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## **Minimum Requirements for Certification**

**according to a**

### **Minimum Standard of Competence**

**for Masters, Mates and Engine Operators on  
Traditional Ships of less than 500 Gross Tonnage  
based on the STCW Convention and the STCW 95 Code  
for seagoing vessels**

AVEC LE PATRONAGE DE L'AGENCE EUROPÉENNE POUR LA CULTURE (UNESCO)

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## Preface

This European minimum standard for the competence of crews in Traditional Ships is developed from the operational conditions in these ships with simple and traditional equipment and considers the special competence needed to handle them.

The standard follows the principle of equivalency (Article IX) in the sense of possible adoption of educational and training arrangements, including those involving seagoing service and shipboard organisation especially adapted to **the technical situation in special types of ships**. The adoption of equivalency in this sense acknowledges the fact that

- the majority of crews in Traditional Ships are not professional sailors but start their career on board these ships or as yachtsmen.
- Traditional Ships do generally not carry cargo.
- the main propulsion is given by sails or engines of historical value both demanding for a larger number of crews as ships for trading purposes with modern technique and crews reduced to a minimum.
- Ship operation is generally restricted to a season comprising the months between May and October.
- the cultivation of maritime tradition is to be comprised within the understanding of pleasure because it is not a primary consideration in commercial trades.

Certificates shall be issued in the sense of Regulation II / 3 number 7 :

The Administration, if it considers that a ship's size and the conditions of its voyage are such as to render the application of the full requirements of this regulation and section A-II/3 of the STCW Code unreasonable or unpractical, may to that extent exempt the master and the officer in charge of a navigational watch on such a ship or class of ships from some of the requirements, bearing in mind the safety of all ships which may be operating in the same waters.

Under this provision minimum requirements for certification and minimum standards of competence are developed for ships of smaller than 24 m in length of the hull, according to the "International Tonnage Certificate", and for ships exceeding this length, both distinguished by their engagement on near-coastal voyages and beyond that area.

The standard of competence for masters and mates on ships with less than 24 m of length of the hull shall follow the national requirements for the certification of yachtsmen, as already practised by many nations, and shall be adjusted to the STCW standard in safety requirements (section A-II/5 and A-II/7).

The standard of competence for masters and mates on ships of more than 24 m of length of the hull (section A-II/6) is based on section A-II/3 of the STCW Code and counts for the STCW standard in safety requirements. The standard is adapted to the knowledge and proficiency needed for watchkeeping and command on traditional ships, especially on sailing vessels. The minimum standard of certification for masters on ships not engaged on near-coastal voyages (section A-II/8) is adjusted by elements selected from the sections A-II/1 and A-II/2 of the STCW Code.

The standard of competence for engine operators (section A-III/5) is based on section A-III/1 of the STCW Code.



# Mandatory Minimum Requirements for Certification based on Regulation II/3 and III/1 of the STCW 95 Convention

## Master and Deck Department

### Ships engaged on near-coastal voyages

#### Section A-II/5

*Mandatory minimum requirements for certification of officers in charge of a navigational watch and masters on ships up to 24m length of the hull.*

#### OFFICER IN CHARGE OF A NAVIGATIONAL WATCH

##### Standard of competence

Every candidate for certification as officer in charge of a navigational watch shall:

1. be no less than 18 years of age
2. have completed :
  - 2.1. special training, including a period of appropriate seagoing service on board traditional ships (as required by the Administration).
  - 2.2. approved education and training and meet the standard of competence as a yachtskipper under a certification as recognised by the Administration.
3. meet the standards of competence as set out in the tables
  - A-VI/1-1 (Minimum standard of competence in personal survival techniques)
  - A-VI/1-3 (Minimum standard of competence in elementary first aid)
  - A-VI/1-4 (Minimum standard of competence in personal safety and social responsibilities)
4. have basic understanding in fire fighting and fire prevention.
5. meet the applicable requirements of the regulations in chapter IV STCW Convention, as appropriate, for performing designated radio duties in accordance with the Radio Regulations.

