**Conducting the audit**

The auditor must:

* Be permitted as an observer on the bridge, only during pilotage and/or under standby conditions.
* Intervene if he/she believes in in his/her professional opinion that it is necessary to prevent a dangerous situation developing. Any concerns **must** immediately be made known to the OOW and/or the Master.
* Be careful to ensure that individual’s hours of rest are not compromised, particularly before or after periods of heavy activity such as; loading / discharging operations, transits of high traffic density areas (e.g. Malacca / Dover / Gibraltar / Suez etc.) and port entry / departure.
* Mark any observations that have been closed during the audit period as an observation / finding.
* State that an observation has been closed to the satisfaction of the auditor in the final report.
* on completion of the audit, discuss all findings with the Master and the audit summary / report signed by both parties.
* leave a copy of the report with the Master for him to produce when required, e.g. when undergoing and OCIMF SIRE inspection.

The auditor must not:

* Conduct any audit interviews of bridge team members whilst on the bridge as an observer.
* Interview the Officer of the Watch during deep sea or coastal navigation conditions, e.g. the 2nd Officer may be observed during his watch but can only be interviewed when off watch.

The auditor should insert details of operations observed (date / location, etc) or “Not Seen” where particular operations are not performed while the auditor is onboard.

|  |  |
| --- | --- |
| Operations Reviewed | Details |
| Unmooring & unberthing |  |
| Pilotage outbound |  |
| Coastal & Deep sea passage |  |
| Navigation in high traffic density (e.g. Malacca, Dover, Gibraltar, Hormuz, Gulf of Suez, etc) |  |
| Anchoring |  |
| Pilotage inbound |  |
| Berthing & Mooring |  |

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# Policies and Procedures

|  | **Y** | **N** | **N/A** | **N/S** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| **Is the Master fully aware of his overriding authority and responsibility?**  *The Master has overriding authority and responsibility to make decisions with respect to safety and pollution prevention. The Master shall not be constrained in any way or by any party from taking any decision which, in his / her professional judgement is necessary for safe navigation.* |  |  |  |  |  |
| **Do the Master’s Standing Orders incorporate and comply with the minimum requirements as detailed in the Company Navigation Procedures and are they appropriate?** |  |  |  |  |  |
| **Are all the navigating officers aware of all Master’s requirements as per his Standing Orders and have they all signed them to indicate understanding?** |  |  |  |  |  |
| **Are all the Deck Officers aware of the Company UKC and Air Draft Policy?** |  |  |  |  |  |
| **Is the UKC being calculated correctly?**  *When calculating the minimum UKC, the following factors shall be taken into consideration.*   * *The effects of squat* * *Tidal conditions, particularly the range and direction of the tidal streams* * *State of the sea and swell due to prevalent weather conditions* * *The accuracy of the soundings, tidal information and predictions* * *The accuracy of the ship’s draft – both observed and calculated, including provision for hogging and sagging.* * *Increase of draft due to heel/list* * *Possible changes in the water density* * *Nature of the seabed and its subsequent stability* |  |  |  |  |  |
| **Are the arrangements for standby conditions discussed and documented in accordance with Company requirements?**  *Arrangements for standby conditions shall be discussed and documented at the previous day’s work-planning meeting and/or pre-port meeting and promulgated to all parties as necessary. The planning shall include the following as a minimum:*   * *Timing and position of essential systems tests* * *The position where the vessel shall be at standby condition is marked on the appropriate chart, having been discussed by the Master and Navigator* * *Manning requirements including timings of notice periods (calling personnel and 1 hours notice)* * *Any defects affecting the vessel’s preparedness (Navigation equipment, steering, propulsion)* * *Contingency plan included in the passage plan and marked on appropriate charts* |  |  |  |  |  |
| **Are all the Deck Officers aware of and do they comply with the requirements of the Company Restricted Visibility Policy?**  *In order to ascertain the current level of visibility, the OOW shall regularly compare the range of visual and radar targets.*  *Restricted visibility shall be considered visibility that is restricted to the distance specified in the Master’s / Company standing orders, for an extended period of time and may include fog, mist, falling snow, heavy rainstorms, sandstorms, glare from background lights or any other similar causes.*  *When restricted visibility is encountered the OOW shall:*   * *Inform the Master* * *Increase vessel preparedness to standby conditions* * *Engage hand steering as necessary* * *Consider posting an additional watch keeping rating* * *Ensure navigational lights are displayed correctly* * *Make effective use of radar equipment including long range scanning and ARPA plotting* * *Commence sounding the relevant fog signal at the relevant interval as prescribed by the COLREGS* * *Maintain a safe speed appropriate to the prevailing circumstances and conditions*   *The Master must take into account the specific requirements of rules 6 & 19 of the COLREGS. The Master shall ensure that the main engine can be ordered to an immediate stop with no adverse impact on the engine room plant.* |  |  |  |  |  |
| **Are the relevant navigation checklists in daily/weekly use as required by the Company navigation procedures?** |  |  |  |  |  |
| **Are the Company requirements for handover of the navigation watch understood by all navigating officers and the navigating watch-handover checklist completed as required?**  *Particular attention should be given to ensure that information relating to any minor defects in bridge equipment is noted in the appropriate section of the checklist and passed onto the next navigation officer. Where the defect relates to critical equipment, has the Master been informed? (See Section 7.0 – Bridge Equipment)* |  |  |  |  |  |
| **Have up-to-date job specific handover notes been completed by the outgoing Master and navigating officers as required?**   * Master * Chief Officer * 2nd Officer * *3rd Officer* |  |  |  |  |  |
| **Is the designated Navigating Officer (usually 2nd Officer) thoroughly familiar with his responsibilities?** |  |  |  |  |  |
| **Are the Company requirements for the management of fatigue understood by the Master and navigating officers?**  *The auditor should review the records for the Master, C/O, 2/O and 3/O from the last port and preceding sea voyage and ensure the records are accurate by cross checking with the port log book, bridge log book, etc. Any discrepancy discovered should firstly be discussed with the Master and this question should be answered NO with supporting details.* |  |  |  |  |  |
| **Does the Master assess the experience of new watchkeeping officers prior to them taking over from the off-signing officer?**  *Prior to departure on a voyage, the Master shall assess the experience of new watchkeeping personnel and satisfy himself/herself that such personnel can safely navigate the vessel. The Master shall raise any concerns with the managing office and shall not hesitate to postpone the repatriation of the off signing officer.*  *The Master shall also ensure that new watchkeeping personnel are given sufficient time and training to fully familiarise themselves with bridge equipment. For experienced personnel, a thorough in-port introduction may be sufficient. For less experienced personnel, an “at sea” handover period should be provided prior to official handover between officers.* |  |  |  |  |  |
| **Does the Master anticipate areas of high workload and risk in relation to the current voyage, and are bridge manning levels adjusted to take into account fatigue and experience levels where necessary?** |  |  |  |  |  |
| **Are the Company requirements for regular Emergency Procedure Drills understood and being complied with and is there evidence of post drill debriefs and improvement actions being closed out?** |  |  |  |  |  |

