CONTENTS

NAVIGATION GENERAL

1. SHIP'S POSITION

Good navigational practice demands that the officer of the watch:

a. Understands the capabilities and limitations of the navigational aids and systems being used and continually monitors their performance.

b. Uses the echo sounder to monitor changes in water depth.

c. Uses dead reckoning techniques to check position fixes.

d. Cross-checks position-fixes using independent sources of information: this is particularly important when electronic position-fixing systems, such as GPS are used as the primary means of fixing the position of the ship.

e. Uses visual navigation aids to support electronic position-fixing methods, i.e. landmarks in coastal areas and celestial navigation in open waters.

f. Does not become over reliant on automated navigational equipment, including electronic chart systems, thereby failing to make proper navigational use of visual information.

g. Plots historical ship track forward to identify the projected/anticipated position.

At least two methods of fixing the ships position shall be used at all times in accordance with the passage plan requirements. These will be termed “primary” and “secondary”. This rule is also applicable when the vessel is under pilotage or is navigating in confined waters. The sole use of only electronic position finding devices is not acceptable. GPS derived positions should always be verified by alternative methods. The frequency of position fixing should be such that the vessel cannot run into danger during the interval between fixes. Fixed points such as lighthouses and headlands should always be used in preference to floating objects, which should be carefully checked for position before being used for parallel indexing.

Whenever potential dangers to navigation exist, in restricted waters or in coastal areas, frequent fixes in accordance with the passage plan requirements shall be taken to assure that the position of the ship is positively known and is in conformity with the planned track.

Soundings must be taken when making a landfall, when the vessel is in restricted or shoal waters and at any other time when they may assist in establishing the position of the vessel.

When in or approaching areas of possible navigational hazard, the Master must determine a point in time or soundings at which, in the absence of a reliable fix, the vessel will be stopped until such time as the vessel's position is determined, and it is found safe to proceed.

Any significant discrepancy between the observed and dead reckoning position of the ship must be brought to the attention of the Master.

2. GOOD WATCHKEEPING PRACTICE

2.1. Continuously compare all sources of position information. Never rely on one source of information. Check and recheck, not just occasionally but continuously. Verify with every means available.

2.2. Verify Navigation Marks.

Make it a habit to check that the navigational mark you are passing is in fact the correct one as per the chart. In other words, don't just look at a buoy but look carefully at its colour, top mark, characteristic, name etc.

2.3. Fix at Regular Intervals.

Refer NAUTICAL MANUAL, Chapter 7B.0 ECDIS, section 3.2 - Monitoring Accuracy of GNSS Position in ECDIS.[1]

2.4. Note the Log Distances.

One of the principal inputs to the ARPA is the speed log. Without an accurate water speed input, the calculated vectors that are relied on for collision avoidance are in error. It is prudent therefore to maintain a continuous check on the instrument to ensure the validity of those vectors and to use it as a navigational double check.

2.5. Use the Depth as Verification.

Use the echo sounder to verify the vessels position when approaching landfall. It is also a good double check of the vessel's position and should be used as such.

2.6. Maintain Radars on Different Ranges.

Radar surveillance should be to run for collision avoidance on short range (12 miles or less) and seek landfall verification on longer range. The latter can also serve as an early warning of traffic movement and density.

2.7. Parallel Indexing

a. All deck officers and Masters are reminded that parallel indexing is to be used by all vessels and documented in the passage plan. This technique is to be used throughout the voyage were possible.

b. Parallel indexing is an extremely simple and effective technique to monitor the vessel's progress along a track and if she is steering into danger. The use of parallel indexing starts at the preparation of the voyages and throughout the execution of the voyage.

[1] Week 6 / 2025

Targets suitable for radar parallel index and clearing lines are to be highlighted / prepared on the charts, where beneficial.

During the voyage, parallel indexing and transit bearings should be utilized wherever possible.

The standard position fixing methods are radar fixes (bearing/range and parallel indexing) in combination with fixes from satellite navigation equipment.

Parallel indexing is to be practiced by all officers.
Refer to “MGN 379 (M+F) Navigation: Use of Electronic Navigation Aids, section 3.9” and “Bridge Team Management 2nd Edition” for guidance on Parallel Indexing. Appendix A.

2.8. Traffic Separation Schemes.

Comply with traffic separation schemes to allow safe entry and exit passages. Be aware of other vessels that may attempt some unconventional activities entering and exiting these schemes.

2.9. Prohibited Areas and Printed Notes, and Navigation warnings.

Comply with instructions printed on the chart that are marked entry prohibited areas, or no-go areas highlighted on the chart. Be aware of navigation warnings and comply with these temporary requirements. If such a warning requires a change to the voyage plan, inform the Master of this development.

3. HELMSMAN / AUTOMATIC PILOT AND STEERING SETTINGS

The OOW should bear in mind the necessity to comply at all times with the requirements of Regulation 19, Chapter V of SOLAS 1974: USE OF AUTOMATIC PILOT - STEERING GEAR.