#### MASTER

##### Standard of competence

Every candidate for certification as master shall:

6. be not less than 20 years of age,
7. have approved a period of appropriate seagoing service as officer on board traditional ships (as required by the Administration) and
8. meet the standard of competence as set out in the tables
  - A-VI/1-2 (Minimum standard of competence in fire prevention and fire fighting)and
  - A-VI/2-1 (Minimum standard of competence in survival craft and rescue boats other than fast rescue boats)

**Section A-II/6**

*Mandatory minimum requirements for certification of officers in charge of a navigational watch and masters on ships of more than 24m length of the hull.*

**OFFICERS IN CHARGE OF A NAVIGATIONAL WATCH.**

## Standard of competence

1. Every candidate for certification shall:
  - .1 be no less than 18 years of age
  - .2 have approved seagoing service as required by the Administration on board traditional ships as part of an approved training programme which includes on – board training which is documented in an approved training record book. The approved on board training which is to be documented in an approved training record book may in addition to the seagoing service be performed during the winter season on ships laid up for maintenance and repair.
2. Every candidate for certification shall:
  - 2.1. be required to provide evidence of having received appropriate approved basic training or instructions in:
    - 2.1.1. personal survival techniques as set out in table A-VI/1-1,
    - 2.1.2. fire prevention and fire fighting as set out in table A-VI/1-2,
    - 2.1.3. elementary first aid as set out in table A-VI/1-3, and
    - 2.1.4. personal safety and social responsibilities as set out in tables A-VI/1-14.
3. Every candidate for certification shall:
  - 3.1. be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/6
  - 3.2. at least hold an appropriate certificate for performing VHF radio communication in accordance with the requirements of the Radio Regulations; and
  - 3.3. if designated to have primary responsibility for radio communications during distress incidents, hold an appropriate certificate issued or recognized under the provision of the Radio Regulations.
4. The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/6
5. The level of knowledge of the subjects listed in column 2 of table A-II/6 shall be sufficient to enable the candidate to serve in the capacity of officer in charge of a navigational watch on board a traditional ship.
6. Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-II/6.

## MASTER

### Standard of competence

1. Every candidate for certification shall:
  - .1 be no less than 20 years of age
  - .2 have approved seagoing service of not less than six months or three seasonal voyages, each voyage comprising a minimum of 40 days at sea, as officer of a navigational watch on board traditional ships.
  - .3 meet the requirements for an officer of a navigational watch on board traditional ships engaged on near-coastal voyages, and
  - .4 be required to provide evidence of knowledge and ability to carry out all the duties as master on board traditional ships engaged on near-coastal voyages
  
2. In addition every candidate for certification shall:
  - .1 meet the standards of competence as specified in table A-VI/2-1, minimum standard of competence in survival craft and rescue boats other than fast rescue boats,
  - .2 meet the standards of competence as specified in table A-VI/4-1, minimum standards of proficiency in medical first aid, and
  - .3 shall be required to show evidence of having received training or instruction in advanced fire fighting on board traditional ships.

## **Ships not engaged on near-coastal voyages**

### **Section A-II/7**

*Mandatory minimum requirements for certification of officers in charge of a navigational watch and masters on ships up to 24m length of the hull.*

#### **OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

##### **Standard of competence**

Every mate in charge of a navigational watch shall at least hold a certificate as a master for ships up to 24m length of the hull engaged on near-coastal voyages.

#### **MASTER**

##### **Standard of competence**

Every candidate for certification as master shall:

1. be not less than 20 years of age,
2. have approved a period of appropriate seagoing service on board traditional ships as required by the administration as officer in charge.
3. have completed approved education and training for basic understanding of celestial navigation and radar operation in accordance with section A-II/3 and
4. meet the standard of competence as set out in the tables
  - A-VI/1-2 (Minimum standard of competence in fire prevention and fire fighting)
  - A-VI/2-1 (Minimum standard of competence in survival craft and rescue boats other than fast rescue boats)
  - A-VI/4-1 (Minimum standard of proficiency in medical first aid)

## Section A-II/8

*Mandatory minimum requirements for certification of officers in charge of a navigational watch and masters on ships of more than 24m length of the hull.*