# Passage Planning

|  | **Y** | **N** | **N/A** | **N/S** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| **Is the Company’s approved passage plan format in use?** |  |  |  |  |  |
| **Has the passage plan been prepared berth to berth?** |  |  |  |  |  |
| **Has the passage plan been reviewed by the Master and other navigating officers and signed off prior to the start of the voyage?** |  |  |  |  |  |
| **Is the designated Navigating Officer aware of Company and Master’s requirements for passage planning.**  *When deciding on a route, the following factors are amongst those that shall be taken into account:*   * *The marine environment* * *The adequacy and reliability of chart hydrographic data along the route* * *The availability and reliability of navigation aids, coastal marks, lights and radar conspicuous targets for fixing the ship along the route.* * *Any routing constraints imposed by the ship, e.g. draft types of cargo, etc.* * *Areas of high traffic density; weather forecast and expected currents, tidal, wind, swell, visibility, ice conditions; Areas where onshore set could occur* * *Ship operations that may require additional sea room, tank cleaning, pilot embarkation* * *Regulations such as ship’s routing schemes and ship reporting systems* * *The reliability of the propulsion and steering systems onboard* * *The reliability of survey data as detailed on the chart* |  |  |  |  |  |
| **Are the charts and publications properly prepared for the voyage?**  *Only official nautical charts and publications should be used for passage planning and such charts and publications including ALRS, ALL and Sailing Direction shall be corrected to the latest notice to mariners received in hard copy or by other means.*  *The passage plan charts shall be annotated with information to assist the safe navigation of the vessel on passage, which shall include, but not be limited to the following:*   * *Waypoints and planned track showing the true course and leg distance* * *Wheel-over positions where appropriate* * *Any speed changes required en route* * *Change of charts* * *Abort points for critical manoeuvres and contingency plans* * *No-go zones (relating to UKC and navigational hazards)* * *Navigation dangers highlighted (navigation warnings, T&P notices)* * *Parallel indexes & ARPA mapping* * *Tidal information* * *Position fixing frequency and method (primary and secondary)* * *Radar and visual conspicuous objects for position fixing* * *Standby positions and other areas where Master shall be on the bridge* * *Areas where anchors should be cleared and echo sounder printer started* * *Reporting points (VTS, security, etc)* * *Transits, leading lines, clearing bearings* * *Areas where heavy traffic may be met* |  |  |  |  |  |
| **When new voyage orders are received en route or a change to the original passage plan is necessary for another reason, has an amended / new passage plan been generated, verified / discussed and signed off by all Bridge Team members?** |  |  |  |  |  |
| **Are the navigation charts used for the deep sea, coastal navigation and port approaches stages of the voyage appropriate e.g. are the most appropriate large scale charts used?**  *The auditor should exercise a degree of common sense when assessing this area e.g. where the passage plan cuts across the corner of one large scale chart for a short distance only, requiring the OOW to change from one chart to another in a very short space of time, this may not be appropriate in a high traffic density situation* |  |  |  |  |  |
| **Have temporary and preliminary notices been correctly applied to all paper charts for the current voyage?**  *The latest navigation area warnings must be cross referenced when planning the voyage. The passage plan charts shall be annotated with information to assist the safe navigation of the vessel on passage, which shall include, but not limited to the following: Navigation dangers highlighted (navigation warnings, T&P notices)*  *The identification number and brief description of every new T&P notice received shall be written in pencil on the back of each chart that it affects. (For example, 5276(P)/05 Mediterranean Sea – Israel – Buoyage). However the actual T&P notice shall be marked on the appropriate voyage chart in pencil.* |  |  |  |  |  |
| **Are the paper navigation charts corrected properly and are they up-to-date?**  *The procedures for dealing with the contents of the Weekly Notices are covered in Chapter 1 of The Mariner’s Handbook (NP 100). NP294 “How to keep your admiralty charts up-to-date” is supplied and is included in the list of controlled documents. All chart corrections shall be carried out as per the method described in the booklet.*  *A log of all corrections applied to the charts onboard the vessel is to be maintained. The six monthly cumulative List of Admiralty Notices to Mariners, NP 234, shall be used to check to ensure that all applicable corrections have been applied.* |  |  |  |  |  |
| **Does the Master randomly check paper chart corrections?**  *The Master should make a random check of at least 10 corrections once a month. If the corrections are satisfactory, the Master shall make an appropriate entry in the bridge log book.* |  |  |  |  |  |
| **Is the paper chart correction file being maintained in accordance with the requirements of the company Navigation Manual?** |  |  |  |  |  |
| **Are all corrections to all nautical publications up-to-date (to most recently received notice)? I.e. ALL, ALRS and Sailing Directions?** |  |  |  |  |  |
| **Are position fixing frequencies stated in the passage plan for every stage of the voyage and do they comply with company requirement and align with industry recommended good practice?**  *The frequency of position fixing shall be such that the vessel cannot run into danger during the interval between fixes. Therefore when navigating in confined waters, with the exceptional of narrow channels, the position fixing frequency shall be such that on each leg there will always be two further fixes before the vessel reaches a national hazard.*  *When navigating in a narrow channel whereby the position of the vessel within the channel is in part monitored by the relative position of channel Lateral buoys, the progress of the vessel along the channel shall be fixed at intervals such that the correct positioning of Lateral buoys shall be verified before the vessel passes them. Such position fixing intervals shall also verify the approach of course alterations waypoints independently of the position of channel Lateral buoys. The effects of low tide on the position of such buoys shall be appreciated and allowed for. In any case, as the perceived risk to safe navigation increases, the frequency of position fixing shall be increased, however it should be appreciated that excessive position fixing may reduce the OOW’s ability to maintain full situational awareness.* |  |  |  |  |  |
| **Are the “Primary” methods of position fixing clearly stated for the different stages of the voyage?**  *The progress of the vessel along the passage plan shall be effectively monitored by all available means. Distinctive chart features should be used for monitoring the ship’s position visually, by radar and by echo sounder, and therefore these need to be an integral part of the passage plan. Of particular importance is the need to monitor the position of the ship approaching the wheel over position at the end of a track, and checking that the ship is safely on the new track after the alteration of course.*  *The passage shall be monitored by regular fixing of the vessel’s position using a variety of different methods dependant on the situation, including, visual bearings and transits, radar ranges and bearings, GPS fixes. Different methods of position fixing shall be regularly compared with each other to ensure accuracy.* |  |  |  |  |  |
| **Have UKC and Squat calculations been carried out at the appropriate points for the voyage, and if there are any stages of the passage where a maximum speed is required due to the effects of squat, has this been marked on the appropriate chart?**  *When calculating the minimum UKC, the following factors shall be taken into consideration.*   * *The effects of squat (annex 7 – squat)* * *Tidal conditions, particularly the range and direction of the tidal streams* * *State of the sea and swell due to prevalent weather conditions* * *The accuracy of the soundings, tidal information and predictions* * *The accuracy of the ship’s draft – both observed and calculated, including provision for hogging and sagging* * *Increase of draft due to heel/list* * *Possible changes in the water density* * *Nature of the seabed and its subsequent stability*   *In calculating the effects of squat for the passage plan, consideration should be given to determining the maximum speed permissible that will avoid contravening the minimum UKC required, rather than simply determining the UKC for a proposed transit speed.* |  |  |  |  |  |
| **When required, are Ship Reporting Systems complied with and details included in the passage plan?** |  |  |  |  |  |