3.1. Manual Steering and Helmsman

OOW should take into account the need to station the Helmsman and to put the steering into manual control in good time to allow any potentially hazardous situation to be dealt with in a safe manner.

With a ship under automatic steering, it is highly dangerous to allow a situation to develop to the point where the OOW is without assistance and has to break the continuity of the look-out in order to take emergency action.

The change-over from automatic to manual steering and vice-versa should be made by, or under the supervision of a responsible officer. Times and positions of engaging hand steering should be recorded in the deck logbook or bell book (electronic means of recording are also acceptable).

Automatic steering (gyro control) normally shall be used during open sea passage. The steering mode shall be changed over from automatic to manual steering under following conditions:

a. In any emergency situation.
b. All close quarters situation.
c. Heavy weather.
d. In diminishing and restricted visibility.
e. Areas of high traffic density.
f. For all manoeuvres to avoid vessel traffic.
g. Whenever the vessel steers poorly.
h. During periods of river transits, buoyed channels arrival/departure port, approaching anchorage area, pilotage.
i. Navigating through all other hazardous navigational situations / restricted waters / narrow channels / shallow waters.
j. Large course alterations.
k. Reduced speed.
l. Whenever required by local regulations.
m. Whenever the Master or OOW considers it necessary.

In areas where navigation demands special caution, ships shall have more than one steering gear power unit in operation when such units are capable of simultaneous operation.

3.2. Autopilot and Steering Settings

When operating in autopilot mode, watch keepers to note that when correctly set the autopilot will provide improved course keeping and reduced rudder action at sea. The principle is simple, better course control through less frequent smaller corrections and a reduction in rudder resistance equates to maximum steering efficiency, and more importantly a reduction in fuel consumption with improved ship's speed.

Masters and Navigating officers to verify autopilot settings in accordance with makers manual to optimize course keeping and reduce rudder action. Some of the factors to consider when setting up autopilot for the sea passage, would be weather, trim, vessel condition laden/ballast etc. Any changes made to autopilot settings only to be carried out with Master's approval.

For testing Steering Gear see Bridge Procedures Guide and SOLAS Chap V, Reg 26 (See Section 7.14.)

4. USE OF THE ENGINES

In order not to jeopardise the safety of the ship, the OOW should not hesitate to use the engines to change speed on passage if the situation so requires.

NOTE: It is usually more effective and quicker to use the helm and alter course than to use the engines.

5. SAFE SPEED

In compliance with the COLREGS, ships should at all times proceed at a safe speed.

5.1. COLREG: Rule 6 - Safe Speed

Every vessel shall at all times proceed at a safe speed so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions.

In determining a safe speed, the following factors shall be among those taken into account:

a. By all vessels:
   i. the state of visibility.
   ii. the traffic density including concentrations of fishing vessels or any other vessels.
   iii. the manoeuvrability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions.
   iv. at night the presence of background light such as from shore lights or from back scatter of her own lights.
   v. the state of wind, sea and current, and the proximity of navigational hazards.
   vi. the draught in relation to the available depth of water.

b. Additionally, by vessels with operational radar:
   i. the characteristics, efficiency and limitations of the radar equipment.
   ii. any constraints imposed by the radar range scale in use.
   iii. the effect on radar detection of the sea state, weather and other sources of interference.
   iv. the possibility that small vessels, ice and other floating objects may not be detected by radar at an adequate range.

v. the more exact assessment of the visibility that may be possible when radar is used to determine the range of vessels or other objects in the vicinity.

vi. the number, location and movement of vessels detected by radar.

All deck officers are to be well familiar with above Safe Speed regulation.

OOWs should not be hesitant to exercise the option of safe speed to assess the situation. There are occasions when reduction of speed is the better option to avoid collision or close quarter situation.

OOWs are required to familiarize themselves how to slow down the engine. Chief Engineer is to carry out training to deck officers on slowing down of main engines in following cases:

- In an emergency at sea
- For a controlled slow down

The laminated copy of above slow down procedures is to be posted near to the telegraph.

6. ELECTRONIC NAVIGATIONAL AIDS

The OOW should be thoroughly familiar with the use of all electronic navigational aids carried, including their capabilities and limitations.

The echo-sounder is a valuable navigational aid and should be used whenever appropriate.

7. RADAR

The OOW should use the radar when appropriate and whenever restricted visibility is encountered or expected, and at all times in congested waters having due regard to its limitations. See Section 7, RADAR AND ARPA para 7.6

When using radar, the OOW shall ensure that the provisions on the use of radar contained in the COLREGS is complied with at all times.

Whenever radar is in use, the OOW should select an appropriate range scale, observe the display carefully and plot effectively.

The OOW should ensure that range scales employed are changed at sufficiently frequent intervals so that echoes are detected as early as possible.

It should be borne in mind that small or poor echoes might escape detection.

The OOW should ensure that plotting or systematic analysis is commenced in ample time.

Every watch[2], a test with the radar performance monitor should be carried out on each radar and the result should be noted in the deck logbook[3]. In addition, such a test should also be carried out whenever in doubt of the technical performance of the radar. When the readings are noted to drop significantly – as described in the manual – compared with the readings when the equipment was newly installed it is time to request service.

