



Australian Government

**MARC027 Contribute to the operation of
engine equipment and associated propulsion
plant**

Release: 1

MARC027 Contribute to the operation of engine equipment and associated propulsion plant

Modification History

Release 1. New unit of competency.

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 an Integrated Rating or Able Seafarer-Engine, who assists 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.

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

Pre-requisite Unit

Not applicable.

Competency Field

C – Equipment Operations

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan and prepare work

PERFORMANCE CRITERIA

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

- 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 inspection is carried out according to manufacturer specifications and organisational procedures
 - 1.4 Engine and plant operational prerequisites are established according to manufacturer specifications and organisational procedures
 - 1.5 Sequence of recommissioning of plant is determined to suit existing circumstances according to manufacturer specifications and organisational procedures
- 2 Operate engines and associated propulsion plant**
- 2.1 Engines and plant are operated according to manufacturer specifications and organisational 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 organisational procedures
- 3 Test engines and associated propulsion plant**
- 3.1 Tests are performed according to manufacturer specifications and organisational 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 organisational 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 organisational procedures
- 4.3 Plant integrity is maintained according to manufacturer specifications and organisational 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 organisational procedures
- 5.2 Documentation is updated, and engine and plant problems, abnormalities and status are reported, according to regulatory requirements and 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.

Engine and plant operational prerequisites include one or more of the following:

- anti-pollution rules and regulations
- bridge orders
- hazard control precautions and procedures
- safety rules and regulations
- survey requirements
- technical specifications
- crankcase and gearbox explosions
- gearbox failure
- scavenge and uptake fires
- starting air-line
- auxiliary boiler water

Emergencies include one or more of the following:

Tests include one or more

of the following:

- lubricating oil
- machinery cooling water

Unit Mapping Information

This unit replaces and is equivalent to MARC3008A Operate engine equipment and associated propulsion plant.

Links

Companion Volume implementation guides are found in VETNet -

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