



Australian Government

MARA017 Maintain seaworthiness of the ship (ship stability)

Release: 1

MARA017 Maintain seaworthiness of the ship (ship stability)

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 determine the stability and trim of a ship to ensure that stability conditions of ship comply with intact stability criteria under all conditions of loading, discharge and transfer of cargo.

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

- Master of a commercial vessel less than 80 metres in length within the exclusive economic zone (EEZ)
- Master of a commercial vessel less than 500 gross tonnage (GT)
- Watchkeeper Deck.

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit.

- Regulatory requirements include STCW International Maritime Organization (IMO) model course competencies and areas of knowledge, understanding and proficiency, together with the estimated total hours required for lectures and practical exercises. Teaching staff should note that timings are suggestions only and should be adapted to suit individual groups of trainees depending on their experience, ability, equipment and staff available for training.

Near Coastal Qualifications:

- This unit is one of the requirements to obtain Australian Maritime Safety Authority (AMSA) certification as a Master less than 80 metres Near Coastal as defined in the Marine Order 505 (Certificates of competency - National Law) 2013.

Blue Waters Qualifications:

- This unit is one of the requirements to obtain AMSA certification as a Master of a commercial vessel less than 500 gross tonnage (GT) or Watchkeeper Deck and to meet regulatory requirements this unit must be delivered consistent with Marine Orders and with the relevant sections of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).

Pre-requisite Unit

Not applicable.

Competency Field

A – Handling Cargo and Vessel Stability

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Calculate stability

2 Manage weight distribution

PERFORMANCE CRITERIA

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

- 1.1 Ship stability data book is accessed and checked for endorsement
- 1.2 Sample worked data is interpreted to determine ship safety parameters
- 1.3 Transverse and longitudinal stability is accurately calculated using data extracted from the body of ship stability data book
- 1.4 Stability calculations are checked to ensure they correlate with data set out in ship stability book
- 1.5 Spurious or incorrect information is recognised and recalculated
- 1.6 Trim, draughts and list are adjusted, as required
- 1.7 Stability calculations are conducted at a time, frequency and scope appropriate to voyage
- 2.1 Stability calculations are used to plan weight distribution to ensure assigned load line conditions are not exceeded
- 2.2 Weight distribution is controlled to maintain ship within acceptable stability and stress limits for loading

- operation and at all stages of voyage
- 2.3** Appropriate action is taken when weight distribution is compromising ship safety
- 3 Maintain records of stability management**
- 3.1** Data and information related to stability management is accurately recorded
- 3.2** Data and information related to stability management is filed and stored according to organisational procedures

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.

Unit Mapping Information

This unit replaces and is equivalent to MARA005 Maintain vessel stability.

Links

Companion Volume implementation guide can be found in VetNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2>