Some radars have so called “solid state” transmitters and are not fitted with a performance monitor in the traditional sense. These radars may however still have built-in testing equipment that should be used as stated in the user manual.

8. AUTOMATIC IDENTIFICATION SYSTEMS (AIS)

The AIS is intended to enhance safety of life at sea; the safety and efficiency of navigation; and the protection of the marine environment by exchanging relevant information between ships and between ships and shore stations.[4]

The purpose of AIS is to help identify ships, assist in target tracking, assist in search and rescue operation, simplify information exchange (e.g. reduce verbal mandatory ship reporting) and provide additional information to assist situation awareness. In general, data received via AIS improves the quality of the information available to the OOW. The AIS is a useful source of supplementary information to that derived from navigational systems (including radar) and therefore an important 'tool' in enhancing situation awareness of traffic confronting users.[5]

It is important that the AIS is operated correctly and that watch keepers are familiar with the equipment , including how to check that all information being transmitted by AIS is both accurate and update.[6]

The OOW should not be over reliant on the use of AIS and must be aware that it has limitations.

AIS is to be operation at all times except where international agreements, rules or standards provide for the protection of navigational information. (SOLAS 2004 V/19.2.4.7)

Deliberately turning off the transmitter signal without legitimate reason represents a breach of SOLAS and puts the ship in breach of flag state regulations.[7]

If the Master believes that the continual operation of AIS might compromise the safety or security of his/her ship or where security incidents are imminent, the AIS may be switched off after approval from the CSO[8]. Unless it would further compromise the safety or security, if the

[2] W 33 / 2024
[3] W 33 / 2024
[4] W 33 / 2024
[5] W 33 / 2024
[6] W 33 / 2024
[7] W 33 / 2024
[8] W 33 / 2024

ship is operating in a mandatory ship reporting system, the Master should report this action and the reason for doing so to the competent authority. Actions of this nature should always be recorded in the ship's logbook together with the reason for doing so. The Master should however restart the AIS as soon as the source of danger has disappeared.[9]

If the AIS is switched off or isolated when vessel is at drydock, it must be reactivated prior leaving the drydock.[10]

Whenever the AIS is switched ON and OFF, the date and time shall be recorded in the logbook together with the reason for doing so.[11]

If the AIS is not interfaced with either a radar or electronic chart display, it should be positioned adjacent to one of them.

The OOW should always be aware that other ships, in particular leisure craft, fishing boats and warships, might not be fitted with AIS.

The OOW is cautioned that AIS fitted on other ships as a mandatory carriage requirement might, under circumstances, be switched off.

The AIS is reliant on data input from various sources including vessel position sensors. The quality of information received from AIS on other vessels is as good as the quality of its data input. OOW are therefore cautioned not to rely solely on AIS information and should verify important navigational information against other navigational aids such as ARPA.

Once a ship has been detected, AIS can assist in tracking it as a target. By monitoring the information broadcast by that target, its actions can also be monitored. Many of the problems common to tracking targets by radar, namely clutter, target swap as ships pass close by and target loss following a fast manoeuvre, do not affect AIS. AIS can also assist in the identification of targets, by name or call sign and by ship type and navigational status.[12]

The AIS is regarded secondary to ARPA and radar when used as a collision avoidance system. AIS is an additional source of navigational information. It does not replace, but supports, navigational systems such as radar target-tracking and VTS[13]

The AIS text facility should not be used for collision avoidance purpose. Also the AIS information overlaid on ECDIS should be used as an identification tool and not as a collision avoidance tool.[14]

The use of AIS does not negate the responsibility of the OOW to comply at all times with the Collision Regulations, particularly rule 7 when determining whether risk of collisions exists.[15]

---

[9] W 13 / 2021
[10] W 13 / 2021
[11] W 13 / 2021
[12] W 33 / 2024
[13] W 33 / 2024
[14] W 33 / 2024

The user should not rely on AIS as the sole information system but should make use of all safety-relevant information available.[16]

The use of AIS on board ship is not intended to have any special impact on the composition of the navigational watch, which should continue to be determined in accordance with the STCW Convention.[17]

Reference should be made to IMO Resolution A.917 (22) and A956 (23) for further guidance.

9. VDR OPERATING PROCEDURE AND FAMILIARISATION

The primary purpose of the VDR is to provide evidence to investigators following a marine casualty. Data obtained from the VDR helps understand the circumstances of the incident and loss of VDR data will significantly affect the ability of the Company to defend a claim or seek recoveries from third parties. Reviews by P & I clubs have indicated around 75% of VDR recordings downloaded were flawed. The two key factors identified as the reason for the damaged data were bridge team lack of understanding of VDR operation and VDR data not being promptly saved following an incident.

To ensure that data downloaded following an incident is complete and not damaged, the bridge team has to fully understand the operation of the VDR fitted on board.