### OFFICERS IN CHARGE OF A NAVIGATIONAL WATCH.

#### Standard of competence

1. Every candidate for certification shall:
  - .1 be no less than 18 years of age
  - .2 have approved seagoing service as required by the Administration on board traditional ships as part of an approved training programme which includes on – board training which is documented in an approved training record book.  
The approved on board training which is to be documented in an approved training record book may in addition to the seagoing service be performed during the winter season on ships laid up for maintenance and repair.
2. Every candidate for certification shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/8, operational level.
3. The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/8, operational level.
4. The level of knowledge of the subjects listed in column 2 of table A-II/8 shall be sufficient to enable the candidate to serve in the capacity of officer in charge of a navigational watch on board a traditional ship.
5. Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-II/8, operational level.
6. In addition every candidate for certification shall:
  - .1 meet the standards of competence as specified in table A-VI/2-1, minimum standard of competence in survival craft and rescue boats other than fast rescue boats,
  - .2 meet the standards of competence as specified in table A-VI/4-1, minimum standards of proficiency in medical first aid, and
  - .3 shall be required to show evidence of having received training or instruction in advanced fire fighting on board traditional ships.

*MASTER*

## Standard of competence

1. Every candidate for certification shall:
  - .1 be no less than 20 years of age
  - .2 have approved seagoing service of not less than six months or three seasonal voyages, each voyage comprising a minimum of 40 days at sea, as officer of a navigational watch on board traditional ships. As a minimum half of the seagoing service shall been on board traditional ships not engaged on near - coastal voyages.
  - .3 meet the requirements for an officer of a navigational watch on board traditional ships engaged on near-coastal voyages, and
  - .4 be required to provide evidence of knowledge and ability to carry out all the duties as master on board traditional ships
2. Every candidate for certification shall be required to demonstrate the competence to undertake the tasks, duties and responsibilities listed in column 1 of table A-II/8, management level.
3. The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/8, management level.
4. The level of knowledge of the subjects listed in column 2 of table A-II/8 shall be sufficient to enable the candidate to serve in the capacity of officer in charge of a navigational watch on board a traditional ship not engaged on near – coastal voyages.
5. Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-II/8, management level.
6. In addition every candidate for certification shall meet the standards of competence as specified in table A-VI/4-2, minimum standards of proficiency for persons in charge of medical care on board ship.

*Revalidation of certificates*

Professional competence

- 1 Continued professional competence shall be established by:
  - .1 approved seagoing service on board traditional ships, performing functions appropriate to the certificate held, for a period required by the administration during the preceding five years; or
  - .2 having performed functions considered equivalent to the seagoing service required in paragraph 1.1, or
  - .3 one of the following:
    - .3.1 passing an approved test, or
    - .3.2 successfully completing an approved course, or
    - .3.3 having completed approved seagoing service on board traditional ships, performing functions appropriate to the certificate held, for a period as required by the administration in a supernumerary capacity or in a lower rank than that for which the certificate held is valid immediately prior to taking up the rank for which it is valid.
- 2 The refresher and updating courses required shall be approved and include changes in relevant national and international regulations concerning the safety of life at sea and the protection of the marine environment and take account of any updating of the standard of competence concerned.

**Table A-II/6 Specification of minimum standard of competence for officers in charge of a navigational watch and masters on traditional ships up to 500 Gross tonnage engaged on near - coastal voyages**

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for Demonstrating competence	Criteria for evaluating competence
<p>Plan and conduct a coastal passage and determine position</p>	<p>Navigation</p> <p>Ability to determine the ship's position by the use of:</p> <ul style="list-style-type: none"> <li>.1 landmarks</li> <li>.2 aids to navigation, including lighthouses, beacons and buoys</li> <li>.3 dead reckoning, taking into account winds, tides, currents and estimated speed</li> </ul> <p>Thorough knowledge of and ability to use navigational charts and publications, such as sailing directions, tide tables, notice to mariners, radio navigational warnings and ship's routing information.</p> <p>Passage planning in sailing ships under the prevailing regional and seasonal conditions and with respect to the type of sailing ship and its manoeuvring characteristics.</p> <p>Reporting in accordance with the Guidelines and Criteria for Ship Reporting Systems</p> <p><i>Note:</i> This item only required for certification as master</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> <li>.1 Approved in-service experience</li> <li>.2 approved training ship experience</li> <li>.3 approved simulator training, where appropriate</li> <li>.4 approved laboratory equipment training</li> </ul> <p>using: chart catalogues, charts including pilot charts, navigational publications, radio navigational warnings, sextant, azimuth mirror, electronic navigation equipment, echo-sounding equipment, compass</p>	<p>Information obtained from navigational charts and publications is relevant, interpreted correctly and properly applied</p> <p>The primary method of fixing the ship's position is the most appropriate to the prevailing circumstances and conditions</p> <p>The position is determined within the limits of acceptable instrument / system errors</p> <p>The reliability of the information obtained from the primary method position fixing is checked at appropriate intervals</p> <p>Calculations and measurements of navigational information are accurate</p> <p>Charts and publications selected are the largest scale on board suitable for the area of navigation and charts are corrected in accordance with the latest information available</p>

