Australian Government

Assessment Requirements for MARF044 Prevent, control and fight fires on board a vessel (advanced firefighting)

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Modification History

Release 1. This is the first release of this unit of competency in the MAR Maritime Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- applying equipment restoration techniques, including:
    - maintaining self-contained breathing apparatus (SCBA) to industry standards
    - cleaning
    - recharging extinguishers according to Australian Standards
    - re-stowing
    - servicing
- communicating effectively with crew and passengers during fire emergencies
- determining the type and extent of the fire and initiating appropriate and timely actions
- ensuring order of priority, timing and sequence of actions are appropriate to the overall requirements of the incident and minimising damage and potential damage to the vessel, injuries to personnel, and impairment of the operational effectiveness of the vessel
- evaluating effectiveness of firefighting activities and tactics during fire emergencies
- initiating appropriate action and providing solutions to problems with firefighting equipment and operations during fire emergencies
- liaising with shore-based emergency organisations during fire emergencies
- managing fire prevention and suppression activities on a vessel
- managing onboard firefighting training for shipboard firefighting teams
- managing shipboard firefighting teams and their tactical activities during fire emergencies
- managing the maintenance of firefighting equipment and systems
- providing leadership to shipboard personnel and passengers during fire emergencies
- recognising and interpreting fire alarms and initiating appropriate response
- safeguarding personal safety during fire control activities at all times
- taking actions to control fires based on a full and accurate assessment of the incident, using all available sources of information
- transmitting information promptly, accurately, completely and clearly.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of

the requirements of the elements and performance criteria and include knowledge of:

- assessment of cause of incidents involving fire
- chemistry of fire and its relationship to combustible materials typically found on vessels
- composition and allocation of personnel to fire parties
- control of fuel and electrical systems
- different classes of fire and the most appropriate extinguishing agents, application equipment and methods of extinguishment for each
- dewatering
- emergency sound signals
- fire control plan, including:
    - applications of the Code of Safe Practice for Solid Bulk Cargo (BC) Code
    - applications of the International Maritime Dangerous Goods (IMDG) Code
    - communication strategy
    - contingency plans for fires involving hazardous materials
    - evacuation plan
    - handling and treatment of injured personnel
    - hazard control strategies
    - liaison with shore-based agencies (such as environmental protection agencies, fire services, medical teams, port authorities) in port and at sea
    - maritime communication techniques applicable to the management of fire prevention and firefighting activities onboard a vessel
    - preparation of contingency plans
    - search and rescue (SAR) operations
    - strategies for shipboard firefighting management, including:
        - control of fires in various parts of the ship
        - oil, chemical and gas tankers
        - ships carrying dangerous goods
        - tactical methods for fighting fires involving hazardous materials
        - tactical plan of action
- fire precautions and hazards associated with the storage and handling of materials (paints etc.)
- fire-detection systems, including:
    - fixed fire-extinguishing systems
    - portable and mobile fire-extinguishing systems, including:
        - appliances
        - pumps
        - rescue, salvage, life-support, personal protective and communication equipment
- firefighting involving dangerous goods
- firefighting procedures at sea and in port, with particular emphasis on organisation, tactics and command
- firefighting process hazards, including dry distillation, chemical reactions, boiler uptake fires

and exhaust fires
- hazards, including:
    - contents of adjacent spaces
    - dangerous goods
    - electricity and wiring systems
    - fires in water-tube boilers
    - flammable or explosive atmospheres
    - oxygen deficiency or enrichment
    - physical obstructions
    - poor visibility
    - restricted access
    - toxic liquids, solids, gases, vapours and dusts
- importance of communication and coordination during firefighting operations
- implications of shipboard firefighting management in port and the procedures that must be followed to comply with port and state/territory regulations
- importance of maintenance of fire detection and firefighting equipment onboard vessels, including:
    - communication equipment
    - complying with statutory and classification survey requirements
    - fire and smoke alarms
    - fire and smoke detection equipment
    - fire main, hydrants, hoses, nozzles and pumps, including emergency fire pump
    - firefighter's outfits and other personal protective equipment (PPE)
    - fixed fire-extinguishing equipment
    - portable and mobile fire-extinguishing equipment, including appliances
    - rescue and life support equipment
    - salvage equipment
- life and health risks associated with fires on vessels
- management and control of injured persons
- methods for checking and replacing consumable materials in fire detection, firefighting equipment and systems onboard vessels
- muster list contents and location
- principle of operation of fixed fire suppression systems
- principles underlying the spread of fire and its extinguishment
- problems likely to be encountered during the management of a shipboard fire and related tactics and solutions that can be applied, including:
    - change in fire behaviour or extent
    - equipment failure or unavailability
    - unexpected personnel involvement
- procedure for safe activation of fixed firefighting systems
- procedures for coordination of shore-based firefighters

- relevant regulations, codes of practice, policies and procedures relating to the maintenance of fire detection, firefighting equipment and systems onboard vessels
- requirements for onboard firefighting training
- requirements for statutory and classification surveys
- safety data sheets (SDS)/material safety data sheets (MSDS) relevant to the various products and substances carried on vessels
- ship general arrangement plan
- ship stability data
- strategies and tactics for control of fires in various parts of the vessel
- strategies for rapid briefing of shore-based emergency organisations using the vessel fire control plan
- the fire control plan contents and location
- types of fire detection, firefighting equipment and systems used on vessels, their features, principles of operation, the procedures for their use and remediating problems that can occur during use
- typical actions of passengers in a shipboard fire
- use of water for fire-extinguishing, the effect on ship stability, precautions and corrective procedures
- ventilation control, including smoke extraction
- work health and safety (WHS)/occupational health and safety (OHS) requirements and safe work practices.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Practical assessment must occur in a workplace, or realistic simulated workplace, under the normal range of workplace conditions.

Simulations and scenarios may be used where situations cannot be provided in the workplace or may occur only rarely, in particular for situations relating to emergency procedures and adverse weather conditions where assessment would be unsafe, impractical or may lead to environmental damage.

Resources for assessment must include access to:

- applicable documentation, such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- tools, equipment, machinery, materials, personal protective equipment (PPE), fire detection equipment, firefighting equipment and systems used in industry, including:
    - fire protective clothing
    - hoses and nozzles

- portable firefighting equipment
- pumps
- SCBA.

Links

Companion Volume implementation guide can be found in VetNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2