Masters and deck officers to ensure these guidelines on familiarisation training and understanding VDR operation is to be implemented and complied with by all officers.

a. Watch keepers are to be familiar with the operating procedure of the VDR equipment fitted on board.
b. Simple instructions to cover powering/recording, stopping recording/saving, removing HDD, recovering, release of data recording unit (DRU), monitoring of alarms and error codes are to be made easily available to watch keepers. Watch keepers to ensure they fully understand afore mentioned instructions.
c. Ensuring familiarity with the various equipment inputs and interpreting remote alarm panel (RAP) display indicators in case of input failure.
d. Understand under which circumstances the VDR data should be saved, note this must be in close liaison with the Master.
e. Ship’s staff to always follow proper chain of custody protocol when forwarding saved data and storage devices.
f. Maintenance of VDR equipment and the various sensors are to be carried out in accordance with makers manual.

---

[15] W 33 / 2024
[16] W 33 / 2024
[17] W 33 / 2024

g. VDR status to be continuously monitored in conjunction with all bridge equipment. Alarms/errors to be investigated and reported to the Master. If a fault cannot be rectified and VDR restored to normal operation, Master to raise a defect and advise the Company.

Playback of VDR data may provide a tool for analysing the performance of the bridge team. A mistake as long as it is not intentional or caused by carelessness, should normally be treated as a learning opportunity. A “just” culture should give personnel the confidence to admit any mistakes or near misses and this leads to a safer working environment.[18]

"The company recognises that there is great value in reviewing and analysing the VDR data and actively encourages this practice, under controlled conditions."[19]

No VDR information is to be downloaded without the Marine Superintendent knowledge.[20]

10. CLEAR WEATHER

The OOW should take frequent and accurate compass bearings of approaching ships as a means of early detection of risk of collision; such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large ship or a tow or when approaching a ship at close range.

He should also take early and positive action in compliance with the applicable regulations for preventing collisions at sea and subsequently check that such action is having the desired effect.

11. RESTRICTED VISIBILITY/HEAVY WEATHER

See section 11 of Nautical Manual.

12. CALLING THE MASTER

Refer checklist NAV B17 for the circumstances to call the Master.[21]

Laminated copy of the checklist shall be kept on bridge.[22]

[18] W 40 / 2024
[19] W 40 / 2024
[20] W 40 / 2024
[21] W 33 / 2024
[22] W 33 / 2024

13. NAVIGATION WITH PILOT EMBARKED

If the OOW is in any doubt as to the Pilot's actions or intentions, he should seek clarification from the Pilot; if doubt still exists, he should notify the Master immediately and take whatever action is necessary before the Master arrives.

14. MASTER'S PROFICIENCY

Masters are required to maintain their proficiency in navigational skills and use of electronic navigation aids.

15. RULES OF THE ROAD - COLREG '72

The Master must make certain that the OOW are thoroughly familiar with the Rules of the Road and shall require that the vessel be navigated in strict compliance with the provisions of the COLREG '72.

16. SHIP'S TIME

Ship's clocks shall be kept on Zone Time but the Master may set the ship's clocks in port to local time when the duration of the vessel's stay in port is sufficient to warrant doing so.

The 0000 to 2400 notation, with “h” as in 00h00, shall be used, and the estimated time of arrival (ETA) will be given to agents in local time and to the Company in Universal Time Co-ordinated (UTC)

17. DECK LOGBOOK[23]

All ships engaged on international voyages shall keep a record of navigational activities and incidents which are of importance to safety of navigation, and which must contain sufficient detail to restore a complete record of the voyage. (SOLAS V/28).

The company requires that records should be maintained whether the vessel is on international voyages or not. Records may be kept either in paper format or electronic means provided such information can be readily available.

The Deck Logbook[24] shall be a full and accurate account, by watches, of the navigation and activities of the vessel at sea and in port. All entries shall be made in ink.

[23] W 08 / 2024
[24] W 08 / 2024

See I.C.S. BRIDGE PROCEDURES GUIDE. Information which should be recorded includes that concerning position, course and speed, the times and positions when passing waypoints, land or sea marks, weather and sea conditions and incidents and events including pilot embarkation/disembarkation, times of attendance and connection and disconnection of tugs, times of berthing and un-berthing, hazardous occurrences and accidents. Effectiveness of the radar(s) as measured by the performance monitor(s) should be recorded by the OOW at the end of each watch whenever the radar(s) are operational to ensure that optimal efficiency is being maintained. A numeric, percentage, graphical, or other measurement value should be recorded.

At sea, it shall indicate conditions of the wind, sea and weather, and navigational information which will permit the track of the vessel to be plotted from the information contained. Names of lookouts must be recorded.

At sea all tests of navigational and emergency equipment, drills, inspections, change of time, ballast loaded or discharged, casualties and unusual occurrences shall also be recorded.

In port, it shall be kept in a similar manner in so far as applicable, and shall also show cargo, bunkers, water or ballast loaded and discharged, and drafts arriving and sailing with S.G. of (sea) water.

The Deck Logbook[25] is to be signed by the OOW at the conclusion of the watch.

Any error in a log entry is to be corrected by drawing a single line through the incorrect portion and the correct entry made immediately following. Corrected errors are to be initialled by the officer making them. Use of correction fluid (white out/TIPPEX) is prohibited, and no erasures are to be made in the Deck logbook[26], nor pages torn out.