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for Demonstrating competence	Criteria for Evaluating competence
<p>Plan and conduct a coastal passage and determine position <i>(continued)</i></p>	<p><i>Navigational aids and equipment</i></p> <p>Ability to operate safely and determine the ship's position by use of all navigational aids and equipment commonly fitted on board the ships concerned</p> <p><i>Compasses</i></p> <p>Knowledge of the errors and corrections of magnetic compasses</p> <p>Ability to determine errors of the compass using terrestrial means, and to allow for such errors</p> <p><i>Meteorology</i></p> <p>Ability to use and interpret information obtained from shipborne meteorological instruments</p> <p>Knowledge of the characteristics of the various weather systems, reporting procedures and recording systems</p> <p>Ability to apply the meteorological information available</p>	<p>Assessment of evidence obtained from approved radar navigation simulator training</p>	<p>Performance checks and tests of navigation systems comply with manufacturer's recommendations. Good navigational practice and IMO resolutions on performance standards for navigational equipment</p> <p>Interpretation and analysis of information obtained from radar is in accordance with accepted navigational practice and takes account of the limits and accuracy levels of radar</p> <p>Errors in magnetic compasses are determined and applied correctly to courses and bearings</p> <p>Measurements and observations of weather conditions are accurate and appropriate to the passage</p> <p>Meteorological information is evaluated and applied to maintain the safe passage of the ship and in sailing ships with respect to sailing tactics and passage planning</p>

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for Demonstrating competence	Criteria for Evaluating competence
<p>Maintain a safe navigational watch</p>	<p>Watchkeeping</p> <p>Thorough knowledge of content, application and intent of the International Regulations for Preventing Collisions at Sea</p> <p>Knowledge of content of the Principles to be observed in keeping a navigational watch</p> <p>Use of routeing in accordance with the General Provisions on Ship's Routeing</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> <li>.1 approved in-service experience</li> <li>.2 approved training ship experience</li> <li>.3 approved simulator training, where appropriate</li> <li>.4 approved laboratory equipment training</li> </ul>	<p>The conduct, handover and relief of the watch conforms with accepted principles and procedures</p> <p>A proper look-out is maintained at all times and in conformity with accepted principles and procedures</p> <p>Lights, shapes and sound signals conform with the requirements contained in the International Regulations for Preventing Collisions at Sea and are correctly recognized</p> <p>The frequency and extent of monitoring of traffic, the ship and the environment conforms with accepted principles and procedures</p> <p>Action to avoid close encounters and collisions with other vessels is in accordance with the International Regulations for Preventing Collisions at Sea</p> <p>Decisions to adjust course and/or speed are both timely and in accordance with accepted navigation procedures</p> <p>A proper record is maintained of movements and activities relating to the navigation of the ship</p> <p>Responsibility for safe navigation is clearly defined at all times, including periods when the master is on the bridge and when under pilotage</p>

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for Demonstrating competence	Criteria for Evaluating competence
Respond to emergencies	<p>Emergency procedures, including:</p> <ul style="list-style-type: none"> <li>.1 precautions for the protection and safety of passengers in emergency situations</li> <li>.2 initial assessment of damage and damage control</li> <li>.3 action to be taken following a collision</li> <li>.4 action to be taken following a grounding</li> </ul> <p>In addition, the following material should be included for certification as master:</p> <ul style="list-style-type: none"> <li>.1 emergency steering</li> <li>.2 arrangements for towing and for being taken in tow</li> <li>.3 rescuing persons from the sea</li> <li>.4 assisting a vessel in distress</li> <li>.5 appreciation of the action to be taken when emergencies arise in port</li> </ul>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> <li>.1 approved in-service experience</li> <li>.2 approved training ship experience</li> <li>.3 approved simulator training, where appropriate</li> <li>.4 practical instruction</li> </ul>	<p>The type and scale of the emergency is promptly identified</p> <p>Initial actions and, if appropriate, manoeuvring are in accordance with contingency plans and are appropriate to the urgency of the situation and the nature of the emergency</p>
Respond to a distress signal at sea	<p>Search and rescue</p> <p>Knowledge of the contents of the IMO Merchant Ship Search, and Rescue Manual (MERSAR)</p>	<p>Examination and assessment of evidence obtained from practical instruction or approved simulator training, where appropriate</p>	<p>The distress or emergency signal is immediately recognized</p> <p>Contingency plans and instructions in standing orders are implemented and complied with</p>

