



Australian Government

Assessment Requirements for MARC016 Operate propulsion transmission systems up to 1500 kW

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 and performance criteria on at least one occasion and include:

- carrying out necessary calculations associated with managing propulsion transmission systems including:
 - calculating gear box ratios
 - theoretical distance
 - propeller slip
- maintaining records of operating and maintaining propulsion transmission systems and any related safety incidents
- operating emergency power transmission system
- reading and interpreting:
 - manufacturer instructions for operating propulsion transmission systems
 - maritime regulations, rules and instructions
- reading and monitoring various gauges and evaluating performance of propulsion transmission systems
- recognising problems that may occur with propulsion transmission systems and taking appropriate preventative and remedial action
- recognising when performance of propulsion transmission systems is unsatisfactory or outside of specified limits and taking appropriate action.

Knowledge Evidence

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

- characteristics of propulsion transmission systems including operational limits
- fault identification on gearbox
- gearbox:
 - construction and materials
 - lubricating and cooling systems and components
- methods for controlling and managing the operation of shipboard propulsion transmission systems
- own ability and limits to rectify irregularities and faults.

- problems associated with propulsion transmission systems and appropriate preventative and remedial action and solutions
- procedures for monitoring and evaluating performance of propulsion transmission systems
- propeller shape, design and materials
- propeller types and arrangements including fixed pitch and controllable pitch propellers
- relevant work health and safety (WHS)/occupational health and safety (OHS) legislation and policies
- reverse and reduction gearbox construction and operation
- shaft:
 - bearings
 - seals and glands
- shafting materials
- steerable/rudder propellers
- stern and jet water drive
- stern tube bearing systems including lubrication, materials and components
- types of gear trains.

Assessment Conditions

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

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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.

Resources for assessment must include access to:

- tools, equipment, machinery, materials and personal protective equipment currently used in industry
- applicable documentation such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- range of relevant exercises, case studies and/or simulations.

Links

Companion Volume implementation guides are found in VETNet -

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