



Australian Government

Department of Education, Employment and Workplace Relations

**TDMMF1201A Minimise the risk of fire
and maintain a state of readiness to respond
to emergency situations invol**

Release: 1

TDMMF1201A Minimise the risk of fire and maintain a state of readiness to respond to emergency situations invol

Modification History

Not applicable.

Unit Descriptor

This unit involves the skills and knowledge required to minimise the risk of fire and maintain a state of readiness to respond to emergency situations involving fire.

The unit is consistent with the related functional standard in Section A VI/1-2 of the STCW95 Code, AMSA Marine Orders Part 3, Issue 5, Appendix 4, and relevant sections of the Australian USL Code. It forms part of mandatory minimum requirements for familiarisation and basic safety competence required for all seafarers.

This unit involves the skills and knowledge required to minimise the risk of fire and maintain a state of readiness to respond to emergency situations involving fire.

The unit is consistent with the related functional standard in Section A VI/1-2 of the STCW95 Code, AMSA Marine Orders Part 3, Issue 5, Appendix 4, and relevant sections of the Australian USL Code. It forms part of mandatory minimum requirements for familiarisation and basic safety competence required for all seafarers.

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Carry out fire minimisation procedures	1.1 Fire hazards on board vessel are identified and action is taken to eliminate or minimise them
	1.2 Responsibilities for checking fire prevention equipment and systems are fulfilled and appropriate action is taken to ensure that they are operational
	1.3 An awareness and understanding of the causes of fire and its minimisation is maintained through participation in fire drills and related instructional programs
	1.4 A state of readiness to respond to fire emergencies is maintained at all times
2 Respond to emergency situations involving fire	2.1 Emergency situations involving fire are correctly identified in accordance with established nautical practice
	2.2 Type of fire is identified in accordance with the established classification system for fires
	2.3 Initial action on becoming aware of fire emergency is in conformity with established practices and procedures
	2.4 Action taken is timely and appropriate for seriousness of the fire emergency
	2.5 Action taken on identifying muster signals for a fire emergency is appropriate and complies with established procedures
	2.6 Appropriate precautions and procedures are implemented when responding to electrical fires
	2.7 Appropriate precautions and procedures are implemented when responding to uptake and hydrogen fires
	2.8 Communications are clear and concise at all times and orders are acknowledged in a timely and

seamanlike manner

Required Skills and Knowledge

Not applicable.

Evidence Guide

Critical aspects of evidence to be considered

Assessment must confirm appropriate knowledge and skills to:

Implement fire prevention and minimisation measures and procedures on board vessel

Recognise fire hazards onboard vessel and take appropriate action to eliminate or minimise them

Assess the operational capability of fire-detection and fire- fighting equipment and systems and initiate any required maintenance or replenishment action

Respond to emergency situations involving fire

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 may be assessed in conjunction with other units that form part of a job role of any seafarer. (It is a mandatory requirement for all seagoing personnel)

Required knowledge and skills

Knowledge of relevant maritime regulations concerning minimisation of the risk of fire on board vessel

The chemistry of fire and its relationship to materials typically carried on vessels

Principles underlying the spread of fire and its extinguishment, including:

the elements of fire and explosion (the fire triangle)

types and sources of ignition

flammable materials and fire hazards

factors that influence the spread of fire

The importance of constant vigilance in fire prevention and minimisation

The different classes of fire, their characteristics and strategies and equipment needed for their extinguishment

A basic understanding of the types of fire-detection, fire- fighting equipment and systems used on board vessels, their features, principles of operation and the procedures for their use and maintenance

Relevant regulations and policies related to the to the maintenance of fire equipment and systems

Precautions and procedures that must be followed when responding to electrical fires

Precautions and procedures that must be followed when responding to uptake and hydrogen fires

Maritime communication techniques applicable to fire prevention and fire-minimisation activities on board vessel

Problems that can occur with shipboard fire-detection and fire hazards on board a vessel and appropriate action that should be taken

Sources of information on shipboard fire prevention and minimisation.

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 and minimisation strategies on board vessels, and/or

assist in fire prevention and minimisation procedures and fire drills on board an operational trading or training vessel.

Note: Simulated fire prevention assessment exercises may require access to a fire training and assessment facility capable of simulating fire and fire-prevention 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:

implementing of fire prevention and minimisation measures and procedures
identifying and evaluating fire hazards and taking appropriate courses of action
responding to simulated and real emergency situations involving fire
assessing the operational capability of fire-detection equipment and systems and taking any required maintenance or replenishment action.

Shows evidence of application of relevant workplace procedures including:

relevant maritime regulations concerning minimisation of the risk of fire on board vessel
OHS regulations and hazard prevention policies and procedures
relevant manufacturer's guidelines relating to the use of fire-detection equipment and systems, including instructions on equipment capability and limitations
on-board housekeeping processes and implementing fire-hazard prevention measures
fire minimisation procedures and policies.

Action taken promptly to report and/or rectify fire hazards and faulty fire-detection 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.

