



Australian Government

MARM3004A Work in the marine surveying sector

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 work in the marine surveying sector. It includes identifying and accessing relevant industry standards and regulations for conducting surveys of domestic commercial vessels. It also looks at the role and legal responsibilities of a marine surveyor for domestic commercial vessels, the survey task and the statutory requirements for surveying commercial vessels.

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

- | | |
|---|---|
| 1 Scope framework for marine surveys | 1.1 International and national authorities that govern the maritime industry are identified
1.2 Standards, legislation and regulations applicable to marine surveyor and marine surveying tasks for commercial vessels are identified and accessed
1.3 Standards, legislation and regulations applicable to marine environment protection and its relation to marine surveys and inspections are identified and accessed
1.4 Range of clients and stakeholders who would require marine surveyor and/or inspector services are identified
1.5 Legal standing of marine survey report is explained
1.6 Legal and/or financial implications for inaccurate reporting of marine survey are explained |
| 2 Clarify areas of responsibility for marine surveyors | 2.1 Range of services provided by marine surveyors is outlined
2.2 International and national conventions, laws and codes of practice that govern and regulate marine surveys of commercial vessels are identified
2.3 Behavioural characteristics, ethics and personal conduct required of a marine surveyor are explained |
| 3 Determine requirements for conducting commercial vessel survey | 3.1 Different types of marine surveyors and their roles are accurately defined
3.2 Terms ‘survey’ and ‘audit’ are accurately explained in relation to commercial vessel survey
3.3 Purpose and range of commercial vessels surveys is accurately outlined |
| 4 Scope survey process under supervision | 4.1 Objectives, principal work activities, costs and constraints are identified and explained
4.2 Relevant standards, legislation and regulations are defined in relation to conducting commercial vessel marine surveys
4.3 Procedures and processes for collecting information when conducting a survey are outlined
4.4 Importance of communicating with others is explained and implemented |

- 4.5 **Tools and equipment** required to conduct a range of different marine surveys are identified
- 4.6 Relevant **survey** and **supporting documents** related to type of survey are identified and accessed
- 4.7 Process of gathering relevant information through observation is outlined
- 4.8 Importance of accurate recording of information and events during and after a survey is explained
- 4.9 Requirements for use of verified factual information when making recommendations are identified
- 5 **Identify scope of surveyor behavioural conduct and ethics**
 - 5.1 Behavioural characteristics and personal conduct required of a marine surveyor are outlined
 - 5.2 Conflicts of interest and other vested interests that would affect survey outcome and/or report are identified and resolved with surveyor
 - 5.3 Strategies to deal effectively with conflicts of interest are applied
 - 5.4 Risks related to possible confrontations and need for effective risk management techniques are identified and discussed with surveyor
- 6 **Outline requirements of an effective survey report**
 - 6.1 Appropriate formats for a range of different survey reports are identified
 - 6.2 Means of presenting survey report to a range of stakeholders are explained
 - 6.3 Reports are reviewed by **relevant personnel** and achievement of document objectives and requirements are outlined
 - 6.4 Security of information and privacy requirements are identified

Required Skills and Knowledge

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

Required Skills:

- Access current legislation, marine orders, standards and information relevant to marine surveying sector
- Accurately complete relevant documentation and reports within own scope of responsibility
- Accurately operate technical and electronic equipment
- Communicate effectively verbally and in writing
- Develop a rapport with colleagues and people external to the organisation
- Identify and apply appropriate conduct and ethical behaviour
- Resolve conflict
- Use a range of communication techniques such as establishing rapport, listening, probing, reflecting, negotiation, conflict resolution
- Work under supervision of a marine surveyor

Required Knowledge:

- Domestic commercial vessel operations
- Effective listening and communication techniques
- Equal employment opportunity, equity and diversity principles
- Government legislation and regulations relating to:
 - accepted codes of behaviour/codes of practice
 - combined Uniform Shipping Laws (USL) Code and National Standard for Commercial Vessels (NSCV)
 - environmental protection
 - load lines
 - Marine Safety (Domestic Commercial Vessel) National Law
 - International Convention for the Prevention of Pollution from Ships (MARPOL) and safety of life at sea (SOLAS) and how they apply to survey tasks
 - work health and safety (WHS)/occupational health and safety (OHS)
- IMO Conventions and Codes, including Australian Maritime Safety Authority (AMSA) Marine Orders and how they apply to survey purpose
- Industry specific codes of conduct and ethics
- Legal requirements relating to recording, security and privacy of information
- Organisational policies and guidelines relating to interviews and information gathering prior to and during the survey
- Range of different survey types for commercial vessels

