



防损手册

LOSS PREVENTION BROCHURE

船舶航行安全提示

SAFE NAVIGATION PRACTICES

中国船东互保协会 防损部编



www.chinapandi.com

中国船东互保协会

Copyright © 2020 China P&I Club. All Rights Reserved.

本手册中提供的信息仅作参考之用。未经中国船东互保协会书面许可，任何单位或个人不得以任何方式复制、转译、传播本手册部分或全部内容。手册内容为中英文双语，如有歧义，以中文为准。

This guide is intended for general guidance only. Content shall not be copied, reproduced or distributed in any form or by any means without consent by China P&I Club. Where the English translation contradicts with the Chinese, the Chinese version shall prevail.

目录 CONTENTS

1	瞭望 Lookout	01-02	6	应急舵 Emergency Steering	11-12
2	值班 Watchkeeping	03-04	7	锚泊作业 Anchoring Operation	13-14
3	航线设计 Passage Planning on ECDIS	05-06	8	雾航 Restricted Visibility	15-16
4	VHF通讯 Use of VHF	07-08	9	台风防抗 Typhoon Avoidance	17-18
5	引航安全 Pilot Onboard	09-10	10	渔区航行 Navigating through Fishing Areas	19-20

瞭望 Lookout



瞭望

瞭望是航海驾驶人员运用主观能动性和航海专业知识对不断变化的局面进行的具有前瞻性思考，并做出最终判断的严格规范的职业行为。正规瞭望是保证安全航行的关键，大部分的碰撞事故都是由于疏忽瞭望所致，连续观测可以防止错觉及意外的发生。

随时保持正规瞭望的目的

- 利用视觉、听觉以及所有其他可用的手段保持连续戒备状态；
- 全面判断碰撞、搁浅和其他危害航行安全的局面和危险；
- 探明遇险的人员、船舶或飞机，沉船、残骸/碎片和其他碍航物。

防损建议

1. 安排足够、称职的瞭望人员，在驾驶台进行人员安排时要考虑到天气、能见度、通航密度及航道等情况；
2. 瞭望人员在任何时候都应使用视觉、听觉以及适合当时情况和环境的一切手段保持正规瞭望，随时保持瞭望的有效性；
3. 瞭望人员不得从事或被分派会影响瞭望的其他任务，瞭望人员与舵工应职责分开；
4. 交接班人员应做到瞭望时间重叠、内容衔接；
5. 为保持不间断的瞭望，要正确处理船舶定位与瞭望的关系，并尽可能缩短在海图室的时间；
6. 船长要充分利用和协调好驾驶台的团队资源（包括引航员），合理组织和安排值班人员的工作，以便能形成一个注意力范围足够广泛，反应灵敏、信息互通，完整而无瞭望与技术死角的操船整体。

Lookout

A proper lookout requires the OOW to assess the ever-changing environment in a professional manner and to exercise good judgement accordingly. As a large proportion of accidents are attributable to lookout negligence, maintaining a proper and continuous lookout plays an essential part in preventing misjudgments and ensuring safe navigation.

Purposes of a proper lookout

- To make sure vigilance is exercised the entire time of the watchkeeping;
- To identify risks related to hazardous situations such as collisions and groundings;
- To locate persons in need of help, ship or aircraft in distress, wrecks/debris and other obstructions.

Good practice

1. Allocate sufficient members to the lookout team and make sure each is competent. Factors including state of the weather, visibility and traffic should be taken full account for watch arrangement.
2. Maintain at all times a proper and efficient lookout by sight and hearing as well as by all available means.
3. Do not distract the officer(s) in charge with other navigational duties and the helmsman should not be considered as a lookout.
4. Allow the relieving officer enough time to be fully adjusted to the environment and aligned with his predecessor on the navigation information.
5. Spend as little time at the chartroom as possible while performing the lookout duty.
6. The master is entitled to manage the bridge resources (including the pilot) so that the ship can be maneuvered with full appraisal of the situation by an efficient watchkeeping team.

值班 Watchkeeping



■ 值班

船舶驾驶员在值班过程中面临着一定的生理和心理压力，如果值班安排不合理，就会带来一定的疲劳。久而久之，不仅会形成职业病，还会给船舶带来严重的安全隐患，因此保证安全值班对船舶航行安全至关重要。

船长在决定驾驶台值班组成时应考虑的因素

- 值班人员职业素养、数量和身体健康状况；
- 轮机部的值班安排；
- 天气情况及能见度；
- 邻近航行危险物的程度；
- 助航仪器的使用及工作状态；
- 装备在驾驶台上的无人机舱（UMS）控制装置、报警和指示器及其使用程序和局限性；
- 特殊的操作环境可能导致对航行值班的出乎寻常的任何要求。

防损建议

1. 船长应合理组织并安排值班人员的工作和休息，当值班与规律的轮休被破坏时，应评估值班者的疲劳程度并做出调整，必要时亲自到驾驶台指挥；
2. 负责在驾驶台航行值班的高级船员如因疲劳难以安全值班，应毫不犹豫地通知船长，正式交班前，任何情况下不得离开驾驶台，驾驶台不许无人值守；
3. 值班期间应做好定期检查，以确保一切助航仪器和航行设备工作正常；
4. 遇到以下情形应立即通知船长：
 - 遇到或预料到能见度不良时；
 - 对通航状况或他船动态发生疑虑时；
 - 对保持航向感到困难时等；
5. 负责航行值班的高级船员应给予全体值班人员一切适当的指示和信息，确保正规瞭望和安全值班；
6. 只有在船长对航行环境做了充分的安全评估后，才能允许驾驶员仅在白天单独值班。

Watchkeeping

Officers in charge of a navigational watch, if not fit for the duty, are prone to get tired under great physical and mental stress. Not only the seafarers' health is at risk if chronic ailment develops into an occupational disease, the whole ship is also exposed to perils when the watch arrangement is not appropriately made.