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for Demonstrating competence	Criteria for Evaluating competence
<p>Manoeuvre the ship, including ship under sails and operate small ship power plant</p>	<p><i>Ship manoeuvring and handling</i></p> <p>Knowledge of factors affecting safe manoeuvring and handling, including rigging principles, interaction of forces in the rig and the sails</p> <p>Knowledge of ship handling under sails with respect to the type of rig, the type of sails and adoption of sail area to the prevailing conditions</p> <p>The operation of small ship power plants and auxiliaries</p> <p>Proper procedures for anchoring and mooring</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training, where appropriate</p>	<p>Safe operating limits of ship under sail</p> <p>Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres</p> <p>Adjustments made to the ship's Course and speed maintain safety of navigation</p> <p>Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times</p>
<p>Ensure compliance with pollution-prevention requirements</p>	<p><i>Prevention of pollution of the marine environment and anti-pollution procedures</i></p> <p>Knowledge of the precautions to be taken to prevent pollution of the marine environment and anti-pollution procedures</p> <p>Anti-pollution procedures and all associated equipment</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p>	<p>Procedures for monitoring shipboard Operations and ensuring compliance with MARPOL requirements are fully observed</p>
<p>Maintain seaworthiness of the ship</p>	<p><i>Ship stability</i></p> <p>Working knowledge of stability and trim, including principles of ship stability under sail</p> <p>Understanding of fundamental actions to be taken in the event partial loss of intact buoyancy</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p>	<p>Stability conditions comply with intact stability criteria under all conditions</p> <p>Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding And proficiency	Methods for Demonstrating competence	Criteria for Evaluating competence
<p>Maintain sea-worthiness of the ship <i>(continued)</i></p>	<p>Understanding of the fundamentals of watertight integrity</p> <p><i>Ship construction</i></p> <p>General knowledge of the principal structural members of a ship and the proper names for the various parts</p>	<p>.1 approved simulator training, where appropriate</p> <p>.2 approved laboratory equipment training</p>	
<p>Prevent, control and tight fires on board</p>	<p><i>Fire prevention-and fire-fighting appliances</i></p> <p>Knowledge of fire prevention</p> <p>Ability to organize fire drills</p> <p>Knowledge of classes and chemistry of fire</p> <p>Knowledge of fire-fighting system</p> <p>Understanding of action to be taken in the event of fire, including fires involving oil systems</p>	<p>Assessment of evidence obtained from approved fire-fighting training and instruction</p>	<p>The type and scale of the problem is promptly identified and initial actions conform with the emergency plans for the ship</p> <p>Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly</p> <p>The order of priority, and the levels and time – scale of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem</p>
<p>Operate life-saving appliances</p>	<p><i>Life saving</i></p> <p>Ability to organize abandon ship drills and knowledge of the Operation or survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, satellite EPIRBs, SARTs, immersion suits and thermal protective aids.</p> <p><u>Knowledge of survival at sea techniques</u></p>	<p>Assessment of evidence obtained from approved training and instruction</p>	<p>Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards</p>

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for Demonstrating competence	Criteria for Evaluating competence
Organize and manage the crew	Knowledge in integrating the persons on board into Ship organisation and Ship routine, especially in sailing ships		
Apply medical first aid on board ship	<p><i>Medical aid</i></p> <p>Practical application of medical guides and advice by radio, including the ability to take effective action based on such knowledge in the case of accidents or illness that are likely to occur on board ship</p>	Assessment of evidence obtained from approved training and instruction	The identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions concerning safety of life at sea and protection of the marine environment	Assessment of evidence obtained from examination or approved training	Legislative requirements relating to safety of life at sea and protection of the marine environment are correctly identified

