



**Australian Government**

**Assessment Requirements for MARL030  
Demonstrate advanced knowledge of  
marine auxiliary boilers**

**Release: 1**

# Assessment Requirements for MARL030 Demonstrate advanced knowledge of marine auxiliary boilers

## 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:

- accessing information related to marine auxiliary boilers
- 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
- identifying and applying relevant solutions for addressing complex problems associated with marine auxiliary boilers, such as maintaining the operation of marine auxiliary boilers under adverse conditions
- identifying and interpreting diagnostic information and performing complex mathematical calculations related to operating, repairing and maintaining marine auxiliary boilers
- identifying methods, procedures and materials needed for operating, maintaining and repairing marine auxiliary boilers
- reading and interpreting manuals, technical specifications, safety data sheets/material safety data sheets and manufacturer guides related to operating, repairing and maintaining marine auxiliary boilers.

## 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 principles of operation of boilers and steam systems
- boiler and steam plant repairs
- combustion efficiency
- combustion in boilers and related safety procedures, including importance of purging a boiler and other safety precautions taken when firing a boiler
- common boiler defects and repair procedures
- fittings mounted on boilers
- fuel oil system for an auxiliary boiler
- hazards:
  - associated with running boilers and steam plant
  - of operating steam plant under adverse or faulty operating conditions
- heat transfer oil systems
- methods of auxiliary steam plant operation and control under variable conditions
- operating principles relating to steam generation in fired and unfired boilers
- operation of marine auxiliary boilers
- principles of boiler operation in normal and emergency situations
- procedures for:
  - maintaining water level in boilers
  - protecting steam plant during off load conditions
  - surveying boilers
- purpose of alarms and shut downs in marine boilers
- steam plant:
  - efficiency
  - cycles
- types of auxiliary boilers and typical operating pressures and temperatures
- typical feed systems for marine boilers
- treatment, sampling and testing of boiler water
- WHS/OHS requirements and work practices.

## 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 advanced knowledge of marine auxiliary boilers can be demonstrated.

Resources for assessment include access to:

- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- diagrams, specifications and other information required for performing advanced calculations related to marine auxiliary boilers
- technical reference library with current publications on marine auxiliary boilers and steam plant
- 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>