AC 31A.1 General advice on purpose of advisory circulars

Maritime Safety Authority advisory circulars are designed to give assistance and explanations about the standards and requirements set out in the rules. However, the notes contained in advisory circulars should not be treated as a substitute for the rules themselves, which are the law.

If advisory circular material advises how a rule requirement can be satisfied, then compliance with that advice ensures compliance with the rule. Other methods of complying with the rule may be possible, however the Maritime Safety Authority would require satisfying that those alternative means of compliance were to an equivalent standard to the advice in the advisory circular. The advisory circular would then be amended to include those equivalents.

This AC 31A supports maritime rules Part 31A.
<table>
<thead>
<tr>
<th>Rule 31A.7</th>
<th>Rule 31B.6</th>
<th>Rule 31C.7</th>
<th>Compliance date</th>
</tr>
</thead>
<tbody>
<tr>
<td>STCW Ships</td>
<td>Other Vessels</td>
<td>Fishing Vessels</td>
<td><strong>IN FORCE</strong> February 2001</td>
</tr>
</tbody>
</table>

Owners and masters of all vessels to assess crew numbers and qualifications necessary to operate safely and must ensure those numbers and qualifications are on board. This must then be monitored.

<table>
<thead>
<tr>
<th>Tables of watchkeeping numbers and qualifications to be complied with PLUS necessary non-watchkeeping crew</th>
<th>Tables of total crew numbers and qualifications to be complied with</th>
<th><strong>IN FORCE</strong> February 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Except</td>
<td>1 February 2003 for vessels 6m and under</td>
</tr>
</tbody>
</table>

| Must hold Minimum Safe Crewing Document issued by Director on basis of minimum safe crewing assessment | Must hold Minimum Safe Crewing Document issued by Director on basis of minimum safe crewing assessment EXCEPT vessels that are not listed as high risk or special cases may choose to comply with tables of minimum numbers and qualifications | 1 February 2002 |

AC 31A.3 Equivalent revalidation experience

Rule 31A.6 allows the Director to accept experience in non-seagoing positions as equivalent to sea service for the purposes of revalidating STCW certificates of competency. The following list, which is not exhaustive, indicates occupations which will be favourably considered as being equivalent:

- Pilots, either deep-sea or harbour
- Marine college lecturers
- Technical, engineering and marine superintendents or ship repair managers
- Harbourmasters
- Hydrographic surveyors
- MSA surveyors
- Classification society marine surveyors
AC 31A.4 Minimum Safe Crewing Assessments

Rule 31A.9 requires the owner of a ship to prepare and submit to the Director a proposal for the minimum safe crewing level for the ship. The proposal will then be assessed for the Director by technical staff from the Rules, Seafarer Licensing, and Maritime Operations groups of MSA. Part 31A contains considerable detail of what points must be addressed. The following are additional guidelines for the preparation of that application.

*Hours of work or rest*

(1) Rule 31A.24 requires the owner and the master of a ship to ensure that the master, officers and ratings do not work more hours than is safe in relation to the performance of their duties and the safety of the vessel. Crewing levels should be such as to ensure that the time and place available for taking rest periods are appropriate for achieving a good quality of rest.

(2) Rule 31A.25 requires that a record of the actual hours of work performed by the individual crewmember should be maintained onboard in order to verify that the minimum periods of rest required under relevant and applicable international instruments in force have been complied with.

*Determinatoin of minimum safe crewing levels*

(3) The purpose of determining the minimum safe crewing level of a ship is to ensure that its crew includes the grades/capacities and number of crew required for the safe operation of the ship and the protection of the marine environment from pollution by the ship.

(4) The minimum safe crewing level of a ship should be established taking into account all relevant factors, including the following –

(a) size and type of ship; and

(b) number, size and type of main propulsion units and auxiliaries; and

(c) construction and equipment of ship; and

(d) method of maintenance used; and

(e) cargo to be carried; and

(f) frequency of port calls, length and nature of voyages to be undertaken; and
(g) trading areas, waters and operations in which the ship is involved; and

(h) extent to which training activities are conducted on board; and

(i) applicable work hour limits and/or rest requirements.