# Electrical Chart Systems and ECDIS

|  | **Y** | **N** | **N/A** | **N/S** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| **Where an electronic chart system is fitted, is the Master and all Deck Officers aware of the requirements for the safe use of ECS and detailed in the Company Navigation Manual? Are officers aware of the difference between ECS and ECDIS?**  *The ECS shall be used as an aid to navigation alongside the existing paper chart folio and therefore the bridge teamwork should be conducted in a similar manner as if the ECS were absent. It is, however appreciated that the ECS as an integral part of the IBS can provide valuable information, including real-time position, radar overlay, course, speed, AIS overlay and even UKC information “that is essential for the safe navigation of the vessel. The ability to provide the information is not used in isolation, does not result in information overload and is effectively promulgated to the rest of the bridge team. The paper charts must remain the primary method of passage planning and position monitoring throughout the passage.* |  |  |  |  |  |
| **Where ECDIS is the primary system, has the Flag State issued a vessel specific letter of approval? (Flag State dependent)** |  |  |  |  |  |
| **Where ECDIS is the primary system, have all navigating officers attended IMO course model 1.27 and are course certificates available?**   * *Raise an observation if the ECDIS Generic Training Certificates have no reference to IMO model 1.27 course and if the period is less than 40 hours or 5 days.* * *Raise an observation if the generic training course is not approved by Flag State.* |  |  |  |  |  |
| **Where applicable have the navigating officers received the Company specific ECDIS training?** |  |  |  |  |  |
| **Have the navigating officers received “type specific” ECDIS familiarisation including its backup arrangements, sensors and related peripherals? Please specify type, duration of training and location from each officer in the notes.** |  |  |  |  |  |
| **Is ECDIS type specific familiarisation carried out prior to taking over navigational watch responsibilities?** |  |  |  |  |  |
| **Where ECDIS is the primary system, are all navigating officers familiar with the company passage planning requirements for ECDIS?** |  |  |  |  |  |
| **Is the Bridge Team aware of the procedure to update ENC’s with permits and notice to mariners (NTM) and verification of same? Have corrections to ECS / ECDIS charts been effected by uploading the latest received corrections?** |  |  |  |  |  |
| **In areas where ENC’s are not available, are paper charts of the largest scale available onboard?** |  |  |  |  |  |
| **Are OOW aware of the differences and limitations between VECTOR and RASTER chart display?** |  |  |  |  |  |
| **Officers to demonstrate familiarity with VECTOR chart symbols and category zone of confidence (CAT ZOC zones) (Levels) which denote data accuracy of vector charts (PL chart 1)** |  |  |  |  |  |
| **Are officers aware of company requirements when vector charts are not available for planned passage?**  *Areas where ECDIS would be operated in RCDS mode should be identified with appropriate paper charts available.* |  |  |  |  |  |
| **Are arrangements for delivery of new ENC/RNC data effective, particularly if the ship changes trade at short notice?** |  |  |  |  |  |
| **Have the International Hydrographics Office (IHO) Data Presentation and Performance checks been conducted on the ECDIS for the vessel?** |  |  |  |  |  |
| **Are the safety depth, safety contour, shallow contour and deep contour correctly set for the passage being audited?**   * *Verify that navigating officers understand the meaning of each safety parameter and the procedure for achieving these settings.* * *Verify the procedure for control of these settings when handing over watches.* * *Verify that the setting of safety depth and safety contour alarms are se tin a manner such that an alarm will be obtained before reaching operator’s minimum UKC requirements as specified in SMS.* * *EXAMPLE: A vessel has a draft of 12m. With squat effect and UKC added, the safety depth could be, for example 14m. If the ENC cell has depth contours for 10m and 20m, the ECDIS will chose the 20m curve for the safety contour and any depth below this will be a no-go area.*   *Obviously a ship with 14m draft will need to cross the 20m contour to enter a number of ports. Is there an agreed best practice how to handle this in the ECDIS? Are officers aware of the current procedure onboard to handle such scenarios?* |  |  |  |  |  |
| **Is there adequate XTD for the various legs of the planned route to take into account the nature of the environment and expected possible deviations, lateral separation from the route and collision avoidance?** |  |  |  |  |  |
| **Where ECDIS is the primary system, is the “route plan checking” (e.g. ZOC, XTD, Route Backup) function on ECDIS being carried out before the voyage?**   * *It must be remembered that the effectiveness of the automatic check system relies on the accuracy of the safety parameters set by the user.* |  |  |  |  |  |
| I**s a risk assessment carried out for the operation of ECDIS which identifies and controls the hazards when using ENCs and (if used) when ECDIS is in RCDS mode?**  *The main areas of risk when considering ECDIS operation can be identified under three main categories:*   * *The equipment itself may suffer from failure (both hardware and software) including power outages sensor input failure and potential virus infection.* * *The charts are operated under permit which may expire, charts in use not corrected up-to-date, updates not correctly applied, ENC chart coverage unavailable requiring the system to be use din RCDS mode without the appropriate paper chart folio being available.* * *The operation of the ECDIS system onboard carried out by poorly trained crew following poor navigational practices and operational procedures such as excessive zooming or operating the chart for navigation with base information only displayed.* |  |  |  |  |  |
| **Are results from the risk assessment evident in the onboard procedures plus instructions for ECDIS?** |  |  |  |  |  |
| **Is there an approval back-up arrangement to ensure safe navigation for the entire voyage, in the even of an ECDIS failure?** |  |  |  |  |  |
| **Are clear procedures in place to cover loss of sensory inputs to ECDIS?**   * *SMS should contain guidance on action to be taken in case of loss of sensory inputs to ECDIS.* * *Information on sensory input failure:*   *If the GPS signal is lost and the ECDIS continues to show a reassuring dot where the ship Dead Reckoning Position is calculated, this could be a recipe for disaster if it goes unnoticed despite the alarm.* |  |  |  |  |  |
| **Are passage plans uploaded on to all ECDIS units on the Nav bridge and has a back-up copy been prepared in case of system failure?** |  |  |  |  |  |
| **Are the Master and all Deck Officers aware of the suggested assignment of navigational purposes to scale ranges for ENC’s and are the appropriate range ENC charts being used?**  *During production, ENCs are assigned a compilation scale, based upon the nature of the source data they are based on, and are allocated to a navigational purpose band related to this. As shown in the table below, there are 6 navigational purpose bands (scale ranges are indicative only).*  *The system auto-filler means that unless you are navigating on the best scale chart, you will not see all the information available for display. Therefore, when zooming out, the system will automatically deselect certain features from display such as Soundings, Lights and Topographical detail. The only way to ensure that your display is not affected by SCAMIN is to always ensure you are navigating on the best scale chart! It is therefore essential that the operator knows how to select the best scale chart on their system.*   |  |  |  | | --- | --- | --- | | *Navigational Purpose* | *Name* | *Range* | | *1.* | *Overview* | *<1:1,499,999* | | *2.* | *General* | *1:350,000 – 1:1,499,999* | | *3.* | *Coastal* | *1:90,000 – 1:349,999* | | *4.* | *Approach* | *1:22,000 – 1:89,999* | | *5.* | *Harbour* | *1:4,000 – 1:1,21,999* | | *6.* | *Berthing* | *>1:4,000* | |  |  |  | |  |  |  |  |  |
| **Are the Navigating officers familiar with the E ECDIS “Look Ahead” functions?** |  |  |  |  |  |
| **Where ECDIS is the primary system, has the Master included the required alarm parameters in his Standing Orders and night orders where appropriate?** |  |  |  |  |  |
| **Where ECDIS is the primary system, are all Nav warnings relevant to the intended voyage plotted?**  *Randomly check on Voyage ENC chart that EGC nav warning or Navtex warning in force are displayed on ENC. In cases of remote updating checks, a log should be maintained.* |  |  |  |  |  |
| **Is the Navtex connected to the ECDIS and are the nav warnings being managed correctly?**  *Are ALL officers proficient making use of the Marine Information Objects (MIO) capability to plot electronically navigational warnings (e.g. NAVAREA warnings)* |  |  |  |  |  |
| **Are T&P notices being properly applied to electronic charts? Not all HOs include T&P corrections on their ENC updates; can the navigating Officer demonstrate how to check if T&P corrections have been applied?**  *The designated Navigation Officer should cross check with the Admiralty Notice to mariners to ensure that the ENC update CD contains all relevant T&P notices, and where necessary, missing T&P notices should be applied manually.* |  |  |  |  |  |
| **Are position fixing including cross-referencing carried out as per the methods and frequency specified in SMS?**  *Navigating officers must not become over-reliant on ECDIS. Frequent checks should be made of the ECDIS position fixing system (normally GPS ) by the use of other means whenever possible. ?such checks should include:*   * *Parallel indexing and use of clearing bearings* * *Use of radar to check the accuracy of the charted position by comparing the location of the radar targets against the charted symbol.* * *Visual Cross bearings* * *Comparison of the signal to noise ratio of the GPS system in use* * *The frequency of position fixing should be such that the vessel cannot run into danger during the interval between fixes.* |  |  |  |  |  |
| **Are ECDIS checks for pre-departure, arrival, pilotage and confined waters carried out for Conformance and alignment with input from sensors (e.g. GPS / GNSS, heading, speed) and its presentation on the ECDIS display?** |  |  |  |  |  |
| **Are officers able to demonstrate awareness of correct Geodetic Datum Setting (WGS-84) (ECDIS & GPS)**  **Ensure the GPS unit providing constant position fixing information to ECDIS has been updated with any relevant chart datum offset if the chart datum use din the raster chart is different form WGS(84). Failure to do so may result in positions being inaccurate.** |  |  |  |  |  |
| **As pilots may be carrying their own portable ECDIS units, is the Master / Pilot information exchange form content aligned with use of ECDIS for the intended port transit?** |  |  |  |  |  |
| **Are officers aware of how to quickly get rid of RADAR overlay information if required to de-clutter the display?** |  |  |  |  |  |
| **Is there any indication of officer’s over-relying on ECDIS position? Is Master randomly monitoring this especially in key navigational area sot ascertain that visual / radar fixes and parallel indexing is being practiced?** |  |  |  |  |  |
| **Auditor should verify standard of bridge team communication skills when ECDIS is primary means of navigation during a passage. Issues such as alarm management, hazard reporting, control of safety settings etc should be evaluated.** |  |  |  |  |  |
| **Are watch-keeping handover checklists aligned with use of ECDIS and contain important information exchange including safety settings and alarm settings?** |  |  |  |  |  |
| **Are ECDIS Drills & Emergency Procedure Exercises (including Virus Protection Procedure) carried out regularly and records available?** |  |  |  |  |  |
| **Is an acceptable back-up arrangement in place? (in independent type-approved ECDIS with an independent position fixing system using official ENCs and Raster Navigation Charts where needed, or a full / reduced folio of up-to-date paper charts, as relevant to the ship’s voyage)** |  |  |  |  |  |
| **Are there clear instructions for maintenance of ECDIS in the PMS and has a person been designated? Are records available in PMS, demonstrating ECDIS maintenance as per manufacturer requirements?** |  |  |  |  |  |
| **Where ECDIS is NOT the primary system, is it being used correctly, as an aid to navigation only, with paper charts used solely as the primary means of the navigation? Are there checks and balances in place to ensure safety of navigation is not jeopardised at any stage when ECDIS is used for training purpose only?** |  |  |  |  |  |

