

3 DUTIES OF THE OFFICER OF THE WATCH (OOW)

3.1 OVERVIEW

3.1.1 Master's representative

Under the STCW Code, the OOW is the master's representative and is primarily responsible at all times for the safe navigation of the ship and for complying with the COLREGS.

As the master's representative, the OOW is in charge of the bridge and therefore in charge of the bridge team for that watch, until properly relieved. In compliance with shipboard operational procedures and master's standing orders, the OOW should ensure that bridge watch manning levels are at all times safe for the prevailing circumstances and conditions.

3.1.2 Primary duties

In order to maintain a safe navigational watch, the primary duties of the OOW will involve watchkeeping, navigation and GMDSS radio watchkeeping.

3.1.2.1 Watchkeeping

The watchkeeping duties of the OOW include maintaining a look-out and general surveillance of the ship, collision avoidance in compliance with the COLREGS, recording bridge activities, and making periodic checks on the navigational equipment in use. Procedures for handing over the watch and calling for support on the bridge should be in place and understood by the OOW.

3.1.2.2 Navigation

The navigational duties of the OOW are based upon the need to execute the passage plan safely and monitor the progress of the ship against that plan.

3.1.2.3 Radiocommunications

During distress incidents, one of the GMDSS qualified personnel should be designated to have primary responsibility for radiocommunications. On passenger ships, that person can have no other duties during a distress situation.

3.1.3 In support of primary duties

3.1.3.1 Controlling the speed and direction of the ship

The OOW will need to be conversant with the means and best practices of controlling the speed and direction of the ship, handling characteristics and stopping distances. The OOW should not hesitate to use helm, engines or sound signalling apparatus at any time.

3.1.3.2 Pollution prevention, reporting and emergency situations

The OOW also needs to be fully conversant with shipboard obligations with regard to pollution prevention, reporting and emergency situations. The OOW should know the location of all the safety equipment on the bridge and how to operate that equipment.

3.1.4 Additional duties

There may also be a number of additional duties for the OOW to undertake while on watch. General communications, cargo monitoring, the monitoring and control of machinery, and the supervision and control of ship safety systems are typical examples.

Under no circumstances should additional duties interfere with the exercise of primary duties.

Mobile phones or other personal electronic devices should be used only under circumstances approved by the master. The potential distraction to personnel on the bridge caused by the use of mobile phones or other electronic devices should be considered when determining shipboard policy.

3.1.5 Bridge attendance

The OOW should not leave the bridge unattended. However, in a ship with a separate chartroom, the OOW may visit that room for short periods of time to carry out necessary navigational duties after first ensuring that it is safe to do so.

3.2 WATCHKEEPING

3.2.1 Maintaining a look-out

In compliance with the COLREGS, a proper look-out must be maintained at all times to serve the purposes of:

- maintaining a continuous state of vigilance by sight and hearing, as well as by all other available means, with regard to any significant change in the operating environment;
- fully appraising the situation and the risk of collision, stranding and other dangers to navigation;
- detecting ships or aircraft in distress, shipwrecked persons, wrecks, debris and other hazards to navigation, and to allow precautions for security reasons, especially in areas with a known risk of piracy or armed attack.

Full attention to look-out duties must be given by the bridge team on watch. Section 3.2.6 (Changing over the watch) includes advice regarding the need to allow sufficient time, during the hours of darkness, for the vision of oncoming watchkeepers to adjust to ambient light conditions. During the hours of darkness, it is essential that the wheelhouse environment and shipboard procedures support the maintenance of adequate night vision for watchkeepers and look-outs. An effective wheelhouse and chartroom blackout should be maintained; lighting used in such areas should be of low intensity and coloured red. The use of blackout curtains or heavy drapes will help to preserve darkness integrity when it is not possible fully to otherwise exclude conventional artificial light. Deck lighting should be considered carefully to avoid adversely affecting night vision from the wheelhouse, even if such lighting only affects a restricted sector of the horizon.

It should be noted that even momentary exposure to bright light can completely destroy night vision and, during the subsequent readjustment period, the ability to maintain an effective look-out will be impaired. Consideration should be given to fitting cut-out switches to doors leading into wheelhouses and chartrooms so that on opening such doors adjacent conventional white light sources are momentarily switched off.

While steering, a helmsman should not be considered to be the look-out, except in small ships with an unobstructed all-round view at the steering position.

On ships with fully enclosed bridges and all windows closed, sound reception equipment will need to be in operation continuously and correctly adjusted to ensure that all audible sounds on the open deck can be heard clearly on the bridge.

3.2.1.1 Sole look-out

Under the STCW Code, the OOW may be the sole look-out in daylight provided that on each such occasion:

- the situation has been carefully assessed and it has been established without doubt that it is safe to operate with a sole look-out;
- full account has been taken of all relevant factors, including, but not limited to:
 - state of weather
 - visibility
 - traffic density
 - proximity of dangers to navigation
 - the attention necessary when navigating in or near traffic separation schemes;
- assistance is immediately available to be summoned to the bridge when any change in the situation so requires.

