



Australian Government

MARB036 Implement vessel planned maintenance system

Release: 1

MARB036 Implement vessel planned maintenance system

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 establish, organise and implement preventative and reactive maintenance programs to optimise vessel operational performance.

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

- Chief Integrated Rating.

Licensing/Regulatory Information

There are no legislative and regulatory requirements applicable to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

B – Equipment Checking and Maintenance

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Develop maintenance plan

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Vessel and equipment specifications, service requirements and workplace procedures are checked for recommended maintenance intervals and processes according to the safety management system (SMS)

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| | 1.2 | Special requirements for maintenance are separated from routine maintenance tasks |
| | 1.3 | Maintenance plan and a related work schedule are developed |
| | 1.4 | Procedures for safety checks of equipment are developed and documented according to workplace procedures |
| | 1.5 | Recordkeeping system is developed for maintenance work completed and equipment replaced according to workplace procedures |
| 2 | Establish maintenance systems | |
| | 2.1 | Resource requirements are identified and supplied |
| | 2.2 | Roles and responsibilities of crew are clarified and built into position descriptions and work instructions |
| | 2.3 | Mentoring and training is provided to support the maintenance strategy |
| | 2.4 | Maintenance procedures and schedules are prepared to minimise negative impacts on vessel operations, costs, waste and the environment |
| | 2.5 | Potential risks are analysed and management strategies are recommended |
| | 2.6 | Contingency plans are prepared |
| | 2.7 | Maintenance schedules and procedures are effectively communicated to crew |
| 3 | Implement maintenance plan | |
| | 3.1 | Consumables and equipment are coordinated to meet maintenance work schedule |
| | 3.2 | Maintenance work schedule is completed according to maintenance plan |
| | 3.3 | Technical assistance is provided to crew in completing maintenance activities, as required |
| | 3.4 | Appropriate readings, measurements and recordings are made and compared to equipment and other relevant specifications |
| | 3.5 | Areas of vessel and equipment requiring further testing are identified and appropriate procedures for testing are |

implemented

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| | 3.6 | Appropriate adjustments are made to maintenance plan based on experience and required documentation is completed |
| | 3.7 | Maintenance records are completed and forwarded to appropriate personnel |
| | 3.8 | Areas where changes to equipment operation or routine maintenance are required to maintain optimum work output and equipment life, are noted |
| 4 | Monitor and review maintenance management system | |
| | 4.1 | Continuous improvement strategies are developed |
| | 4.2 | Performance criteria for maintenance goals are determined and data collection strategies are established |
| | 4.3 | Performance information and outcomes are analysed and implications are reported to appropriate personnel |

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 MARB018 Implement vessel planned maintenance system.

Links

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

Assessment Requirements for MARB036 Implement vessel planned maintenance system

Modification History

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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:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices
- determining and recommending the need for capital expenditure to replace plant and equipment
- developing effective planning documents
- developing maintenance strategies, including establishing criteria for determining maintenance priorities, and planning and scheduling routine equipment and overhead maintenance to meet quality system requirements
- discussing maintenance costs with relevant personnel to ensure costs meet budget requirements
- ensuring currency of relevant legislative and regulatory knowledge
- establishing and monitoring performance targets for maintenance teams within performance planning and appraisal processes
- evaluating and recommending alternative maintenance policies and strategies, including changes in work roles and responsive/preventative models for maintenance
- identifying and applying relevant WHS/OHS, regulatory and workplace requirements
- managing maintenance costs
- monitoring system performance
- using appropriate information technology and software when preparing reports and plans
- using recordkeeping procedures to document maintenance costs, problems, priorities, solutions, schedules and completions.

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:

- cleaning materials, and methods of storage and handling of such materials
- computer applications and software suitable for developing a range of reports, plans and

schedules

- cost elements in maintenance system costing and budgeting
- costs resulting from poor maintenance and the benefits of a preventative maintenance system
- health hazards associated with maintenance procedures
- impacts of poor maintenance on vessel, and on occupational and environmental safety
- maintenance goals, including:
 - changes in attitudes
 - costs
 - frequency of breakdowns
 - length of time out of action
 - time of repairs
- maintenance issues related to vessel
- maintenance strategy, including:
 - cleaning
 - electrical
 - emergency lighting
 - evacuation
 - housekeeping
 - painting
 - pests
 - plumbing
- plant and equipment falling under scope of maintenance program
- potential risks, including:
 - dealing with hazardous material
 - hot work
 - working at heights
 - working in confined spaces
 - working overside
- relevant legislation, regulations and industrial agreements
- routine maintenance tasks, including:
 - back-ups
 - checks of cooling system, fuel, grease and oil, and battery levels
 - confirmation of operational effectiveness
 - dismantling and assembling
 - identification and replacement of worn parts
 - inspections of fan belts, leads, lines, connections, air filters, hydraulics and lighting
 - minor adjustments
 - testing
- special requirements for maintenance, including:
 - damage repair

- hatch cover watertight arrangements
- main engine or auxiliary machinery breakdowns
- replacing defective cargo-lifting equipment
- types of lubrication, and lubricant storage and handling
- use and care of personal safety equipment.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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.

Practical assessment must occur in a workplace or realistic simulated workplace, under the normal range of workplace conditions.

Simulations and scenarios may be used where situations cannot be provided in the workplace or may occur only rarely, in particular for situations relating to emergency procedures and adverse weather conditions where assessment would be unsafe, impractical or may lead to environmental damage.

Resources for assessment must include access to:

- applicable documentation, such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- tools, equipment, machinery, materials and relevant personal protective equipment (PPE) currently used in industry.

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