



Australian Government

MARO005 Contribute to monitoring and controlling a safe engine watch

Release: 1

MARO005 Contribute to monitoring and controlling a safe engine watch

Modification History

Release 1. New unit of competency.

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

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

O – Watchkeeping

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Follow instructions to monitor engine-room machinery and equipment

PERFORMANCE CRITERIA

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

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| 1.1 | Unsafe conditions and potential hazards are recognised, and risk is assessed and reported according to organisational procedures |
| 1.2 | Unsafe conditions and hazards are rectified according to organisational 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 is used according to organisational 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 organisational procedures
 - 2.7 Unsafe conditions and hazards are rectified according to organisational 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.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

- Emergency situations include one or more of the following:
- crankcase and gearbox explosions
 - fire, including engine room scavenge fires
 - gearbox failure
 - generator failure
 - loss of engine cooling water
 - starting air-line

Unit Mapping Information

This unit replaces and is equivalent to MARO3001A Contribute to monitoring and controlling a safe engine watch.

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 MARO005 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 and procedures in the maintenance, handover and relief of the watch
- conforming to established procedures and practices in taking initial action on becoming aware 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
 - engine-room machinery 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
- basic knowledge and correct use of monitoring equipment used in the engine room
- emergency duties and alarm signals
- engine-room alarm systems and the difference between the various alarms
- engine-room emergency situations, and appropriate action and solutions
- escape routes from machinery spaces
- function and operation of main propulsion and auxiliary machinery
- information required to maintain a safe engine watch
- 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
- requirements for the safe operation of boilers
- shipboard terms and definitions
- terms used in machinery spaces, and names of machinery and equipment.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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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.

Assessment of engine watchkeeping duties must occur in workplace operational situations. Where this is not available, in simulated workplace operational situations that replicate workplace conditions.

Resources for assessment include access to:

- relevant documentation including workplace procedures, regulations, codes of practice and operation manuals
- tools, equipment and personal protective equipment that replicate and are currently used in

industry

- firefighting equipment including:
 - fixed gas systems
 - fixed water systems
 - portable extinguishers
- alarms including:
 - bilge
 - boiler level and pressure
 - fire extinguishing gas alarms
 - temperature.

Links

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