may arise during engine watchkeeping duties
- monitoring engine room machinery and equipment, including:
 - boiler water levels and steam pressure
 - temperatures
 - oil levels
- monitoring propulsion and auxiliary machinery according to instructions during watchkeeping duties
- performing basic engine watchkeeping duties under the direction of the officer in charge of the engineering watch on a vessel moored, at anchor or under way
- recognising potential hazards, assessing risks and reporting them to the officer of the watch
- responding to engine orders given by the officer in charge of the engineering watch
- seeking advice/clarification from the officer in charge of the engineering watch where watch information or instructions are not clearly understood
- using internal communications and alarm systems.

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:

- alarms associated with engine room machinery and their meaning
- appropriate selection and use of personal protective equipment (PPE)
- correct use of monitoring equipment used in the engine room
- emergency duties and alarm signals and response to emergency situations, including:
 - crankcase and gearbox explosions
 - fire, including engine room scavenge fires
 - gearbox failure
 - generator failure
 - loss of engine cooling water
 - starting air line
- engine room alarm systems and the difference between the various alarms, including fire-extinguisher gas alarms
- engine room emergency situations, and appropriate actions and solutions
- escape routes from machinery spaces
- function and operation of main propulsion and auxiliary machinery
- information required to maintain a safe engine watch
- location and use of firefighting equipment
- monitoring equipment used in the engine room
- orders as they relate to watchkeeping provided by the officer in charge of the engineering watch
- procedures for the relief, maintenance and handover of a watch
- relevant WHS/OHS requirements, work practices and pollution control regulation and policies, including shipboard oil pollution emergency plan (SOPEP)
- requirements for the safe operation of boilers
- shipboard terms and definitions
- terms used in machinery spaces, and names of machinery and equipment.

Assessment Conditions

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 Organisations 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:

- applicable documentation, such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry.

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