Factors to be considered when composing a bridge watch

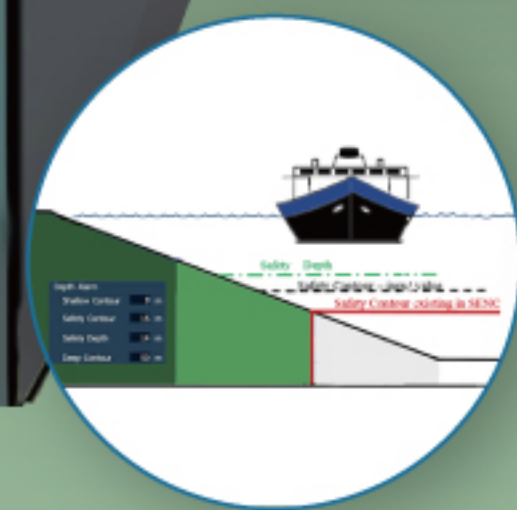
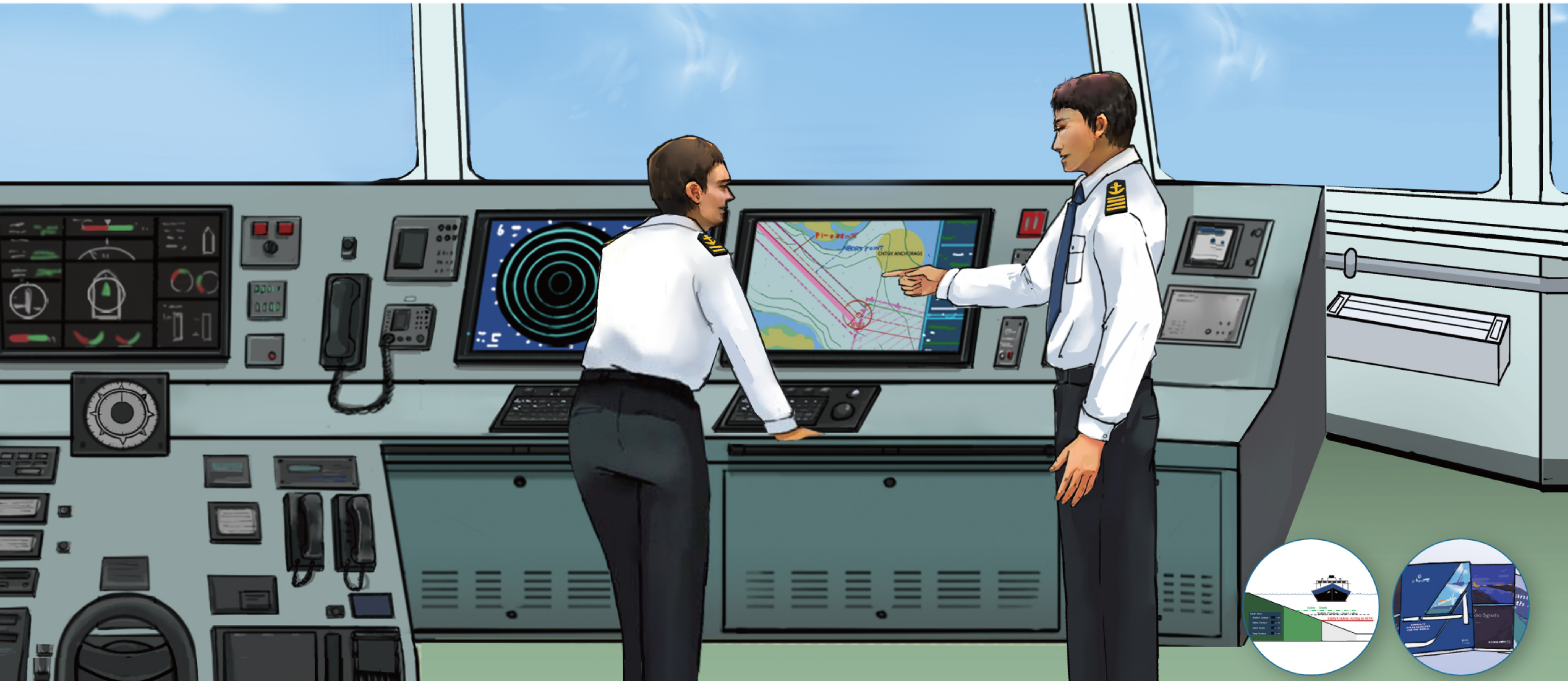
- The OOW's qualification, the number of duty officers and their fitness;
- Watch arrangement in the engine department;
- Weather conditions and visibility;
- Proximity of navigational hazards;
- Use and operational condition of navigational aids;
- Unmanned machinery space (UMS) alarms, controls and indicators provided on the bridge, procedures for their use and limitations;
- Any unusual demands on the navigational watch that may arise as a result of special operational circumstance.

