



Australian Government

MARC045 Contribute to the operation of engine equipment and associated propulsion plant

Release: 1

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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 the operation, monitoring and evaluation of engine performance and associated propulsion plant on a vessel.

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

- Able Seafarer - Engine
- Integrated Rating

who assist under the direction of the officer in charge of the engineering watch, with the operation of engine equipment and associated propulsion plant, as required, on a range of vessels.

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 or Integrated Rating 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

C – Equipment Operations

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

1 Plan and prepare work

- 1.1** Safety issues are identified, and safe operational practices are applied to minimise risk and to control hazards
- 1.2** Work requirements of engine and plant are identified from the officer in charge of the engineering watch and relevant documentation
- 1.3** Localised engine and plant inspections are carried out according to manufacturer specifications and workplace procedures
- 1.4** Engine and plant operational prerequisites are established according to manufacturer specifications and workplace procedures
- 1.5** Sequence of recommissioning of plant is determined to suit existing circumstances according to manufacturer specifications and workplace procedures

2 Operate engines and associated propulsion plant

- 2.1** Engines and plant are operated according to manufacturer specifications and workplace procedures
- 2.2** Performance of engines and plant is monitored to detect deviations from normal operating conditions
- 2.3** Faulty and worn engine equipment and components are identified and reported to the officer in charge of the engineering watch
- 2.4** Action is taken when an engine fails or emergencies occur to secure the engine or machinery and to maintain

		the safety of vessel and persons involved according to workplace procedures
3	Test engines and associated propulsion plant	3.1 Tests are performed according to manufacturer specifications and workplace procedures
		3.2 Engines and associated propulsion equipment are observed for correct operational response
		3.3 Corrective actions are taken to rectify abnormalities according to manufacturer specifications and workplace procedures
4	Analyse engines and associated propulsion plant faults	4.1 Causes of abnormal operating conditions are identified by analysing technical and operational information in a logical and sequential manner
		4.2 Corrective actions are taken to rectify abnormalities according to manufacturer specifications and workplace procedures
		4.3 Plant integrity is maintained according to manufacturer specifications and workplace procedures
5	Complete documentation	5.1 Correct records are logged relating to the operation and performance of engines and associated propulsion equipment according to regulatory requirements and workplace procedures
		5.2 Documentation is updated and engine and plant problems, abnormalities and status are reported according to regulatory requirements and 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 MARC027 Contribute to the operation of engine equipment and associated propulsion plant.

Links

Companion Volume implementation guide can be found in VetNet -

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