**Table A-II/8 Specification of minimum additional standard of competence for officers in charge of a navigational watch and for masters on traditional ships up to 500 Gross tonnage not engaged on near - coastal voyages**

**Function: Navigation at the operational level**

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for Demonstrating competence	Criteria for evaluating competence
Plan and conduct a passage and determine position	<p><i>Celestial navigation</i></p> <p>Ability to use celestial bodies to determine ship's position</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p>	<p>The position is determined within acceptable limits</p> <p>Calculations and measurements of navigational information are accurate</p>
Use the Standard Marine Navigational Vocabulary and use English in written and oral form	<p><i>English language</i></p> <p>Adequate knowledge of the English language to enable the officer to use charts and other publications, to understand meteorological information and messages concerning ship's safety and operation, to communicate with other ships and coast stations and to perform the officer's duties also with a multilingual crew, including the ability to use and understand the Standard Marine Navigational Vocabulary</p>	<p>Examination and assessment of evidence obtained from practical instructions</p>	<p>Calculations and measurements of navigational information are accurate</p>
Transmit and receive information by visual signaling	<p><i>Visual signaling</i></p> <p>Ability to use the International Code of Signals</p>	<p>Assessment of evidence obtained from practical instruction</p>	<p>Communications within the operator's area of responsibility are consistently successful</p>

**Function: Navigation at the management level**

<b>Column 1 Competence</b>	<b>Column 2 Knowledge, understanding and proficiency</b>	<b>Column 3 Methods for Demonstrating competence</b>	<b>Column 4 Criteria for Evaluating competence</b>
Plan a voyage and conduct navigation	<p>Voyage planning and navigation for all conditions by acceptable methods of plotting ocean tracks, taking into account, e.g. :</p> <ul style="list-style-type: none"> <li>.1 restricted waters</li> <li>.2 meteorological conditions</li> <li>.3 ice</li> <li>.4 restricted visibility</li> <li>.5 traffic Separation schemes</li> <li>.6 areas of extensive tidal effects</li> </ul> <p>Voyage planning in sailing ships under the prevailing regional and seasonal meteorological conditions and in context with sailing ship pilots and routeing charts</p> <p>Reporting in accordance with the Guidelines and Criteria for Ship Reporting Systems</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> <li>.1 approved in-service experience</li> <li>.2 approved simulator training, where appropriate</li> <li>.3 approved laboratory equipment training</li> </ul> <p>using: chart catalogues, charts including pilot charts, navigational publications and ship</p>	<p>The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage</p> <p>The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications</p> <p>Positions, courses, distances and time calculations are correct within the accepted accuracy standards for navigational equipment</p> <p>All potential navigational hazards are accurately identified</p>
Determine and allow for compass errors	Ability to determine and allow for errors of the magnetic compass	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> <li>.1 approved in-service experience</li> <li>.2 approved simulator training, where appropriate</li> <li>.3 approved laboratory equipment training</li> </ul> <p>using: celestial observations and terrestrial bearings</p>	The method and frequency of checks for errors of magnetic compasses ensures accuracy of information

**Function: Navigation at the management level (continued)**

<b>Column 1 Competence</b>	<b>Column 2 Knowledge, understanding and proficiency</b>	<b>Column 3 Methods for Demonstrating competence</b>	<b>Column 4 Criteria for Evaluating competence</b>
<p>Forecast weather and oceanographic conditions</p>	<p>Ability to understand and interpret a synoptic chart and to forecast area weather, taking into account local weather conditions and information received by weather fax</p> <p>Knowledge of the characteristics of various weather systems, including tropical revolving storms and avoidance of storm centres and the dangerous quadrant</p> <p>Knowledge of ocean current Systems</p> <p>Ability to calculate tidal conditions</p> <p>Use all appropriate navigational publications on tides and currents</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved laboratory equipment training</p>	<p>The likely weather conditions predicted for a determined period arc based on all available information</p> <p>Actions taken to maintain safety of navigation minimize any risk to safety of the ship</p> <p>Reasons for intended action arc backed by statistical data and observations of the actual weather conditions</p>
<p>Respond to navigational emergencies</p>	<p>Precautions when beaching a ship</p> <p>Action to be taken if grounding is imminent, and after grounding</p> <p>Refloating a grounded ship with and without assistance</p> <p>Action to be taken if collision is imminent and following a collision or impairment of the watertight integrity of the hull by any cause</p> <p>Assessment of damage control</p> <p>Emergency steering</p> <p>Emergency towing arrangements and towing procedures</p>	<p>Examination and assessment of evidence obtained from practical instructions, in-service experience and practical drills in emergency procedures</p>	<p>The type and scale of any problem is promptly identified and decisions and actions minimize the effects of any malfunction of the ship's systems</p> <p>Communications arc effective and comply with established procedures</p> <p>Decisions and actions maximize safety of persons on board</p>

