



Australian Government

MARB3004A Perform routine maintenance on a vessel up to 24 metres

Release 1

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Modification History

Release 1

This is the first release of this unit.

Unit Descriptor

This unit involves the skills and knowledge required to perform routine remedial, preventative and survey deck maintenance. It includes basic deck maintenance, cleaning tasks, marine painting, and servicing deck machinery and systems on commercial vessels up to 24 metres.

Application of the Unit

This unit applies to those working in the capacity of Master on a range of vessels up to 24 metres.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | |
|---|--|
| 1 Plan maintenance tasks | <ul style="list-style-type: none">1.1 Planned maintenance system is accessed to establish maintenance requirements for vessel1.2 Maintenance tasks are proposed and prioritised in conjunction with others involved in or affected by the maintenance work1.3 Resource requirements are identified and allocated to ensure efficient completion of tasks1.4 Maintenance tasks to be performed are recorded in a maintenance schedule according to organisational procedures |
| 2 Perform basic deck maintenance | <ul style="list-style-type: none">2.1 Deck surfaces are checked according to planned maintenance system2.2 Any deterioration or corrosion of vessel deck surfaces is identified and appropriate maintenance action is carried out according to planned maintenance system2.3 Minor faults and imperfections in paint surfaces are repaired according to organisational procedures2.4 Weathered surfaces are restored using cleaners and liquid abrasives according to manufacturer instructions and organisational procedures2.5 Tools and equipment are used correctly and safely2.6 Maintenance materials are obtained, prepared and applied according to organisational procedures and manufacturer instructions |
| 3 Carry out cleaning activities | <ul style="list-style-type: none">3.1 Area to be cleaned is prepared and hazards are identified3.2 Work area is barricaded or warning signs provided, as appropriate, to reduce risk to other crew members3.3 Correct chemicals and cleaning agents are selected and applied according to manufacturer instructions and work health and safety (WHS)/occupational health and safety (OHS) requirements3.4 Equipment is used correctly and safely3.5 Cleaning tasks are completed according to organisational procedures and manufacturer instructions |
| 4 Prepare and paint surfaces | <ul style="list-style-type: none">4.1 Suitable personal protective clothing is selected and used according to WHS/OHS requirements4.2 Surfaces are prepared using correct equipment |

- 4.3 Rust remover, rust converter and undercoats are applied according to manufacturer specifications
 - 4.4 Paints are mixed in correct proportions according to manufacturer specifications
 - 4.5 Paint is applied using appropriate application equipment
- 5 **Carry out routine maintenance of deck fittings, equipment and systems**
 - 5.1 **Fittings and equipment** are inspected and inspection results are compared with manufacturer specifications
 - 5.2 Maintenance tasks are carried out to specification
 - 5.3 Mechanical equipment and system components are checked with appropriate instruments
 - 5.4 Faulty items or components are identified and maintenance procedures selected
 - 5.5 Unserviceable equipment is tagged and faults are identified according to organisational procedures
- 6 **Repair/replace faulty fittings and equipment**
 - 6.1 Fittings and equipment are safely isolated according to regulations and WHS/OHS requirements
 - 6.2 Faulty fittings or equipment are removed using appropriate tools, equipment and procedures
 - 6.3 Replaceable items are selected or serviceable items are fitted according to manufacturer specifications
 - 6.4 Adjustments are made to fittings or equipment to comply with specifications
 - 6.5 Operational check is carried out to ensure compliance with manufacturer specifications
 - 6.6 Maintenance report is completed according to organisational procedures
- 7 **Supervise crew in completing maintenance tasks**
 - 7.1 Workload is organised in order of priority according to planned maintenance system
 - 7.2 Maintenance tasks are allocated to appropriate crew members with consideration of individual experience and qualifications
 - 7.3 Crew members are clearly briefed on their responsibility and maintenance tasks and WHS/OHS requirements
 - 7.4 Guidance is provided appropriate to maintenance task and individual

experience

- 7.5 Completed work is checked to ensure maintenance is performed according to organisational procedures