# Coastal & Deep Sea Navigation

|  | **Y** | **N** | **N/A** | **N/S** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| **Is the OOW fully aware of his responsibilities and authority as defined in the Company / Navigation manual?**  *The OOW is the Master’s representative and shall be 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 shall be in charge of the bridge and therefore I n charge of the bridge team for that watch, until properly relieved. In compliance with shipboard operational procedures and Master’s standing orders, the OOW shall ensure that bridge watch manning levels are at all times safe for the prevailing circumstances and conditions.*  *When the Officer of the Watch has the con, he shall have the authority to take whatever action he deems necessary with regards to navigation and the safety of the ship, using the rudder, whistle, engine, signalling and bridge communications equipment as required.* |  |  |  |  |  |
| **Is the OOW fully aware of his primary duties as defined in the Company Navigation Manual?**  *In order to maintain a safe navigational watch, the primary duties of the OOW shall involve watchkeeping, navigation and GMDSS radio watchkeeping.* |  |  |  |  |  |
| **Is the vessel maintaining a proper lookout at all times?**  *In compliance with the COLREGS, a 360° lookout shall be maintained at all times to serve the purposes of:*  *Maintaining a continuous state of vigilance by sight and hearing 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.*  *Duties of the watchkeeping ratings shall include:*   * *Reporting of lights, vessels, navigational marks, floating objects, changes in environmental conditions or any other even that may affect the safe navigation of the vessel.* * *Reporting any fog signals that are heard.* * *Reporting any events onboard the vessel that may relate to safety of personnel or the vessel.* * *Occasionally looking at the radar screen to relate visual targets to radar targets.*   *A rating that is hand-steering the vessel shall not be considered a “lookout” and the appointment of another watchkeeping rating as lookout must be considered.*  *The OOW shall maintain a two-way flow of information with the watchkeeping rating, including changes in navigational circumstances, planned collision avoidance manoeuvres, alteration of course, changes of main engine status and expected changes in traffic density.* |  |  |  |  |  |
| **Where fitted, is the dead-man alarm in use during single person watches?**  *Whenever the vessel is underway or at anchor, there shall be an appropriately qualified watchkeeping rating assisting the OOW, subject to the provisions laid out below. If fitted, the “dead-man” alarm must be switched on when the Officer of the Watch is the sole person on watch.*  *Dead-man alarm systems, where fitted, must be utilised whenever the Bridge is operating with single person bridge watches, i.e. only the OOW.*  *Utilisation of the dead-man alarm may be initiated at any other time at the discretion of the Master.*  *The dead-man alarm must be tested monthly to ensure correct operation and the results of the tests recorded in the Deck Operations Log.* |  |  |  |  |  |
| **Is the OOW complying with the position fixing frequency as laid down in the passage plan for this leg of the voyage?** |  |  |  |  |  |
| **Is the OOW aware of all the Master’s requirements as per his Standing Orders?** |  |  |  |  |  |
| **Is the OOW aware of when to call the Master as per their Standing Orders?**  *The Masters shall be called to the bridge immediately, in accordance with the requirements of his/her Standing Orders, if any Officer of the Watch is in doubt as to his/her ability to deal with a particular situation.* |  |  |  |  |  |
| **Are the Company requirements regarding not using the VHF or the AIS text facility for collision avoidance purposes being complied with?**  *VHF or AIS text facility should not be used for collision avoidance purposes.*  *The AIS text facility shall not be used for collision avoidance communications. It shall only be used for emergency / distress scenarios and then only with the Master’s prior approval. All vessels shall post a notice next to the AIS unit, stating this requirement.* |  |  |  |  |  |
| **Is the Deck Operations Log being maintained in such a way that “the ship’s actual track could be reviewed at a later stage”?**  *All ships shall maintain onboard 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. Such a record shall be maintained in the Deck Operations Logbook.*  *Logbooks shall be kept according to Flag State requirements. Supervision and the final responsibility for keeping the logbook(s) shall rest with the Master.*  *The Deck Operations Log is the main recording mechanism for voyage and port operations.*  *At sea, the Deck Operations Log will contain the voyage record, which should be maintained chronologically (date order), with every line completed. It shall be the responsibility of the Officer of the Watch to ensure that the book is signed at the end of each watch. Writing notes on a slip of paper and writing the log later is not acceptable. The record must be written at the time as it happens. The Master must sign each completed page. There shall be no break at End of Passage with the record continuing with the recording of port activities. Similarly at the end of port operations. The record shall continue directly into the sea passage.*  *For vessels trading in US waters, log entries must be made as required by CFR Title 33 Section 164.25* |  |  |  |  |  |
| **Is the incoming OOW ready to take over the watch on time, is all relevant information handed over?**  *The handover of the Bridge watch shall be treated as an opportunity for a thorough two-person check on the vessel’s situation. The relieving Officer shall be on the Bridge a minimum of ten (10) minutes prior to the change of watch. More time should be allowed as needed for watch Officers of less experience, new situations and for high workload and/or risk situations such as stand-by or pilotage.*  *The Officer of the Watch shall not hand over the watch to the relieving officer if he has any reason to believe that the latter’s capabilities are in any way impaired and thus preclude him from carrying out his/her duties effectively. If in doubt, the Officer of the Watch shall immediately inform the Master.*  *Bridge Handover Checklists shall be completed and signed before relieving the Officer of the watch.* |  |  |  |  |  |
| **Is any alternation of course or collision avoidance manoeuvre completed by the outgoing OOW before the incoming OOW takes over?**  *Handover shall be postponed when the vessel is about to be or is already engaged in a collision avoidance manoeuvre or a navigational alteration of course.* |  |  |  |  |  |
| **Are positions being transferred correctly from one chart to the other?**  *The largest scale charts published should be used for navigation. When changing charts the last position on the previous chart must be immediately transferred as the first position on the next chart using a range and bearing from a fixed landmark wherever possible. Latitude and Longitude can be used when deep sea.* |  |  |  |  |  |
| **Are gyro & magnetic compass errors taken in accordance with the requirements of the company Navigation Manual?**  *The magnetic compass deviation and gyro error should be ascertained every watch and recorded in the Compass Observation Log. Where weather conditions or traffic density makes it impractical, this fact should be noted:-*  *At least once a week a compass error should be taken directly from the magnetic compass and recorded in the compass observation log in red ink.* |  |  |  |  |  |
| **Does the OOW know the manoeuvring characteristics of the vessel?**  *The Master shall ensure that all the members of the Bridge Team are fully familiar with the manoeuvring characteristics of the vessel with respect to main engine manoeuvring, stopping distance, turning circles and advance and transfer in both the ballast and laden conditions.* |  |  |  |  |  |
| **Are the manoeuvring characteristics of the vessel on display in the wheelhouse?**  *A wheelhouse poster providing manoeuvring data as required by IMO resolution A.601(15) shall be clearly displayed in the wheelhouse (note additional requirement of CFR Part 164.35.G.7)* |  |  |  |  |  |
| **Does the OOWS display a high level of awareness regarding the daily operation of the vessel?**  *The OOW shall maintain a high level of general awareness about the vessel and its day-to-day operation. 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 watch keeping arrangements may be appropriate in areas where there is thought to be a security risk.* |  |  |  |  |  |
| **Do all officers engaged in carrying out a navigational watch, practice astronomical observations on at least a weekly basis, circumstances permitting?**  *Each ship shall have at least one sextant as a part of the outfit of navigational equipment. Sextants shall be carefully maintained in accordance with the maker’s instructions and care taken to ensure that they are properly corrected and safely stowed when not in use. To ensure that all navigational officers are fully conversant with the importance of utilising the sextant, all officers engaged in carrying out a navigational watch should carry out an astronomical observation on at least a weekly basis, circumstances permitting. These observations shall be recorded onboard in the vessel’s “Sights Book”* |  |  |  |  |  |
| **Does the OOWS have a good level of knowledge of the ARPA, radar and the limitations of the radar mapping facility?**  *At the start of each watch, the OOW shall check the set up of the radars with respect to:*   * *North up, Course Up, Head Up* * *Relative Motion or True Motion* * *Ground stabilised or sea stabilised* * *True vectors, Relative vectors* * *True Trails or Relative trails* * *Vector and trail lengths* * *Appropriate range scale* * *Optimum settings of amplifier gain, sea and rain clutter* * *Appropriate alarm setting for TCPA and CPA* * *Heading marker alignment*   *In order to accurately calculate target course speed and aspect the “own vessel” speed input* ***should*** *be speed through the water. A notice stating this requirement* ***must*** *be posted next to each radar.*  *The observer* ***must*** *be aware of the arcs of blind and shadow sectors on the display caused by masts and other onboard obstructions. These sectors* ***must*** *be plotted on a diagram placed near the radar display and updated following any changes which affect the sectors.* |  |  |  |  |  |
| **Is safety watch-keeping on the GMDSS being maintained?**  *This section shall not apply to vessels that are in port when the bridge may not be manned.*  *VHF watchkeeping: All ships shall maintain a watch on:*  *DSC Channel 70 (digital Selective Calling*  *Channel 16 (Distress, safety and calling*  *MF watchkeeping: Ships shall keep a continuous watch on:*  *Navtex frequency 518kHz when in an area where a service is provided.*  *The DSC frequency 2187.5*  *HF watchkeeping: ships shall keep a continuous watch on;*  *DSC distress frequency 8414.5*  *Satellite watchkeeping: Ships fitted with SATC shall maintain a watch for incoming traffic*  *A watch of Maritime Safety information such as navigational and meteorological information shall be maintained whilst at sea.*  *Apart from routine calling and acknowledgement procedures, no radio messages shall be sent without the Master’s prior authority.* |  |  |  |  |  |
| **Does the Officer of the Watch have a good appreciation of the current and forecast environmental conditions (weather, visibility, currents etc)?**  *The OOWS must continually monitor the current and forecasted meteorological conditions in order to obtain early warning of deteriorating conditions. Weather forecasts must be reviewed upon receipt, signed by OOW and handed over at change of watch. The Master must be informed of any perceived serious deterioration of conditions. An amendment to the current passage plan should be considered to avoid adverse weather.* |  |  |  |  |  |
| **Are Navigation, navtex and weather warnings processed and promulgated as per the requirements of the Company Navigation Manual?**  *OOWs must ensure, when taking over the watch, that NAVTEX and SAT-C telex for NAVAREA warning equipment is fully operational and receiving messages wherever applicable.*  *The appointed Navigating Officer is responsible for this equipment and for the filing of the nav area warnings and weather forecast, however this does not relieve the OOWS of their responsibility to monitor and promulgate the incoming information. The OOW shall, on receipt of nav area warnings and weather forecasts:*  *Determine its applicability*  *Mark it on the chart in pencil as necessary*  ***Initial each printout*** *received, to acknowledge the information has been processed by the OOWS.*  *Any information from NAVTEX and SAT-C NAVAREAs received by the OOW applicable to the passage and present passage plan,* ***must*** *be marked on the chart and handed over to the next OOW at the change of the watch handover. Where such information is determined by the OOWS to be of a critical nature then the Master* ***must*** *be advised. Each OOW shall initial the nav area warning applicable to the current voyage to demonstrate that it has been read and understood.* |  |  |  |  |  |
| **Are the requirements for safety rounds being complied with?**  *On being relieved from watch, the Officer of the Watch shall immediately carry out an inspection of those parts of the vessel as ordered by the Master. Upon successful completion of rounds, the Officer shall positively report to the OOW who shall record the event in the Deck Operations Log. Should the officer have any doubt as to the safety of the ship or her crew, the Master is to be informed immediately. Rounds shall also be conducted at the end of every watch in port.* |  |  |  |  |  |
| **Is the OOW fully conversant with the initial actions in response to an emergency?**  *A delayed or inadequate emergency response may lead to an escalation of the original incident and the OOW shall be fully conversant with:*   * *The emergency response checklists (Aid Memoires) and the initial actions required by the OOW* * *The general alarm signal, the actions to be taken on hearing or instigating an alarm and the ship’s emergency plan* * *The operation of the fire detection control panel and the procedure to be followed in the event of the detection system activating*   *Upon receiving a distress message from a position that the vessel could provide assistance, the OOWS shall immediately inform the Master* |  |  |  |  |  |
| **Is the Bridge informed on exit / entry to the Engine Room for evening rounds during UMS periods?** |  |  |  |  |  |

