



Australian Government

MARB018 Implement vessel planned maintenance system

Release: 1

MARB018 Implement vessel planned maintenance system

Modification History

Release 1. New unit of competency.

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 individuals working as a Chief Integrated Rating on a range of vessels.

No licensing, legislative or certification requirements apply 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 organisational procedures are checked for recommended maintenance intervals and processes according to the safety management system
- 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 organisational procedures
- 1.5 Recordkeeping system is developed for maintenance work completed and equipment replaced according to organisational 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
 - 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.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Special requirements for maintenance include one or more of the following:	• damage repair • hatch cover watertight arrangements • main engine or auxiliary machinery breakdowns • replacing defective cargo-lifting equipment
Routine maintenance tasks include one or more of the following:	• back-ups • changing user codes • checks of cooling system, fuel, grease and oil, 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, lighting • minor adjustments • testing
Maintenance strategy includes one or more of the following:	• cleaning • electrical • emergency lighting • evacuation • housekeeping

- painting
 - pests
 - plumbing
 - security
- Potential risks include one or more of the following:
- dealing with hazardous material
 - hot work
 - working at heights
 - working in confined spaces
 - working overside
- Maintenance goals include one or more of the following:
- changes in attitudes
 - costs
 - frequency of breakdowns
 - length of time out of action
 - time of repairs

Unit Mapping Information

This unit replaces and is equivalent to MARB4002A Implement vessel planned maintenance system.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>

Assessment Requirements for MARB018 Implement vessel planned maintenance system

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 (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
- developing recordkeeping procedures to document maintenance costs, problems, priorities, solutions, schedules and completions
- 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 organisational requirements
- managing maintenance costs
- monitoring system performance
- using appropriate information technology and software when preparing reports and plans.

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 issues related to vessel
- plant and equipment falling under scope of maintenance program
- relevant legislation and regulations, and industrial agreements
- types of lubrication, and lubricant storage and handling
- use and care of personal safety equipment.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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.

Establishing and implementing a planned maintenance system on a vessel must be assessed in workplace operational situations. Where this is not available, in simulated workplace operational situations that replicate workplace conditions.

Resources for assessment include access to:

- relevant documentation including workplace procedures, regulations, codes of practice and operation manuals
- tools, equipment, materials, personnel and personal protective equipment that replicate and are currently used in industry.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>