



Australian Government

MARC041 Operate and monitor marine internal combustion engines, propulsion plant and auxiliary systems

Release: 2

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Modification History

Release 2. This is the second release of this unit of competency in the MAR Maritime Training Package.

- Minor statement changes in unit Application
- Minor statement changes in Assessment Conditions.

Release 1. New unit of competency. Licensing/regulatory information has been incorporated in accordance with Regulatory requirements. Assessment Requirements have been strengthened in accordance with Regulatory requirements.

Application

This unit involves the skills and knowledge required to safely operate marine internal combustion engines, propulsion plant and auxiliary systems on a vessel up to 750 kW.

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

- Marine Engine Driver Grade 1 Near Coastal
- Marine Engine Driver Grade 2 Near Coastal

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 a Marine Engine Driver Grade 2 NC and a Marine Engine Driver Grade 1 NC as specified in Marine Order 505.

Note: Relevant state/territory training and qualification requirements need to be fulfilled by any persons carrying out installation, maintenance and/or repair of refrigeration equipment especially with regard to preventing the escape of refrigerants into the atmosphere.

Seafarers seeking certification should check with AMSA.

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 Prepare for sea

PERFORMANCE CRITERIA

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

- 1.1 Fuels and lubricating fluids required for proposed voyage are acquired
- 1.2 Spares and stores required for proposed voyage are acquired
- 1.3 Flammable or explosive materials are stowed and managed according to regulatory and organisational requirements
- 1.4 Work health and safety (WHS)/occupational health and safety (OHS) hazards in engine room are identified, risk assessed and corrective actions taken according to organisational practices
- 1.5 Pre-start checks are conducted on machinery and equipment according to organisational procedures and manufacturer specifications
- 1.6 Engines are started according to manufacturer specifications and vessel procedures
- 1.7 Starting faults are recognised and rectified according to manufacturer specifications and fault-finding procedures

2 Operate engines, propulsion plant and auxiliary systems

- 2.1 Engines, propulsion plant and auxiliary systems are operated within technical specifications
- 2.2 Main propulsion plant and auxiliary systems are operated and monitored to ensure they are within operating limits specified by vessel procedures and manufacturer recommendations
- 2.3 Environmental implications associated with operation of engine, propulsion plant and auxiliary systems are

identified and controlled where possible

- 2.4 Accidental or operational discharge of polluting substances are recorded according to regulatory requirements and organisational procedures
- 2.5 Operational faults are recognised and rectified in accordance with manufacturer specifications and fault-finding procedures
- 2.6 Operational records are kept according to regulatory requirements and organisational procedures
- 2.7 Appropriate action is taken when a malfunction or emergency occurs

- 3 **Secure vessel after voyage**
 - 3.1 Engines, propulsion plant and auxiliary systems are shut down according to manufacturer specifications and vessel procedures
 - 3.2 Damage and repairs requiring action are recorded 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.

Unit Mapping Information

This unit replaces and is equivalent to MARC009 Operate and monitor marine internal combustion engines, propulsion plant and auxiliary systems.

Links

Companion Volume Implementation Guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>