- Reporting requirements including appropriate format and content
- Risks related to marine surveying tasks
- Role of surveyor
- Statutory survey schedules
- Tools required for different survey types
- WHS/OHS requirements and safe 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:

- ensuring currency of relevant legislative and regulatory knowledge
- effectively liaising with internal and external authorities and/or agencies.

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 working in the marine surveying sector 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 working in the marine surveying sector
- 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.

Authorities may include:	• AMSA and their delegates • Workplace and or industry health and safety committees
Standards may include:	• National Standard for the Administration of Marine Safety (NSAMS) • NSCV/USL Code • WHS/OHS standards
Legislation may include:	• Government legislation and regulations relating to: • environmental protection • maritime • international legislation/codes of behaviour • Marine Safety (Domestic Commercial Vessel) National Law • Navigation Act • WHS/OHS legislation, regulations, codes of practice
Commercial vessels may include:	• Vessels identified as commercial vessels in national law
Clients and stakeholders may include:	• Classification societies • Environmental agencies/authorities • Government bodies • Insurers and financiers • Lawyers • Owners and operators of vessels and/or charters • Port authorities • Salvage associations
International and national conventions, laws and codes of practice may include:	• International convention: • collision regulations • load lines • maritime labour convention (MLC) • MARPOL • SOLAS • Standards of Training, Certification & Watchkeeping (STCW) • Relevant maritime legislation and regulations • Relevant WHS/OHS legislation and policies
Types of marine surveyors may	• Classification society (class)

- include:
- Government (statutory)
 - Independent (private)
 - Insurance company
- Purpose may include:
- Damage or accident, survey or investigation assistance
 - Fitness of vessel and/or crew for its purpose
 - MLC
 - Vessel related surveys for:
 - compass adjustment
 - radio surveys
 - hull/machinery/safety equipment
 - load line
- Costs may include:
- Associated costs such as travel, accommodation
 - Conducting the survey
 - Preparation time for the survey
 - Writing the survey
- Constraints may include:
- Geographical
 - Inclement weather
 - Legal
 - Timeframes
 - WHS/OHS risks
- Processes for collecting information may include:
- Gathering relevant facts
 - Maintaining case files
 - Observing
 - Obtaining linear measurement
 - Reviewing supporting documentation
 - Sampling
 - Specimen collection
 - Taking photographs
- Communicating may include:
- Active listening
 - Constructive feedback
 - Control of tone of voice
 - Questioning to clarify and confirm understanding
 - Using language and concepts appropriate to the individual
 - Using open and enquiring questions
 - Using positive, confident and cooperative language
 - Verbal and non-verbal language
- Tools and equipment may include:
- Business technology, internet connection, sounding tapes
 - Communication equipment

- Drill, hammer/welder's hammer, draft survey hydrometer, screw driver
- Entry authority
- Hydrometer, thermometers, scraper
- Labels, plastic sampling bags, sampling equipment
- Mirror, small mallet
- Notebook
- Personal protective equipment (respirators, gloves, overalls, boots, hearing protection, goggles, masks)
- Recording equipment, Dictaphone, camera, mobile phone, pocket calculator
- Satellite imagery, photographs
- Storage equipment/facilities
- Tape measure/measuring wheel

Survey documents may include:

- Checklists
- Guidelines
- Relevant legislation and extracts from standards

Supporting documents may include:

- Case files/incident reports
- Certificates of survey, operation, registration
- Commercial documentation
- Deck and engine logs
- Forms (such as application forms, notification forms)
- Nautical charts and publications
- Notices (such as seizure notice, infringement notice)
- Operating manuals and owner instructions
- Plans
- Previous surveys
- Safety management system
- Ship log books and other recordkeeping instruments
- Vessel stability book
- Voyage details, stow plans and manifest

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

- Salvage associations
- Stevedores
- Work colleagues

Unit Sector(s)

Not applicable.

Competency Field

Marine Surveying