**Function: Controlling the operation of the ship and care for persons on board at the management level**

<b>Column 1 Competence</b>	<b>Column 2 Knowledge, understanding and proficiency</b>	<b>Column 3 Methods for Demonstrating competence</b>	<b>Column 4 Criteria for Evaluating competence</b>
<p>Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea and the protection of the marine environment</p>	<p>Knowledge of international maritime law embodied in international agreements and conventions</p> <p>Regard shall be paid especially to the following subjects:</p> <ul style="list-style-type: none"> <li>.1 certificates and other documents required to be carried on board ships by international conventions, how they may be obtained and their period of validity</li> <li>.2 responsibilities under the relevant requirements of the International Convention for the Safety of Life at Sea</li> <li>.3 responsibilities under the International Convention for the Prevention of Pollution from Ships</li> <li>.4 maritime declarations of health and the requirements of the International Health Regulations</li> <li>.5 responsibilities under the international instruments affecting the safety of the ship, passengers and crew</li> <li>.6 methods and aids to prevent pollution of the marine environment by ships</li> <li>.7 national legislation for implementing international agreements and conventions</li> </ul>	<p>Examination and assessment of evidence obtained from practical instructions and from one or more of the following:</p> <ul style="list-style-type: none"> <li>.1 approved in-service experience</li> <li>.2 approved training ship experience</li> </ul>	<p>Procedures for monitoring operations and maintenance comply with legislative requirements</p> <p>Potential non-compliance is promptly and fully identified</p> <p>Planned renewal and extension of certificates ensures continued validity of surveyed items and equipment</p>

**Function: Controlling the operation of the ship and care for persons on board at the management level (continued)**

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for Demonstrating competence	Criteria for Evaluating competence
<p>Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems</p>	<p>Organization of fire and abandon ship drills</p> <p>Maintenance of operational condition of life-saving, fire-fighting and other safety systems</p> <p>Actions to be taken to protect and safeguard all persons on board in emergencies</p> <p>Actions to limit damage and save the ship following a fire, explosion, collision or grounding</p>	<p>Examination and assessment of evidence obtained from practical instruction and approved in-service training and experience</p>	<p>Procedures for monitoring fire-detection and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures</p>
<p>Organize and manage the crew</p>	<p>A knowledge of personnel management, organization and training on board ship</p>	<p>Examination and assessment of evidence obtained from approved training</p>	<p>The crew are allocated duties and informed of expected standards of work and behavior in a manner appropriate to the individuals concerned</p> <p>Training objectives and activities are based on an assessment of current competence and capabilities and operational requirements.</p>

## Engine Department

### Section A–III/5

*Mandatory minimum requirements for certification of engine operators in charge of engine powered traditional ships*

#### Education and training

- 1 The education and training required shall include training in mechanical and electrical workshop skills relevant to the duties of an engine operator.

#### On board training

- 2 Every candidate for certification as engine operator on traditional ships engine powered shall follow an approved programme of on-board training which:
  - 1 ensures that during the required period of service the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an engine operator.
  - 2 is closely supervised and monitored by a qualified and certificated engine operator aboard the ships in which the approved service is performed; and
  - 3 is adequately documented in an approved training record book,

#### Standard of competence

- 3 Every candidate for certification as engine operator on traditional ships engine powered shall be required to demonstrate ability to undertake, at the operational level, the tasks, duties and responsibilities listed in column 1 of table A – III / 5
- 4 The minimum knowledge, understanding and proficiency required for certification is listed in column 2 of table A – III / 5.
- 5 The level of knowledge of the subject listed in column 2 of table A – III / 5 shall be sufficient for engine operators on different kinds of propulsion machinery's.
- 6 Every candidate for certification for service in ships in which steam boilers do not form part of their machinery may omit the relevant requirements of table A- III /5. A certificate awarded on such a basis shall not be valid for service on ships in which steam boilers form part of ship's machinery until the engine operator meets the standard of competence in the items omitted table A – III / 5. Any such limitation shall be stated on the certificate.
- 7 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence.