# Navigation in Restricted Waters & Port Approaches

|  | **Y** | **N** | **N/A** | **N/S** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| **Are the arrangements for standby conditions discussed and documented in accordance with Company requirements and is the timing of stand-by engines appropriate for the circumstances (e.g. traffic density, navigational safety, etc)?**  *Arrangements for standby conditions shall be discussed and documented at the previous day’s work-planning meeting and / or pre-port meeting and promulgated to all parties as necessary. The planning shall include the following as a minimum:*   * *Timing and position of essential systems tests* * *The position where the vessel shall be at standby condition is marked on the appropriate chart, having been discussed by the Master and Navigator* * *Manning requirements including timings of notice periods (calling personnel and 1 hours notice)* * *Any defects affecting the vessel’s preparedness (Navigational equipment, steering, propulsion)* * *Contingency plan included in the passage plan and marked on appropriate charts* |  |  |  |  |  |
| **Are Essential Systems Tests being carried out in accordance with Company requirements?**  *Within 12 hours of the anticipated departure standby condition and within 24 hours (12 hours for US arrival) of the anticipated arrival standby condition, all ship should follow a formal set of test procedures to prove the operation of essential systems. If the passage time does not exceed 24 hours the Master and Chief engineer may waive the pre-arrival tests.*  *Essential Systems Tests shall be carried out in a location where a loss of power, steering or engine control will not endanger the vessel.*  *Main engine(s) – the main engine(s) shall be operated to demonstrate full manoeuvrability, both ahead and astern whilst maintaining plant stability. Note the M/E will need to be ready to be manoeuvred sometime before the standby condition position since the essential system test must be completed before Standby.*  *Steering Gear – The steering gear shall be tested and recorded in the deck and engine operations logbook.*  *Testing of engines and steering gear, when carried out in accordance with USCG regulations, shall be entered in the official log book and include the reference to the USCG title 33 CFR Part 164 equipment tests.*  *The Master shall inform the managing office of any defects found during essential system tests prior to continuing with the passage. The vessel shall maintain a safe position until the defect has been rectified or the risks in proceeding with the defect have been mitigated in consultation with the managing office.*  *Prior to conducting a steering or engine test, it must be positively verified that the rudder and propeller is clear. Pre-departure engine tests whilst moored must only be conducted once cargo lines are disconnected and gangway removed. Personnel should be standing by the moorings.* |  |  |  |  |  |
| **Is an abort point clearly indicated on the appropriate navigation chart?**  *An abort point for critical manoeuvres (e.g. port entry, passage through areas of high traffic density, icy navigation, etc) should be marked on the appropriate navigation chart. The Master should not proceed beyond the abort point if there are any unresolved equipment / machinery defects that critically affect the safe navigation of the vessel. The vessel shall maintain a safe position until the defect has been rectified or the risks in proceeding with the defect have been mitigated in consultation with the managing office.* |  |  |  |  |  |
| **Is the current bridge manning appropriate for the circumstances, to ensure a proper lookout and safe navigation can be maintained at all times?**  *When setting or changing the Watch Condition, every effort shall be made to anticipate the need for resources as the risk or workload increases rather than waiting until the situation is possibly beyond the capabilities of the original Bridge Team. When determining the composition of the watch, the following factors shall be taken into account:*   * *Visibility, state of sea and weather* * *Traffic density and other activities occurring in the vicinity* * *Attention necessary when navigating in or near traffic separation schemes or routeing measures* * *Additional workload caused by the nature of the vessel’s operations* * *Fitness for duty of any crewmember with particular reference to fatigue* * *Knowledge of and confidence in the professional competence of ships offices & crew* * *Experience of each OOW and familiarity with navigational equipment* * *Operational status of bridge instrumentation and controls, including alarm systems* * *Rudder and propeller control and ship manoeuvring characteristics* |  |  |  |  |  |
| **When the Master takes or relinquishes the con, is this a formal process that is record in the bridge log book?**  *The OOW shall remain in charge of the bridge and bridge team until relieved or the Master takes the con. Any change of con of the vessel shall be duly recorded in the Deck Operations Log.*  *The Master shall make it clear to every officer that his presence on the bridge in no way relieves the Officer of the Watch of any of his responsibilities and duties as officer of the watch until the Master clearly states that he is taking over the con of the vessel and the fact is duly logged.* |  |  |  |  |  |
| **Are the arrangements for Pilot Boarding correct and in line with Company and International Maritime Pilots Association requirements?**  *The rigging of the pilot transfer arrangements and the embarkation and disembarkation of a pilot shall be supervised by a responsible officer or petty officer having means of communication with the navigation bridge who shall also arrange for the escort of the pilot by a safe route to and from the navigation bridge. Personnel engaged in rigging and operating any mechanical equipment shall be instructed in the safe procedures to be adopted and the equipment shall be tested prior to use.*  *Is the ladder & other equipment in good order & properly rigged*   * *Safety Procedures followed* * *Adequate lighting provided* * *Communications with the bridge are effective* |  |  |  |  |  |
| **Does the Bridge Team remain intact during pilot transfers?**  *The integrity of the bridge team should not be compromised during the embarkation or disembarkation of the pilot and therefore the OOWS should remain on the Bridge.* |  |  |  |  |  |
| **Are the requirements for VTS reporting complied with?**  *Vessel traffic services (VTS) have been introduced, particularly in ports and their approaches, to monitor ships compliance with local regulations and to optimise traffic management. VTS can only be mandatory within the territorial seas of a coastal state.*  *VTS requirements shall form part of the passage plan and shall include references to the warnings, and advice on when to proceed in areas where traffic flow is regulated.*  *For vessels trading to the US, CFR Title 33 Section 161 gives full details of all Vessel Traffic Service systems that are required by statute in the United States.* |  |  |  |  |  |
| **Are the Collision Regulations being followed correctly?**  *The OOW shall comply with the COLREGs with regards to the steering and sailings rules, the displaying of the correct lights and shapes and making the correct sound signals.* |  |  |  |  |  |
| **In a collision or close quarters situation when own ship is the give way vessel, is early and substantial action taken that is readily apparent to the stand-on vessel and is the Company or Master’s requirements on minimum CPA complied with?**  *The OOW* ***shall*** *take early and positive action to avoid a collision and he/she* ***shall no*** *hesitate to deviate from charted track providing the safety of such deviation is first assessed.* |  |  |  |  |  |
| **Is the vessel’s position being monitored in accordance with the requirements of the Passage plan and company IMS?**  *The vessel’s position shall be monitored and checked by more than one navigational system or method at frequent intervals.* |  |  |  |  |  |
| **Are the Company requirements concerning position fixing methods being complied with?** |  |  |  |  |  |
| **Is the bridge team complying with the position fixing frequency as laid down in the passage plan for this leg of the voyage?** |  |  |  |  |  |
| **When available, are parallel indexes indicated for each course and used as appropriate?**  *When radar conspicuous targets are available, parallel indexing should be used to monitor the vessel’s progress against the planned track.* |  |  |  |  |  |
| **Is the vessel maintaining a proper lookout at all times?**  *Duties of the watchkeeping rating shall include:*   * *Reporting of lights, vessels, navigational marks, floating objects, changes in environmental conditions or any other event that may affect the safe navigation of the vessel.* * *Reporting any fog signals that are heard* * *Reporting any events onboard the vessel that may relate to safety of personnel or the vessel* * *Occasionally looking at the radar screen to relate visual targets to radar targets.*   *A rating that is hand-steering the vessel shall not be considered a “look out” and the appointment of another watch keeping rating, as lookout must be considered.*  *The OOW shall maintain a two way flow of information with the watch keeping rating, including changes in navigational circumstances, planned collision avoidance manoeuvres, alteration of course, changes of main engine status and expected changes in traffic density.* |  |  |  |  |  |
| **If the vessel is navigating in Traffic Separation Scheme (TSS), has this been carried out in line with International, Local and Company requirements?**  *Whilst navigating within a TSS, rule 10 does not relieve any vessel of an obligation under any other rule, and in particular that the Steering and Sailing rules for vessel in sight of one another an in restricted visibility still apply in their entirety and the fact that a vessel is following a traffic lane does not give her priority over crossing vessels. When navigating in a TSS which has been implemented by the local national authority but which has not been adopted by the IMO, vessels may be encountered that are not complying with the requirements of rule 10 due to the TSS not being IMO adopted.*  *With regard to inshore Traffic Zones (ITZs) it is generally accepted that heavy traffic density within a traffic lane, restricted visibility or the lack of traffic within an ITZ are not sufficient reason for a vessel to leave a traffic lane and use the ITZ. However, a vessel may use an ITZ when it is necessary to seek shelter from the weather. When a vessel does enter an ITZ in line with the requirements of the rule to proceed to one of the nominated places within the ITZ, then it must be remembered that vessels navigating within the ITZ may be encountered heading in any direction.* |  |  |  |  |  |
| **If restricted visibility is encountered does the Bridge Team comply with all International (COLREGS) and Company requirements?**  *Restricted visibility shall be considered visibility that is restricted to the distance specified in the Master’s standing orders and may include fog, mist, falling snow, heavy rainstorms, sandstorms, glare from background lights and any other similar causes.*  *When restricted visibility is encountered the OOWS shall:*   * *Inform the Master* * *Increase vessel preparedness to standby condition if appropriate* * *Consider posting an additional watch keeping rating* * *Make effective use of radar equipment including log range scanning and ARPA plotting* * *Commence sounding the relevant fog signal at the relevant interval as prescribed by the COLREGS.* * *Maintain a safe speed appropriate to the prevailing circumstances and conditions* * *The Master must take into account the specific requirements of rules 6 & 19 of the COLREGS.* |  |  |  |  |  |
| **Is the pre-arrival exchange of information between the ship and port authority being conducted in accordance with Company and Local requirements?**  *Masters should provide port or pilotage authority with basic information regarding their arrival intentions and ship characteristics well in advance of planned arrival and in accordance with local requirements. The Master should request in return information including pilot boarding point, boarding speed, pilot ladder arrangements, reporting and communications procedures and sufficient details of the prospective berth, anchorage and routeing information to enable any changes to be made to the passage plan.* |  |  |  |  |  |

