



Australian Government

Department of Education, Employment and Workplace Relations

TDMMF407B MAINTAIN THE OPERATIONAL CONDITION OF LIFESAVING, FIREFIGHTING AND OTHER SAFETY SYSTEMS

Release: 1

TDMMF407B MAINTAIN THE OPERATIONAL CONDITION OF LIFESAVING, FIREFIGHTING AND OTHER SAFETY SYSTEMS

Modification History

Not applicable.

Unit Descriptor

UNIT DESCRIPTOR:

This unit involves the skills and knowledge required to maintain the operational condition of lifesaving, firefighting and other safety systems, including the coordination of the monitoring of systems and their components to ensure that they function in the event of fire and other shipboard emergencies on board a commercial ocean-going vessel.

Application of the Unit

Application of the unit	The unit applies to qualifications for masters and engineers in command and watchkeeping positions on ocean-going vessels and Engineer Class 3 and Marine Engine Driver Grade 1 in near coastal operations, i.e. Advanced Diploma of Transport&Distribution (Maritime Operations - Master Unlimited) Advanced Diploma of Transport&Distribution (Marine Engineering Class 1) Advanced Diploma of Transport&Distribution (Marine Engineering Class 2) Diploma of Transport&Distribution (Marine Engineering - Engineer Watchkeeper) Diploma of Transport&Distribution (Coastal Marine Engineering - Engineer Class 3), Certificate IV in Transport&Distribution (Marine Engine Driving - Grade 1).
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Licensing/Regulatory Information

Licensing/legislative requirements	The unit is consistent with the relevant maritime regulations related to the maintenance of the operational condition of lifesaving, firefighting and other safety systems on ocean-going vessels. This includes applicable sections of STCW 95 and AMSA certification and regulatory requirements under Marine Orders Part 3, Seagoing Qualifications, Issue 6.
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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 Coordinate the monitoring of operational condition of lifesaving, fire detection, firefighting and other safety systems on board a vessel	a Procedures for the routine maintenance of lifesaving, fire detection, firefighting and other safety systems are established and their implementation coordinated in accordance with regulatory requirements and company procedures b Routine procedures are followed to check the operational condition of lifesaving, fire detection, firefighting and other safety equipment and systems c Faulty or damaged equipment or components in lifesaving, fire detection, firefighting and other safety systems are

ELEMENT	PERFORMANCE CRITERIA
	identified d Faulty or damaged equipment or components are reported, repaired or replaced in accordance with company procedures and international regulations e Appropriate tools and materials are used to maintain lifesaving, fire detection, firefighting and other safety systems and to carry out any required repairs

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ELEMENT	PERFORMANCE CRITERIA
2 Coordinate the checking and replacement of consumable materials and items in lifesaving, fire detection, firefighting and other safety systems	a Procedures for the checking and replacement of consumable materials and items in lifesaving, fire detection, firefighting and other safety systems are established and their implementation coordinated b Levels and/or quality of consumable materials and items used in lifesaving, fire detection, firefighting and other safety systems are checked in accordance with company procedures and international regulations c Consumable materials and items used in lifesaving, fire detection, firefighting and other safety systems are replenished and replaced as required d Lifesaving, fire detection, firefighting and other safety systems are confirmed as operational following replenishment or replacement of consumable materials and items

ELEMENT	PERFORMANCE CRITERIA
3 Maintain documentation on the condition of lifesaving, fire detection, firefighting and other safety systems on board a vessel	- a Information on the outcomes of routine monitoring and maintenance of the condition of lifesaving, fire detection, firefighting and other safety equipment and systems is recorded as required by company procedures and international regulations - b Information on identified faulty equipment or components in lifesaving, fire detection, firefighting and other safety systems and action taken to repair or replace them is documented in accordance with company procedures and international regulations - c Documentation on the checking and replenishment of consumable materials used in lifesaving, fire detection, firefighting and other safety system is completed in accordance with company procedures and regulatory requirements

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Required Skills and Knowledge

REQUIRED KNOWLEDGE

This describes the knowledge required for this unit.

- 1 Relevant maritime regulations
- 2 ISM Code safety management system plans, procedures, checklists and instructions (where applicable) as they relate to fire detection, firefighting, lifesaving and safety equipment and systems
- 3 Types of fire detection, firefighting, lifesaving and safety equipment and systems used on board vessels and the procedures for their use
- 4 Relevant regulations, codes of practice, policies and procedures related to the maintenance of fire detection, firefighting, lifesaving and safety equipment and systems
- 5 Methods for checking and replacing consumable materials in typical shipboard fire detection, firefighting and safety equipment and systems
- 6 The importance of maintenance of fire detection, firefighting, lifesaving and safety equipment and systems and the potential consequences if the equipment or systems are not operational during an emergency
- 7 Maritime communication techniques applicable to maintenance of fire detection, firefighting, lifesaving and safety equipment and systems
- 8 Faults that can occur with shipboard fire detection, firefighting and safety equipment and systems and appropriate remedial action and solutions
- 9 Statutory and company requirements for the documentation of maintenance procedures and outcomes for fire detection, firefighting, lifesaving and safety equipment and systems used on board vessels

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REQUIRED SKILLS

This describes the basic skills required for this unit.