8 Clean up

- 8.1 Work area is cleared and cleaned for serviceable condition
- 8.2 **Materials** are disposed of or recycled according to legislative and organisational requirements
- 8.3 Tools and equipment are cleaned, checked and stored according to organisational procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required Skills:

- Complete required records when performing routine remedial, preventative and survey deck maintenance on a vessel
- Demonstrate safe and environmentally responsible work practices when performing routine remedial, preventative and survey deck maintenance on a vessel
- Follow required work schedule according to organisational requirements
- Read and interpret:
 - instructions for performing routine remedial, preventative and survey deck maintenance on a vessel
 - manufacturer specifications and safety data sheets (SDS)/material safety data sheets (MSDS)
- Recognise routine problems when performing routine remedial, preventative and survey deck maintenance on a vessel
- Select and use relevant tools, equipment and materials according to instructions

Required Knowledge:

- Component parts, operation and routine maintenance requirements of vessel machinery
- Equipment cleaning and preservation techniques
- Job safety analyses (JSAs)/safe work method statements
- Maintenance hazards and problems
- Maintenance of steering gear
- Maintenance records for a vessel
- Nature and causes of corrosion of marine surfaces, structures and available methods of control
- Principal parts of a vessel and basic design methods
- Organisational procedures for cleaning and maintenance to ensure operational readiness
- Paint types and applications
- Principles and procedures of machinery lubrication as they relate to vessel machinery
- Procedures for checking deck areas, machinery and fittings of a vessel as part of the planned routine maintenance on a vessel
- Procedures for using hand tools for routine maintenance operations
- Relevant WHS/OHS and:
 - personal protective equipment requirements
 - pollution control legislation
 - Rust treatment

- Safety management system as it relates to planned vessel maintenance
- Steering gear arrangements and safety features
- Storage principles for paints, chemicals and cleaning agents used in planned maintenance operations
- Types, characteristics and functions of:
 - vessel machinery and equipment including safety features
 - equipment/tools used in cleaning and maintenance
- Use of various construction material and regulations governing structure

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, the required skills and knowledge, the range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the Elements, Performance Criteria, Required Skills, Required Knowledge and include:

- working safely at all times
- attention to appropriate level of detail in recordkeeping.

Context of and specific resources for assessment

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

Resources for assessment include access to:

- industry-approved marine operations site where routine maintenance on a vessel up to 24 metres may be conducted
- tools, equipment and personal protective equipment currently used in industry
- relevant regulatory and equipment documentation that impacts on work activities
- range of relevant exercises, case studies and/or other simulated practical and knowledge assessments
- appropriate range of relevant operational situations in the workplace.

In both real and simulated environments, access is required to:

- relevant and appropriate materials and equipment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals.

Method of assessment

Practical assessment must occur in an:

- appropriately simulated workplace environment and/or
- appropriate range of situations in the workplace.

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate to this unit:

- direct observation of the candidate performing routine maintenance on a vessel up to 24 metres
- direct observation of the candidate applying relevant WHS/OHS requirements and work practices.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

In all cases where practical assessment is used it should be combined with targeted questioning to assess Required Knowledge.

Assessment processes and techniques must be appropriate to the language and literacy requirements of the work being performed and the capacity of the candidate.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below.

Maintenance tasks may include:

- Fire and bilge pumps
- Lifesaving appliances
- Greasing and oiling
- Ropes and wires
- Rust prevention

Area may include:

- Battery room
- Engine room
- Exposed deck area
- Firefighting equipment spaces
- Store room
- Wheelhouse and accommodation area

Fittings and equipment may include:

- Fuel, fresh and ballast water, bilge and firefighting pumps
- Lifting equipment
- Navigation lights and shapes
- Sounding and ventilation arrangements
- Steering gear
- Windlass and capstan

Materials may include:

- Cleaning chemicals
- Paint residues
- Rags
- Spent oil

Unit Sector(s)

Not applicable.

Competency Field

Equipment Checking and Maintenance