18. BRIDGE BELL BOOK

The Bellbook is kept by the OOW when leaving and entering port, when navigating in close waters, when manoeuvring in restricted visibility and at any other time when manoeuvring.

All entries shall be in ink.

Information (and the corresponding times) to be recorded in the bell book includes but is not limited to:

a. Notice to engine room.
b. Stand by engine / finished with engine.
c. End of passage / full away on passage and a reference to a prominent navigational or geographical feature.
d. Engine tested ahead / tested astern and OK or NOT OK.

[25] W 08 / 2024
[26] W 08 / 2025

e. Change to manual / auto steering.

f. Change of Conn (Master / Pilot / Officer of the Watch).

g. Anchor aweigh / let go.

h. Pilot aboard / away.

i. Name of pilot (and if an understudy).

j. Tug's name / position fast / tug away.

k. Passing any prominent navigational features when abeam.

l. Turning in basin / short around and direction.

m. First line ashore / all fast / configuration of mooring lines.

n. Single up / let go / last line.

o. Whistle blasts and the reasons therefor; and

p. Any other information pertinent to the safety and manoeuvring of the ship.

The completed entry is to be ruled off and signed by the officer keeping the bell book and, if that officer is under training, signed by the Officer of the Watch (OOW).

A concise summary of these entries is to be transferred into the deck logbook. This summary must at least include SBE / FWE, pilot on board / away, anchor let go / aweigh and all fast / clear.

Engine orders / movements need not be recorded in the bell book if, and only if, the engine movement recorder is fully operational, the time on the recorder has been checked or correctly set and the entry "Engine movement recorder checked and correct" or similar is then logged in the bell book.

To simplify the making of entries made in the Bellbook the following notations may be used:

Telegraph Signal	**Entry in Bell book**
Stand by Engine's	SBE
Full Away on Passage	FAOP
End of Passage	EOP
Finished with engines	FWE
Full ahead or astern	F+ or F-
Half ahead or astern	H+ or H-
Slow ahead or astern	S+ or S-
Dead slow ahead or astern	DS+ or DS-
Stop	0

19. COMPASS ERROR BOOK

All compass errors taken shall be entered into the compass error book. Magnetic and gyro compass errors should be checked and recorded each watch, where possible, using either azimuth or transit bearings. A record of magnetic and gyro compass courses to steer and compass errors should be maintained and kept available to the helmsman

The error of the gyro should be determined by external observations – celestial bearings, transits etc. and the gyro and magnetic compass headings then compared to determine the magnetic compass error. Where a gyro repeater is used to take a bearing, an accurate comparison between the repeater and the master gyro should be made. Where an error cannot be taken (example overcast skies) an entry in the compass error book shall be made giving the reason.[27]

20. MANOEUVRING CHARACTERISTICS

Details of the manoeuvring characteristics of each ship are to be prominently displayed in the wheelhouse. Manoeuvring information is to be given for both light and loaded conditions and is to show the lowest constant revolutions per minute at which the ship can safely steer; and details of turning circles and stopping distances as may currently be required by national regulations and international recommendations.

All information displayed should be for calm weather, (no current) and deep-water conditions with a clean hull. These facts should be clearly noted on the data displayed with a warning that the vessel's response may significantly change under different conditions including shallow water. The displayed data to be authorised by the Master and dated.

The wheelhouse poster should be permanently displayed in the wheelhouse. It should be of such a size to ensure ease of use. (IMO Res. A.601 (15))

NOTE: See I.C.S. BRIDGE PROCEDURES GUIDE -: 'Wheelhouse Poster'.

21. BUOYS

A buoy should not be relied on as a sole means of fixing a position, nor used in a range, unless there is no other choice, or its position has been confirmed by other observations. Extreme caution is to be exercised in areas where ice floes or other forces may displace buoys from their charted positions.

[27] W44 / 2023

22. NAVIGATION AUDIT

Master is required to conduct the Navigation Audit within 2 months of joining the vessel[28] using the "Navigation Audit" Checklist provided in the CFM[29] (Form 4.1.17).
The non-conformities and observations noted during the audit are to be inputted in the respective sections of the audit report.

DPA, Marine Superintendent and Training Superintendent may conduct navigational audit when the vessel is in port or at sea (if feasible considering port stay, short voyage etc)[30]. De-briefing to bridge team shall be carried out after the audit. Detailed report including overall assessment and training requirements provided after audit.

The non-conformities and observations are to be closed as soon as possible but not later than duration of three months from the date of audit.

23. NAVIGATION BRIDGE WATCHKEEPER'S ASSESSMENT

The Master is to conduct a navigation assessment[31] of each Navigating Officer during their tour of duty while under his command. This must be done within a month of on signing officer joining.

Form 4.1.14 "Bridge Watchkeeping Officers Assessment" is to be used and Form to be filled in File 4.1.14.

