

TDMMF2701A**Prevent, control and fight fires on board a small vessel****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 shutdown and isolation procedures, and the execution and coordination of fire-fighting operations for the type and size of vessel involved.

The unit is consistent with the relevant sections in the Australian USL Code

Unit Sector

No sector assigned

ELEMENT**PERFORMANCE CRITERIA**

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| 1. Manage fire prevention and control procedures | 1.1 Fire hazards on board a vessel are identified and action is taken to eliminate or minimise them
1.2 Fire prevention equipment is regularly checked and appropriate action is taken to ensure that they are operational
1.3 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
1.4 Personnel on board the vessel are made aware of emergency procedures to be followed in the event of fire
1.5 Fire control is implemented in accordance with marine safety and vessel operating procedures
1.6 Action taken to control a fire is based on an accurate assessment of the incident
1.7 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 |
| 2. Operate and maintain portable fire-fighting equipment | 2.1 A, B and C classes of fires are correctly identified in accordance with accepted fire-fighting practice
2.2 Appropriate fire-fighting equipment is selected and used to fight specific classes of fires
2.3 Class F fires are correctly extinguished with a fire blanket in accordance with accepted fire-fighting practice
2.4 Correct techniques are applied for the use of hose lines to extinguish fires on board a vessel
2.5 Fire fighting equipment is regularly checked and appropriate action is taken to ensure that it is operational |

KEY COMPETENCIES

Key Competency	Performance Level
Communicating ideas and information	3
Collecting analysing and organising information	3
Planning and organising activities	3
Working with others and in teams	3
Using mathematical ideas and techniques	3
Solving problems	3
Using technology	3

RANGE STATEMENT**PREVENT, CONTROL AND FIGHT FIRES ON BOARD A SMALL VESSEL****General context**

- Work must be carried out in compliance with the relevant sections of the Australian USL Code.
- Work is performed as a member of a team under broad operational requirements, with limited accountability and responsibility for self and others in achieving the prescribed outcomes. It involves the application of accepted principles and practice to the prevention and fighting of fire on board a vessel. Participation as a member of a fire-fighting team is involved.

Worksite environment

- Vessel may include any small Australian or international commercial vessel
- Fires on board vessel may occur:
 - by day or night in both normal and emergency situations
 - under any possible conditions of weather and loading
 - while underway
 - during berthing and unberthing operations
 - while anchoring or mooring
 - while in port
 - while moored or at anchor
- Types of fires which may occur on board vessel include Classes A, B, C and F in the standard classification of fires
- Fire detection and fire-fighting systems may include:
 - Fire detection devices and systems
 - Portable fire extinguishers including foam, water, CO 2 , dry chemical and wet foam (where applicable)
 - Fire blankets
 - Sprinkler systems
 - Fire pumps - main and emergency fire pump
 - Fire hoses, hydrants, branches and international shore connection
- Consumable materials and items that may used in fire detection and fire fighting equipment may include:
 - Dry and wet chemicals used in fire extinguishers
 - Batteries for fire detectors

Sources of information / documents

- Documentation / records may include
 - Australian USL Code and other legislative requirements
 - vessel's log
 - fire-detection, fire- fighting and safety equipment operational and maintenance instructions and recommended procedures
 - instructions of relevant Maritime Authorities related to the maintenance and serviceability of vessel-board fire-detection, fire- fighting and safety equipment and systems
 - relevant Australian standards

Applicable International, Australian and State/Territory regulations and legislation

- Applicable procedures and codes may include
 - relevant sections of USL Code
 - Australian regulations for the maintenance of fire-detection, fire- fighting and safety equipment and systems
 - relevant Australian and State/Territory OH&S legislation

EVIDENCE GUIDE

PREVENT, CONTROL AND FIGHT FIRES ON BOARD A SMALL VESSEL

Critical aspects of evidence to be considered

- Assessment must confirm appropriate knowledge and skills to:
 - Manage and implement fire prevention measures and procedures on board a small vessel
 - Assess the operational capability of relevant fire-detection and fire-fighting equipment and initiate any required reporting or maintenance action
 - Use the various types of fire fighting equipment used on board a small vessel
 - Implement OHS principles and policies when carrying out fire prevention and fire-fighting duties
 - Communicate effectively with others as required during fire prevention activities and fire emergencies

Interdependent assessment of units

- This unit of competency must be assessed in conjunction with other units that form part of a job role of officers with a responsibility to prevent, control and fight fires onboard a small commercial vessel.

Required knowledge and skills

- Knowledge of relevant sections of the Australian USL Code
- The chemistry of fire and its relationship to materials typically carried on small vessels
- Principles underlying the spread of fire and its extinguishment
- The different classes of fire, their characteristics and strategies and equipment needed for their extinguishment
- Types of fire-detection, fire-fighting equipment and systems used on board small vessels, their features, principles of operation and the procedures for their use and maintenance
- Fire-fighting techniques applicable to different classes of fire on board a small vessel
- Relevant regulations and policies related to the maintenance of fire-detection and fire fighting equipment used on small vessels
- Fire-fighting procedures applicable to small vessels
- Maritime communication techniques applicable to fire prevention and fire-fighting activities on board a vessel
- Problems that can occur with fire-detection and fire-fighting equipment and operations on board a small vessel and appropriate remedial action and solutions
- Sources of information on fire prevention and extinguishment on board small vessels

Resource implications

- Access is required to opportunities to either:
- 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 fire-fighting teams on board small vessels, and/or
- assist in fire prevention management procedures and fire-fighting drills on board an operational small commercial vessel
- *Note:* Simulated fire-fighting assessment exercises may require access to a fire training and assessment facility capable of simulating fire-fighting 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 OHS standards.

Consistency in performance

- Applies underpinning knowledge and skills when:
 - managing the implementation of fire prevention and control measures and procedures on board a small vessel
 - identifying and evaluating fire fighting problems and determining appropriate courses of action
 - assessing the operational capability of fire-detection and fire-fighting equipment and systems and taking any required maintenance or replenishment action
- Shows evidence of application of relevant workplace procedures including:
 - relevant maritime regulations
 - fire prevention and control procedures and policies
 - OHS regulations and hazard prevention policies and procedures
 - relevant manufacturer's guidelines relating to the use of fire-detection and fire-fighting equipment and systems, including instructions on equipment capability and limitations
 - following on-board housekeeping processes and fire-hazard prevention measures
- Action taken promptly to report and/or rectify fire hazards and faulty fire-detection and fire-fighting, equipment and systems in accordance with established procedures
- Work is completed systematically with required attention to detail

Context for assessment

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