Good practice

1. The master should make appropriate arrangement to guarantee a well-rested watchkeeping team and rearrange accordingly if the regular shift cannot be practiced. Also, command on bridge when it's necessary.
2. The OOW should inform the master immediately once he finds himself too tired to perform the duty. In no circumstances can he leave the bridge until properly relieved by an appropriate officer. At no time shall the bridge be left unmanned.
3. Check regularly whether navigational aids and equipment are running normally.
4. Notify the master immediately when:
 - restricted visibility is encountered or expected;
 - in doubt about the traffic or the movement of other vessels;
 - finding it difficult to maintain the current course...
5. The OOW should give the mariners on duty definite instructions to ensure the keeping of a safe watch.
6. Sole lookout is permissible only in daylight when the master has carefully assessed the situation and confirmed on safety.

航线设计

Passage Planning on ECDIS



航线设计

随着纸版海图向电子海图过渡，航线计划也需要使用ECDIS进行设计。ECDIS犹如一把双刃剑，使用者如果能够掌握其安全性和优越性，对加强航行安全会有极大帮助；反之，船员如果对ECDIS操作不熟悉或设置不当，就可能导致航行安全事故。

防损建议

1. 船长和驾驶员在编制航线计划时，应充分参照国际海事组织第A.893(21)号决议《航线计划指南》和IMO任何其它就航线计划的建议和指南；
2. 制定显示设定、安全设定、警报设定以及XTE和危险探测设定的详细标准并张贴在ECDIS附近，以便正确指导船员；
3. 由于ECDIS不能识别输入信息的科学性和准确性，ECDIS可能根据错误的信息设定给予错误的提醒和报警，因此使用者应录入符合船舶当前航次的精准信息；
4. 纸版海图上的所有海图作业，同样适用于电子海图。所有用于航行的安全信息应通过用户图功能标绘在ENC上，如手动定位、NGA、应急锚地、折返线等；
5. 检查整条航线所有ENC的CATZOC，充分评估ENC的精度，标记所有CATZOC构成对航行安全威胁的区域或位置；
6. 孤立危险物标的位置精度可能低于500米，航线设计时应尽可能远离孤立危险物标；
7. 航线设计完成后，应正确使用航线自动检查功能，并结合目视检测对整条航线细节进行检查确认。航线或航线参数的任何更改，均须重新检查航线，以确保无危及船舶安全的危险。

Passage Planning on ECDIS

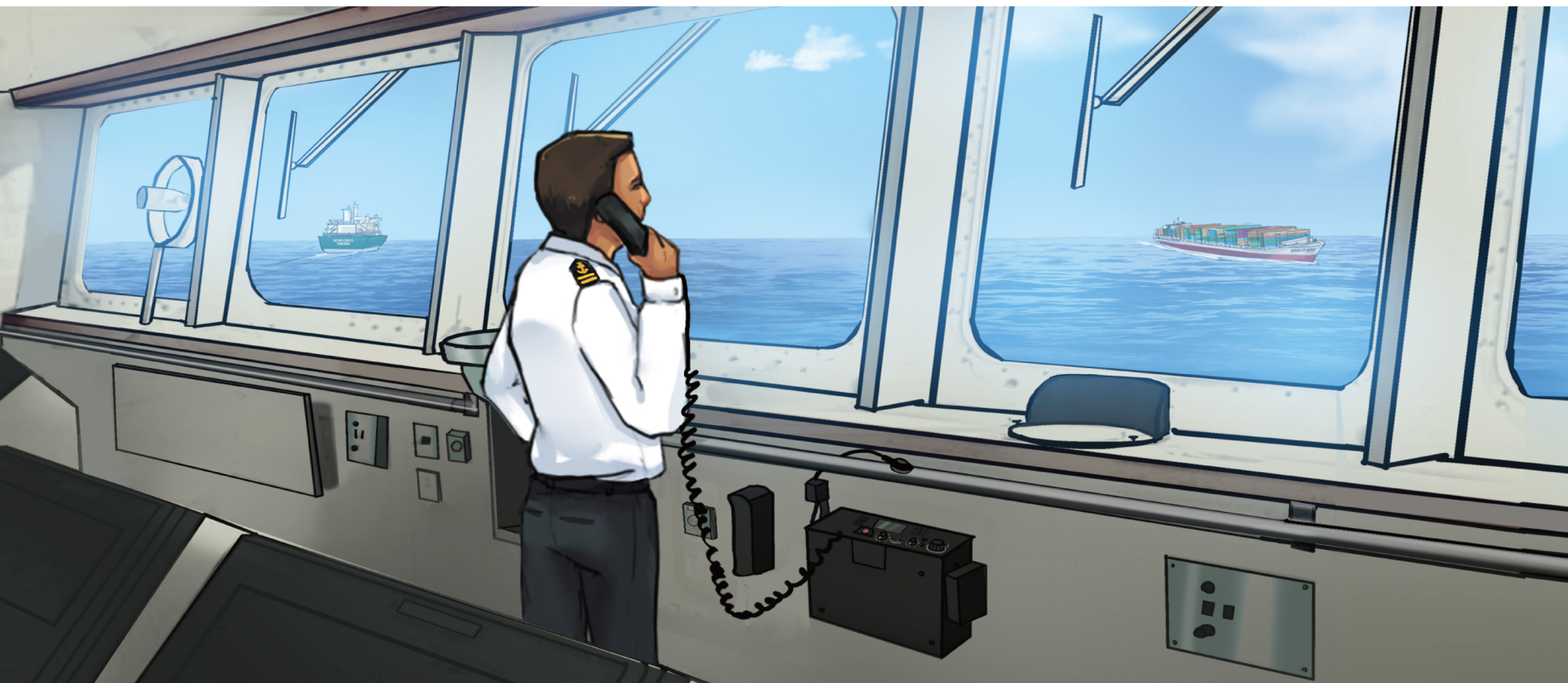
Passage planning on ECDIS, compared to that on paper charts, provides greater convenience to its users. However, the operation of ECDIS depends very much on user familiarity. While it can be tremendously helpful in ensuring safe navigation if it's properly set up, it can otherwise be causative of some serious maritime accidents.