#### Periods of Practical Training and Experience

The approved on board training, which is to be documented in an approved training record book, may in addition to the seagoing service be performed during the winter season on ships laid up for maintenance and repair.

**Specification of standards of competence required for engine operators on Traditional Ships  
based on  
Table A III / 1 of the STCW 95 Code**

**Function: Marine engineering at the operational level**

Column 1	Column 2
Competence	Knowledge, understanding and proficiency
Use appropriate tools for repair operations typically performed on ships	Characteristics and limitations of materials used in repair of ships equipment Characteristics and limitations of processes used for repair Properties and parameters considered in the repair of systems and components Application of safe working practices in the workshop environment
Use hand tools and measuring equipment for dismantling, maintenance, to repair and reassemble shipboard plant and equipment	Interpretation of machinery drawings and handbooks Operational characteristics of equipment and systems
Use hand tools, electrical and electronic measuring and test equipment for fault finding, maintenance and repair operations	Safety requirements for working on shipboard electrical systems Operational characteristics of shipboard electrical systems and equipment Operation of electrical test and measuring equipment
Maintain a safe engineering watch	Thorough knowledge of Principles to be observed in keeping an engineering watch, including: <ul style="list-style-type: none"> <li>.1 duties associated with taking over and accepting a watch</li> <li>.2 routine duties undertaken during a watch</li> <li>.3 maintenance of the machinery space log-book and the significance of the readings taken</li> <li>.4 duties associated with handing over a watch</li> </ul> Safety and emergency procedures; change-over of remote to local control of all systems Safety precautions to be observed during a watch and immediate actions to be taken in the event of fire or accident, with particular reference to oil systems
Operate main and auxiliary machinery and associated control systems	Main and auxiliary machinery: <ul style="list-style-type: none"> <li>.1 preparation of main machinery and preparation of auxiliary machinery for operation</li> <li>.2 operation of steam boilers, including combustion systems</li> <li>.3 methods of checking water level in steam boilers and action necessary if water level is abnormal</li> <li>.4 location of common faults in machinery and plant in engine and boiler rooms and action necessary to prevent damage</li> </ul>
Operate pumping systems and associated control systems	Pumping systems: <ul style="list-style-type: none"> <li>.1 routine pumping operations</li> <li>.2 operation of bilge and ballast pumping systems</li> </ul>

Function: Electrical, electronic and control engineering at the operational level

<b>Competence</b>	<b>Knowledge, understanding and proficiency</b>
Operate alternators, generators and control systems	Generating plant: .1 Appropriate basic electrical knowledge and skills .2 Preparing, starting and changing over alternators or generators .3 Location of common faults and action to prevent damage Control systems: Location of common faults and action to prevent damage
Maintain marine engineering systems, including control systems	Marine systems: Appropriate basic mechanical knowledge and skills Safety and emergency procedures: Safe isolation of electrical and other types of plant and equipment required before personnel are permitted to work on such plant or equipment Undertake maintenance and repair to plant and equipment

Function: Controlling the operation of the ship and care for persons on board at the operational level

Competence	Knowledge, understanding and proficiency
Ensure compliance with pollution-prevention requirements	Prevention of pollution of the marine environment:  Knowledge of the precautions to be taken to prevent pollution of the marine environment  Anti pollution procedures and all associated equipment
Maintain seaworthiness of the ship	Ship stability:  Understanding of the fundamentals of watertight integrity  Understanding of fundamental actions to be taken in the event of water ingress  Ship construction:  General knowledge of the principal structural members of a ship and the proper names for the various parts
Prevent, control and fight fires on board	Fire prevention and fire-fighting appliance:  Knowledge of fire prevention  Ability to organise fire drills  Knowledge of classes of fire  Knowledge of fire-fighting systems  Action to be taken in the event of fire, including fires involving oil systems
Operate life-saving appliances	Life-saving:  Knowledge of the operation of survival craft, their launching appliance and arrangements, and their equipment.  Knowledge of survival at sea techniques
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions concerning safety of life at sea and protection of the marine environment