



Australian Government

MARF1002A Follow procedures to minimise and fight fires on board a vessel

Release 1

MARF1002A Follow procedures to minimise and fight fires on board a vessel

Modification History

Release 1

This is the first release of this unit.

Unit Descriptor

This unit involves the skills and knowledge required to apply defined policies and procedures when carrying out fire minimisation procedures and fighting a fire on board a vessel.

Application of the Unit

This unit applies to deck and engine workers working in the maritime industry on vessels up to 80 metres. They could be working independently or as part of a vessel crew.

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 **Carry out fire minimisation procedures**
 - 1.1 *Fire hazards and risks* on board vessel are identified and reported to designated personnel according to workplace procedures
 - 1.2 Workplace procedures and work instructions for controlling fire risks are followed
 - 1.3 *Firefighting equipment* is regularly checked and appropriate action is taken to ensure that it is operational
 - 1.4 Participation in fire drills and musters is undertaken to ensure readiness for fire emergencies
- 2 **Follow instructions during response to a fire emergency**
 - 2.1 Location and *class of fire* is identified and alarm is raised and/or responded to according to workplace procedures
 - 2.2 Appropriate *protective clothing and equipment* requirements are made ready
 - 2.3 Instructions to contain the spread of fire and smoke are acted upon
 - 2.4 Fire is attacked using the appropriate method, firefighting equipment and *extinguishing media/agent* according to instructions
 - 2.5 Collaboration and communication is maintained with others to support the safety and efficiency of the firefighting operation
- 3 **Support post-fire operations**
 - 3.1 Fire watch is carried out as instructed to prevent further outbreak
 - 3.2 Equipment is *restored* to operational condition according to workplace instructions
 - 3.3 Assistance is provided to preserve fire scene prior to investigation, if appropriate
 - 3.4 Information relevant for the debrief of a fire incident is provided

Required Skills and Knowledge

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

Required Skills:

- Apply extinguishing media to a fire
- Operate a fire extinguisher
- Use a fire blanket to extinguish a fire

Required Knowledge:

- Alarms and signals during onboard emergencies
- Chemistry of fire and its relationship to flash point, vapour density, auto ignition temperature and spontaneous combustion
- Classes of fire applicable to Australian and New Zealand standards
- Detection and suppression systems including fixed firefighting systems
- Extinguishing media including firefighting foams
- Firefighting tactics, techniques and procedures including team dynamics
- Fire tetrahedron
- Hazards and threats to life or health during onboard firefighting operations
- Methods of heat transfer
- Onboard emergency response organisation and procedures
- Portable fire extinguishers – colour codes and suitability for class of fire
- Principles underlying the spread of fire on a vessel
- Principles and methods of extinguishment of each class of fire
- Safe working practices
- Types of fire detection, fire fighting equipment and systems used on vessels, their features, principles of operation, the procedures for their use and problems that can occur
- Ventilation procedures
- Vessel construction as it relates to fire prevention/protection
- Work health and safety (WHS)/occupational health and safety (OHS) requirements and work practices

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:

- using water spray as an effective firefighting agent
- conducting effective boundary cooling
- communicating and working collaboratively as a member of a team in a firefighting operation.

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 fighting and extinguishing fires on a vessel 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 following instructions to fight and extinguish fires
- direct observation of the candidate applying related WHS/OHS requirements and work practices.

Guidance information for

Holistic assessment with other units relevant to the industry

assessment

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.

Fire hazards and risks must include:

- Cargo
- Clothing
- Cooking oils
- Cordage
- Electrical arcing
- Fuels and lubricants
- Furnishings
- Paints
- Poor housekeeping
- Poor work practices
- Smoking
- Spontaneous combustion

Firefighting equipment may include:

- Fire blankets
- Hydrant hoses and nozzles
- International shore connection
- Portable extinguishers
- Pumps

Classes of fire must include:

- A – Carbonaceous Solids
- B – Flammable liquids
- C – Flammable gases
- E – Electrically energised equipments
- F – Cooking fats or oils

Protective clothing and equipment must include:

- Foot protection
- Hand protection
- Radiant heat protection

Extinguishing media/agent must include:

- Extinguishing powder
- Foam
- Gaseous extinguishing agents
- Water

Restored must include:

- Cleaned
- Serviced if applicable
- Re-stowed

Unit Sector(s)

Not applicable.

Competency Field

Operational Quality and Safety