



Australian Government

MARM4002A Assist in the survey of commercial vessels

Release 1

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Modification History

Release 1

This is the first release of this unit.

Unit Descriptor

This unit involves the skills and knowledge required to assist an accredited surveyor in the survey of commercial vessels. It covers the requirements necessary to effectively plan, monitor and implement a marine survey for a range of commercial vessels. The unit includes evaluating survey and reporting outcomes.

Application of the Unit

This unit applies to people working in the maritime industry as a marine surveyor assistant and forms part of requirements for the Certificate IV in Domestic Commercial Vessel Survey.

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 a marine survey for a commercial vessel | <ul style="list-style-type: none">1.1 Applicable work health and safety (WHS)/occupational health and safety (OHS), environmental, legislative and organisational requirements relevant to conducting marine surveys for commercial vessels are identified and implemented1.2 Environmental awareness issues are considered according to relevant legislation, regulations and site specific requirements1.3 Survey purpose, scope and procedures are identified and checked with appropriate personnel as required1.4 Relevant information and documentation is obtained, interpreted and verified with surveyor for impact on current survey1.5 Survey tools, equipment and personnel requirements are coordinated, scheduled and confirmed with surveyor1.6 Permit or licence requirements are identified and organised according to organisational requirements1.7 Survey is planned, scheduled and communicated to relevant personnel |
| 2 Observe and assist with conducting and monitoring survey | <ul style="list-style-type: none">2.1 Survey plan is verified with surveyor2.2 Consultation with relevant personnel is carried out during survey activity as required2.3 Survey procedures are monitored to ensure required survey outcome is achieved2.4 Survey plan is modified as required in response to equipment, personnel, site condition changes and environmental requirements, and is verified with surveyor2.5 Regular communication with relevant personnel is maintained to ensure continuous workflow and progress |
| 3 Finalise survey | <ul style="list-style-type: none">3.1 Relevant personnel are informed of results according to organisational requirements3.2 Required documentation is completed according to survey plan and is verified by surveyor3.3 Survey report is prepared in an appropriate format, processed according to organisational requirements and checked for accuracy by surveyor |

- 3.4 Survey results are communicated in an appropriate manner to owner/agent of vessel
 - 3.5 Survey data is archived according to organisational requirements
 - 3.6 Survey outcomes are recorded and reported according to site procedures and organisational requirements
- 4 Review survey**
- 4.1 Survey documentation and data are compiled and organised for review, and checked as accurate by surveyor
 - 4.2 Evaluation of survey plan and processes is undertaken and documented for use in reviewing and revising future surveys
 - 4.3 Improvements or recommended actions arising from survey plan evaluation are signed off by surveyor, and recorded and reported according to organisational requirements

Required Skills and Knowledge

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

Required Skills:

- Accept and act on feedback
- Accurately interpret numerical data required as part of survey processes
- Coordinate and schedule tools, equipment and personnel requirements appropriate to survey procedures
- Document suitable checking and survey procedures
- Elicit information from a variety of sources
- Estimate, measure and calculate time required to complete tasks
- Identify problems and arrange appropriate corrective action
- Interpret and accurately apply information from legislation, regulations and codes of practice
- Interpret, apply and convey information verbally, in writing and diagrammatically
- Maintain documentation
- Observe situations and analyse information
- Prepare interview documentation using accurate expression and appropriate level formality in structure and format
- Read and interpret:
 - plans accurately
 - survey documentation and data
- Record and report workplace information
- Use and maintain relevant tools, equipment and materials
- Use appropriate communication and interpersonal techniques with colleagues and people external to the organisation
- Use computers for word processing and manipulation of statistical data
- Use critical analysis, evaluation and deductive reasoning
- Work safely and continually review changing work environment
- Work under supervision of a marine surveyor
- Write reports using appropriate formats

Required Knowledge:

- Applicable commonwealth, state/territory legislation, regulations, codes of practice, standards, and established safe practices relevant to conducting a survey for commercial vessels
- Appropriate mathematical procedures for estimating and measuring, including calculating time to complete tasks

- Environmental protection requirements, including safe disposal of waste and compliance with marine environment protection legislation
- Established communication channels and protocols
- Legal and organisational requirements for documentation
- Organisational policy, procedures, guidelines and protocols
- Own and others areas of responsibility
- Permit, licensing and certification requirements required by maritime industry authorities
- Procedures for recording and reporting information
- Purposes of surveys including statutory, trade, insurance, sale and purchase
- Research and sampling techniques
- Responding to diversity
- Responses to non-compliance
- Risk management
- Security storage of evidence/information
- Scope, depth and frequency of marine surveys
- Survey procedures
- Types of tools and equipment, and procedures for their safe use and maintenance
- 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:

- communicating effectively and following safe work practices while assisting with a marine survey
- assisting in the implementation of a survey plan for a commercial vessel in at least three different survey purpose contexts
- developing effective planning documents
- providing high quality reports
- ensuring high level of detail in recordkeeping
- performing accurate and reliable calculations.