24. DEVIATION

The Master's overriding responsibility withstanding, the Master of the vessel is to inform and obtain the Vessel's Charterers written approval should the Master wish to deviate from the Charterers instructed route. The Charterer's confirmation of deviation is to be received prior to commencement of any deviation from the instructed route (except when the Master is exercising his overriding authority)[32]. The required fuel consumption difference must also be included in the message.

When informing the Charterer of the deviation from the instructed route, a clear motivation for the deviation is to be provided. The Charterers should clearly confirm that they have no objection to the deviation. The vessel operator and Marine Manager are to be copied in on the correspondence.

---

[28] W 15 / 2022
[29] W 03 / 2024
[30] W 15 / 2022
[31] W 33 / 2024
[32] W 33 / 2024

If there is a change in the grade of fuel being used on the voyage (due to weather, equipment failure aboard etc), this must be made relayed to the Ship Manager and Marine Manager as soon as is possible.

Should the Master exercise his Overriding responsibility and deviate the vessel due to imminent danger to the Vessel, it's crew or the environment, the Master is to report the vessel's deviation to the Charterer and copy to the vessel operator[33] and Marine Manager when he feels the imminent danger has passed and it is safe to do so.

25. DISTRACTIONS ON THE BRIDGE

The bridge shall be quiet to allow VHF radio calls and sound signals to be heard clearly.[34]

Navigators must not allow themselves to be distracted from their primary role which is to safely monitor and execute the vessels navigation.

Distractions can be in the form of communications (See Radio Communications), mobile phone devices, computers, alarms, personal electronic devices like IPADS, Tablets, video games, music systems, radios, cameras, smart watches etc[35], chart corrections, administrative duties, idle banter, shipboard maintenance activities around the bridge or on deck, or passing scenery and activity on passing ships.

Access to the bridge shall be restricted to personnel necessary for watchkeeping only to prevent distractions on bridge.[36]

Persons not involved with the navigation of the ship, shall not congregate on the bridge, or surrounds[37]. Persons attending the bridge for training, or familiarisation, must be mindful that their presence is secondary to the safe navigation of the vessel.

Any personnel working in the vicinity of the bridge shall ensure that they do not disturb or cause any distractions to the OOW. Off duty personnel shall not use any device in the vicinity of the bridge while vessel is underway or at anchor so as to not cause distraction to the bridge team.[38]

Use of music systems, radios, video games and other electronic gadgets are strictly prohibited on bridge.[39]

Under no circumstances may anyone interfere with the navigation of the vessel. Interference may be horse play, noise generation, or obstruction of the equipment.[40]

---

[33] W 33 / 2024
[34] W 38 / 2023
[35] W 38 / 2023
[36] W 38 / 2023
[37] W 38 / 2023
[38] W 38 / 2023
[39] W 38 / 2023
[40] W 38 / 2023

Use of phones on bridge:[41]

- Company vessels are not provided with official mobile phones onboard.
- For routine communications, the Master shall use the ships phone from his cabin.
- Use of ships phone or private mobile phone on the bridge for calling family, relatives, friends, social media purpose, taking photos/videos of surroundings etc when underway or at anchor is strictly prohibited without the Masters permission.
- The Master shall, where the safety of navigation is not compromised use his discretion and approve the use of ships satellite phone or private mobile phones, on the bridge when underway or at anchor under the following occasions:
  - Calling the Company, port authorities, agent, pilot etc if the Master has immediate concerns regarding the safety of navigation (for example UKC issues when approaching port or berth).
  - Requesting for medical assistance
  - If the Master has concerns on any safety or pollution related matters
  - Dealing with emergencies on board
  - Search and rescue operations
  - Urgent business-related operations like calling bunker barge.
  - Compassionate Grounds
  - During drills
- Weather permitting, the Mobile phones shall preferably be used from the bridge wings to minimize distraction.
- The Master may permit the Pilot in using mobile phones and other personal electronic devices like tablets for navigation and for communication with tugs / mooring crew
- The Master shall minimise the distraction resulting from such devices by limiting their use to the minimum extent possible.[42]

Use of internet and email on bridge:[43]

- Where internet and email services are available on the bridge, access to internet and email use shall be limited to those circumstances where it is necessary for the safe navigation of the ship, in order to minimise distraction that might be caused to the Bridge Team.[44]
- The Company permits deck officers (after their watch hours) to use internet on the bridge only for the following purpose:[45]
  - Updating nautical charts and publications, licences and permits.

[41] W 38 / 2023
[42] W 38 / 2023
[43] W 38 / 2023
[44] W 38 / 2023
[45] W 38 / 2023

- Obtaining weather information.
- Obtaining Navigational warnings; and
- Obtaining information relevant to the ship's operations and passage plan.
- In case of an emergency situation, to communicate with the office or authorities.[46]

The OOW has the authority to challenge anyone causing distractions on bridge. The offender shall be politely requested not to cause distraction and leave the bridge, or end the call, if he is not involved in navigation. Any concerns regarding distraction should be immediately relayed to the Master.[47]

26. NAVIGATION: COMMON FORMS OF ERROR

Combining the possibility of mechanical and systems errors with human mistakes or omissions gives rise to a wide range of possible errors which need to be managed on board.