If sole look-out watchkeeping practices are to be followed, clear guidance on how they should operate will need to be given in the shipboard operational procedures manual (see section 1.2.4).

3.2.2 General surveillance

The OOW needs to maintain a high level of general awareness about the ship and its day-to-day operations.

This may include maintaining a general watch over the ship's decks to monitor, where possible, people working on deck and any cargo or cargo handling equipment. Special watchkeeping arrangements may be appropriate in waters where there is thought to be a risk of piracy or armed attack.

Whenever work is being carried out on deck in the vicinity of radar antennae, radio aerials or sound signalling apparatus, the OOW should be particularly observant and should post appropriate warning notices on the equipment controls.

3.2.3 Watchkeeping and the COLREGS

3.2.3.1 Lights, shapes and sound signals

The OOW must always comply with the COLREGS. Compliance not only concerns the conduct of vessels under the steering and sailing rules, but also displaying the correct lights and shapes and making the correct sound and light signals.

A vessel drifting off a port with her engines deliberately shut down, but available for immediate restart, is not, for example, a "vessel not under command" as defined by rule 3(f) of the COLREGS.

Caution should always be observed when approaching other vessels. Vessels may not be displaying their correct light or shape signals, or indeed their signals could be badly positioned and obscured by the ship's structure when approached from certain directions. In sea areas where traffic flow is regulated, such as port approaches and traffic separation schemes, it may be possible to anticipate movements from certain ship types. In these circumstances, it is prudent to allow extra searoom, as long as it is safe to do so.

3.2.3.2 Collision avoidance action

In general, early and positive action should always be taken when avoiding collisions and, once action has been taken, the OOW should always check to make sure that the action taken is having the desired effect.

VHF radio should not be used for collision avoidance purposes. Valuable time can be wasted attempting to make contact since positive identification may be difficult and, once contact has been made, misunderstandings may arise.

Attempts to avoid collision by communicating using AIS equipment should be avoided. Accident investigations have shown that such attempts waste time, distract the attention of the OOW and often fail to establish effective communication.

3.2.3.3 Collision avoidance detection

In clear weather, the risk of collision can be detected early by taking frequent compass bearings of an approaching vessel to ascertain whether or not the bearing is steady and the vessel is on a collision course. Care however must be taken when approaching very large ships, ships under tow or ships at close range. An appreciable bearing change may be evident under these circumstances but in fact a risk of collision may still remain.

In restricted visibility, conduct of vessels is specifically covered by the COLREGS. In these conditions, radar, and in particular electronic radar plotting, can be used effectively for assessing risk of collision. The OOW should take the opportunity to carry out radar plotting practice in clear visibility whenever it is possible.

For details concerning the use of radar for collision avoidance, refer to section 4.2.2 of this Guide.

3.2.4 Recording bridge activities

It is important that a proper, formal record of navigational activities and incidents, which are of importance to safety of navigation, is kept in appropriate logbooks.

Paper records from course recorders, echo sounders, NAVTEX receivers etc. should also be retained at least for the duration of the voyage, suitably date and time marked if practicable.

In order to allow the ship's actual track to be reconstructed at a later stage, sufficient information concerning position, course and speed should be recorded in the bridge logbook or using approved electronic means. All positions marked on the navigational charts also need to be retained until the end of the voyage.

3.2.5 Periodic checks on navigational equipment

3.2.5.1 Operational checks

Operational checks on navigational equipment should be undertaken when preparing for sea (see bridge checklist B2) and prior to port entry (see bridge checklist B3).

After lengthy ocean passages and before entering restricted coastal waters, it is important also to check that full engine and steering manoeuvrability is available.

3.2.5.2 Routine tests and checks

The OOW should undertake daily tests and checks on the bridge equipment, including the following:

- manual steering should be tested at least once a watch when the automatic pilot is in use (see annex A7);
- gyro and magnetic compass errors should be checked and recorded at least once a watch, where possible, and after any major course alteration;
- compass repeaters should be synchronised regularly, including repeaters mounted off the bridge, such as in the engine control room and at the emergency steering position.

3.2.5.3 Checks on electronic equipment

Checks on electronic equipment should confirm both that the piece of equipment is functioning properly and that it is successfully communicating to any bridge system to which it is connected.

Built-in test facilities provide a useful health check on the functional state of the piece of equipment and should be used frequently.

Electronic equipment systems should be checked to ensure that configuration settings – important for correct interfacing between pieces of equipment – have not changed.

To ensure adequate performance, information from electronic equipment should always be compared and verified against information from different independent sources.

3.2.5.4 Checking orders

Good practice also requires the OOW to check that orders are being followed correctly. Rudder angle and engine rpm indicators, for example, provide the OOW with an immediate check on whether helm and engine movement orders are being followed.

3.2.6 Changing over the watch (see bridge checklist B12)

The OOW should not hand over the watch if there is any reason to believe that the relieving officer is unfit to, or is temporarily unable to, carry out his duties effectively. If in any doubt, the OOW should call the master.

Illness or the effects of fatigue, alcohol or drugs could be reasons why the relieving officer is unfit for duty.