Good practice

1. The master and navigating officer are advised to follow the IMO Resolution A.893 (21) Guidelines for Voyage Planning and other instructions whilst designing passage plans.
2. Establish detailed standards of ECDIS displays, safety settings, alarm management, XTE settings and look-ahead settings. Post it next to ECDIS to instruct the users.
3. Enter the set-ups precisely in accordance with current ship status as ECDIS cannot examine its correctness – indications and warnings could be mistakenly triggered if the inputs are wrong in the first place.
4. Plotting on ECDIS applies the same logic as on paper charts. Navigational information including LOPs, NGAs, contingency anchorages and abort points should be marked on the ENC through the user map feature.
5. Check CATZOC values in the ENC of the intended route to evaluate accuracy of the data. Where CATZOC indicates a potential area of danger should be clearly marked.
6. Keep as far as possible from isolated dangers when making passage plans as there could be position error of up to 500 meters.
7. Conduct an automatic check together with a visual check on the entire route upon completion of the passage plan. Any correction or change to the parameters will require a re-check to make sure of navigational safety.

VHF 通讯

Use of VHF



VHF 通讯

VHF作为船舶通信终端，被广泛应用于船与船以及船与岸之间的通信，因其操作的灵活性和获取安全信息的便利性而成为船员普遍接受的一种瞭望手段。但很多事故分析表明，VHF通信也是造成海上碰撞的因素之一，驾驶员在使用VHF进行避碰时由于受语言能力、信号强弱和通讯环境的影响，极易产生误解而导致紧迫局面和碰撞的发生。

使用VHF进行避碰的风险

- 识别船舶时可能出现误判，特别是在晚上、视线不良和/或同时存在多条船时；
- 由于语言沟通障碍和表达不准确或信号模糊可能使沟通产生误解；
- 由于试图在VHF上建立联系而没有按照《国际海上避碰规则》尽早采取具体行动，从而失去避碰的良机；
- 违背《国际海上避碰规则》的约定可能不受法律保护，这种约定可能导致紧迫局面和船舶碰撞，同时规则给予的航路权将失去。

防损建议

1. 船长和驾驶员应了解使用VHF进行避碰的危险性，并参照ICS《驾驶台程序指南》的建议，通常情况下应避免使用VHF进行协议避碰；
2. 尽管实践中存在使用VHF进行有效避碰的情况，特别是在引航水域，但在使用VHF进行避碰时应该清楚了解前述的全部风险，双方达成的避碰约定应以不违背避碰规则为原则；
3. 使用VHF协助避碰时，应结合使用其他助航设备以及目测瞭望以保证安全；
4. 参照IMO决议A.954(23)正确使用VHF。

Use of VHF

VHF radio, an important safety equipment for ship to ship or ship to shore communication, are sometimes used by mariners as a means of lookout. However, investigations have highlighted the risks arising from using VHF radios to avoid collision where effective communication can be compromised by signal performance, reception interferences and/or the navigator's language competence.

Risks of using VHF in collision avoidance

- Failure to identify targets, especially at night or in restricted visibility;
- Misunderstandings due to differences on mother tongues or vague expressions, or because the conversation is interrupted by poor signals;
- Failure to take immediate actions according to the COLREGs as the officer is too busy establishing VHF communication;
- Agreement against the COLREGs can be legally ungrounded and may cause close quarter situations or collisions, as well as loss of right-of-way.

Good practice

1. The master and navigating officers should be aware of the risks that can arise and avoid using VHF radio to agree on collision avoidance actions as per the ICS Bridge Procedures Guide.
2. Although the practice of using VHF radio as a collision avoidance aid may be resorted to on occasion, especially in pilotage waters, the aforesaid risks should always be kept in mind and do not agree on anything against the COLREGs.
3. If VHF is inevitably used for collision avoidance, a visual lookout shall be always maintained in conjunction with using all available navigation equipment on board.
4. Use VHF properly in accordance with the IMO Resolution A. 954(23).