(5) The determination of the minimum safe crewing level of a ship should be based on performance of the functions at the appropriate levels of responsibility, as specified in the STCW Code, which include the following –

(a) navigation, comprising the tasks, duties and responsibilities to:

(i) plan and conduct safe navigation; and

(ii) maintain a safe navigational watch in accordance with the requirements of the STCW Code; and

(iii) manoeuvre and handle the ship in all conditions; and

(iv) moor and unmoor the ship safely; and

(b) cargo handling and stowage, comprising the tasks, duties and responsibilities to plan, monitor and ensure safe loading, stowage, securing, care during the voyage and unloading of cargo to be carried on the ship; and

(c) the operation of the ship and care for persons on board, comprising the tasks, duties and responsibilities to –

(i) maintain safety and security of all persons on board and the operational condition of life-saving, fire-fighting and other safety systems; and

(ii) operate and maintain all watertight closing arrangements; and

(iii) perform operations, as appropriate, to muster and disembark all persons on board; and

(iv) perform operations, as appropriate, in such a manner as to ensure protection of the marine environment; and

(v) provide for medical care on board the ship; and

(vi) undertake administrative tasks required for the safe operation of the ship; and

(d) marine engineering, comprising the tasks, duties and responsibilities to –

(i) operate and monitor the ship's main propulsion and auxiliary machinery and evaluate the performance of such machinery; and

(ii) maintain a safe engineering watch in accordance with the requirements of Part 31A; and
(iii) manage and perform fuel and ballast operations; and
(iv) maintain safety of the ship’s engines, equipment, systems and services; and

(e) electrical, electronic and control engineering, comprising the tasks, duties and responsibilities to –
   (i) operate the ship’s electrical and electronic equipment; and
   (ii) maintain the safety of the ship’s electrical and electronic systems; and

(f) radiocommunications, comprising the tasks, duties and responsibilities to –
   (i) transmit and receive information using the radio equipment of the ship; and
   (ii) maintain a safe radio watch in accordance with the requirements of ITU Radio Regulations and 1974 SOLAS Regulations, as amended; and

(iii) provide radio services in emergencies; and

(g) maintenance and repair, comprising the tasks, duties and responsibilities to carry out maintenance and repair work to the ship and its machinery, equipment and systems, as appropriate to the method of maintenance and repair used.

(6) In addition the minimum safe crewing level should take into account –

(a) the management of the safety functions of a vessel at sea, when not underway; and

(b) except in ships of limited size, the provision of qualified deck officers in order that it is not necessary for the master to keep regular watches, by the adoption of a three watch system; and

(c) except in ships of limited propulsion power or operating under provisions for unattended machinery spaces, the provision of qualified engineer officers in order that it is not necessary for the chief engineer to keep regular watches, by the adoption of a three watch system; and

(d) the maintenance of applicable occupational health and hygiene standards on board; and

(e) the provision of proper food and drinking water for all persons on board, as required.

(7) In determining the minimum personnel level of a ship consideration should also be given to:
(a) the number of qualified and other personnel, required to meet peak workload situations and conditions, with due regard to the number of hours of shipboard duties and rest periods assigned to seafarers; and

(b) the capability of the master and the ship's complement to coordinate the activities for the safe operation of the ship and the protection of the marine environment from pollution from the ship.
APPLICATION FOR A MINIMUM SAFE CREWING DOCUMENT

1. PARTICULARS OF APPLICANT

Full name of owners

Address

Name of applicant if not the owner

Address of applicant if not the owner

2. PARTICULARS OF THE SHIP

Name of Ship

Port of Registry

IMO/Official number | Year of Build

Type of Ship

Principal dimensions (LOA x B x summer draught)

Unusual characteristics/features of ship

Tonnage 1. Gross | 2. Max summer deadweight

Auto steering  Yes/No | Details of hatch covers

External communications (\*as appropriate)  W/T | R/T | VHF

Details of internal communications

\*Delete as appropriate
### 2 PARTICULARS OF THE SHIP (continued)