It must be remembered that a ship is moving and needs to be controlled with respect to navigation and collision avoidance. Typical errors and faults can arise through the following omissions: -

- Failure to complete a task when required.
- Ignorance of the ship's dimensions and manoeuvring characteristics[48].
- Failure to maintain the sequence of the passage plan, contingency plan or subsequent updates.
- Undetected differences between intended track and track made good.
- Not monitoring manual or auto helm wander, rudder indicators, compasses and course recorders.
- Not monitoring engine controls; or indicators.
- Unresolved difference between ground speed and RPM.
- Not matching speed to sea conditions.
- Measuring by single technique or measuring by inappropriate technique.
- Unresolved cross-track error.
- Not monitoring visibility.
- Not briefing the lookout.
- Not searching visually.
- Searching solely by radar.

[46] W 38 / 2023
[47] W 38 / 2023
[48] W 33 / 2024

- Not taking compass bearings.
- Not making a radar/ARPA/plot.
- Making decisions on inadequate knowledge of target behaviour.
- Not displaying lights or sounding signals.
- Not monitoring VHF/Medium Frequency (MF) radio.
- Wrongly applying the COLREGS and being unaware of any local regulations and signals
- Omitting to monitor the protection system's bridge-located displays and controls.
- Omitting to inspect the ship.
- Omitting to monitor the location of passengers and location and working of the crew.
- Mistaking the correct identification of a light, landmark or navigational aid either visually, on radar or on the chart.
- Not calling the Master for assistance in good time or when in doubt[49]

26.1. Avoiding Errors

In most situations, the correction of any single one of the small errors in the error chain will lead to the safe resolution of the situation. People should organize their actions to minimize the possibility of an error chain developing sufficiently to lead to an accident.

It has to be stated that errors and mistakes cannot totally be prevented from happening. However, the effects of mistakes can be corrected before they affect the safe running of the ship and this can be achieved through four golden rules: -

a. Plan ahead and know what to expect.
b. Develop safe routines and habits to ensure most safe practices are covered under normal operations, whilst leaving time and energy to solve difficult problems.
c. Apply self-checking habits to all activities on the bridge.
d. Check and monitor others and expect others to check and monitor you.

26.2. Planning Ahead

If the OOW does not know where the ship expects to be then he cannot know whether the position is right, reasonable or wrong. An OOW should always plan the watch before taking over by establishing the estimated position at the end of the watch. The OOW should then note any items to be encountered during the watch, as well as noting the Master's orders.

In pilotage waters, the OOW should have an idea of ETAs and the approximate times when key navigational marks will be reached. Similarly, the main provision of the passage

[49] W 33 / 2024

plan should be studied to ensure an understanding of sea room and situational awareness.

26.3. Routines to Prevent Undetected Errors

Routines are useful to provide a means of verifying the status of equipment and the safety of the vessel. No individual can maintain a state of constant alertness for more than periods of about half an hour. The OOW, therefore, should develop the technique of allowing routines to pick up undetected errors so that full concentration can be given to resolving collision risks, solving problems, navigating and maintaining the integrity of the whole watch system.

Routines must be appropriate for the conditions which exist. For example — position fixing in coastal waters must be such that the ship cannot be put into danger between each fix. Fixing in coastal waters will therefore be more frequent than deep sea. Routines must not be followed to the exclusion of common sense and awareness of a developing situation which must take precedence.

26.4. Self-Checking

Humans are constantly checking and correcting themselves. However, errors can be made which, if they go undetected, could lead to an accident because the outcome cannot be seen, smelt, heard or felt unless precautions are taken.

Taking precautions or self-checking must become the normal working practice of all OOW's as follows: -

- Check workings after first results have been obtained.
- Formulate approximate results before working out detailed calculations.
- Plan ahead — for example estimate at the time of taking over the watch, the position in which the ship will be at the end of the watch.
- Check the distances between fixes to verify that the speed of the vessel is as expected.
- Adopt practices which are self-checking — for example taking more than two position lines with each fix.
- Check a parallel index with a position fix to verify that the range chosen was not in error.
- Do not rely on one method of fixing when additional methods are available.
- Use the echo sounder to verify the expected depth of water when approaching land, to augment other navigational information.
- Verify the compass bearing of an approaching vessel, either visually or on radar, at least three times.
- Use check lists.
- Monitor that any action taken is having the desired effect.

- Check the track and compass course particularly after an alteration of course.

Similarly, navigational systems must not be relied upon implicitly and one system must be checked against another regularly.

The strength of a passage plan is that it can be checked before implementation and provides a basis for monitoring the passage. Encouraging the habit of obtaining an independent check by another member of the bridge team prior to executing any action set out in the passage plan will minimize the risk of errors going undetected. An unexpected deviation from the plan may indicate the development of an error chain. Any such deviation, for whatever reason, should alert the bridge team to the possibility of equipment failure, a human error or an unexpected current. When the deviation might arise from a variety of causes then the plan provides the best framework for resolving the problem.