# Bridge Team Management

|  | **Y** | **N** | **N/A** | **N/S** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| **Is there an early and effective exchange of information between the Pilot / Master / Bridge Team using the required Company form and are all members of the bridge team fully aware of the intended plan?**  *When the pilot joins a bridge team he/she shall be fully incorporated into the bridge team. It is important that there is an early exchange of information between Pilots and the bridge team. The Pilot’s intended actions should be requested, discussed and challenged where these differ from the vessel’s passage plan. Mooring / unmooring operations, local conditions and any other relevant factors should be discussed in full and the leaders of the mooring parties must be briefed accordingly.*  *The necessity of cooperation and close working relationship between the Master and Pilot during berthing and unberthing operations is extremely important to the safety of the ship. In particular, both the pilot and the Master must discuss and agree which one of them will be responsible for operating key equipment and controls (such as main engine, helm and thrusters).*  *The pilot should coordinate the efforts of all parties engaged in the berthing or unberthing operations (e.g. tug crews, linesmen, and ship’s crew). His/her intentions and actions should be explained as soon as practicable to the bridge management team.*  *In supporting the pilot, the Master and bridge team must:*  *Ensure that the pilot’s directions are conveyed to the ship’s crew and correctly implemented*  *Ensure that the ship’s crew provide the bridge team with relevant feedback information*  *Advise the pilot once his/her directions have been complied with, or where an omission has occurred or if a potential problem exists.* |  |  |  |  |  |
| **Does the Master actively promote a two-way flow of information, intervention and questioning of decisions between members of the Bridge Team and himself?**  *There* ***must*** *always be a free flow of information between the members of the bridge team, thus avoiding the “one man error”. The Master* ***may*** *allocate each team member specific navigational duties but they all* ***must*** *cross check each other. Positive reporting and Closed Loop Communication protocols* ***shall*** *be encouraged by all team members.* |  |  |  |  |  |
| **During the pilotage is there evidence that the bridge team is confident enough to question the Pilot when appropriate?**  *The members of the bridge team and especially the Master, shall not hesitate to question any action, or lack of action, by the pilot that they consider inappropriate, or when they are in any doubt as to the actions of intentions of the pilot.*  *A continuous process of assessment and re-assessment of the progress against the agreed plan requires that the bridge team individually and collectively:*   * *Recognise and make others aware when there is a deviation from the agreed plan or standard procedures* * *Actively question unresolved discrepancies and* * *Challenge ambiguity* |  |  |  |  |  |
| **If the Pilot or Master deviates from the agreed plan, do other members of the bridge team intervene and seek clarification and explanation?**  *When deviations are noted, effective bridge team members should intervene and comment in specific, assertive terms.*  *A continuous process of assessment and re-assessment of the progress against the agreed plan requires that the bridge team individually and collectively:*   * *Recognise and make others aware when there is a deviation from the agreed plan or standard procedures* * *Actively question unresolved discrepancies and* * *Challenge ambiguity* |  |  |  |  |  |
| **When junior members of the bridge team intervene and request clarification from the Master, is this intervention treated with respect, in clarification provided and if necessary intended actions modified accordingly?**  *For any poor judgement chain to be broken, Masters and bridge team members must recognise that they are human, be open to the possibility that they can make poor judgements and be willing to admit and correct errors.*  *If someone senior to us makes a decision we do not agree with, then there may be many reasons why we feel unable to challenge them. If we notice that something looks a little odd, but no-one else seems bothered by it, then we can convince ourselves that all is OK. If we see that raising concerns (e.g. about health and safety) is not well received then we will think twice before daring to raise our hand in the future.* |  |  |  |  |  |
| **Does the Master exhibit a high degree of situational awareness during pilotage / high traffic density situations?**  *Situational awareness is vitally important during pilotage and stand-by conditions where the information flow can be quite high and poor decisions may lead to serious consequences. Situational awareness involves being aware of what is happening in the vicinity, in order to understand how information, events and one’s own actions will impact goals and objectives, both immediately and in the near future.*  *Maintaining good situational awareness occurs through effective communications and a combination of the following actions.*   * *Recognise and make others aware when the team deviates from standard procedures* * *Monitor the performance of other team members* * *Provide information in advance* * *Identify potential or existing problems (i.e. equipment-related or operational)* * *Demonstrate awareness of task performance* * *Communicate a course of action to follow as needed* * *Demonstrate awareness of task performance* * *Communicate a course of action to follow as needed* * *Demonstrate ongoing awareness of the passage status* * *Continually assess and reassess the situation in relation to the overall goal(s)* * *Clarifying expectations of all team members eliminates doubt* |  |  |  |  |  |
| **Do other members of the Bridge Team exhibit effective situational awareness and contribute to the overall “Team” shared mental model of the situation?**  *To ensure a Shared Mental Model of the situation, bridge team members must share their knowledge relative to:*   * *The task and team goals* * *Their individual tasks* * *Team member roles and responsibilities*   *To provide a solid base for building team situational awareness, team members need to have all the information that will help them develop relevant expectations about the entire team task. Maintaining good situational awareness occurs through effective communication and a combination of the following actions:*   * *Recognise and make others aware when the team deviates from standard procedures* * *Monitor the performance of other team members* * *Provide information in advance* * *Identify potential or existing problems (i.e. equipment-related or operational)* * *Demonstrate awareness of task performance* * *Communicate awareness of task performance* * *Communicate a course of action to follow as needed* * *Demonstrate ongoing awareness of the passage status* * *Continually assess and reassess the situation in relation to the overall goal(s)* * *Clarifying expectations of all team members eliminates doubt* |  |  |  |  |  |
| **During Pilotage and/or stand-by conditions are there any distractions that may affect the bridge team’s situational awareness?**  *Situational awareness is vitally important during pilotage and stand-by conditions where the information flow can be quite high and poor decisions may lead to serious consequences . Distractions can interrupt an individual’s ability to detect and process important information at a critical time.*   * *It is highly recommended that non-essential personnel are banned from the Bridge during standby conditions or where navigation is critical* * *Bridge team members should refrain from engaging in idle conversation among themselves, and with the Pilot, and remain task-focussed.* * *The use of personal computers (laptops) on the bridge during Standby conditions or in areas when navigation is critical should be prohibited.* * *The use of radios (entertainment), MP3 players or CD players is prohibited during standby conditions or when navigation is critical or traffic is heavy*   *To gather and process the incoming information in rapidly changing circumstances requires judgement and decision making, if we are not paying attention, having a spirited conversation, dialling a cell phone or distracted in some other way, problems arise, near-misses and accidents occur. Why? There is a break in our though process and we miss critical information.* |  |  |  |  |  |
| **During the Pilotage or stand-by period, if planned goals / targets are not met does the bridge team question why and systematically evaluate the situation?**  *During pilotage or stand-by conditions, we set certain goals or targets to meet, such as speed of advance, course made good, ETA at waypoints, expected sounding, etc. When they are not met we must question why and systematically begin to evaluate the situation.*  *A continuous process of assessment and re-assessment of the progress against the agreed plan requires that the bridge team individually and collectively:*   * *Actively question unresolved discrepancies and;* * *Challenge ambiguity* |  |  |  |  |  |
| **Does the Master clearly and effectively communicate his intended actions to other bridge team members when he has the con during stand-by conditions?**  *Effective communication may be the most important factor in achieving and maintaining situational awareness. To ensure a Shared Mental Model that allows other bridge team members to monitor progress, it is essential that the Master clearly communicates his intended actions. The level of situational awareness achieved is relate dot the level and quality of communication observe din bridge team members.*  *There must always be a free flow of information between the members of the bridge team, thus avoiding the “one man error”. The Master may allocate each team member specific navigational duties but they all must crosscheck each other. Positive reporting and Closed Loop Communication protocols shall be encouraged by all team members.* |  |  |  |  |  |
| **When the Master has the con, does he exhibit the ability to make the right decision under pressure and without unnecessary delay?**  *The COLREGs require early and positive action to avoid a collision and he/she shall not hesitate to deviate from charted tracks providing the safety of such deviation is first assessed.*  *In order to understand how safety is compromised by human factors, we need to know something about the way we make decision and how that process is affected by stressors and by the actions (or inactions) of other people.*  *One way in which we make decision is by going through a process of identifying and evaluating alternative options and selecting the best one, a “rational choice analysis”.*  *Another way in which we make decision is a “recognition-primed” approach. This is when we recognise a situation as typical or familiar and can imagine the best course of action. Recognition comes from our application of sense-making patterns developed through experience.*  *In dynamic environments we can think that we are exercising a “rational choice analysis” when in fact we are taking short cuts and making assumptions about the situation. We can also think that we, as experienced individuals, can objectively size up a situation (i.e. “recognition-primed” approach) when in fact our response is full of assumptions and biases.*  *In rapidly developing dynamic environments such as the bridge of a vessel in heavy traffic it is vitally important that the decision making process sis firmly grounded by compliance with standard procedures (COLREGs), compliance with procedures like the COLREDGS help to ensure that over familiarity and complacency do not adversely impact the decision making process.* |  |  |  |  |  |
| **Does the Master make decisions in a calm and considered way and manage his emotions well even when under pressure?**  *Leaders can influence group emotion and therefore team effectiveness. An impulsive and emotional leader can create a contagion phenomenon where emotions can adversely affect team effectiveness. The provision of clear and strong direction by team leaders can modulate such emotional contagion.*  *Stressors like time pressures (to get the job done), fatigue, noise, ambiguity (confusion over what is happening) affects the way that we process information (and hence make decision) because:*   1. *They do not give us opportunity to gather as much information as we might want or need* 2. *They disrupt our ability to use our working memory to sort things out* 3. *The distract our attention from the task at hand* |  |  |  |  |  |
| **Do any of the Bridge Team members seem to be operating in a highly stressed or pressurised manner?**  *Teams performing under stressful conditions can be highly susceptible to emotional distress across team members. As team environments become more aversive (i.e. more time-urgent, stressful, complex) team members obviously need to maintain a collective claim. If the team succumbs to stress, member interactions become more narrowly focused among a subset of the team, information may become increasingly less shared among team members, decision alternatives are not fully explored, and decision making accuracy can decline.*  *Stressors like time pressures (to get the job done), fatigue, noise, ambiguity (confusion over what is happening), affects the way that we process information (and hence make decision) because:*   1. *They do not give us opportunity to gather as much information as e might want or need* 2. *They disrupt our ability to use our working memory to sort things out* 3. *They distract our attention from the task at hand* |  |  |  |  |  |
| **If a conflict arises during pilotage or stand-by conditions, does the Master exhibit the correct behaviours to resolve the situation effectively?**  *Conflict in a rapidly developing dynamic environment such as the bridge of a vessel in heavy traffic can be incredibly destructive to good teamwork.*  *Managed in the wrong way, real and legitimate differences between people can quickly spiral out of control, resulting in situations where co-operation breaks down and the team’s mission is threatened. This is particularly the case where the wrong approaches to conflict resolution are used.*  *To calm these situations down, it helps to take a positive approach to conflict resolutions, where discussion in courteous and non-confrontational and the focus is on issues rather than on individuals. If this is done, then, as long as people listen carefully and explore facts, issues and possible solutions properly, conflict can often be resolved effectively.* |  |  |  |  |  |
| **Have all bridge team members had sufficient rest periods prior to port entry / departure navigation?**  *Fatigue can adversely affect an individual’s situational awareness and is a major risk to safe navigation. The Master shall ensure that any member of the bridge team (officer or rating) is sufficiently rested in line with STCW and ILO requirements when assuming bridge watchkeeping duties. Watchkeeping schedules may be altered to achieve this objective. The Master shall not hesitate to safely anchor or stop the vessel to rest bridge team members.*  *Stressors like time pressures (to get the job done), fatigue, noise, ambiguity (confusion over what is happening), affects the way that we process information (and hence make decisions) because:*   1. *They do not give us opportunity to gather as much information as we might want or need* 2. *They disrupt our ability to use our working memory to sort things out* 3. *They distract or attention from the task in hand* |  |  |  |  |  |
| **Does the Bridge Team function effectively?**  *An effective Bridge Team will:*   * *Exhibit an understanding of each other’s roles, responsibilities and tasks* * *Exhibit a clear understanding of their own tasks* * *Anticipate the needs of other team members* * *Adapt to task demands quickly and efficiently* * *Actively question unresolved discrepancies* * *Challenge ambiguity*   *It may not be necessary to know all the technical aspects of other bridge team member’s jobs, but there must be an awareness of what actions, information, etc. other team members need to do their jobs effectively.*  *Bridge Teams with leaders that set high-performance goals, provide effective coaching, and encourage team embers to adopt and achieve these goals, will display higher team effectiveness and cohesion than teams with leaders who do not engage in such activities.* |  |  |  |  |  |
| **Does the Master initiate regular debrief sessions to discuss Bridge Team performance that includes an open feedback loop on areas for improvement that include his own performance?**  *Effective Bridge Team leaders develop the basis for effective engagements in this process by team members. They do so by developing key member capabilities to perform these tasks, motivating team members to participate, and providing feedback.*  *The following leadership behaviours will facilitate this team learning process:*   * *Provide a self-critique early in the debrief process* * *Accept feedback and ideas from others* * *Avoid person-oriented feedback; focus on task-focused feedback* * *Provide specific constructive suggestions when providing feedback* * *Encourage active team member participation during briefing and reviews and not simply state one’s own observations and interpretations of the team’s performance* * *Guide briefings to include discussions of “teamwork” processes as well as “task work”* * *Refer to prior debriefs and team performance when conducting subsequent debriefs* * *Vocalize satisfaction when individual team members or the team as a whole demonstrate improvements* |  |  |  |  |  |
| **Does the Master identify and provide any coaching & mentoring for the junior officers as a result of the Bridge Team management debrief sessions?**  *The Master shall ensure that training and coating of Bridge Officers is performed on an ongoing basis in order to ensure that they fully understand and carry out their duties. Masters shall also be proactive in providing hands-on training, where appropriate, to all Bridge Officers, in manoeuvring, navigation, navigation equipment familiarisation and ship handling. When allowing an officer to manoeuvre the vessel in restricted waters the Master should carefully choose the situation and monitor the actions of the officer to ensure the safety of the vessel.* |  |  |  |  |  |
| **Does that Master exhibit confidence in the other members of the Bridge Team’s ability to carry out their role/ tasks.**  *A team leader that lacks confidence in some members of his team may exhibit a desire to do too much himself/herself and may feel unable to delegate work to others so that he can focus on critical / priority items. As a result he may be distracted by minor issues resulting in a loss of situational awareness.* |  |  |  |  |  |
| **Are the actions and requests of the Pilot closely monitored during the pilotage?**  *The large amount of information processed by bridge teams and the many necessary interactions within and between individuals provides the opportunity for human error. An example is a verbal order for port rudder when the direction of turn required is to starboard.* |  |  |  |  |  |
| **Is the helmsman closely monitored during the pilotage?**  *Course, helm and engine orders from the Pilot should be transmitted through the bridge team. When Pilots request and alteration of course, the bridge team shall ensure that the required helm angle to achieve a suitable rate of turn in the required direction is correctly and quickly applied* |  |  |  |  |  |