引航安全 Pilot Onboard



■ 引航安全

相关数据表明，约半数以上的船舶碰撞和触碰事故都发生在引航水域。船长在安全管理体系中对于安全和防污染管理享有SOLAS公约赋予的绝对权力，而其驾管船舶的责任不因引航员在船而解除，公司也应在必要时给予支持。

船长在引航水域的疏忽表现为

- 对船舶性能不熟悉；
- 对引航水域不熟悉；
- 缺乏驾驶台团队配合；
- 过度依赖引航员。

船长在引航水域的职责包括

1. 评估引航员的健康状态和反应能力，保证在引航水域参与值班的驾驶团队健康有效率，在抵离港前船长应有合理预见性，合理安排人员值班和休息，保持旺盛体力和精力应对船舶靠离泊；
2. 完成船长和引航员的信息交流，监督引航员的一切操船指令，当引航员拒绝与船长沟通，引航员存在酗酒、神志不清、身体不适等症状，以及经船长专业判断引航员的操作将要置船舶于危险境地时，船长应终止引航员的操作并取代引航员。

驾驶员在引航水域的职责

1. 做好有效瞭望，监控驾驶台所有助航仪器，综合GPS、雷达、陆标等方法勤测船位，监控富余水深，在泊位附近监督船舶的矢量和速度，如果对安全有怀疑，立即告诉船长；
2. 向引航员提供船舶信息，执行船长和引航员的操船指令，并监督引航员和舵工的指令和操作。

Pilot Onboard

Statistically, more than half of the collisions and allisions have been in pilotage waters. A master is endowed by SOLAS with the authority within ISM to execute decisions necessary for safe navigation and marine environment protection, but his duty shall not be absolved with the presence of a pilot. Assistance from the company shall be provided upon request.

Omissions by a master in pilotage waters

- Not familiar with the ship's characteristics;
- Not familiar with the pilotage water;
- Failure in effectively coordinating the bridge team;
- Relying too heavily on the pilot.

For the safe conduct of pilotage, the master should

1. Evaluate whether the pilot is in good physical and mental fitness to perform his duty; make reasonable arrangement to ensure that the bridge team is adequately rested for berthing and unberthing so that the work can be carried out safely and efficiently.
2. Exchange information with the pilot and monitor all his actions; the master has the responsibility to replace the pilot when the pilot refuses communication, or is under the influence of drugs/alcohol, or whenever the master deems it necessary.

The navigating officer should

1. Keep a proper lookout, check all navigational aids on bridge, and keep track of the ship's position by observing the GPS, radar and other fixed objects.
2. Provide the pilot with the ship's information, execute the master/the pilot's order and monitor the action of the pilot and the helmsman.

应急舵

Emergency Steering



■ 应急舵

船舶操舵系统失灵后，船舶将处于失控状态，进而会导致碰撞、搁浅等事故。无论是船舶在自动舵操作模式下，还是手动操作模式下，都可能发生驾驶台操舵失灵，甚至有些舵机在手操舵模式下，不会有声响报警，只是舵角指示器没有反应，这种情况下给予船员做出应急反应的时间更短。

船长和船员的快速反应是处理驾驶台操舵失灵的关键因素，反应小组应至少包括总指挥、抢修组、操舵组和备锚组。通常，船长任总指挥负责在驾驶台下达指令，指挥船舶。轮机长和电机员负责抢修，固定一名驾驶员和轮机员及舵工为应急操舵组，负责舵机间执行船长的指令，进行应急操舵。大副和水手长水手负责备锚抛锚。

防损建议

1. 一旦发现舵机操作失灵，应立即对舵机系统进行切换，或转换至NFU非随动模式，甚至启动舵机旁应急操作，同时显示失控信号，发出全船警报，启动应急程序；
2. 船舶在开阔水域，应立即取消定速航行，随时采取变速避让措施，甚至停船；
3. 船舶在受限水域或航道内，应立即将船速减至维持舵效的最小航速，并通知港口并联系周围的船舶注意避让；
4. 船舶备锚，准备随时应急抛锚，抛锚指令应明确，注意底质并避免浅水抛锚伤船体；
5. 船长应在日常组织切实有效地应急舵演习，以使船员在应急情况下各司其职，有条不紊，有效控制船舶。

Emergency Steering

A ship out of control may end up in collision or grounding when the main steering system is down. The risk persists no matter the vessel is in manual control or automatic steering. Seafarers are required of even quicker responses to have control the steering at such emergency situations with manual operation, as in some cases there is no sound alarm but simply a failed rudder angle indicator.

Crucial to such a situation is a prompt and organized team response. Normally, with the master giving orders at the bridge, the chief engineer and the electrical officer restoring the failed system, the emergency steering operation should be carried out in the steering room by a team comprising of a designated navigating officer, an engineer and a helmsman, while the chief officer preparing for anchoring with the crew.

Good practice

1. Upon failure of the main steering gear, start the second one immediately or switch to Non-Follow up mode. Carry out emergency steering operation when necessary and send out alarms to all crew members.
2. If the vessel sails in open waters, cancel sea speed and be prepared to avoid collision by reducing the speed or stopping the ship.
3. If the vessel sails in restricted waters or traffic lanes, slow her down to the minimum control speed. Inform port authority of the situation and alert surrounding vessels.
4. Get the anchor ready and the instructions on dropping anchor in emergency clearly delivered, with regard to the holding ground and potential damages to the bottom in shallow waters.
5. An emergency steering drill should be carried out effectively and regularly so that the crew can properly operate the gear to regain control of the ship in emergency situations.

