



Australian Government

MARG4002A Manage an engine room and small engineering team

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 lead and develop a small engineering team.

Application of the Unit

This unit applies to engine workers in the maritime industry working as a Marine Engine Driver Grade 1 on vessels up to 1500 kW.

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 Organise engine room for departure**
 - 1.1 Fuels, lubricating oil, LPG and refrigeration gas required for proposed voyage are obtained
 - 1.2 *Flammable and explosive materials* are stowed and managed according to regulatory and organisational requirements
 - 1.3 Planned maintenance tasks to be completed during proposed voyage are verified
 - 1.4 Spares and consumables required for proposed voyage are acquired
 - 1.5 Work health and safety (WHS)/occupational health and safety (OHS) hazards in engine room are identified, risks are assessed and corrective actions are taken and recorded according to organisational practices
- 2 Manage daily engine room routine**
 - 2.1 *Engine room routine* is organised and duties for engineering team are defined
 - 2.2 WHS/OHS roles and responsibilities of engineering team are defined
 - 2.3 WHS/OHS procedures are communicated to engine room crew
 - 2.4 WHS/OHS issues raised are acknowledged and resolved promptly
 - 2.5 Permits for hot work, confined space entry and other high risk activities are completed according to organisational and regulatory requirements
 - 2.6 Engineering team members are allocated daily maintenance tasks according to planned maintenance system or breakdown maintenance
 - 2.7 Procedures for collecting and sorting engine room waste from cleaning and maintenance tasks are defined and communicated to engineering team
- 3 Manage engineering team**
 - 3.1 Performance expectations are communicated clearly to engineering team
 - 3.2 Performance expectations are assessed objectively against workloads and engineering team capabilities to ensure satisfactory completion of assigned tasks
 - 3.3 *Potential and current issues and problems* arising within crew and/or individuals are identified and acted on according to organisational and legislative requirements
 - 3.4 Effective communication is developed and maintained with team and

management

4 Manage engineering procedures in port

- 4.1 Planned and breakdown maintenance activities to be conducted in port are arranged to facilitate operational efficiency of vessel
- 4.2 Permits for hot work, confined space entry and other high risk activities are completed according to organisational and regulatory requirements
- 4.3 Sound business relationships with contractors are established and maintained to ensure effective communication and early identification of potential service delivery problems
- 4.4 Contractual disputes with contractors that arise are managed according to contractual requirements, using established mediation mechanisms
- 4.5 Removal of sludge, sewage and engine room waste is arranged
- 4.6 Procedures for removal of sludge, sewage and engine room waste are followed according to regulatory requirements and organisational procedures

5 Manage engineering emergencies

- 5.1 Information is received regarding scope and severity of *emergency*
- 5.2 Information is analysed to determine appropriate response
- 5.3 WHS/OHS risks are identified and action is taken according to organisational procedures
- 5.4 Actions are taken to reduce effect of incident according to organisational procedures
- 5.5 Incident is monitored for any changes and appropriate responses are taken according to organisational procedures
- 5.6 Communications are established with support services and relevant stakeholders, where appropriate
- 5.7 Reports and debriefings are completed according to organisational procedures

Required Skills and Knowledge

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

Required Skills:

- Communicate effectively with people from a range of social, cultural and ethnic backgrounds
- Counsel team members and provide feedback
- Display sound personnel management
- Lead team members
- Monitor and review activity
- Negotiate effectively
- Plan and organise activity
- Read and interpret maritime regulations, rules and instructions
- Read, interpret and apply manufacturer instructions including all WHS/OHS requirements and safety data sheets (SDS)/material safety data sheets (MSDS)
- Resolve conflict
- Write reports

Required Knowledge:

- Consultation and communication techniques and strategies
- Hazards associated with flammable/explosive materials
- Hazards of refrigeration gases including accidental release in a confined space
- Key result areas of the crew and the organisation
- Organisational policies and procedures
- Principles and techniques involved in:
 - performance management systems
 - leadership and mentoring
- Processes for monitoring crew and own performance
- Relevant legislation especially in regard to WHS/OHS, environmental issues, equal opportunity, industrial relations, unfair dismissal and anti-discrimination
- Regulations for stowing and managing flammable/explosive materials including:
 - diesel
 - petrol
 - LPG
 - refrigerant gases
 - lubricants
- Requirements for confined space entry and hot work permits
- Safety management systems

- Testing of LPG detectors

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

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:

- ensuring behaviour reflects relevant current legislative and regulatory requirements
- ensuring currency of relevant WHS/OHS skills and knowledge
- implementing workplace environmental and waste management procedures correctly
- providing high quality reports
- developing effective planning documents.

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 managing an engineering crew can 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 managing an engineering crew
- 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.

Flammable and explosive materials may include:

- Fuels
- LPG
- Lubricating oils
- Refrigeration gas

Engine room routine may include:

- Completing log book entries
- Monitoring of equipment in engine room
- Regular inspection of engine room
- Responding to alarms
- Watchkeeping arrangements

Performance expectations may include:

- Compliance with duty statements
- Personal appraisal reports

Potential and current issues and problems may include:

- Bullying
- Discrimination and harassment
- Disputes between individuals or parties
- Grievances
- Injury rehabilitation
- Perceived or actual issues and problems relating to:

- work roles, job design and allocation of duties
- work performance of self and others

- Prejudice or racial vilification
- Stress or personal problems

Emergencies may include:

- Accidental release of refrigeration gas in confined space
- Explosion
- Fire
- Flooding
- Loss of electrical supply
- Major failure of propulsion engine

Unit Sector(s)

Not applicable.

Competency Field

Teamwork