



Australian Government

Department of Education, Employment and Workplace Relations

TDMMF2707B PREVENT, CONTROL AND FIGHT FIRES ON BOARD A SMALL VESSEL

Revision Number: 1

TDMMF2707B PREVENT, CONTROL AND FIGHT FIRES ON BOARD A SMALL VESSEL

Modification History

Not applicable.

Unit Descriptor

UNIT DESCRIPTOR:

This unit involves the skills and knowledge required to prevent, control and fight fires on board a small commercial vessel, including management of fire prevention measures, initiation and management of evacuation, emergency shut down and isolation procedures, and the execution and coordination of firefighting operations for the type and size of vessel involved.

Application of the Unit

Application of the unit	The unit has applications in the qualification for Marine Engine Drivers Grades 1 and 2 (MED 1 and MED 2) as per relevant sections of Part D of the National Standard for Commercial Vessels (NSCV), i.e. Certificate IV in Transport&Distribution (Marine Engine Driving - Grade 1) and Certificate III in Transport&Distribution (Marine Engine Driving - Grade 2).
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Licensing/Regulatory Information

Licensing/legislative requirements	The unit is consistent with the relevant sections of State and Territory maritime regulations and NSCV/USL Code for a MED 1 and MED 2.
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Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.</i>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Manage fire prevention and control procedures	- a Fire hazards on board a vessel are identified and action is taken to eliminate or minimise them - b Fire prevention equipment is regularly checked and appropriate action is taken to ensure that it is operational - c Appropriate educational activities are organised to ensure on-board personnel are aware of the dangers of fire, how to prevent it and what to do if a fire is detected - d Personnel on board the vessel are made aware of emergency procedures to be followed in the event of fire - e Fire control is implemented in accordance with marine safety and vessel operating procedures - f Action taken to control a fire is based on an accurate assessment of the incident - g The order of priority, timing and sequence of actions are appropriate to the overall requirements of the incident, and to minimise damage and potential damage to the vessel, injuries to personnel and impairment of the operational effectiveness of the vessel

ELEMENT	PERFORMANCE CRITERIA
2 Operate and maintain portable firefighting equipment	- a Classes of fires are correctly identified in accordance with accepted firefighting practice - b Appropriate firefighting equipment is selected and used to fight specific classes of fires - c Fire blankets are correctly used in accordance with accepted firefighting practice - d Correct techniques are applied for the use of hose lines to extinguish fires on board a vessel - e Firefighting equipment is regularly checked and appropriate action is taken to ensure that it is operational

Required Skills and Knowledge

REQUIRED KNOWLEDGE

This describes the knowledge required for this unit.

- 1 Relevant sections of State and Territory marine regulations, NSCV and USL Code
- 2 The chemistry of fire and its relationship to materials typically carried on small vessels
- 3 Principles underlying the spread of fire and its extinguishment
- 4 The different classes of fire, their characteristics and strategies and equipment needed for their extinguishment
- 5 Types of fire detection, firefighting equipment and systems used on board small vessels, their features, principles of operation and the procedures for their use
- 6 Firefighting techniques applicable to different classes of fire on board a small vessel
- 7 Relevant regulations and policies related to the checking and use of fire detection and firefighting equipment used on small vessels
- 8 Firefighting procedures applicable to small vessels
- 9 Maritime communication techniques applicable to fire prevention and firefighting activities on board a vessel
- 10 Problems that can occur with fire detection and firefighting equipment and operations on board a small vessel and appropriate remedial action and solutions
- 11 Sources of information on fire prevention and extinguishment on board small vessels

REQUIRED SKILLS

This describes the basic skills required for this unit.

- 1 Use basic verbal communication skills required when preventing, controlling and fighting fires on board a small vessel
- 2 Read, interpret and apply operating and service manuals and instructions for preventing, controlling and fighting fires on board a small vessel, including all required OH&S procedures and precautions

REQUIRED SKILLS

- 3 Read and interpret material safety data sheets
- 4 Complete any required records
- 5 Work safely and collaboratively with others when preventing, controlling and fighting fires on board a small vessel
- 6 Select and use relevant fire prevention and firefighting equipment as per instructions
- 7 Recognise faulty equipment and take appropriate action as per operating instructions
- 8 Recognise problems and hazards when preventing, controlling and fighting fires on board a small vessel and take appropriate action
- 9 Adapt to differences in vessels, equipment and operating and emergency procedures
- 10 Operate marine fire prevention and firefighting equipment

Evidence Guide

Evidence Guide

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The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

1 Critical aspects of evidence required to demonstrate competency in this unit	Assessment must confirm appropriate knowledge and skills to: - a Manage and implement fire prevention measures and procedures on board a small vessel - b Assess the operational capability of relevant fire detection and firefighting equipment and initiate any required reporting or servicing action - c Use the various types of firefighting equipment on board a
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Evidence Guide