锚泊作业

Anchoring Operation



■ 锚泊作业

锚泊作业是船舶安全生产营运中的重要环节。由于锚泊操作不当造成海损事故和人员伤亡时有发生，了解正确的锚泊程序、运用良好船艺是避免事故的有效措施。

主要事故和风险

- 锚泊操纵不当碰撞、搁浅；
- 走锚造成碰撞、搁浅；
- 丢锚/链、锚机损坏、锚链缠绕；
- 损坏水下电缆/管线等设备。

防损建议

1. 每次锚泊作业前，应对锚设备进行彻查，收集锚地所有相关信息，制定详细的锚泊计划，并确保锚泊团队了解计划和熟悉通信程序；
2. 控制好船位和船速，避免因操船不当发生碰撞他船、损坏刹车带、拉断锚链等事故，特别是超大型船舶更应谨慎操作；
3. 尽量避免在水深超过82.5米的水域抛锚，如无法选择，则应在抛起锚时特别谨慎以防丢锚，并严防走锚；
4. 大风浪天气应尽量避免锚泊作业，如无法避免应严密监控锚链状态并合理使用车舵，防止发生断链或损坏锚机的事故；
5. 锚位应尽量远离海底电缆等障碍物，如绞锚时感觉负荷过大应避免强制收锚而损坏海底电缆；
6. 锚泊值班应密切监控本船船位避免走锚，同时也应经常注意周围船舶动态，如发现险情可及时提醒并采取必要措施；
7. 恶劣天气来临前，应提前转移到避风锚地并考虑使用一点锚，或到开阔水域滞航抵抗；
8. 锚完全收回开航后，应保持紧贴船壳并绑扎加固，以防在恶劣天气撞击船壳或意外抛下。

Anchoring Operation

Anchoring as a crucial operation on ships can lead to serious loss and casualties if not properly practiced. It's hence necessary to understand the fundamentals of safe anchoring and then exercise good seamanship.

Improper anchoring operations may lead to

- Dragging anchor;
- Collisions or groundings;
- Loss of anchor or anchor chains;
- Windlass damages;
- Twisted chains;
- Damages to submarine cables or pipelines.

Good practice

1. Prior to the anchoring operation, conduct a thorough inspection over the anchor system, share anchorage information and detailed plans with the anchoring team through effective communication.
2. Control the ship's speed and position to avoid collision with other ships or damage to the brake and anchor chains, which is particularly important on very large carriers.
3. Try not to drop anchor in waters deeper than 82.5 m. If it has to be done, be extra careful with the anchoring operation to prevent loss of anchor and dragging.
4. Try not to perform anchoring operation in rough weather. If it has to be done, then pay close attention to the chain situation, use the engine and steering gear appropriately.
5. Keep away from submarine cables when identifying the anchoring position, and do not forcibly retrieve the anchor if too heavy loads are engaged.
6. Closely monitor the ship's position while performing anchor watch. Also be aware of other vessels' movements so that necessary actions can be taken immediately if anything goes wrong.
7. Proceed to shelters prior to adverse weather conditions. Consider setting double bow anchor in same direction or drift at open sea by keeping the minimum course-keeping speed.
8. Housing the anchor to a tight position and fix it with lashings to prevent it from striking the hull or dropping off during sea passage in adverse weather.

雾航

Restricted Visibility



雾航

船舶雾中航行时，通常能见度不良，视线受限，此时应全面执行《国际海上避碰规则》第19条关于船舶在能见度不良时的行动规则，并按照公司安全管理体系（SMS）的规定执行，以确保航行安全。

影响船舶雾航安全的因素

- 助航仪器设备故障或缺陷；
- 驾驶人员对仪器设备使用不熟悉；
- 驾驶人员缺乏雾航经验，对能见度不良时的船舶动态判断不准；
- 船舶管理混乱，船员作风松散，责任心不强；
- 没有采用安全航速或停航；
- 长时间连续的雾中航行，造成值班驾驶员疲劳、注意力下降；
- 航行中遇雾时没有及时通知船长上驾驶台指挥。

防损建议

1. 雾航前，应及时抄收天气预报、气象传真、航海警告和雾航警报，检查各种航行仪器、雾号和航行灯；
2. 为确保船舶雾航安全，当视线恶劣、渔船密集、避让困难、航道复杂及船长对航行安全无把握时，在条件许可的情况下，船长有权择地锚泊或滞航，不要盲目航行；
3. 能见度严重不良时，船长应立即到驾驶台亲自指挥并在驾驶台值守；
4. 船舶应备车航行，随时可使用安全航速进行避让；
5. 雾航期间全船应保持肃静，禁止喧哗，以免干扰驾驶员的听觉；
6. 当航经近岸、船舶密集、水道狭窄等复杂水域遇雾时，应视情况在驾驶台或船艏增加瞭望人员；
7. 雾中航行，应尽量避免使用自动舵。

Restricted Visibility

Vessels encounter lookout difficulties while navigating in a condition of restricted visibility, especially in fog. To deal with the situation, it's important to remain vigilant and act in compliance with the SMS and Rule 19 Conduct of Vessels in Restricted Visibility of the COLREGs.

