Australian Government

MARB4003A Manage refuelling

Release 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

MARB4003A Manage refuelling

Modification History

Release 1
This is the first release of this unit.
This unit replaces and is equivalent to TDMMR5407B Carry out refueling and fuel transfer operations.

Unit Descriptor

This unit involves the skills and knowledge required to manage refuelling and fuel transfer operations.

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 Plan refuelling or fuel transfer operations	1.1 Fuel tanks are dipped to establish current level of fuel
	1.2 Fuel is ordered according to organisational procedures
	1.3 Amount and positioning of fuel on board vessel is calculated with reference to tank tables
	1.4 ***Impact of refuelling on safety and operation of vesse***l is determined and appropriate strategies are implemented
	1.5 Local port authorities are informed of vessel location for bunkering operations and duration of bunkering
2 Prepare vessel for refuelling or fuel transfer operations	2.1 Vessel is positioned and secured for refuelling
	2.2 All ***personal protective equipment*** is accessed and used
	2.3 ***Bunkering equipment*** is correctly deployed according to organisational procedures
	2.4 ***Safety zone*** for refuelling process is established and maintained for full duration of operation
	2.5 ***Procedures for refuelling*** are established with bunker operator and completed lists are checked according to organisation and safety management system (SMS) requirements
	2.6 Bunker hose is securely connected to vessel fuel manifold
	2.7 Tank valves are opened as necessary and refuelling operations are performed safely according to SMS and regulatory requirements
	2.8 Tanks are dipped to ensure correct amount of fuel has been received
	2.9 Fuel samples are taken to check quality of fuel received and appropriate action is taken if fuel sample is off speculation
3 Complete refuelling operations	3.1 ***Shut-down procedures*** are conducted according to organisational procedures
	3.2 Malfunctions, faults, irregular performance or damage to refuelling equipment are recorded and repairs are organised, according to organisational procedures
	3.3 Refuelling equipment is maintained and secured according to organisational procedures
	3.4 ***Refuelling records*** are completed according to organisational

		procedures and regulatory requirements
4 Manage an emergency	4.1	Appropriate response is made to an ***emergency situation*** according to organisational procedures
	4.2	Safety zone is closed off and isolated according to organisational procedures
	4.3	All persons in the safety zone are correctly notified and their activities are managed to ensure safety according to organisational procedures
	4.4	Appropriate authorities are notified and actions are taken as directed according to emergency procedures and regulatory requirements
	4.5	***Documentation*** of emergency is completed according to organisational procedures and relevant maritime authority

Required Skills and Knowledge

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

Required Skills:

- Complete required records
- Implement procedures for dealing with an oil spill
- Measure tank levels
- Recognise faulty equipment and take appropriate action
- Recognise problems and hazards during refuelling and fuel transfer operations, and take appropriate action
- Select and use relevant equipment required for refuelling and fuel transfer operations
- Take appropriate action in an accidental spillage, fire or safety incident during refuelling and fuel transfer operations

Required Knowledge:

- Environmental protection measures to be applied during refuelling or transfer operations
- Functions and responsibilities of crew during refuelling or transfer operations
- Hazards and safety precautions to be observed during refuelling or transfer operations
- Refuelling and fuel transfer procedures applying to commercial vessels
- Requirements for reporting incidents
- Work health and safety (WHS)/occupational health and safety (OHS) and pollution control legislation and policies

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:

- being aware of own ability and limits to rectify irregularities and faults
- attention to detail when completing documentation
- attention to appropriate level of detail in recordkeeping
- ensuring currency of relevant WHS/OHS skills and knowledge.

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 refuelling 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 refuelling
- 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.

Impact of refuelling on safety and operation of vessel may include:	• Hot work • Increase in the potential for fire • Loading and discharging operations • Stability including the effect of free surface • Toxic fumes • Work being conducted by shore contractors
Personal protective equipment may include:	• Gloves • Overalls • Work boots
Bunkering equipment may include:	• Bunding • Bunker flag • Fire extinguishers • No-smoking signs • Radios • Sample containers • Scupper plugs • Sounding tape • Spill kit
Safety zone may include:	• Area where no-smoking or hot work is permitted • Area that can contain a spill

Procedures for refuelling may include:	• Establishing:
	  • flow rates
	  • system of communication with supplier in relation to starting and shut-down procedures
	  • emergency disconnection procedures

Shut-down procedures may include:	• Blowing through of bunker hoses • Disconnecting bunker hose • Isolating fuel valves • Stowing equipment
Refuelling records may include:	• Bunker receipt • Log book entry • Oil record book
Emergency situations may include:	• Broken mooring lines • Fire • Oil spill
Documentation may include:	• Incident report forms

- Log book entry

Unit Sector(s)

Not applicable.

Competency Field

Equipment Checking and Maintenance