



Australian Government

Assessment Requirements for MARC025 Operate and maintain engines for auxiliary systems other than steam auxiliary systems

Release: 1

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Modification History

Release 1. New unit of competency.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least one occasion and include:

- applying relevant work health and safety/occupational health and safety (WHS/OHS) requirements and work practices
- attending to appropriate level of detail in recordkeeping
- managing:
 - refrigerant gases
 - lubricating systems and prevent pollution of marine environment
 - cooling systems
 - pumping systems and prevent pollution of marine environment
- operating and maintaining steering systems
- operating marine auxiliary internal combustion engines within technical specifications
- preparing machinery for sea
- recognising and rectifying operational faults
- securing machinery after voyage

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- basic constructional parts of marine auxiliary internal combustion engines
- bilge pumping for vessels with several compartments
- common faults in steering gear
- construction and maintenance of heat exchangers
- corrosion prevention
- cross connections between bilge/ballast/seawater systems and fire main
- dangers associated with:
 - back-flooding and methods to prevent back-flooding

- LPG and petrol vapour
- dangers of refrigerant gas leaks in confined spaces
- diesel engine:
 - construction
 - fuel injection, timing and control equipment
 - operation and routine maintenance
- dry sump and wet sump lubrication systems
- electro-hydraulic steering gear
- emergency steering
- engine:
 - performance and reasons for lack of performance
 - protection arrangements
- heat exchanger, keel cooler and raw water cooling systems
- own ability and limits to rectify irregularities and faults
- oil quality monitoring and filter changing procedures
- planned maintenance
- preparations and checks necessary before sailing
- pump capabilities and requirements for priming
- relevant licensing, legislative, regulatory or certification requirements
- routine maintenance on steering systems
- seawater circulating systems
- securing machinery after voyage
- shutting down machinery
- storage and testing of LPG cylinders
- testing of steering gear
- two- and four-stroke cycles of operation
- types of pumps and safety devices

Assessment Conditions

Assessors must satisfy National Vocational Education and Training Regulator (NVR)/Australian Quality Training Framework (AQTF) assessor requirements.

Assessment must satisfy the National Vocational Education and Training Regulator (NVR)/Australian Quality Training Framework (AQTF) standards.

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 must occur in workplace operational situations or where these are not available, in simulated workplace operational situations or an industry-approved marine operations site that replicates workplace conditions where operating and maintaining engines for auxiliary systems can be conducted.

Resources for assessment include access to:

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

Performance should be demonstrated consistently over time and in a suitable range of contexts.

Links

Companion Volume implementation guides are found in VETNet -

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