Factors that may impede safe navigation in restricted visibility

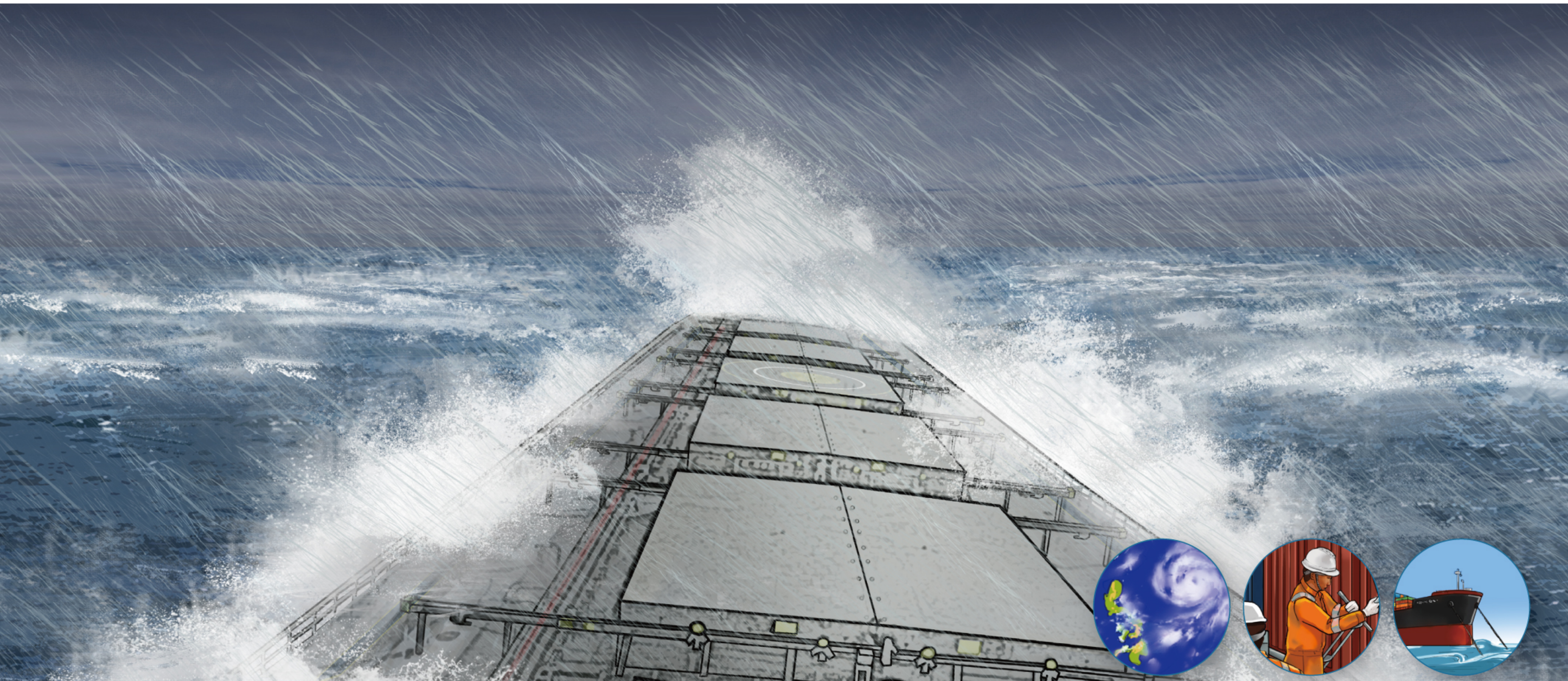
- Navigational aids and equipment deficiencies;
- OOW not familiar with navigational equipment;
- OOW lacking navigation experience and unable to evaluate ship's movement correctly;
- Disorganized and irresponsible crew due to poor ship management;
- Vessels not proceeding at a safe speed or stop at all;
- Tired and distracted OOWs due to long time of navigation;
- Seafarers not promptly notifying the master to command on bridge.

Good practice

1. Collect weather forecasts, facsimiles and navigation warnings in advance, and examine navigational aids, fog signal and lights.
2. In restricted visibility when encountering such conditions as heavy fishing traffic, low maneuverability in difficult waters or when the master has doubts about the situation, he may in his authority, for the safety of the ship, choose to anchor or keep the minimum advance speed, instead of keeping on navigation.
3. The master should be present and keep a watch on bridge when visibility is seriously restricted.
4. The vessel should at all times proceed at a safe speed with the engine on stand-by.
5. Keep quiet the entire time in order not to distract the OOW from watchkeeping.
6. Assign more lookouts on bridge and forecabin if the ship is sailing through fog in coastal areas or confined waters, or through heavy traffic.
7. Autopilot is not recommended during navigation in fog.