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	small vessel d Implement OH&S principles and policies when carrying out fire prevention and firefighting duties e Communicate effectively with others as required during fire prevention activities and fire emergencies
2 Evidence required for demonstration of consistent performance	a Performance is demonstrated consistently over a period of time and in a suitable range of contexts b Consistently applies underpinning knowledge and skills when: 1 managing the implementation of fire prevention and control measures and procedures on board a small vessel 2 identifying and evaluating firefighting problems and determining appropriate courses of action 3 assessing the operational capability of fire detection and firefighting equipment and systems and taking any required action c Shows evidence of application of relevant workplace procedures, including: 1 relevant maritime regulations 2 fire prevention and control procedures and policies 3 OH&S regulations and hazard prevention policies and procedures 4 relevant manufacturer's guidelines relating to the use of fire detection and firefighting equipment and systems 5 following housekeeping processes and fire hazard prevention measures d Action is taken promptly to report and/or rectify fire hazards and faulty fire detection and firefighting, equipment and systems as per procedures

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- e Work is completed systematically with required attention to detail
- f Recognises and adapts appropriately to cultural differences in the workplace, including modes of behaviour and interactions among crew and others

Evidence Guide (continued)

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3 Context of assessment

- a Assessment of competency must comply with the assessment requirements of the relevant maritime regulations
- b Assessment of this unit must be undertaken within relevant marine authority approved and audited arrangements by a registered training organisation:
 - 1 As a minimum, assessment of knowledge must be conducted through appropriate written/oral examinations, and
 - 2 Appropriate practical assessment must occur:
 - i at the registered training organisation; and/or
 - ii on an appropriate working or training vessel

4 Specific resources required for assessment

- Access is required to opportunities to:
- a carry out a range of suitably simulated practical and knowledge assessments that demonstrate the skills and knowledge to carry out fire prevention strategies and participate in search and rescue and firefighting teams on board small vessels; and/or
 - b assist in fire prevention management procedures and firefighting drills on board an operational small commercial vessel

Evidence Guide (continued)

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Note: Simulated firefighting assessment exercises may require access to a fire training and assessment facility capable of simulating firefighting activities in a marine environment. Assessments must be conducted in accordance with relevant OH&S requirements. Protective clothing must be worn in accordance with current maritime practices and Australian OH&S standards

Range Statement

Range Statement

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The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

VARIABLE

SCOPE

1. GENERAL CONTEXT

a. Work must be carried out:	1 in compliance with the relevant sections of the State and Territory marine regulations, the National Standard for Commercial Vessels and USL Code
b. Work is performed:	1 as a member of a team under broad operational requirements, with limited accountability and responsibility for self and others in achieving the prescribed outcomes
c. Work involves:	1 the application of accepted principles and practice to the prevention and fighting of fire on board a vessel

Range Statement

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d. Work requires: 1 participation as a member of a firefighting team

2. WORKSITE ENVIRONMENT

a Vessel may include	1 any small Australian or international commercial vessel
b Fires on board vessel may occur:	1 by day or night in both normal and emergency situations 2 under any possible conditions of weather and loading 3 while underway 4 during berthing and unberthing operations 5 while anchoring or mooring 6 while in port 7 while moored or at anchor
c Types of fires which may occur on board vessel include:	1 Standard classification of fires

Range Statement (continued)

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VARIABLE	SCOPE

Range Statement (continued)

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d Fire detection and firefighting systems may include:	1 fire detection devices and systems 2 portable fire extinguishers, including foam, water, CO₂, dry chemical and wet foam (where applicable) 3 fire blankets 4 sprinkler systems 5 fire pumps - main and emergency fire pump 6 fire hoses, hydrants, branches and international shore connection
e Personal protection clothing and equipment may include:	1 masks and goggles 2 protective clothing, including headgear, gloves and footwear
f Documentation and records may include:	1 relevant sections of State and Territory marine regulations, NSCV and USL Code 2 vessel's log 3 fire detection, firefighting and safety equipment operational and maintenance instructions and recommended procedures 4 instructions of relevant maritime authorities related to the maintenance and serviceability of shipboard fire detection, firefighting and safety equipment and systems 5 relevant Australian standards
g Applicable legislation, regulations and codes may	1 State and Territory marine regulations related to the operation of small vessels 2 National Standard for Commercial Vessels and USL Code

Range Statement (continued)**TDMMF2707B PREVENT, CONTROL AND FIGHT FIRES ON BOARD A SMALL VESSEL****include:**

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| 3 | relevant Commonwealth, State and Territory OH&S and pollution control legislation |
| 4 | Australian regulations for the maintenance of fire detection, firefighting and safety equipment and systems |

Unit Sector(s)

Not applicable.

Field

Field MF Operational Quality and Safety

Relationship to other units

Relationship to other units	The unit may be assessed in conjunction with other units that relate to the functions of the occupation(s) concerned.
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