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Assessment Requirements for MARL028 Demonstrate intermediate knowledge of marine electrical systems

Assessment Requirements for MARL028 Demonstrate intermediate knowledge of marine electrical systems

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
- assessing own work outcomes and maintaining knowledge of current codes, standards, regulations and industry practices
- explaining intermediate principles of electrical circuits, switchboards, alternators and circuit breakers
- identifying and interpreting numerical and graphical information in electrical diagrams and specifications for a commercial vessel
- identifying and suggesting ways of rectifying electrical hazards and emergency situations on a vessel
- identifying methods, procedures and materials needed for testing marine electrical systems
- imparting knowledge and ideas through verbal, written and visual means
- reading and interpreting written information related to electrical circuitry and components on commercial vessels
- using electrical measuring and testing instruments.

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:

- alternating current (AC)/direct current (DC) voltage
- alternators – construction, characteristics, synchronised operation
- batteries
- circuit breakers
- circuits
- earthing
- electrical measuring and testing instruments
- electrical safe working practices
- electrical symbols, basic electrical diagrams/circuits
- emergency battery systems
- fault-finding procedures
- isolation procedures
- phase angle, power factor and current flow
- procedures for dealing with hazards and emergencies
- regulations of relevant state/territory maritime and electrical licensing authorities
- resistance, inductance and capacitance
- risks and safety procedures associated with working in high voltage environments
- safety, environmental and hazard control precautions and procedures relevant to marine electrical systems
- switchboards and protection – purpose, testing and maintenance, equipment removal
- WHS/OHS legislation and policies.

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 intermediate knowledge of marine electrical systems can be demonstrated.

Resources for assessment include access to:

- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- technical reference library with current publications on marine electrical systems
- tools, equipment, materials 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