



Australian Government

MARF048 Plan marine towage operations

Release: 1

MARF048 Plan marine towage operations

Modification History

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

Application

This unit involves the skills and knowledge required to plan marine towage operations and develop a marine towage plan.

This unit applies to people working in the maritime industry in the capacity of:

- Engineer
- Master.

Before undertaking this unit, persons will need to have obtained:

- MARSS00033 Safety Training Certification Skill Set, or equivalent units of competency, or relevant Australian Maritime Safety Authority (AMSA) certificate of competency,

or

- MARSS00008 Shipboard Safety Skill Set, or equivalent units of competency, or relevant AMSA certificate of competency.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

F - Operational Quality and Safety

Unit Sector

Not applicable

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1 Review marine towage documentation

- 1.1** Towage information, including certificates, contracts, permits, surveys and insurance, are confirmed as being current and appropriate for marine towage operations
- 1.2** Consent for marine towage operations from owner/owner representative and/or port authority and/or AMSA is confirmed

2 Determine marine towage operations

- 2.1** Size and type of the object to be towed and any special hazards and limitations of marine towage operations are determined
- 2.2** Suitability of the towing vessel is determined and takes into consideration vessel size, manning requirements and bollard pull
- 2.3** Suitability of towage arrangements, techniques and configurations are determined
- 2.4** Suitability of towage machinery, gear, equipment to meet contingency and towing operations are determined
- 2.5** Amount and type of towage gear and equipment is evaluated to determine if gear and equipment sufficiently meets towage operations or additional requirements are to be sourced
- 2.6** Suitability of contingency plans for towage operations are determined, including requirements and sequence of plans to be actioned
- 2.7** Marine towage plan and relevant documentation is amended to meet marine towage operations in accordance with standard operating procedures (as required)
- 2.8** Factors effecting passage plan are determined and amended in accordance with standard operating procedures (as required)

3 Determine pre-operational requirements of marine towage operations

- 3.1** Hazards are identified, risks assessed, and hazard control measures are determined in accordance with marine towage operations
- 3.2** Condition and functionality of towage equipment, gear and machinery are determined in accordance with

marine towage operations

- 3.3 Manning requirements are determined, duties of crew are allocated, and relevant documentation is made available to crew to complete tasks and work requirements in accordance with marine towage operations
- 3.4 Operational personnel are briefed on proposed towage plan

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the MAR Maritime Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This is a new unit. No equivalent unit.

Links

Companion Volume Implementation Guides are found in VETNet -

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

Assessment Requirements for MARF048 Plan marine towage operations

Modification History

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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 relevant legislative and regulatory requirements in accordance with marine towage operations
- calculating fuel, food and water requirements in accordance with marine towage operations
- determining factors when applying risk assessment and hazard control strategies in accordance with Safety Management System (SMS)
- determining manning requirements and allocation of crew tasks in accordance with marine towage operations
- determining requirements for assessing condition and functionality of towage equipment, gear and machinery in accordance with marine towage operations
- determining the handling of towage equipment safely, including ropes and wires
- reading and interpreting written information needed to review marine towage documentation in accordance with marine towage operations
- recording the details of the towage from the time the operation is started until the towage is completed in accordance with workplace procedures
- reporting and/or rectifying hazards or safety incidents in accordance with workplace procedures
- reviewing and amending, as required, marine towage documentation, including marine towage plan and passage plan
- reviewing suitability of towing vessel, towage arrangements, contingency plans, towage gear, equipment and machinery in accordance with marine towage operations
- using personal protective equipment (PPE) in accordance with workplace procedures
- working safely and collaboratively with others in accordance with safe working practices.

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:

- direction of approach techniques in varying conditions

- documentation used when planning towage operations, including:
 - contracts
 - insurance
 - surveys:
 - off-hire
 - on-hire
 - tow gear
 - towage certificates
- environmental conditions, including:
 - current
 - displacement
 - drift of the tow
 - tidal streams
 - water depths
 - windage
- estimating size, shape and special requirements of marine towage operations
- evaluating contingency plans and procedures and responding to emergency situations, including:
 - adverse weather conditions
 - collision
 - fire
 - girding risk
 - loss of steerage
 - person overboard
 - pollution
 - propulsion failure
 - towline failure
 - working line failure
- extra loads of vessel
- factors to be taken into consideration when developing and contributing to towage plan, including:
 - suitability of towing vessel and object to be towed,:
 - bollard pull
 - cargo
 - cargo securing arrangements
 - characteristics of the cargo (e.g. liquification)
 - day or night towage operations
 - manning requirements
 - manoeuvrability of vessel under tow
 - shape

- size
- special requirements
- stability
- strong points of object being moved
- towage configurations
- towage gear, equipment and machinery including:
 - amount and type of gear, equipment and machinery required
 - condition and functionality
- vessel strong points to be used for emergency towing
- fundamentals of domestic and international conventions, regulations and legislation relevant to planning marine towage operations, including:
 - Convention of the International Regulations for Preventing Collisions at Sea (COLRegs)
 - International Convention for the Prevention of Pollution from Ships (MARPOL)
 - International Convention for the Safety of Life at Sea (SOLAS)
 - International Maritime Dangerous Goods (IMDG) Code
 - Marine Orders
 - state/territory and port regulations
 - survey and classifications
- identifying, selecting and using relevant equipment processes and procedures
- lines, types of lines and loads, including:
 - appropriate length for towline
 - depth of the catenary
 - working load limit (WLL)/safe working load (SWL)
- personal protective equipment (PPE), including:
 - immersion suits
 - lifebuoy
 - lifejackets
 - personal locating beacons (PLB)
 - portable lights
 - radiocommunication equipment
 - wet weather protection
- recording duration of towing operation
- the company SMS and standard operating procedures for marine towage operations, including:
 - obligation to formally advise the company if the towage operations is non-conforming with the SMS system
- towage equipment, including:
 - emergency release system
 - emergency towline
 - emergency towing equipment

- hydraulic systems
- ropes
- shackles
- towage fittings
- towline attachment
- towing winch brakes
- winches
- wires
- towage information, including:
 - insurance/underwriter permit
 - port clearance
 - scope and requirements information
 - surveyors permit
- towage methods, including:
 - hiping up
 - methods of connecting tow
 - operations with multiple towing vessels
 - selection of towage method in relation to conditions
 - towing across bars
- vessel stability book.

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.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Resources for assessment must include access to:

- a vessel capable of conducting marine towage operations
- applicable documentation, such as legislation, regulations, codes of practice, workplace procedures and operational manuals
- tools, equipment, machinery, materials and relevant PPE currently used in industry.

Links

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