26.5. Checking With and By Others

It will now be evident that if two people can check each other the risk of making an error is reduced still further. The OOW can assist in the process by monitoring the helmsman, pilot or Master. Similarly, the pilot and Master will be monitoring the OOW and the helmsman.

Mistakes of habit are best identified when there is discontinuity or a change of watch. This is the time to verify the information given by the outgoing OOW and check the course, speed, position, track and estimated position with fresh eyes. Similarly, a refreshed OOW coming on watch must assess the traffic situation and identify any vessels which might cause a risk of collision.

Finally, it is relevant to discuss the relationship between the OOW and the Master. The Master will want to encourage the OOW to think ahead, check workings, and verify information at the change of a watch.

These professional habits have to be learned and applied diligently. This discipline also has to be taught because it does not come naturally to the inexperienced watch keeper.

27. DRIFTING OR INTENTIONAL IMMOBILIZATION AT SEA

There may be situations where vessel has to drift for hold cleaning, awaiting lay can, shutdown main or auxiliary machinery for repair or maintenance purposes etc.

The following shall be complied with prior drifting or intentional immobilization at sea:

- Company shall be informed, and commercial impacts considered prior immobilization.
- Vessel shall not be in or near proximity of HIGH-RISK AREA/ PIRACY ZONE/ WAR ZONE (In these areas drifting or intentional immobilization is not permitted)

- The Master and CEO must consult closely on the exact timing and geographical position for the stoppage, advising both bridge and engine room watch keepers of their intentions and the probable duration of the exercise.
- Before selecting a position for the shutdown, "Risk Assessment" for the Safety of the vessel should be prepared and forwarded to the office. This Risk assessment should consider the following:
  - Probable duration of the shutdown
  - Port State reporting requirements regarding stopping and drifting[50]
  - Bridge Team composition
  - State of visibility
  - Depth of water / Under keel clearance available
  - Strength and direction of wind, tide and current and the consequential effect on the ships drift/leeway
  - Proximity of land, shoals and navigational hazards including offshore platforms, FPSO's or other structures and traffic separation schemes
  - Traffic density in the area
  - Potential security issues
  - Advisability/possibility of anchoring the vessel for the duration of the shutdown
  - Tug availability and response time
  - Contingency plan
- All required tools / spares shall be in readiness prior commencing the job.
- Bridge Watch must actively carry out the following till job is completed.
  - Establish drift zone and Monitor Ship's Position frequently
  - Ascertain the direction and rate of drift.
  - Monitor Local / Coastal Warning & Broadcasts
  - Monitor the Weather conditions and parameters
  - Ensure availability of Navigation Equipment by regular checks and tests.
  - Prioritize all around Lookout using all available means
  - Look out for suspicious crafts and monitor security in sea area around the vessel
  - Take measures to protect the environment from any kind of pollution
  - Maintain continuous listening watch on VHF Ch16 & GMDSS Frequency
- Direct communications may additionally be required with the National / Port Authority and/or Terminal, particularly where the vessel is being monitored by a Vessel Traffic Service (VTS) system.

[50] W 33 / 2024

28. DRIFTING OFFSHORE IN ADVERSE WEATHER[51]

At times vessel is required to drift offshore in view of adverse weather conditions and forecast. Harbour authorities also warn the vessel in advance of adverse weather forecast and require vessel to leave the anchorage for drifting offshore. In such cases, frequent check on weather forecast (swell height and wind speed) in addition to current/tidal stream direction is required for keeping the vessel minimum distance away from the shore/nearest shallow water. At times the wind can gust to such an extent that vessels are unable to maintain their position offshore and get drifted towards ashore in an onshore direction of wind and swell despite master's best efforts to steer the vessel away from the nearest shallow water. The swell height in the range of 5 to 6 meters makes the manoeuvring of the vessel difficult due to exposure of the propeller and rudder out of the water. Keeping in mind severe weather/sea conditions to which ship may be exposed, following factors are to be considered when deciding the minimum distance from shore.

- The weather conditions - whether wind and swell direction will drift the vessel towards shore or away from shore.
- Current and tidal streams direction
- Weather forecast
- Vessel's manoeuvrability in different load or ballast conditions and vessel's draft
- Traffic and availability of the open sea in the area
- Depth of water /UKC available
- High-Risk Area/ Piracy Zone/ War Zone/ Territorial Waters
- Proximity of land, shoals and navigational hazards including offshore platforms,
- FPSO's or other structures and traffic separation schemes
- State of visibility

As a general guide following should be observed:

- Beaufort wind scale 5 or more, vessel should maintain at least 12 NM from the shore/nearest danger, or estimated onshore drift in six hours, whichever is more.
- Beaufort wind scale 8 or more, vessel should maintain at least 24 NM from the shore/nearest danger, or estimated onshore drift in 12 hours, whichever is more.

Master/OOWs shall monitor weather forecast closely and take immediate action to steer the vessel in the safe area before onset of the adverse weather keeping situational awareness in mind.

Vessel shall always keep engines ready during drifting in adverse weather and shall act as required to keep the ship away from the dangers.

[51] W 36 / 2022 (Entire Section)