Australian Government

MARL046 Carry out engineering calculations

Release: 1

MARL046 Carry out engineering calculations

Modification History

Release 1. This is the first release of this unit of competency in the MAR Maritime Training Package.

Application

This unit involves the skills and knowledge required to carry out calculations related to fuel consumption, fuel storage and engine performance that conform to accepted engineering tolerances.

It includes calculating fuel consumption and storage and completing calculations related to engine performance.

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

- Chief Engineer on vessels with inboard engines less than 1500 kW within the exclusive economic zone (EEZ)
- Second Engineer on vessels with inboard engines less than 3000 kW within the EEZ
- Chief or Second Engineer on vessels with outboard engines with unlimited propulsion power within the EEZ
- assistant under the direct supervision of the chief engineer
- worker in the engine room of a vessel less than 80 metres in length with propulsion power less than 3000 kW.

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 1 Near Coastal, as defined in the National Standard for Commercial Vessels (NSCV) Part D.

Pre-requisite Unit

Not applicable.

Competency Field

L - Marine Engineering

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Calculate fuel consumption and storage**	**1.1**	Information required for calculations related to fuel consumption and storage is obtained from relevant sources
		1.2	Calculations are completed to accepted working tolerances
		1.3	Results of calculations are verified
		1.4	Results of calculations are applied to managing fuel, as required
2	**Complete calculations related to engine performance**	**2.1**	Information required for calculations related to engine performance is obtained from relevant sources
		2.2	Calculations are completed to accepted working tolerances
		2.3	Results of calculations are verified
		2.4	Results of calculations are applied to managing engine performance, as required

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 MARL001 Carry out engineering calculations.

Links

Companion Volume implementation guide can be found in VetNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2