Context of and specific

Performance is demonstrated consistently over time and in a

resources for assessment

suitable range of contexts.

Resources for assessment include access to:

- industry-approved marine operations site where assisting in the survey of commercial vessels 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 assisting in the survey of commercial vessels
- direct observation of the candidate applying relevant WHS/OHS requirements and work practices.

Guidance information for assessment

Holistic assessment with other units relevant to the industry 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.

WHS/OHS requirements must include:	• Atmospheric monitoring • Elimination of hazardous materials and substances • Fatigue management • First aid equipment • Hazard and risk control • Manual handling including shifting, lifting and carrying • Personal protective equipment and clothing • Safety data sheets (SDS)/material safety data sheets (MSDS) • Safety equipment • Site specific and/or organisational requirements
Environmental requirements must include:	• Legislation • Organisational policies and procedures • Site specific and/or organisational requirements • Workplace practices
Legislative requirements must include:	• Applicable sections of Marine Safety (Domestic Commercial Vessel) National Law • National Standard for Commercial Vessels (NSCV) • State/territory legislation, guidelines and handbooks applicable to safe construction, modification and operation of commercial vessels • USL Code • WHS/OHS Act
Organisational requirements must include:	• Anti-discrimination • Award and enterprise agreements • Code of conduct • Confidentiality and privacy • Environment • Equal opportunity • Industrial relations • Professional indemnity and public liability • Record management systems and archiving • Relevant industry codes of practice • WHS/OHS
Commercial vessels must include:	• Vessels defined in Marine Safety (Domestic Commercial Vessel) National Law
Environmental awareness	• Asbestos

issues must include:	• Bilge • Blasting • Coatings • Fluids identified and otherwise • Exhaust • Garbage • Noise • SDS/MSDS • Sewages
Survey purpose must include:	• Initial and periodic surveys of domestic commercial vessels
Survey scope must include:	• National Standards for Administration of Marine Safety
Survey procedures must include:	• Emergency • Evacuation • Handling • Observation • Organisational guidelines and code of conduct • Safety
Relevant information and documentation may include:	• Case files/incident reports • Certificates of survey, operation • Checklists • Deck and engine logs • Details of survey location • Forms (such as application forms, notification forms) • Insurance certificates • Licence or permit requirements • Notices (such as seizure notice, infringement notice) • Operating manuals and owners instructions • Plans and charts • Previous surveys • Safety management system • Ship log books and other recordkeeping instruments • Vessel Stability Book
Survey tools, equipment may include:	• Barcol hardness tester • Boroscope • Communication equipment: • internet connection • mobile phone • Drill, hammer/welder's hammer, screwdriver, small mallet • Entry authority

	• Hydrometer • ICT equipment • Labels • Light meters • Mirror • Moisture meter • Noise meter • Personal protective equipment (such as respirators, gloves, overalls, boots, hearing protection, goggles, masks) • Photographs • Pocket calculator • Recording equipment: • camera • dictaphone • notebook • Scraper • Silver chloride reference cell • Sounding tapes • Tape measure/measuring wheel • Thermography • Thermometers • Ultrasonics
Relevant personnel may include:	• Crew • Manager of private survey company • Owners or owner representatives of vessels and/or charters • Port authorities • Representatives of: • classification societies • government • law firm • protection and indemnity clubs • Stevedores • Work colleagues • Yard personnel
Required documentation must include:	Consideration of: • checklists • diaries • legislative requirements • logs • organisational requirements

- survey purpose
 - technical evaluations
 - type of vessel to be surveyed
- Survey report may include:
- Advice given
 - Costs
 - Data analysis
 - Difficulties or issues faced
 - Documents copied
 - Measurements recorded
 - Photographs
 - Recommendations for future work results
 - Test results

Unit Sector(s)

Not applicable.

Competency Field

Marine Surveying