# Bridge Equipment

|  | **Y** | **N** | **N/A** | **N/S** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| **Is all critical Bridge equipment operational?** |  |  |  |  |  |
| **Are the Master and Deck Officers fully conversant with the operation and limitations of the navigational and communications equipment onboard?**  *All members of the bridge team shall be familiar with the navigational and communications equipment, charts and publications onboard.* |  |  |  |  |  |
| **Does the OOW have a good level of knowledge of the ARPA, radar and the limitations of the radar mapping facility?**  *At the start of each watch the OOW shall check the set-up of the radars with respect to:*   * *North Up, Course Up, Head Up* * *Relative motion or True motion* * *Ground stabilised or sea stabilised* * *True vectors, Relative vectors* * *True trails or Relative trails* * *Vector and trail lengths* * *Appropriate range scale* * *Optimum settings of amplifier gain, sea and rain clutter* * *Appropriate alarm setting for TCPA and CPA* * *Heading marker alignment*   *Amplifying Gain, manual turning, sea and rain clutter* ***must*** *be frequently adjusted to maximise the performance of the radar unit and ensure that small targets are detected at an adequate range.*  *Vector length, CPA and TCPA alarm limits* ***must*** *be checked at the start of every watch and set to a value appropriate to the circumstance and conditions.*  *In order to accurately calculate target course speed and aspect the “own vessel” speed input* ***should*** *be speed through the water (see stabilised). A notice stating this requirement* ***must*** *be posted next to each radar.*  *The observer* ***must*** *be aware of the arcs of blind and shadow sectors on the display caused by the radar display and updated following any changes which affect the sectors.* |  |  |  |  |  |
| **Is the OOW aware of the consequences of using speed over the ground as the speed input to the radar for ARPA calculations?**  *In order to accurately calculate target course, speed and aspect “own vessel” speed input should be speed through water (see stabilised). A notice stating this requirement* ***must*** *be posted next to each radar.*  *The accuracy of a target plot is dependent upon the accurate input of owns ship course and speed through the water. The speed input to the ARPA should be speed through water rather speed over the ground.* |  |  |  |  |  |
| **Is correct static and current Voyage Data entered into the AIS?**  *The status of the AIS including the manually entered voyage data shall be checked every watch to confirm it is correct and up-to-date. The “Navigational Status” is of particular importance because if status is set “At Anchor” or “moored” the dynamic data will transmit at an interval of 3 minutes rather than at least once every 10 seconds if the status is set as “Underway”.*  *In order to enhance vessel security as well as to minimise commercial appropriation of information, the AIS shall transmit only the minimum information as required by the ISPS /code, SOLAS and local authorities including the USCG.* |  |  |  |  |  |
| **Is the AIS equipment set correctly when in port and updated when at sea or at anchor.**  *The status of the AIS including the manually entered voyage data shall be checked every watch to confirm it is correct and up-to-date. The “Navigational Status” is of particular importance because if status is set “At Anchor” or “moored” the dynamic data will transmit at an interval of 3 minutes rather than at least once every 10 seconds if the status is set as “underway”.*  *When approaching port safety related information transmitted by port authority via the AIS text facility shall be reviewed, when in port at a cargo-handling facility, ships should be guided by local regulation as to whether the AIS unit is to be switched off or set to a low power transmission status (Bridge Shutdown procedure) shall include this consideration. The unit shall not be left switched on and in full power transmission mode when cargo is being worked in port.* |  |  |  |  |  |
| **Are the company requirements regarding AIS overlay on the radar displayed being complied with?**  *The AIS overlay on radars must not be left on continuously. On some vessel the AIS can be fully integrated with the vessel’s radars, such that information from the AIS unit can be displayed as an overlay on the radar screen. AIS information displayed in this way, must be treated with extreme caution and should never be used in isolation to determine if a risk of collision exists. In this mode the target data may be provided by either the AIS or the ARPA and may not be identical. Due to the difficulty in determining the source of the target information (AIS or ARPA) the AIS data should be overlaid intermittently to identify targets but must not be left on continuously. Target data from AIS is less reliable than that calculated by the ARPA since it is dependent on inputs from a third party which cannot be readily verified.* |  |  |  |  |  |
| **Has the voyage data recorder system undergone a performance test within the last 12 months?**  *The voyage data recorder system, including all sensors, shall be subjected to an annual performance test; the test shall be conducted by an approved testing or servicing facility to verify the accuracy, duration and recoverability of the recorded data. In addition, tests and inspections shall be conducted to determine the serviceability of all protective enclosures and devices fitted to aid location. At copy of the certificate of compliance issued by the testing facility, stating the date of compliance and the applicable performance standards, shall be retained onboard the ship.* |  |  |  |  |  |
| **Are the instructions for saving and downloading data displayed next to the VDR control panel?**  *A copy of the procedure shall be posted in the vicinity of the SVDR* |  |  |  |  |  |
| **Is the radar performance of both radars checked every 4 hours and the results compared against manufacturer’s tolerance and recorded on navigation checklist where applicable?**  *When in use and if practicable the performance of radars shall be checked before sailing and then every 4 hours, and results compared with manufacturer’s performance tolerances or the performance achieved immediately after fitting a new magnetron should be posted near the radar for reference.* |  |  |  |  |  |
| **Are blind and shadow sectors diagrams on display adjacent to the radars?**  *The observer must be aware of the arcs of blind and shadow sectors on the display caused by masts and other onboard constructions. These sectors must be plotted on a diagram placed near the radar display and updated following any changes which affect the sectors.* |  |  |  |  |  |
| **Are there clear instructions on how to change from normal to emergency steering on display?**  *Simple operating instructions with a block diagram showing the change-over procedures for remote steering gear control systems and steering gear power units shall be permanently displayed on the navigation bridge and in the steering compartment.* |  |  |  |  |  |
| **Are the requirements for use of manual steering control as detailed in the company Navigation Manual being followed?**  *The manual steering control shall be tested daily whilst at sea.*  *Manual steering control and dedicated helmsman should be used when undertaking large alterations of course and when navigating in restricted waters or in areas of high traffic density.*  *In areas of high traffic density, in conditions of restricted visibility and in all other hazardous navigational situations where autopilot systems are in use, the OOW shall be able to establish manual control of the ship’s steering immediately. The OOW must make a timely decision whether to employ a helmsman and ensure that hard steering is engaged before a potentially hazardous situation develops.*  *When operating in hand steering for a prolonged period, consideration should be given to relieving the helmsman every 30 minutes in order to maintain the concentration necessary to maintain an accurate course.*  *In circumstances as above, the OOW shall have available without delay the services of a qualified helmsperson who shall be ready at all times to take over steering control.*  *The changeover from automatic to manual steering and vice versa shall be made by, or under the supervision of a responsible officer and shall be recorded in the deck operations logbook. Upon changing over to autopilot the performance should be carefully monitored for at least 10 minutes to ensure correct operations.* |  |  |  |  |  |
| **Is the off-course alarm properly set up and in use?**  *The off-course alarm shall be utilised when the vessel is being steered by the automatic pilot or when hand steering for long periods. The off-course limit settings shall be checked every time the off-course alarm is put into operation and at handover of watches.* |  |  |  |  |  |
| **Are the gyro compass repeaters checked and comparisons made between the two gyros on a daily basis?**  *The speed, latitude corrections and the alignment of all repeaters, including those fitted in other bridge equipment, shall be checked at least once a day. The gyrocompass is the ship’s principal direction indicating equipment and special care must be taken to maintain it in full operational condition. On vessels fitted with two gyro compasses, the gyro comparison unit, if fitted, shall be in operation at all times when both gyro compasses are running.* |  |  |  |  |  |
| **Are all Deck Officers familiar with the actions that should be taken in the event of a gyro compass failure?**  *All watchkeeping officers should be familiar with the actions to be taken in the event of failure of the gyro compass and consideration should be given to undertaking drills simulating failure conditions.* |  |  |  |  |  |
| **Do regular compass deviations broadly agree with those on the card?**  *The Master shall request the services of a qualified compass adjuster if the compass error deviations obtained no longer compare favourably with the deviation card or after major structural alterations, repairs to the ship or after a long period of lay-up. On completion of adjustment, the adjuster must prepare a deviation card for the compass.* |  |  |  |  |  |
| **Is the magnetic deviation (duplicate) card displayed on the bridge? Are there spare magnets onboard and is the location known?**  *The deviation card or certificate shall be kept with the ship’s certificate and a duplicate shall be posted on the bridge. A record of the position of the compensation magnets, the position of the soft iron spheres and the amount and position of soft iron in the Finders Bar shall be kept with the deviation card.* |  |  |  |  |  |
| **Is the echo sounder being used in accordance with the requirements of the company Navigation Manual?**  *When navigating in coastal or restricted waters the echo sounder shall be turned on, an appropriate scale selected and the amplifying gain adjusted to present a reliable echo return. The recording trace (if fitted) should run during the standby period. The echo sounder trace (if fitted) shall be time-referenced when switched on and at regular intervals (<30 minutes) or when passing significant seamarks to enable comparison with the Deck Operations Log.*  *The echo sounder should be set to measure under keel clearance and should not be offset to measure depth of water.*  *When switching on the echo sounder prior to Standby the reading should be compared with another source, such as Doppler or charted depth.* |  |  |  |  |  |
| **Is the steering gear being tested in accordance with company requirements and recorded in the Deck Operations Log?**  *The steering gear shall be tested:*   * *Daily in manual mode when operating for prolonged periods in autopilot* * *During essential systems tests prior to arrival Standby condition to prove:* * *Both power units together capable of moving each rudder from 35° on either side to 30° on the other side in not more than 28 seconds (port to Starboard & Starboard to Port).* * *A visual inspection of the steering gear and its correcting linkage during operation.*   *During one hour notice prior to departure Standby Condition to prove:*   * *Each power unit (steering motors) together are capable of moving each rudder from hard over one side to hard over the other within a reasonable timeframe.* * *Both power units (steering motors) alone are capable of moving each rudder from 35° on either side to 30° on the other side in not more than 28 seconds.* * *Each remote steering gear control system (telemotors) is capable of moving rudder(s) in line with above requirement.* * *Each remote control is capable of moving the rudder(s) accurately)* * *Follow up and non-follow up control systems are capable of moving rudder accurately* * *Rudder angle indicator(s) on bridge accurately reflects the position of rudder(s)* * *Power unit indicator lamps and failure alarm are fully operational* * *Remote steering gear control system (telemotor) power failure alarms are fully operational.* * *The operation of automatic isolating arrangements and other automatic equipment* * *The operation of the means of communication between the navigation bridge and steering gear compartments and the alignment of the steering gear gyro repeater.* |  |  |  |  |  |
| **Is the course recorder being maintained in accordance with the requirements of the company Navigation Manual?**  *The course recorder shall be checked every watch. At least once a day, and before each standby period, the recording chart shall be marked with the date and ship’s time, and checked for correct alignment.* |  |  |  |  |  |
| **Are GMDSS log entries as per Flag State requirements? Station programmed correctly? Shore Based Maintenance Certificate and License displayed?**  *All vessels shall maintain a record of the activity of the radio station including:*   * *A summary of communications relating to distress, urgency and safety traffic* * *A reference to important radio service incidents* * *The position of the ship at least once a day*   *All vessels shall maintain the MCA-produced GMDSS log and when ships articles are changed the carbon copies removed and archived onboard whilst the log book is returned to the relevant marine administration (if required).* |  |  |  |  |  |
| **Are there equipment specific instructions in place, to assist an unskilled operator to send an emergency message or DSC?**  *The Master shall ensure that there are equipment specific instructions in place, adjacent to the relevant pieces of equipment, to assist an unskilled operator to send an emergency GMDSS communication.* |  |  |  |  |  |