Critical aspects of evidence to be considered

Assessment must confirm appropriate knowledge and skills to:

Implement fire prevention and minimisation measures and procedures on board vessel

Recognise fire hazards onboard vessel and take appropriate action to eliminate or minimise them

Assess the operational capability of fire-detection and fire- fighting equipment and systems and initiate any required maintenance or replenishment action

Respond to emergency situations involving fire

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 may be assessed in conjunction with other units that form part of a job role of any seafarer. (It is a mandatory requirement for all seagoing personnel)

Required knowledge and skills

Knowledge of relevant maritime regulations concerning minimisation of the risk of fire on board vessel

The chemistry of fire and its relationship to materials typically carried on vessels

Principles underlying the spread of fire and its extinguishment, including:

the elements of fire and explosion (the fire triangle)

types and sources of ignition

flammable materials and fire hazards

factors that influence the spread of fire

The importance of constant vigilance in fire prevention and minimisation

The different classes of fire, their characteristics and strategies and equipment needed for their extinguishment

A basic understanding of the types of fire-detection, fire-fighting equipment and systems used on board vessels, their features, principles of operation and the procedures for their use and maintenance

Relevant regulations and policies related to the to the maintenance of fire equipment and systems

Precautions and procedures that must be followed when responding to electrical fires

Precautions and procedures that must be followed when responding to uptake and hydrogen fires

Maritime communication techniques applicable to fire prevention and fire-minimisation activities on board vessel

Problems that can occur with shipboard fire-detection and fire hazards on board a vessel and appropriate action that should be taken

Sources of information on shipboard fire prevention and minimisation.

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 and minimisation strategies on board vessels, and/or

assist in fire prevention and minimisation procedures and fire drills on board an operational trading or training vessel.

Note: Simulated fire prevention assessment exercises may require access to a fire training and assessment facility capable of simulating fire and fire-prevention 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:

implementing of fire prevention and minimisation measures and procedures

identifying and evaluating fire hazards and taking appropriate courses of action

responding to simulated and real emergency situations involving fire

assessing the operational capability of fire-detection equipment and systems and taking any required maintenance or replenishment action.

Shows evidence of application of relevant workplace procedures including:

relevant maritime regulations concerning minimisation of the risk of fire on board vessel
OHS regulations and hazard prevention policies and procedures
relevant manufacturer's guidelines relating to the use of fire-detection equipment and systems, including instructions on equipment capability and limitations
on-board housekeeping processes and implementing fire-hazard prevention measures
fire minimisation procedures and policies.
Action taken promptly to report and/or rectify fire hazards and faulty fire-detection 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.

Range Statement

General context

Work must be carried out in compliance with the relevant maritime regulations.

Work involves the application of prescribed principles and practice to the minimisation of the risk of fire onboard vessel. Maintenance of a state of readiness to respond to fire emergencies is involved. It requires some judgement and teamwork in the execution of prescribed procedures for the minimisation of the risk of fire and responding to fire emergencies onboard a vessel.

Worksite environment

Vessel may include any Australian or international commercial vessel.

Fire emergencies 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 hazard minimisation procedures may include:

housekeeping in work areas

following of fire safety procedures

checking and maintaining shipboard fire prevention systems

identification and elimination or minimisation of fire hazards

precautions when using and storing flammable materials

precautions that need to be taken when responding to an electrical fire

precautions that need to be taken when responding to uptake and hydrogen fires

precautions when using naked flames or welding equipment.

Sources of information/documents

Documentation/records may include:

relevant regulations concerning minimisation of the risk of fire on board vessel

vessel's instructions and procedures concerning minimisation of the risk of fire

publications on marine fire prevention and minimisation and emergency response

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 ship-board fire-detection, fire-fighting and safety equipment and systems

relevant Australian and international standards.

Workplace context

Workplace organisation may be defined by:

Company work organisation procedures and practices

Conditions of service, industrial legislation and agreements including:

workplace agreements and awards

Australian and State/Territory industrial legislation.

Applicable International, Australian and State/Territory regulations and legislation

Applicable procedures and codes may include:

relevant sections of the IMO STCW Convention and Code, Australian USL Code and AMSA Marine Orders concerning minimisation of the risk of fire on board vessel regulations for the maintenance of fire-detection, fire- fighting and safety equipment and systems

relevant international, Australian and State/Territory OH&S legislation.

General context

Work must be carried out in compliance with the relevant maritime regulations.

Work involves the application of prescribed principles and practice to the minimisation of the risk of fire onboard vessel. Maintenance of a state of readiness to respond to fire emergencies is involved. It requires some judgement and teamwork in the execution of prescribed procedures for the minimisation of the risk of fire and responding to fire emergencies onboard a vessel.

Worksite environment

Vessel may include any Australian or international commercial vessel.

Fire emergencies 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 hazard minimisation procedures may include:

housekeeping in work areas

following of fire safety procedures

checking and maintaining shipboard fire prevention systems

identification and elimination or minimisation of fire hazards

precautions when using and storing flammable materials

precautions that need to be taken when responding to an electrical fire

precautions that need to be taken when responding to uptake and hydrogen fires

precautions when using naked flames or welding equipment.

Sources of information/documents

Documentation/records may include:

relevant regulations concerning minimisation of the risk of fire on board vessel

vessel's instructions and procedures concerning minimisation of the risk of fire

publications on marine fire prevention and minimisation and emergency response

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 ship-board fire-detection, fire- fighting and safety equipment and systems

relevant Australian and international standards.

Workplace context

Workplace organisation may be defined by:

Company work organisation procedures and practices

Conditions of service, industrial legislation and agreements including:

workplace agreements and awards

Australian and State/Territory industrial legislation.

Applicable International, Australian and State/Territory regulations and legislation

Applicable procedures and codes may include:

relevant sections of the IMO STCW Convention and Code, Australian USL Code and AMSA

Marine Orders concerning minimisation of the risk of fire on board vessel

regulations for the maintenance of fire-detection, fire- fighting and safety equipment and systems

relevant international, Australian and State/Territory OH&S legislation.

Unit Sector(s)

Not applicable.