



Australian Government

**MARC015 Operate marine internal
combustion engines and associated systems
up to 1500 kW**

Release: 1

MARC015 Operate marine internal combustion engines and associated systems up to 1500 kW

Modification History

Release 1. New unit of competency.

Application

This unit involves the skills and knowledge required to operate a marine internal combustion engine and associated systems up to 1500 kW according to technical specifications and safe operating limits.

This unit applies to engine workers in the maritime industry working as a Marine Engine Driver Grade 1 Near Coastal on vessels up to 1500 kW.

This unit has links to legislative and certification requirements.

Pre-requisite Unit

Not applicable.

Competency Field

C - Equipment Operations

Unit Sector

Not applicable.

Elements and Performance Criteria

Elements describe the essential outcomes.

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

- | | |
|---|---|
| 1 Prepare for operation | 1.1 Risks to self, others and the environment are identified according to organisational procedures |
| | 1.2 Routine pre-operational checks of marine internal combustion engines and associated systems are completed prior to use according to manufacturer specifications and organisational procedures |
| 2 Operate marine internal combustion engines and | 2.1 Suitable personal protective equipment is selected and used according to organisational procedures |
| | 2.2 Marine internal combustion engines and associated systems |

- associated systems** are operated in a safe and controlled manner
- 2.3 Performance of marine internal combustion engines and associated systems operations is monitored
 - 2.4 Adverse sea and weather conditions that may impact on operating marine internal combustion engines and associated systems are identified and operational practices are adjusted to maintain safety of vessel and personnel
 - 2.5 Faults or malfunctions are identified and recorded according to organisational procedures
 - 2.6 Faults or malfunctions are rectified where possible and corrective actions are taken and recorded according to organisational procedures
 - 2.7 Restrictions are applied to operations if necessary and are agreed to with the Master
 - 2.8 Procedures to be undertaken in of emergencies are recognised and implemented
- 3 Complete operations**
- 3.1 Shut-down procedures are conducted according to manufacturer instructions and organisational procedures
 - 3.2 Operational records are completed according to organisational procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Associated systems must include:

- air start
- control systems
- cooling system
- dual fuel systems
- exhaust systems
- lubrication systems

Monitored includes one or more of the following:

- conducting performance tests
- reading gauges and instruments
- responding to alarms

Emergencies must include:

- explosion
- failure or major fault in propulsion engines and associated control systems
- fire
- loss of:
 - bridge control
 - electrical supply
 - propulsion power
 - steering
- major breakdowns

Operational records must include:

- logbooks
- maintenance records
- operational orders from organisational safety management system
- plant and equipment manufacturer instructions and recommended procedures
- relevant maritime authorities documentation relating to operating marine internal combustion engines and associated systems

Unit Mapping Information

This is a new unit. This unit is equivalent to MARC4005A Operate marine internal combustion engines and associated systems up to 1500 kW.

Links

Companion Volume implementation guides are found in VETNet -

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