- 1 Receive and interpret oral and written orders and instructions related to maintenance of the operational condition of lifesaving, firefighting and other safety systems
- 2 Read and interpret technical specifications and other graphical information related to lifesaving, firefighting and other safety systems
- 3 Interpret and follow procedures and instructions for the maintenance of the operational condition of lifesaving, firefighting and other safety systems
- 4 Recognise faults or defects lifesaving, firefighting and other safety systems and take appropriate action to report and rectify the problem
- 5 Use appropriate diagnostic techniques to determine the cause of a fault or defect in a lifesaving, firefighting and other safety system and take appropriate initiatives for its replacement or repair
- 6 Work and interact safely and collaboratively with others in the course of work activities to maintain the operational condition of lifesaving, firefighting and other safety systems
- 7 Communicate with multilingual crew where applicable using established techniques
- 8 Recognise problems related lifesaving, firefighting and other safety systems and take appropriate action
- 9 Adapt to variations in equipment and systems between different vessels and when equipment and systems are changed on a vessel
- 10 Select and use basic hand and power tools as required when maintaining the operational condition of lifesaving, firefighting and other safety systems
- 11 Take appropriate precautions to prevent pollution of the marine environment

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 Check to fire detection, firefighting, lifesaving and safety equipment and systems - b Identify typical faults in to fire detection, firefighting, lifesaving and safety equipment and systems and initiate appropriate repair or replacement action where required - c Check and replace consumable materials in fire detection, firefighting, lifesaving and safety equipment and systems as required - d Communicate effectively with others as required during maintenance of fire detection, firefighting, lifesaving and safety equipment and systems
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 coordinating the maintenance of on-board fire detection, firefighting, lifesaving and safety equipment and systems 2 identifying and evaluating operational and maintenance problems with fire detection, firefighting, lifesaving and safety equipment and systems and determining appropriate courses of action 3 identifying and implementing improvements to maintenance procedures for fire detection, firefighting, lifesaving and safety equipment and systems 4 assessing operational capability of fire detection, firefighting, lifesaving and safety equipment and systems - c Shows evidence of application of relevant workplace procedures, including: 1 relevant sections of maritime regulations

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| | <ol style="list-style-type: none"> 2 OH&S regulations and hazard prevention policies and procedures 3 job procedures and work instructions 4 relevant manufacturer's guidelines relating to the use of fire detection, firefighting, lifesaving and safety equipment and systems, including instructions on equipment capability and limitations 5 following on-board housekeeping processes |
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Evidence Guide (continued)

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2 Evidence required for demonstration of consistent performance (continued)

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| <ol style="list-style-type: none"> d Action is taken promptly to report and/or rectify faulty fire detection, firefighting, lifesaving and safety equipment and systems in accordance with established procedures 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 between crew and others |
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3 Context of assessment

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| <ol style="list-style-type: none"> 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: <ol style="list-style-type: none"> 1 As a minimum, assessment of knowledge must be conducted through appropriate written/oral examinations, and 2 Appropriate practical assessment must occur: <ol style="list-style-type: none"> i at the registered training organisation; and/or ii on an appropriate working or training vessel |
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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 coordinate the maintenance of fire detection, firefighting, lifesaving and safety equipment and systems typically used on board vessels; and/or - b assist in the coordination of the maintenance procedures for fire detection, firefighting, lifesaving and safety equipment and systems on board an operational vessel
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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 regulations, conventions and codes
b. Work is performed:	1 relatively independently under broad operational requirements, with accountability for self and others in achieving the prescribed outcomes

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

c. Work involves:	1 the coordination of measures to check the condition of lifesaving, firefighting and other safety equipment and to initiate repair or replacement where equipment is found to be defective or non-functional. Contribution to the development of a broad strategy for maintaining the operational condition of lifesaving, firefighting and other safety equipment is involved
d. Work requires:	1 significant judgement in planning and coordinating the maintenance of lifesaving, firefighting and other safety equipment on board vessels

2. WORKSITE ENVIRONMENT

a Vessel may include:	1 any Australian or international commercial vessel
b Maintenance procedures may include:	1 routine checks for operational serviceability of fire detection, firefighting and safety equipment and systems 2 identification of faults in and damage to fire detection, firefighting, lifesaving and safety equipment and initiation of repair or replacement action where required 3 checking and replacement of consumable items such as extinguisher materials, detector or alarm batteries, etc.
c Fire detection and firefighting systems may include:	1 fire detection devices and systems 2 portable fire extinguishers, including foam, water, CO ₂ , dry chemical and wet foam

Range Statement (continued)

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VARIABLE	SCOPE
c Fire detection and firefighting systems may include: (continued)	3 CO₂ fixed systems 4 foam installations, including semi-portable and fixed systems 5 sprinkler systems 6 fire pumps (main and emergency fire pump) 7 fire hoses, hydrants, branches and international shore connection
d Lifesaving and safety systems may include:	1 life-jackets 2 survival craft 3 life-buoys 4 emergency radio beacons 5 lifesaving equipment and consumables
e Consumable materials and items that may used may include:	1 dry and wet chemicals used in fire extinguishers 2 batteries for detectors, radios, beacons, etc. 3 flares 4 survival rations
f Documentation and records may include:	1 ISM Code safety management system plans, procedures, checklists and instructions (where applicable) 2 IMO STCW 95 Convention and Code

VARIABLE	SCOPE
	3 AMSA Marine Orders and Australian USL Code (as applicable)
	4 vessel's log
	5 fire detection, firefighting and safety equipment operational and maintenance instructions and recommended procedures
	6 instructions of relevant maritime authorities related to the maintenance and serviceability of shipboard fire detection, firefighting and safety equipment and systems
	7 relevant Australian and international standards

Range Statement (continued)

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VARIABLE	SCOPE
g Applicable regulations and legislation may include:	1 relevant sections of the IMO STCW 95 Convention and Code, Australian USL Code and AMSA Marine Orders 2 regulations for the maintenance of fire detection, firefighting and safety equipment and systems 3 relevant Commonwealth, State and Territory OH&S legislation

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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