# Mooring, Unmooring & Anchoring

|  | **Y** | **N** | **N/A** | **N/S** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| **Are the requirements of the Company Anchoring policy being followed?**  *When entering, manoeuvring within and leaving harbour, the Master must ensure that the anchors are clear and ready for letting go, however in certain cases, such as SBM work and on the approach to some berths, local regulations may require the anchors to be secured. The windlass(es) must be fully operational and the necessary members of the crew at stations, with a responsible Officer or duly trained and experienced crewmember in charge of operations. On long protracted river or estuarial passages, mainly conducted at full speed, Masters should assess the necessity of keeping the forecastle manned, bearing in mind local regulations.*  *It is the Master’s responsibility to determine the anchoring procedure for his vessel and to plan this, taking into account weather, current, tide, tide depth of water, vessel displacement and the characteristics and condition of the vessel’s equipment. For vessels fitted with hydraulic brakes, these must be thoroughly tested a number of times with the anchor secure prior to letting go.*  *On completion of anchoring, the cable stopper is to be locked in position across the cable. The cable should be adjusted to rest up against the cable stopper and then the brake hardened up and the windlass taken out of gear. There should be no slack in the cable between the brake and the cable stopper. If the cable cannot be secured as required above, then the managing office must be informed.* |  |  |  |  |  |
| **Prior to anchoring has the Master / Bridge Team / Pilot evaluated and discussed the following?**   * Anchorage position * Anticipated length of stay * Water depth * Amount of cable to use * Type of bottom * Current * Direction other anchored vessels are lying to current / wind * Weather forecast for next 24-48 hours * Nearby hazards * Adjacent vessels * Available nav aids * Proximity to other vessels and traffic lanes * Swing circle required |  |  |  |  |  |
| **Does the Master carry out a pre-operational briefing with the responsible officer to discuss his and the Pilot’s requirements for the anchoring operation?** |  |  |  |  |  |
| **During anchoring is the necessary information passed clearly and effectively between the responsible officer on deck and the Master/ Pilot / Bridge team?**  *The responsible officer shall communicate regular updates on:*   * *Amount of cable paid out* * *Lead on the anchor cable* * *Weight on the anchor cable* * *When the anchor is “brought up”* |  |  |  |  |  |
| **Is the position and ship’s head noted when the anchor is dropped?**  *Upon anchoring a position fix shall be obtained and the ship’s heading noted in order to ascertain the most probably position of the anchor on the bottom.* |  |  |  |  |  |
| **Is the vessel’s position adequately monitored whilst at anchor?**  *The OOW shall:*   * *Check at sufficiently frequent intervals whether the vessel is remaining securely at anchor by taking bearings of fixed navigation marks or readily identifiable short objects* * *Ensure that a proper lookout is maintained* * *Ensure that inspection rounds are made periodically with particular reference to the anchor cable* * *Observe meteorological and tidal conditions and state of sea, notify the Master and undertake all necessary measures if the vessel drags anchor* * *Ensure the state of readiness of the main engines and other machinery complies with the Master’s requirements* * *Ensure the vessel exhibits the appropriate lights and shapes and that appropriate Collision regulations sound signals are made* * *Maintain an effective radio watch* |  |  |  |  |  |
| **Has the mooring / unmooring operation been fully discussed as part of the Master / Pilot information exchange?**  *The information exchange should include:*   * *Position of all tugs* * *Tugs lines or ships lines to be used* * *Number of moorings to be used* * *Sequence and disposition of moorings e.g. first lines ashore* |  |  |  |  |  |
| **Prior to the mooring / unmooring / anchoring operation does the Master fully discuss the operation with the responsible officers and make his and the Pilot’s requirements clear in respect of?**   * Position of all tugs * Tugs lines or ships lines to be used * Number of moorings to be used * Sequence and disposition of moorings e.g. first lines ashore * Personal safety of ship/shore mooring gangs |  |  |  |  |  |
| **Does the responsible officer conduct a pre-mooring / unmooring “toolbox” talk with the crew members to discuss the Master’s / Pilot’s requirements and personal safety matters associated with the forthcoming operation?** |  |  |  |  |  |
| **During the mooring / unmooring operation is the necessary information and instructions passed clearly and effectively between the Master / Pilot / Bridge team and the responsible officers on deck?** |  |  |  |  |  |