<table>
<thead>
<tr>
<th>Number of Lifeboats</th>
<th>Coastal</th>
<th>Unlimited</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Area of Operation</strong> (✓ as appropriate):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of ILRs</td>
<td>Number of ILR davits</td>
<td></td>
</tr>
<tr>
<td>Number of rescue boats</td>
<td>Number of passengers</td>
<td></td>
</tr>
<tr>
<td><strong>Restricted conditions (please specify)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bow thruster</strong></td>
<td>Yes/No*</td>
<td><strong>Stem thruster</strong></td>
</tr>
<tr>
<td><strong>CP propeller</strong></td>
<td>Yes/No*</td>
<td><strong>Number of engine-room spaces</strong></td>
</tr>
<tr>
<td><strong>Number of main engines</strong></td>
<td><strong>Registered power per engine (kW)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Type of engines</strong></td>
<td>Steam/Motor</td>
<td></td>
</tr>
<tr>
<td><strong>Steam boilers</strong> (✓ as appropriate):</td>
<td>none</td>
<td>auto</td>
</tr>
<tr>
<td><strong>UMS certificate</strong></td>
<td>Yes/No*</td>
<td><strong>Bridge control</strong></td>
</tr>
<tr>
<td><strong>High bilge alarm system</strong></td>
<td>Yes/No*</td>
<td><strong>Engine-room fire detection fitted</strong></td>
</tr>
<tr>
<td><strong>Details of engine-room/bridge communication system</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 3 INTENDED SERVICE

*Please give details of the intended nature of service of the ship*

### 4 CREWING SYSTEM

*Please give details of the type of crewing system ie.*

Conventional, Integrated Rating, Share System, Interdepartmental Flexibility or other
5 Please submit your proposals for the minimum personnel of the ship in the table below. (The tables in Appendix 2 and 3 of Maritime Rules Part 31A provide guidance on the numbers of bridge and engine room watchkeepers appropriate to different sizes of ships, tonnages and trading areas.)

<table>
<thead>
<tr>
<th>Title</th>
<th>Offshore/Coastal</th>
<th>Unlimited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chief Mate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OOW (deck)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rating (deck) A-B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rating (deck) Deck-watch rating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chief Engineer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd Engineer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OOW (engineer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rating (engine) Engine-room watch rating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL [Minimum number of crew to be carried]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6 PLANS SUBMITTED WITH THIS APPLICATION

<table>
<thead>
<tr>
<th>Fire</th>
<th>Mooring and equipment</th>
<th>Escape (Passenger ships only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General arrangement</td>
<td></td>
<td>Engine-room arrangement</td>
</tr>
</tbody>
</table>

7 DECLARATION

I declare that to the best of my knowledge the particulars given by me on this form are correct.

Signed (on behalf of the owners) | Date

Additionally the following information is required –

Describe the anticipated trade or trades:

Describe the anticipated length and nature of voyages:

Describe the anticipated geographical trade areas:

Detail how the following capabilities will be covered:

1. Maintain a safe bridge watch at sea (including general surveillance of the vessel) in accordance with regulation VIII/2 of STCW 95.

Which watch system will be adopted? TWO/THREE
Will the Master undertake a navigational watch? YES/NO
Will the Master be required to undertake their own pilotage? YES/NO
Are office to ship communications handled by the Master? YES/NO
What is the communication system between bridge and watch rating?
2. Moor and unmoor the ship effectively and safely.
   Are self-tension mooring winches fitted to the ship? YES/NO
   Detail mooring station equipment and manning requirements for peak workload situation:
   Forward
   Aft

3. Operate and, where practicable, maintain efficiently, all watertight closing arrangements, fire equipment and life-saving appliances provided, including the ability to muster and disembark passengers and non-essential personnel (as appropriate), and mount an effective damage control party.
   Is the ship fitted with an accommodation fire detection system? YES/NO
   Are fire pumps started remotely? YES/NO
   Who is responsible for equipment maintenance?
   Describe the lifeboat and rescue boat launching systems (as appropriate):
   State how fire/damage control/LSA requirements are covered:

4. Manage the safety functions of the vessel at sea, when not underway.
   Does the vessel have DP capability? YES/NO

5. Maintain a safe engineering watch at sea in accordance with regulation VIII/2 of STCW 95, and also maintain general surveillance of spaces containing main propulsion and auxiliary machinery.
   Will a watch system be adopted? YES/NO
   Which watch system will be adopted?
   TWO/THREE/NA
   Is there a UMS certificate in operation? YES/NO
   Are all machinery spaces covered by a fire detection system? YES/NO
   Are all machinery spaces covered by a bilge alarm system? YES/NO
   Will the Chief Engineer undertake a watch or a duty? YES/NO
   Can emergency steering be engaged by one person? YES/NO
   How will the engine-room watch rating duties be covered?

6. Operate and maintain in a safe condition the main propulsion and auxiliary machinery to enable the ship to overcome the foreseeable perils of the voyage, and maintain the safety arrangements and cleanliness of machinery spaces to minimise the risk of fire.
   Who will undertake machinery space cleaning?
   Who will assist in the event of breakdowns?

7. Provide for medical care on board.
   How is this provision satisfied?
   How is the radio equipment maintained? ONBOARD/ASHORE
   Who will be primary radio/GMDSS operator?

9. Maintain the precautions and safeguards necessary to protect the marine
    environment in accordance with legislative requirements.
   What personnel are necessary to cover the Shipboard Marine Oil Spill
   Contingency Plan requirements?

10. Maintain safety in all ship operations in port.
    What cargo handling gear is fitted to the vessel?
    Who operates it?
    Who undertakes hold/tank cleaning?
    Who secures the cargo?

11. Ships Cook.
    Will a certificated ships cook be carried? YES/NO
    If not, how will the cooking duties be covered?

12. Hours of Work Provision
    How does the proposed crewing level take into account the requirements
    of 31A.20 ensuring that the working arrangements allow for sufficient
    rest periods to avoid fatigue:
AC 31A.6 Fitness for Duty and Fatigue

Rule 31A.26 requires

(1) The owner and the master of a ship to establish and implement procedures in respect of the vessel’s crew to ensure that all crew are fit for duty when keeping a watch; and

(2) The crew of a ship to ensure that they are fit for duty at all times when keeping a watch; and

Rule 31A.27 requires the owner, the master, and seafarers, to take into account the effects of fatigue. The following table gives some guidance on the effects of fatigue and associated signs and symptoms—

<table>
<thead>
<tr>
<th>PERFORMANCE IMPAIRMENT</th>
<th>SIGNS and SYMPTOMS</th>
</tr>
</thead>
</table>
| Impaired attention, loss of concentration, and diminished decision-making power | • Overlook or incorrectly order sequential task element  
• Preoccupation with single tasks or elements  
• Exhibit lack of awareness or poor performance  
• Failure to appreciate the gravity of a situation  
• Failure to anticipate danger  
• Failure to observe and obey warning signs |
| Diminished memory | • Overlook a task or elements of a task  
• Fail to remember the sequence of task or task elements  
• Inaccurate recall of operational events |
| Delayed reaction time | • Respond slowly or fail to respond altogether to normal, abnormal, or emergency stimuli  
• Reduced attention span |
| Diminished problem solving ability | • Display poor judgement of distance, speed, and/or time  
• Inaccurate interpretation of a situation  
• Display problems with such things as arithmetic and geometry |
| Mood change | • Less conversant then normal  
• Irritability, tiredness, depression  
• Distracted by discomfort |
| Attitude change | • Display willingness to take risks  
• Ignore normal checks and procedures  
• Display a “don’t care” attitude |
| Adverse physiological effects | • Exhibit speech effects – slur, rate, content  
• Impaired co-ordination of control skills – key punch entry errors, switch selection |
| Impaired alertness | • Succumb to uncontrollable sleep – nap, long sleep episode  
• Display automatic behaviour syndrome |