台风防抗

Typhoon Avoidance



■ 台风防抗

国际气象组织根据热带气旋中心附近最大风力对其进行分级，当热带气旋中心风力达到12级及以上，在我国及周边国家地区称之为台风，在东北太平洋及大西洋沿岸国家地区则称之为飓风。热带气旋往往带来狂风暴雨、巨浪和暴潮，严重影响船舶航行安全以及港口设施安全。

防损建议

1. 参考台风移动路径及海上风浪情况，尽量脱离台风；
2. 不要选择在码头系泊抗台，一旦船舶失控碰撞码头，不仅造成船损，还可能造成巨大的码头损失；
3. 船长在台风来袭之前双锚一点抛好，并提前备好主机；
4. 抛锚时，应选择水深适度、底质合适的遮蔽锚地或水域，锚位需远离养殖作业区。如果没有合适的区域抛锚，应选择宽阔风浪小的水域滞航避台；
5. 所有的甲板水密开口要确保关闭，在台风来临前检查货物绑扎系固情况，物料备件摆放绑扎情况，甲板所有移动设备应提前生根或者移到库房内；
6. 关闭货舱通风，检查货舱水密，防止货舱进水；
7. 船舶应根据吃水情况选择打入压载水，减少受风面积，特别严防发生走锚需要用车时的飞车；
8. 船长应召开船舶防台安全会议，无关人员禁止出生活区，驾驶室和机舱加强值守，主机、舵设备、锚设备随时处于可用状态。

Typhoon Avoidance

The World Meteorology Organization has divided tropical cyclones into different classifications – those with sustained wind speeds between 64 to 84 knots are referred to as typhoon in China and other countries in northwest Pacific, and as hurricane in northeast Pacific and the Atlantic. Along with tropical cyclones are storms and rough seas, severely impacting navigation and port facilities.

Good practice

1. Keep away from the typhoon by observing its track and the intensity of sea storms.
2. Try not to stay in port for typhoon avoidance as huge claims can be filed if the ship gets out of control in storm surge, causing damage to itself and port facilities.
3. Set two anchors at one point before typhoon strikes and get the main engine ready for use at any time.
4. Drop anchor at sheltered anchorages with firm holding ground and preferable depth of water and keep away from aquafarms. Where dropping anchor is not an option, keep a minimum advance speed or drift in open sea until the typhoon passes.
5. Make sure all watertight doors and windows are closed, all cargoes and stores are securely lashed down. All moving equipment should be properly fixed or moved to storeroom beforehand.
6. Close hatch ventilation and check cargo holds for water tightness.
7. Ballast the vessel according to its draft to reduce exposure in the storm. Be careful with the situation of dragging anchors and immerse the propeller as much as possible.
8. A safe practice meeting should be convened by the master in advance. Going out of accommodation is prohibited unless it's for emergency. Assign more men on bridge and in engine room for watchkeeping and make sure the main engine, the steering gear and the anchoring equipment are ready for use.

渔区航行

Navigating through Fishing Areas



■ 渔区航行

商渔船碰撞往往导致渔船船员群死群伤的重大事故。商船在渔区航行，应结合渔船特点和作业方式，基于《国际海上避碰规则》采取积极谨慎措施进行航行准备和避让操作，避免商渔船碰撞事故的发生。

碰撞事故中商船的主要过失

- 商船惯性大，对渔船有吸附作用，进入渔区后在操纵上缺乏应有的谨慎；
- 商船在能见度不良时违背《国际海上避碰规则》行驶；
- 商船不熟悉渔船的作业特点和渔船号灯号型的显示；
- 商船未保持连续正规瞭望，以及未使用安全航速；
- 商船存在雷达与视觉盲区。

防损建议

1. 进入渔区前应做好各种应急预案，各项准备工作落实到位，检查手操舵、应急舵的工作状况，备妥主机；
2. 加强值班，保持对海面状况，包括渔船、过往大船和其它海上目标不间断的瞭望，并尽早判别渔船的种类和作业方式；
3. 应特别注意中国沿海渔船分布广、数量多、密度大的特点；
4. 具体采取避让行动前，还应综合考虑当时的海况、气象条件、渔区航线附近水上水下碍航物等情况；
5. 本着“驶过让清”的原则，针对不同种类渔船的捕捞特点和网具类型，准确把握避让时机，果断采取避让行动，特别要警惕突然抢船头的渔船；
6. 在避让渔船或渔船群时，要善于观察和判断渔船随后的动态或可能出现异常行动。

Navigating through Fishing Areas

Serious casualties of fishermen can occur as consequences of collisions between fishing vessels and merchant ships. To prevent such accidents and to secure safe navigation, it's important for merchant vessels to actively take precautions based on the COLREGs before and during navigation through fishing areas.

Major faults of merchant vessels

- Merchant ships are not prudently steered despite the fact that they are less maneuverable in fishing areas and interaction may occur;
- Merchant ships in restricted visibility fail to follow the COLREG rules;
- Merchant ships are not familiar with fishing vessels' characteristics or their light and shape displays;
- Merchant ships fail to keep a proper lookout or to proceed at a safe speed;
- There are blind spots that are not covered visually or by radar.

Good practice

1. Make contingency plans and be well prepared before entering into fishing areas – test the manual/emergency steering gear and ensure the main engine is on stand-by.
2. Enhance watchkeeping, maintain a continuous lookout on fishing vessels, large ships, as well as other targets in sight. Identify the types and operations of fishing vessels as early as possible.
3. Be aware that large quantities of fishing vessels are present across China coastal waters.
4. Take into account factors including the sea state, weather conditions and obstructions above/under the water when taking avoiding actions.
5. Take proper and timely actions to avoid collision as per fishing operations and fishing gear characteristics until the fishing vessel is finally past and clear. Be vigilant about fishing vessels crossing ahead.
6. Be observant and try to anticipate the subsequent movement of fishing vessels when taking avoiding actions.



WE CARE, WE PROTECT, WE INSURE

