



Australian Government

MARM3003A Identify factors that affect a commercial vessels's fitness for purpose

Release 1

MARM3003A Identify factors that affect a commercial vessels's fitness for purpose

Modification History

Release 1

This is the first release of this unit.

Unit Descriptor

This unit involves the skills and knowledge required to identify the construction and design characteristics that contribute to the watertight integrity and fitness for purpose of a commercial vessel.

Application of the Unit

This unit applies to people who assist marine surveyors or who undertake administration duties in the maritime industry and/or marine surveying sector.

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

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| 1 Plan for vessel survey | <ul style="list-style-type: none">1.1 Range of commercial vessels that may be surveyed or inspected are identified and survey regime for each is accurately documented1.2 Hull shapes of typical commercial vessels are identified and verified for accuracy with surveyor1.3 Type of survey to be carried out is accurately identified and basic survey plan is developed |
| 2 Identify and explain structural components and materials | <ul style="list-style-type: none">2.1 Types, properties and application of common materials used in construction of typical commercial vessels are identified and noted in survey plan2.2 Basic structural components used on typical commercial vessels are correctly identified and noted in survey plan2.3 Inspection requirements for materials and components are documented and verified with surveyor |
| 3 Identify issues relating to vessel water and weather tight integrity | <ul style="list-style-type: none">3.1 Range and types of deterioration that affect fitness for purpose of a vessel are identified and confirmed with surveyor3.2 Preservation and corrosion control methods to maintain fitness for purpose are outlined and confirmed with surveyor3.3 Deterioration of vessel hull or structure is accurately identified either in water or on slipway3.4 Typical requirements concerning watertight and weather tight structural integrity of vessels are identified and confirmed with surveyor |
| 4 Determine vessel reporting requirements | <ul style="list-style-type: none">4.1 Need for vessel to be fit for its intended purpose is outlined and where questionable, is reported to relevant personnel4.2 Condition of vessel and related action is communicated clearly and concisely with others4.3 Mandatory and regulatory reporting requirements in relation to general work practices are followed |

Required Skills and Knowledge

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

Required Skills:

- Communicate effectively verbally and in writing when describing and reporting condition and fitness for purpose of commercial vessels
- Follow required:
 - work health and safety (WHS)/occupational health and safety (OHS) procedures and precautions when monitoring condition and fitness for purpose of commercial vessels
 - work schedules according to organisational requirements
- Read, interpret and apply instructions, stability book, vessel plans and specifications relevant to inspecting condition and fitness for purpose of commercial vessels
- Recognise routine indicators of deterioration when inspecting condition and fitness for purpose of commercial vessels
- Use technical terms related to vessel construction, components and material
- Work under supervision of a marine surveyor

Required Knowledge:

- Applicable commonwealth, state/territory legislation, regulations, standards, codes of practice and established safe practices relevant to full range of processes for conducting a survey for commercial vessels
- Causes and indicators of vessel deterioration
- Construction, layout and subdivision requirements of a range of different commercial vessels
- Corrosion and deterioration control measures including surface preparation and coatings
- Methods for determining fitness for purpose of commercial vessels
- Principal stresses that act on structure of commercial vessels
- Properties and application of materials used in constructing commercial vessels
- WHS/OHS legislation, regulations, codes of practice, standards, policies and procedures

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:

- developing effective planning documents
- providing the required amount of detail in reports
- providing accurate and reliable information.

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 identifying factors that affect fitness for purpose of a commercial 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 identifying factors that affect fitness for purpose of a commercial vessel
- direct observation of the candidate applying relevant 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.

Commercial vessels must include:

- Vessels defined as commercial in Marine Safety (Domestic Commercial Vessel) National Law

Common materials may include:

- Aluminium
- Ferro cement
- Fibre composites
- Fibre reinforced plastic
- Plywood
- Steel
- Timber

Components may include:

- Bulk heads
- Collision bulkheads
- Deck
- Deck beams
- Deck plating
- Hatches and hatchways
- Hull
- Keel
- Portholes
- Propellers
- Rudders
- Stem and stern
- Stringers
- Strakes and chines
- Thrusters
- Ventilators

Range and types of deterioration may include:

- Dissimilar metals
- Fungal attack
- Insect attack
- Metal fatigue and corrosion
- Osmosis

Preservation and corrosion control methods may include:

- Fendering and insulation
- Design
- Preservation of timber:
 - painting
 - oiling
 - varnishing

- Preservation of metals:
 - sacrificial anodes
 - anti-corrosive paints
 - Earthing and bonding
 - Impressed current systems
- Relevant personnel may include:
- Delegates of the national regulator
 - Owners and operators of commercial vessels

Unit Sector(s)

Not applicable.

Competency Field

Marine Surveying