Before taking over the watch, the relieving officer must be satisfied as to the ship's position, and confirm its intended track, course and speed, and engine controls as appropriate, as well as noting any dangers to navigation expected to be encountered during his watch.

The relieving officer should also be satisfied that all other members of the bridge team for the new watch are fit for duty, particularly as regards their adjustment to night vision. Although the time varies between individuals for eyesight to adjust completely from full artificial light to allow an effective night time look-out, the time required should not be underestimated. Various factors affect individual adjustment times, but in many cases full night vision will not be achieved in less than 15 minutes (see section 3.2.1). Watchkeepers and look-outs who use spectacles fitted with

photo-chromatic (light-sensitive) lenses should be aware that when UV light is removed or reduced the lenses do not clear completely and some darkening effect is retained at all times. The ability of a watchkeeper or look-out to perform their duties effectively when wearing spectacles fitted with photo-chromatic lenses should be considered carefully.

If a manoeuvre or other action to avoid a hazard is taking place at the moment the OOW is being relieved, handover should be deferred until such action has been completed.

3.2.7 Calling the master

The OOW should notify the master, in accordance with standing orders or the bridge order book, when in any doubt as to what action to take in the interests of safety.

Guidance on specific circumstances for calling the master or other back-up support should be given in the shipboard operational procedures, supported by standing and bridge orders, as appropriate. Situations where the master should always be called are listed in bridge checklist B13.

The OOW will continue to be responsible for the watch, despite the presence of the master on the bridge, until informed specifically that the master has assumed that responsibility, and this is mutually understood. The fact that the master has taken control on the bridge should be recorded in the log book.

3.3 NAVIGATION

3.3.1 General principles

It is important that the OOW executes the passage plan as prepared and monitors the progress of the ship relative to that plan.

3.3.1.1 Deviating from or leaving the passage plan

If the OOW has to make a temporary deviation from the passage plan for any reason, the OOW should return to the plan as soon as it is safe to do so. Consideration should be given to re-plotting the course to the next waypoint to avoid potentially confusing encounters and large alterations of course.

If the OOW has to leave the passage plan – a reporting of ice may, for example, require an alteration of course – the OOW should prepare and proceed along a new temporary track clear of any danger. At the first opportunity, the OOW should advise the master of the actions taken. The plan will need to be formally amended and a briefing made to the other members of the bridge team.

3.3.1.2 Monitoring the progress of the ship

Good navigational practice demands that the OOW:

- understands the capabilities and limitations of the navigational aids and systems being used, and continually monitors their performance;
- uses the echo sounder to monitor changes in water depth;
- uses dead reckoning techniques to check position-fixes;

- cross-checks position-fixes using independent sources of information: this is particularly important when electronic position-fixing systems, such as GPS or Loran-C, are used as the primary means of fixing the position of the ship;
- uses visual navigation aids to support electronic position-fixing methods, i.e. landmarks in coastal areas and celestial navigation in open waters;
- does not become over reliant on automated navigational equipment, including electronic chart systems, thereby failing to make proper navigational use of visual information;
- plots historical ship track forward to identify the projected/anticipated position.

3.3.1.3 Plotting positions from electronic position-fixing systems

Care should be exercised when taking geographical positions from electronic position-fixing systems like GPS and plotting these onto charts (see section 4.9.3.3).

The OOW should bear in mind that:

- if the chart datum differs from the datum (usually WGS84) used by the electronic position-fixing system, a datum shift will have to be applied to the position co-ordinates before they are plotted on the chart. It should be noted that, where an appreciable datum shift does exist for a particular chart, a "satellite-derived positions" note providing latitude and longitude datum shift values will appear on the chart;
- on charts where the survey source data is very old, accuracy may be poor in certain areas: under these circumstances in particular the OOW should not rely totally on position-fixing using electronic systems and should, where possible, increase the use of visual and radar navigational techniques to maintain safe distances off the land.

3.3.2 Navigation in coastal or restricted waters

This section should be read in conjunction with section 2.5 – Notes on passage planning in coastal or restricted waters. (See also bridge checklist B6.)

As a general rule, navigation should be carried out on the most suitable large scale charts on board, and the position of the ship should be fixed at frequent intervals. All relevant navigation marks should be positively identified by the OOW before they are used. Visual and radar position-fixing and monitoring techniques should be used whenever possible.

In coastal waters, the OOW should be aware that ships' routing schemes (see section 2.8) and ship reporting systems requiring reports to be made to coast radio and vessel traffic stations (see sections 2.9 and 2.10) may exist.

Knowledge of the ship's draught, stability conditions and manoeuvring characteristics is also important. As the ship enters shallow water, squat may have a critical effect on the manoeuvrability of the ship and cause an increase in draught. Squat effect varies in proportion to the square of the ship's speed and will therefore reduce as speed is reduced. On board information should be used to confirm squat characteristics for individual loading conditions.

The importance of all the bridge team fully understanding the coastal waters phase of the passage plan, as well as understanding their individual roles and those of their colleagues, cannot be stressed too strongly.