



**Australian Government**

**Assessment Requirements for MARA014  
Contribute to basic operations of a ship  
subject to IGF Code**

**Release: 1**

# Assessment Requirements for MARA014 Contribute to basic operations of a ship subject to IGF Code

## 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 basic knowledge of hazard controls protection against cryogenic damages
- applying fuel storage system operations
- applying hazard identification and risk control measures
- applying physical properties of fuels
- applying relevant international regulations, codes, industry guidelines and industry standards relevant to the safe operations on ships subject to International Code of Safety for Ships Using Gases or Other Low-Flashpoint Fuels (IGF Code)
- applying safety requirements and safety management systems
- correctly identifying and applying safety data sheets (SDS)/material safety data sheets (MSDS) to identify fuel characteristics on IGF ships
- following safe work practices, workplace procedures and emergency response procedures
- identifying and acting on hazardous situations
- identifying and using correct firefighting agents and methods to control and extinguish fires relevant to fuels onboard IGF ships
- identifying hazards that can arise when working with fuel systems and handling fuel
- identifying hazards and treating basic first aid incidents, as appropriate
- interpreting and applying knowledge of tanker layouts, tanker cargo features, characteristics and hazards to inform decision making
- selecting and using safety equipment and protective devices
- using gas-measuring instruments and equipment to test gas
- using personal protective equipment (PPE) and devices appropriate to an emergency situation.

## **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:

- awareness of function of gas measuring instruments and gas-measuring instruments, including gas testing
- basic knowledge of emergency procedures, including emergency shutdown (ESD) procedures
- emergency response procedures, including:
  - leakage
  - spillage
  - venting
- firefighting operations, including:
  - fire organisation and actions to be taken in the event of a fire
  - firefighting methods and agents to control and extinguish fires in conjunction with the different fuels
  - firefighting system operations
  - special hazards associated with fuel systems and handling
- fundamental knowledge of fuel systems and fuel storage systems subject to IGF Code, including:
  - fuels addressed in the IGF Code
  - general arrangement of fuel storage systems
  - hazard zones and areas
  - monitoring, control and safety systems onboard IGF ship
  - standard fire safety plan
  - storage of fuels onboard IGF ships, including:
    - atmospheric
    - compressed storage of fuels
    - cryogenic
  - types of fuel systems
- fundamentals of fuels and fuel storage systems operations, including:
  - atmospheric, compressed and cryogenic storage
  - basic bunkering operations
  - basic bunkering systems
  - fuel leak monitoring and detection
  - piping systems and valves
  - protection against cryogenic accidents
  - relief systems and protection screens
- fundamental knowledge of measures to be taken in the event of fuel leakage, spillage and venting of fuels, including reporting relevant information to responsible persons
- fundamental knowledge of physical properties of fuels onboard IGF ships, including:
  - properties and characteristics
  - pressure and temperature

- vapour pressure/temperature relationship
- fuel storage systems and storage systems, including:
  - atmospheric, cryogenic and compressed fuel storage
  - fire safety plan
  - general arrangement of fuel storage systems
  - hazard zones and areas
  - monitoring, control and safety systems
  - using IGF Code to identify fuels and fuel systems relevant to the IGF ship
- hazards, including:
  - corrosion
  - electrostatic
  - environmental
  - explosion
  - extremely low temperatures
  - flammability
  - fuel batch differences
  - health hazards
  - ignition
  - pressure
  - reactivity
  - sources of ignition
  - toxicity
  - vapour clouds
  - vapour leaks
- hazard risk controls, including:
  - anti-static measures
  - atmospheric control
  - emptying, inerting, drying and monitoring techniques
  - gas testing
  - inhibition
  - measures to prevent:
    - explosion
    - fire
    - ignition
- safety requirements and safety management systems
- selection and use of specialised safety equipment and protective devices, including:
  - breathing apparatus
  - protection against cryogenic damages (LNG)
  - protective clothing
  - rescue and escape equipment

- resuscitators
- segregation
- ventilation
- safe working practices and procedures in accordance with legislation and industry guidelines and personal shipboard safety, including:
  - precautions to be taken before and during repair and maintenance work
  - precautions to be taken before entering hazardous spaces and zones
  - safety measures for hot and cold work
- selection of personal protective equipment (PPE) when responding to a spillage and leakage of fuels
- using SDS/MSDS to understand fuel characteristics on IGF ships and basic first aid treatments.

## 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.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

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 and relevant personal protective equipment (PPE) currently used in industry.

## Links

Companion Volume implementation guide can be found in VetNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>